CELYAD S.A.

FORM 20-F

(Annual and Transition Report (foreign private issuer))

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 20-F

(Mark One)

☐ **REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934**

OR

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2018

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____to

OR

☐ **SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Date of event requiring this shell company report

Commission file number 001-37452

CELYAD S.A.

(Exact name of Registrant as specified in its charter and translation of Registrant's name into English)

Belgium
(Jurisdiction of incorporation or organization)

Rue Edouard Belin 2
1435 Mont-Saint-Guibert, Belgium
(Address of principal executive offices)

Filippo Petti
Chief Executive Officer and Chief Financial Officer
Celyad SA
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Tel: +32 10 394 100 Fax: +32 10 394 141
(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	Name of each exchange on which registered
American Depositary Shares, each representing one ordinary share, no nominal value per share	The Nasdaq Stock Market LLC
Ordinary shares, no nominal value per share*	The Nasdaq Stock Market LLC*

* Not for trading, but only in connection with the registration of the American Depositary Shares.

Securities registered or to be registered pursuant to Section 12(g) of the Act. None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act. None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the Annual Report.

Ordinary shares, no nominal value per share: 11,942,344 as of December 31, 2018

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☐ Yes ☒ No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. ☐ Yes ☒ No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐ Accelerated filer ☒ Non-accelerated filer ☐ Emerging growth company ☒

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act. ☐

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP ☐ International Financial Reporting Standards as issued by the International Accounting Standards Board ☒ Other ☐

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. ☐ Item 17 ☐ Item 18

If this is an Annual Report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). ☐ Yes ☒ No

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INTRODUCTION

Unless otherwise indicated, “Celyad,” “the company,” “our company,” “we,” “us” and “our” refer to Celyad S.A. and its consolidated subsidiaries.

We own various trademark registrations and applications, and unregistered trademarks and service marks, including “CELYAD”, “C-CATH $_{ez}$ ” and our corporate logo. All other trademarks or trade names referred to in this Annual Report on Form 20-F are the property of their respective owners. Trade names, trademarks and service marks of other companies appearing in this Annual Report on Form 20-F are the property of their respective holders. Solely for convenience, the trademarks and trade names in this Annual Report on Form 20-F may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend to use or display other companies’ trademarks and trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

Our audited consolidated financial statements have been prepared in accordance with International Financial Reporting Standards, or IFRS, as issued by the International Accounting Standards Board, or IASB. Our consolidated financial statements are presented in euros. All references in this Annual Report on Form 20-F to “$,” “US$,” “U.S.$,” “U.S. dollars,” “dollars” and “USD” mean U.S. dollars and all references to “€”, “EUR”, and “euros” mean euros, unless otherwise noted. Throughout this Annual Report on Form 20-F, references to ADSs mean ADSs or ordinary shares represented by ADSs, as the case may be.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 20-F, or Annual Report, contains forward-looking statements. All statements other than present and historical facts and conditions contained in this Annual Report, including statements regarding our future results of operations and financial positions, business strategy, plans and our objectives for future operations, are forward-looking statements. When used in this Annual Report, the words "anticipate," "believe," "can," "could," "estimate," "expect," "intend," "is designed to," "may," "might," "plan," "potential," "predict," "objective," "should," or the negative of these and similar expressions identify forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- the initiation, timing, progress and results of our preclinical studies and clinical trials, and our research and development programs;
- our ability to advance drug product candidates into, and successfully complete, clinical trials;
- our ability to successfully manufacture drug product for our clinical trials, including drug product with the desired number of T cells under our clinical trial protocols, and our ability to improve and automate these manufacturing procedures in the future;
- our reliance on the success of our drug product candidates;
- the timing or likelihood of regulatory filings and approvals;
- our ability to develop sales and marketing capabilities;
- the commercialization of our drug product candidates, if approved;
- the pricing and reimbursement of our drug product candidates, if approved;
- the implementation of our business model, strategic plans for our business, drug product candidates and technology;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our drug product candidates and technology;
- our ability to operate our business without infringing, misappropriating or otherwise violating the intellectual property rights and proprietary technology of third parties;
- cost associated with enforcing or defending intellectual property infringement, misappropriation or violation; product liability; and other claims;
- regulatory development in the United States, the European Union, and other jurisdictions;
- estimates of our expenses, future revenues, capital requirements and our needs for additional financing;
- the potential benefits of strategic collaboration agreements and our ability to enter into strategic arrangements;
- our ability to maintain and establish collaborations or obtain additional grant funding;
- the rate and degree of market acceptance of our drug product candidates, if approved;
- our financial performance;
- developments relating to our competitors and our industry, including competing therapies;
- our ability to effectively manage our anticipated growth;
- our ability to attract and retain qualified employees and key personnel;
- our ability to build our finance infrastructure, improve our accounting systems and controls and remedy the material weakness identified in our internal control over financial reporting;

- our expectations regarding the period during which we qualify as an emerging growth company under the U.S. Jumpstart Our Business Startups Act of 2012 (the JOBS Act);
- statements regarding future revenue, hiring plans, expenses, capital expenditures, capital requirements and share performance;
- our expectations regarding our passive foreign investment company (PFIC) status;
- other risks and uncertainties, including those listed in the section of this Annual Report titled "Item 3.D.—Risk Factors."

You should refer to the section of this Annual Report titled "Item 3.D.—Risk Factors" for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. As a result of these factors, we cannot assure you that the forward-looking statements in this Annual Report will prove to be accurate. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame or at all. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

You should read this Annual Report and the documents that we reference in this Annual Report with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

This Annual Report contains market data and industry forecasts that were obtained from industry publications. These data involve a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. While we believe the market position, market opportunity and market size information included in this Annual Report is generally reliable, such information is inherently imprecise.

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. Selected Financial Data

Our consolidated audited financial statements have been prepared in accordance with IFRS, as issued by the IASB. We derived the selected statements of consolidated income (loss) data, selected statements of consolidated financial position and selected statements of consolidated cash flows, each as of December 31, 2018, 2017, 2016 and 2015 from our consolidated audited financial statements appended to this Annual Report. Our selected consolidated statements of consolidated income (loss) data, selected statements of consolidated financial position and selected statements of consolidated cash flows as of December 31, 2014 and for the year ended December 31, 2014 have been extracted from our audited consolidated financial statements, which are not included herein. This data should be read together with, and is qualified in its entirety by reference to, "Item 5—Operating and Financial Review and Prospects" as well as our financial statements and notes thereto appearing elsewhere in this Annual Report. Our historical results are not necessarily indicative of the results to be expected in the future.

Statement of Income (Loss) Data:

(€'000)	For the year ended December 31, 2018	2017	2016	2015	2014
Revenues	**3,115**	**3,540**	**10,012**	**3**	**146**
Cost of sales	—	(515)	(1,542)	(1)	(115)
Gross profit	**3,115**	**3,025**	**8,471**	**2**	**31**
Research and development expenses	(23,577)	(22,908)	(27,675)	(22,766)	(15,865)
General and administrative expenses	(10,387)	(9,310)	(9,744)	(7,230)	(5,016)
Other income	1,078	2,630	4,982	1,714	4,653
Other expenses	(8,399)	(41)	(1,642)	(1,392)	(240)
Amendment of Celdara Medical and Dartmouth College agreements	—	(24,341)	—	—	—
Write-off C-Cure and Corquest assets and derecognition of related liabilities	—	(1,932)	—	—	—
Operating loss	**(38,170)**	**(52,876)**	**(25,609)**	**(29,672)**	**(16,437)**
Financial income	804	933	2,204	542	277
Financial expenses	(62)	(4,454)	(207)	(236)	(41)
Share of loss of investments accounted for using the equity method	—	—	—	252	(252)
Loss before taxes	(37,428)	(56,396)	(23,612)	(29,114)	(16,453)
Income taxes	0	1	6	—	—
Loss for the year (1)	**(37,427)**	**(56,395)**	**(23,606)**	**(29,114)**	**(16,453)**
Basic and diluted loss per share (in €)	(3.36)	(5.86)	(2.53)	(3.43)	(2.44)
Weighted average number of outstanding shares	11,142,244	9,627,601	9,313,603	8,481,583	6,750,383

(1) For 2018, 2017,2016 and 2015, the Group does not have any non-controlling interests and the losses for the year are fully attributable to owners of the parent.

Selected Statement of Financial Position Data:

	For the year ended December 31, 2018	2017	2016	2015	2014
	Euro	Euro	Euro	Euro	Euro
Cash and cash equivalents	40,542	23,253	48,357	100,175	27,633
Short term investments	9,197	10,653	34,230	7,338	2,671
Total assets	94,299	77,626	138,806	159,525	43,976
Total equity	55,589	47,535	90,885	111,473	26,684
Total non-current liabilities	29,063	22,146	36,646	36,562	11,239
Total current liabilities	9,647	7,945	11,275	11,490	6,053
Total liabilities	38,710	30,091	47,922	48,052	17,292
Total equity and liabilities	94,299	77,626	138,806	159,525	43,976

Selected Statements of Consolidated Cash Flows

(€'000)	For the year ended December 31, 2018	2017	2016	2015	2014
Net cash used in operations	(27,249)	(44,441)	(24,692)	(27,303)	(17,414)
Net cash from/(used in) investing activities	607	17,613	(30,157)	(10,691)	(1,768)
Net cash from financing activities	43,928	605	3,031	110,535	27,757
Net cash and cash equivalents at the end of the period	**40,542**	**23,253**	**48,357**	**100,175**	**27,633**

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

Our business faces significant risks. You should carefully consider all of the information set forth in this Annual Report and in our other filings with the U.S. Securities and Exchange Commission, or the SEC, including the following risk factors which we face and which are faced by our industry. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. This Annual Report also contains forward-looking statements that involve risks and uncertainties. Our results could materially differ from those anticipated in these forward-looking statements, as a result of certain factors including the risks described below and elsewhere in this report and our other SEC filings. See "Special Note Regarding Forward-Looking Statements" above.

Risks Related to Product Development, Regulatory Approval and Commercialization

We are heavily dependent on the regulatory approval of CYAD-01 in the United States and Europe, and subsequent commercial success of CYAD-01, both of which may never occur.

We are a clinical-stage biopharmaceutical company with no products approved by regulatory authorities or available for commercial sale. We may be unable to develop or commercialize a product, product candidate or research program, or may cease some of our operations, which may have a material adverse effect on our business. On December 22, 2017, we notified the Walloon Region of our decision not to pursue the exploitation of the C Cure programs and the research work financed by recoverable loans from the Walloon Region. We have justified our decision by the intention to focus our strategy and resources on our immune-oncology programs and by the fact that we have not been successful in identifying a partner to pursue the development of C Cure.

We have generated limited revenue to date and do not expect to generate any revenue from product sales for the foreseeable future. As a result, our future success is currently dependent upon the regulatory approval and commercial success of CYAD-01 in one or more of the indications for which we intend to seek approval. Our ability to generate revenues in the near term will depend on our ability to obtain regulatory approval and successfully commercialize CYAD-01 on our own in the United States, the first country in which we intend to seek approval for CYAD-01. We may experience delays in obtaining regulatory approval in the United States for CYAD-01, if it is approved at all, and the price of our ordinary shares and/or ADSs may be negatively impacted. Even if we receive regulatory approval, the timing of the commercial launch of CYAD-01 in the United States is dependent upon a number of factors, including, but not limited to, hiring sales and marketing personnel, pricing and reimbursement timelines, the production of sufficient quantities of commercial drug product and implementation of marketing and distribution infrastructure.

In addition, we have incurred and expect to continue to incur significant expenses as we continue to pursue the approval of CYAD-01 in the United States, Europe and elsewhere. We plan to devote a substantial portion of our effort and financial resources in order to continue to grow our operational capabilities. This represents a significant investment in the clinical and regulatory success of CYAD-01, which is uncertain. The success of CYAD-01, if approved, and revenue from commercial sales, will depend on several factors, including:

- execution of an effective sales and marketing strategy for the commercialization of CYAD-01;
- acceptance by patients, the medical community and third-party payors;

- our success in educating physicians and patients about the benefits, administration and use of CYAD-01;
- the incidence and prevalence of the indications for which our CYAD-01 drug product candidate is approved in those markets in which CYAD-01 is approved;
- the prevalence and severity of side effects, if any, experienced by patients treated with CYAD-01;
- the availability, perceived advantages, cost, safety and efficacy of alternative treatments, including potential alternate treatments that may currently be available or in development or may later be available or in development or approved by regulatory authorities;
- successful implementation of our manufacturing processes that we plan to include in a future biologics license applications and production of sufficient quantities of commercial drug product;
- maintaining compliance with regulatory requirements, including current good manufacturing practices (cGMPs), good laboratory practices (GLP) and good clinical practices (GCPs); and
- obtaining and maintaining patent, trademark and trade secret protection and regulatory exclusivity and otherwise protecting our rights in our intellectual property portfolio.

We may also fail in our efforts to develop and commercialize future drug product candidates, including CYAD-101 (the allogeneic version of our CYAD-01 drug product candidate). If this were to occur, we would continue to be heavily dependent on the regulatory approval and successful commercialization of CYAD-01, our development costs may increase and our ability to generate revenue or profits, or to raise additional capital, could be impaired.

The achievement of milestones (such as those related to research and development, scientific, clinical, regulatory and business) will trigger payment obligations towards Celdara and Dartmouth, which will negatively impact Celyad's profitability.

Our THINK trial is ongoing and not complete. Initial success in our ongoing clinical trial may not be indicative of results obtained when this trial is completed. Furthermore, success in early clinical trials may not be indicative of results obtained in later trials.

Our clinical experience with our lead drug product candidate CYAD-01 is limited. We have treated a small number of patients as of the date of this report. In particular, the results of the CM-CS1 trial and the interim results of the THINK trial should not be relied upon as evidence that our ongoing or future clinical trials will succeed. Trial designs and results from previous or ongoing trials are not necessarily predictive of future clinical trial results, and initial or interim results may not continue or be confirmed upon completion of the trial. These data, or other positive data, may not continue or occur for these patients or for any future patients in our ongoing or future clinical trials, and may not be repeated or observed in ongoing or future trials involving our drug product candidates. There is limited data concerning long-term safety and efficacy following treatment with CYAD-01. Our drug product candidates may fail to show the desired safety and efficacy in later stages of clinical development despite having successfully advanced through initial clinical trials. There can be no assurance that any of these trials will ultimately be successful or support further clinical advancement or regulatory approval of CYAD-01 or other drug product candidates.

There is a high failure rate for drugs and biologics proceeding through clinical trials. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in later stage clinical trials even after achieving promising results in earlier stage clinical trials. Data obtained from preclinical and clinical activities are subject to varying interpretations, which may delay, limit or prevent regulatory approval. In addition, regulatory delays or rejections may be encountered as a result of many factors, including changes in regulatory policy during the period of product development.

In previous clinical trials involving T cell-based immunotherapies, some patients experienced serious adverse events. Our lead drug product candidate CYAD-01 may demonstrate a similar effect or have other properties that could halt our clinical development, prevent our regulatory approval, limit our commercial potential, or result in significant negative consequences.

In previous and ongoing clinical trials involving CAR-T cell products by other companies or academic researchers, many patients experienced side effects such as neurotoxicity and CRS, which have in some cases resulted in clinical holds in ongoing clinical trials of CAR-T drug product candidates. There have been life threatening events related to severe neurotoxicity and CRS, requiring intense medical intervention such as intubation or pressor support, and in several cases, resulted in death. Severe neurotoxicity is a condition that is currently defined clinically by cerebral edema, confusion, drowsiness, speech impairment, tremors, seizures, or other central nervous system side effects, when such side effects are serious enough to lead to intensive care. In some cases, severe neurotoxicity was thought to be associated with the use of certain lymphodepletion preconditioning regimens used prior to the administration of the CAR-T cell products. CRS is a condition that is currently defined clinically by certain symptoms related to the release of cytokines, which can include fever, chills, low blood pressure, when such side effects are serious enough to lead to intensive care with mechanical ventilation or significant vasopressor support. The exact cause or causes of CRS and severe neurotoxicity in connection with treatment of CAR-T cell products is not fully understood at this time. In addition, patients have experienced other adverse events in these studies, such as a reduction in the number of blood cells (in the form of neutropenia, thrombocytopenia, anemia or other cytopenias), febrile neutropenia, chemical laboratory abnormalities (including elevated liver enzymes), and renal failure.

Undesirable side effects caused by our CYAD-01 drug product candidate or other T cell-based immunotherapy drug product candidates, could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign regulatory authorities. Results of our trials could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the trials or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff, as toxicities resulting from T cell-based immunotherapies are not normally encountered in the general patient population and by medical personnel. We expect to have to train medical personnel regarding our T cell-based immunotherapy drug product candidates to understand their side effects for both our planned clinical trials and upon any commercialization of any T cell-based immunotherapy drug product candidates. Inadequate training in recognizing or managing the potential side effects of T cell-based immunotherapy drug product candidates could result in patient deaths. Any of these occurrences could have a material adverse effect on our business, financial condition and prospects.

CYAD-01 drug product candidate is a new approach to cancer treatment that presents significant challenges.

We have concentrated our research and development efforts on cell-based immunotherapy technology, and our future success is highly dependent on the successful development of cell-based immunotherapies in general and in particular our approach using NKG2D receptor ligands, an activating receptor of NK cells. We cannot be sure that our T cell immunotherapy technologies will yield satisfactory products that are safe and effective, scalable or profitable.

Our approach to cancer immunotherapy and cancer treatment generally poses a number of challenges, including:

- obtaining regulatory approval from the FDA and other regulatory authorities that have very limited experience with the commercial development of genetically modified T cell therapies for cancer;
- developing and deploying consistent and reliable processes for engineering a patient's T cells ex vivo and infusing the engineered T cells back into the patient;
- preconditioning patients with chemotherapy or other product treatments in conjunction with delivering each of our drug product candidates, which may increase the risk of adverse side effects;

- educating medical personnel regarding the potential side effect profile of each of our drug product candidates, such as the potential adverse side effects related to cytokine release or neurotoxicity;
- developing processes for the safe administration of these drug product candidates, including long-term follow-up for all patients who receive our drug product candidates;
- sourcing clinical and, if approved, commercial supplies for the materials used to manufacture and process our drug product candidates;
- developing a manufacturing process and distribution network with a cost of goods that allows for an attractive return on investment;
- establishing sales and marketing capabilities after obtaining any regulatory approval to gain market acceptance, and obtaining adequate coverage, reimbursement, and pricing by third-party payors and government authorities; and
- developing therapies for types of cancers beyond those addressed by our current drug product candidates.
- Additionally, because our technology involves the genetic modification of patient cells ex vivo using a virus, we are subject to many of the challenges and risks that gene therapies face, including:
- Regulatory requirements governing gene and cell therapy products have changed frequently and may continue to change in the future. To date, only one product that involves the genetic modification of patient cells has been approved in the United States and only one has been approved in the European Union.
- In the event of improper insertion of a gene sequence into a patient's chromosome, genetically modified products could lead to lymphoma, leukemia or other cancers, or other aberrantly functioning cells.
- Although our viral vectors are not able to replicate, there is a risk with the use of retroviral or lentiviral vectors that they could lead to new or reactivated pathogenic strains of virus or other infectious diseases.
- The FDA recommends a 15 year follow-up observation period for all patients who receive treatment using gene therapies, and we may need to adopt such an observation period for our drug product candidates.

Moreover, public perception of therapy safety issues, including adoption of new therapeutics or novel approaches to treatment, may adversely influence the willingness of subjects to participate in clinical trials, or if approved, of physicians to subscribe to the novel treatment mechanics. Physicians, hospitals and third-party payors often are slow to adopt new products, technologies and treatment practices that require additional upfront costs and training. Physicians may not be willing to undergo training to adopt this novel and personalized therapy, may decide the therapy is too complex to adopt without appropriate training and may choose not to administer the therapy. Based on these and other factors, hospitals and payors may decide that the benefits of this new therapy do not or will not outweigh its costs.

We have limited experience with our new monoclonal antibody manufacturing process, and there can be no guarantee that we will be able to consistently produce the required number of T cells in our drug product candidate.

The manufacturing processes for our CYAD-01 drug product candidate are complex. We recently modified the manufacturing process we use to manufacture our CYAD-01 drug product candidate, with the objective of increasing the yield of T cell expansion in the drug product candidate we produce. However, there can be no assurance that we will be successful in improving the yield of T cell expansion, or that drug product candidates manufactured using this process will have similar or improved safety and clinical activity compared to drug product candidates manufactured using our prior manufacturing process.

Until recently, our CYAD-01 drug product candidate was manufactured using a process, which we refer to as the LY process, intended to reduce the co-expression of NKG2D and stress ligands induced by the manufacturing process. However, this reduction of the co-expression was not sufficient, especially at higher doses, and yielded a higher than anticipated fratricide effect; that is, the expressed T cells in the drug product candidate would kill each other or kill themselves. As a result, the LY process failed to consistently produce the required number of T cells in the drug product candidate, resulting in some cases our inability to manufacture drug product candidate consistent with the protocol for our THINK trial. All 15 patients treated in the THINK trial as of December 31, 2017 were treated with drug product candidate manufactured using the LY process. Of these 15 patients, 10 were dosed at the per-protocol intended dose and five were treated at a dose lower than the per-protocol intended dose due to our inability to obtain sufficient cell numbers in the drug product candidate using this manufacturing method. Of the 10 patients dosed at the per-protocol intended dose, we observed clinical activity in six patients, ranging from stable disease, or SD, to complete response, or CR. However, no signs of clinical activity were shown in patients treated with a dose lower than the per-protocol intended dose.

In response to these manufacturing challenges, we modified the manufacturing process to include a monoclonal antibody, or mAb, that inhibits NKG2D expression on the T cell surface during production. We believe that this method will enable us to consistently manufacture our drug product candidate with significantly higher cell numbers than the LY process. Although we have evaluated this new manufacturing process in both *in vivo* and *ex vivo* models in order to demonstrate reproducibility and comparability, and our THINK protocol has been amended for this new approach, there can be no assurance that drug product candidates manufactured using this process will enable us to consistently manufacture drug product candidates with the required number of T cells or that such drug product candidates will have similar or improved safety and clinical activity compared to drug product candidates manufactured using our prior manufacturing process. We have limited experience with this approach. If we fail to consistently manufacture drug product candidate with the required number of T cells we may not observe signs of clinical activity in our THINK clinical trial, which would adversely affect our clinical development, potential approval and commercial viability of our drug product candidate.

The first patient in our THINK trial to be administered drug product candidate manufactured using the mAb process was treated in late January 2018. As of the date of this Annual Report, four patients have been dosed using the new process. To date, no critical safety issues related to the cell therapy have been reported. There can be no assurance that drug product candidate manufactured using the mAb process will have similar or improved safety and clinical activity compared to drug product candidate manufactured using the LY manufacturing process.

In addition, we may develop additional process changes in the future, as we seek to advance our drug product candidates through the clinic and prepare for a potential commercial launch. In some circumstances, changes in the manufacturing process may require us to perform additional comparability studies or to collect additional clinical data from patients prior to undertaking additional clinical studies or filing for regulatory approval. These requirements may lead to delays in our clinical development and commercialization plans as well as potential increased costs.

We have not yet finalized our clinical development program for CYAD-01 in AML and CRC. The FDA and comparable foreign regulators may not agree with our proposed protocols for these clinical trials, which could result in delays.

We are still considering the clinical development program for CYAD-01 in AML and CRC. Prior to initiating new clinical trials for our drug product candidates, we are required to submit clinical trial protocols for these trials to the FDA and comparable foreign regulators in other jurisdictions where we plan to undertake clinical trials. We may not reach agreement with these regulators, or there may be a delay in reaching agreement. These regulators may want to see additional clinical or preclinical data regarding our CYAD-01 drug product candidate before we initiate new clinical trials. Any of these decisions could have a material adverse effect on our expected clinical and regulatory timelines, business, prospects, financial condition and results of operations.

We may encounter substantial delays in our clinical trials or may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities.

Before obtaining regulatory approval or marketing authorization from regulatory authorities for the sale of our drug product candidates, if at all, we must conduct extensive clinical trials to demonstrate the safety and efficacy of the drug product candidates in humans. Clinical testing is expensive, time-consuming and uncertain as to outcome. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, if at all. A failure of one or more clinical trials can occur at any stage of testing. Events that may prevent successful or timely completion of clinical development include:

- delays in raising, or inability to raise, sufficient capital to fund the planned clinical trials;
- delays in reaching a consensus with regulatory agencies on trial design;
- identifying, recruiting and training suitable clinical investigators;
- delays in reaching agreement on acceptable terms with prospective clinical research organizations, or CROs, and clinical trial sites;
- delays in obtaining required Investigational Review Board, or IRB, approval at each clinical trial site;
- delays in recruiting suitable patients to participate in our clinical trials;
- delays due to changing standard of care for the diseases we are studying;
- adding new clinical trial sites;
- imposition of a clinical hold by regulatory agencies, including after an inspection of our clinical trial operations or trial sites;
- failure by our CROs, other third parties or us to adhere to clinical trial requirements;
- catastrophic loss of drug product candidates due to shipping delays or delays in customs in connection with delivery to foreign countries for use in clinical trials;
- failure to perform in accordance with the FDA's GCPs or applicable regulatory guidelines in other countries;
- delays in the testing, validation, manufacturing and delivery of our drug product candidates to the clinical sites;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- clinical trial sites or patients dropping out of a trial;
- occurrence of serious adverse events associated with the drug product candidate that are viewed to outweigh its potential benefits; or
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols.

Any inability to successfully complete preclinical and clinical development could result in additional costs to us or impair our ability to generate revenues from product sales, regulatory and commercialization milestones and royalties. Clinical trial delays could also shorten any periods during which we may have the exclusive right to commercialize our drug product candidates or allow our competitors to bring products to market before we do, which could impair our ability to successfully commercialize our drug product candidates and may harm our business and results of operations.

If the results of our clinical trials are inconclusive or if there are safety concerns or adverse events associated with our drug product candidates, we may:

- be delayed in obtaining marketing approval for our drug product candidates, if at all;

- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labelling that includes significant use or distribution restrictions or safety warnings;
- be subject to changes in the way the product is administered;
- be required to perform additional clinical trials to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities withdraw their approval of the product or impose restrictions on our distribution in the form of a risk evaluation and mitigations strategy, or REMS, plan;
- be subject to the addition of labelling statements, such as warnings or contraindications;
- be sued; or
- experience damage to our reputation.

Our drug product candidates could potentially cause other adverse events that have not yet been predicted. As described above, any of these events could prevent us from achieving or maintaining market acceptance of our drug product candidates and impair our ability to commercialize our products if they are ultimately approved by applicable regulatory authorities.

Our drug product candidates may cause undesirable side effects or have other properties that could halt their clinical development, prevent their regulatory approval, limit their commercial potential, or result in significant negative consequences.

As with most biological drug products, use of our drug product candidates could be associated with side effects or adverse events which can vary in severity from minor reactions to death and in frequency from infrequent to prevalent. Undesirable side effects or unacceptable toxicities caused by our drug product candidates could cause us or regulatory authorities to interrupt, delay, or halt clinical trials. The FDA, EMA, or comparable foreign regulatory authorities could delay or deny approval of our drug product candidates for any or all targeted indications and negative side effects could result in a more restrictive label for any product that is approved. Side effects such as toxicity or other safety issues associated with the use of our drug product candidates could also require us or our collaborators to perform additional studies or halt development or sale of these drug product candidates.

Treatment-related side effects could also affect patient recruitment or the ability of enrolled subjects to complete the trial, or could result in potential product liability claims. In addition, these side effects may not be appropriately or timely recognized or managed by the treating medical staff. Any of these occurrences may materially and adversely harm our business, financial condition and prospects.

Additionally, if one or more of our drug product candidates receives marketing approval, and we or others later identify undesirable side effects caused by such products, including during any long-term follow-up observation period recommended or required for patients who receive treatment using our products, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw approvals of such product;
- regulatory authorities may require additional warnings on the label;
- we may be required to create a REMS plan which could include a medication guide outlining the risks of such side effects for distribution to patients, a communication plan for healthcare providers, and/or other elements to assure safe use;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of the foregoing could prevent us from achieving or maintaining market acceptance of the particular drug product candidate, if approved, and could significantly harm our business, results of operations, and prospects.

If we encounter difficulties enrolling patients in our clinical trials, our clinical development activities could be delayed or otherwise adversely affected.

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients who remain in the trial until our conclusion. We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons, including:

- the size and nature of the patient population;
- the patient eligibility criteria defined in the protocol;
- the size of the study population required for analysis of the trial's primary endpoints;
- the proximity of patients to trial sites;
- the design of the trial;
- our ability to recruit clinical trial investigators with the appropriate competencies and experience;
- competing clinical trials for similar therapies;
- clinicians' and patients' perceptions as to the potential advantages and side effects of the drug product candidate being studied in relation to other available therapies, including any new drugs or treatments that may be approved for the indications we are investigating;
- our ability to obtain and maintain patient consents; and
- the risk that patients enrolled in clinical trials will not complete a clinical trial.

In addition, our clinical trials will compete with other clinical trials for drug product candidates that are in the same therapeutic areas as our drug product candidates, and this competition will reduce the number and types of patients available us, because some patients who might have opted to enrol in our trials may instead opt to enrol in a trial being conducted by one of our competitors. Because the number of qualified clinical investigators is limited, we expect to conduct some of our clinical trials at the same clinical trial sites that some of our competitors use, which will reduce the number of patients who are available for our clinical trials at such clinical trial sites. Moreover, because our drug product candidates represent a departure from more commonly used methods for ischemic HF and cancer treatment, potential patients and their doctors may be inclined to use conventional therapies, rather than enrol patients in our clinical trials.

Even if we are able to enroll a sufficient number of patients in our clinical trials, delays in patient enrollment may result in increased costs or may affect the timing or outcome of our clinical trials, which could prevent completion of these trials and adversely affect our ability to advance the development of our drug product candidates.

Clinical development is a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials as well as data from any interim analysis of ongoing clinical trials may not be predictive of future trial results. Clinical failure can occur at any stage of clinical development.

Clinical testing is expensive and can take many years to complete, and our outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. Although drug product candidates may demonstrate promising results in early clinical (human) trials and preclinical (animal) studies, they may not prove to be effective in subsequent clinical trials. For example, testing on animals may occur under different conditions than testing in humans and therefore the results of animal studies may not accurately predict human experience. Likewise, early clinical trials may not be predictive of eventual safety or effectiveness results in

larger-scale pivotal clinical trials. The results of preclinical studies and previous clinical trials as well as data from any interim analysis of ongoing clinical trials of our drug product candidates, as well as studies and trials of other products with similar mechanisms of action to our drug product candidates, may not be predictive of the results of ongoing or future clinical trials. Drug product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and earlier clinical trials. In addition to the safety and efficacy traits of any drug product candidate, clinical trial failures may result from a multitude of factors including flaws in trial design, dose selection, placebo effect and patient enrolment criteria. Based upon negative or inconclusive results, we or our collaborators may decide, or regulators may require it, to conduct additional clinical trials or preclinical studies. In addition, data obtained from trials and studies are susceptible to varying interpretations, and regulators may not interpret our data as favourably as we do, which may delay, limit or prevent regulatory approval.

The regulatory approval processes of the FDA, EMA and other comparable regulatory authorities is lengthy, time-consuming, and inherently unpredictable, and we may experience significant delays in the clinical development and regulatory approval, if any, of our drug product candidates.

The research, testing, manufacturing, labelling, approval, selling, import, export, marketing, and distribution of drug products, including biologics, are subject to extensive regulation by the FDA, EMA and other comparable regulatory authorities. We are not permitted to market any biological drug product in the United States until we receive a Biologics License Application, or BLA, from the FDA or a marketing authorization application, or MAA, from the EMA. We have not previously submitted a BLA to the FDA, MAA to the EMA, or similar approval filings to comparable foreign authorities. A BLA must include extensive preclinical and clinical data and supporting information to establish that the drug product candidate is safe, pure, and potent for each desired indication. The BLA must also include significant information regarding the chemistry, manufacturing, and controls for the product, and the manufacturing facilities must complete a successful pre-license inspection. We expect the nature of our drug product candidates to create further challenges in obtaining regulatory approval. For example, the FDA and EMA have limited experience with commercial development of genetically modified T-cell therapies for cancer. The FDA may also require a panel of experts, referred to as an Advisory Committee, to deliberate on the adequacy of the safety and efficacy data to support licensure. The opinion of the Advisory Committee, although not binding, may have a significant impact on our ability to obtain licensure of the drug product candidates based on the completed clinical trials. Accordingly, the regulatory approval pathway for our drug product candidates may be uncertain, complex, expensive, and lengthy, and approval may not be obtained.

Obtaining and maintaining regulatory approval of our drug product candidates in one jurisdiction does not mean that we will be successful in obtaining regulatory approval of our drug product candidates in other jurisdictions.

If we obtain and maintain regulatory approval of our drug product candidates in one jurisdiction, such approval does not guarantee that we will be able to obtain or maintain regulatory approval in any other jurisdiction, but a failure or delay in obtaining regulatory approval in one jurisdiction may have a negative effect on the regulatory approval process in others. For example, even if the FDA or EMA grants marketing approval of a drug product candidate, comparable regulatory authorities in foreign jurisdictions must also approve the manufacturing, marketing and promotion of the drug product candidate in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from those in the European Union or in the United States, including additional preclinical studies or clinical trials as clinical trials conducted in one jurisdiction may not be accepted by regulatory authorities in other jurisdictions. In many jurisdictions, a drug product candidate must be approved for reimbursement before it can be approved for sale in that jurisdiction. In some cases, the price that we intend to charge for our products is also subject to approval.

Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of our products in certain countries. If we fail to comply with the regulatory requirements in international markets and/or to receive

applicable marketing approvals, our target market will be reduced and our ability to realize the full market potential of our drug product candidates will be harmed.

A Breakthrough Therapy Designation by the FDA for our drug product candidates may not lead to a faster development or regulatory review or approval process, and it does not increase the likelihood that our drug product candidates will receive marketing approval.

We may seek a Breakthrough Therapy Designation for some of our drug product candidates. A breakthrough therapy is defined as a product that is intended, alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For drug product candidates that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Drug product candidates designated as breakthrough therapies by the FDA may also be eligible for accelerated approval.

Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our drug product candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. In any event, the receipt of a Breakthrough Therapy Designation for a drug product candidate may not result in a faster development process, review or approval compared to drugs considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our drug product candidates qualify as breakthrough therapies, the FDA may later decide that the drug product candidates no longer meet the conditions for designation.

A Fast Track Designation by the FDA may not actually lead to a faster development or regulatory review or approval process.

We may seek Fast Track Designation for some of our drug product candidates. If a product is intended for the treatment of a serious or life-threatening condition and the product demonstrates the potential to address unmet medical needs for this condition, the product sponsor may apply for Fast Track Designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular drug product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Even if we do receive Fast Track Designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may withdraw Fast Track Designation if it believes that the designation is no longer supported by data from our clinical development program.

We may seek Orphan Drug Designation for some of our drug product candidates, and we may be unsuccessful or may be unable to maintain the benefits associated with Orphan Drug Designation, including the potential for market exclusivity.

As part of our business strategy, we may seek Orphan Drug Designation for some of our drug product candidates, and we may be unsuccessful. Regulatory authorities in some jurisdictions, including the United States and the European Union, may designate products for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a product intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States, or a patient population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the product will be recovered from sales in the United States. In the United States, Orphan Drug Designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers.

Similarly, in the European Union, after recommendation from the EMA's Committee for Orphan Medicinal Products, the European Commission grants Orphan Drug Designation to promote the development of products that are intended for the diagnosis, prevention or treatment of life-threatening or chronically debilitating conditions affecting not more than five in 10,000 persons in the European Union and for which no satisfactory method of diagnosis, prevention, or treatment has been authorized (or the product would be a significant benefit to those affected). Additionally, designation is granted for products intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition and when, without incentives, it is unlikely that sales of the product in the European Union would be sufficient to justify the necessary investment in developing the product. In the European Union, Orphan Drug Designation entitles a party to financial incentives such as reduction of fees or fee waivers.

Generally, if a drug product candidate with an Orphan Drug Designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the EMA or the FDA from approving another marketing application for the same product and indication for that time period, except in limited circumstances. The applicable period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a product no longer meets the criteria for Orphan Drug Designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified.

Even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different products can be approved for the same condition or the same products can be approved for different conditions. If one of our drug product candidates that receives an orphan drug designation is approved for a particular indication or use within the rare disease, the FDA may later approve the same product for additional indications or uses within that rare disease that are not protected by our exclusive approval. Even after an orphan drug is approved, the FDA can subsequently approve the same product for the same condition if the FDA concludes that the later product is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care. In addition, a designated orphan drug may not receive orphan drug exclusivity if it is approved for a use that is broader than the indication for which it received orphan designation. Moreover, orphan drug exclusive marketing rights in the United States may be lost if the FDA later determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition or if another product with the same active moiety is determined to be safer, more effective, or represents a major contribution to patient care. Orphan Drug Designation neither shortens the development time or regulatory review time of a product nor gives the product any advantage in the regulatory review or approval process. While we intend to seek Orphan Drug Designation for some of our drug product candidates, we may never receive such designations. Even if we do receive such designations, there is no guarantee that we will enjoy the benefits of those designations.

Even if we receive regulatory approval of our drug product candidates, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our drug product candidates.

If our drug product candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies, and submission of safety, efficacy, and other post-market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities.

Manufacturers and manufacturers' facilities are required to comply with extensive FDA, and comparable foreign regulatory authority, requirements, including ensuring that quality control and manufacturing procedures conform to current Good Manufacturing Practices, or cGMP, and in certain cases current Good Tissue Practices, or cGTP, regulations. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance, to the extent applicable, with cGMP and adherence to commitments made in

any BLA, other marketing application, and previous responses to inspection observations. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production, and quality control.

Any regulatory approvals that we receive for our drug product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 clinical trials and surveillance to monitor the safety and efficacy of the drug product candidate. The FDA may also require a REMS program as a condition of approval of our drug product candidates, which could entail requirements for long-term patient follow-up, a medication guide, physician communication plans or additional elements to ensure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. In addition, if the FDA or a comparable foreign regulatory authority approves our drug product candidates, we will have to comply with requirements including submissions of safety and other post-marketing information and reports, establishment registration, as well as continued compliance with cGMPs and GCPs for any clinical trials that we conduct post-approval.

The FDA may impose consent decrees or withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with our drug product candidates, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of our products, withdrawal of the product from the market, or voluntary or mandatory product recalls;
- fines, untitled or warning letters, or holds on clinical trials;
- refusal by the FDA to approve pending applications or supplements to approved applications filed by us or suspension or revocation of license approvals;
- product seizure or detention, or refusal to permit the import or export of our drug product candidates; and
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising, and promotion of products that are placed on the market. Products may be promoted only for the approved indications and in accordance with the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability. The policies of the FDA and of other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our drug product candidates. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

Even if we obtain regulatory approval of our drug product candidates, the products may not gain market acceptance among physicians, patients, hospitals and others in the medical community.

Our autologous engineered-cell therapies may not become broadly accepted by physicians, patients, hospitals, and others in the medical community. Numerous factors will influence whether our drug product candidates are accepted in the market, including:

- the clinical indications for which our drug product candidates are approved;
- physicians, hospitals, and patients considering our drug product candidates as a safe and effective treatment;
- the potential and perceived advantages of our drug product candidates over alternative treatments;
- the prevalence and severity of any side effects;
- product labelling or product insert requirements of the FDA, EMA, or other regulatory authorities;
- limitations or warnings contained in the labelling approved by the FDA or EMA;
- the timing of market introduction of our drug product candidates as well as competitive products;
- the cost of treatment in relation to alternative treatments;
- the availability of adequate coverage, reimbursement and pricing by third-party payors and government authorities;
- the willingness of patients to pay out-of-pocket in the absence of coverage by third-party payors and government authorities;
- relative convenience and ease of administration, including as compared to alternative treatments and competitive therapies; and
- the effectiveness of our sales and marketing efforts.

In addition, although we are not utilizing embryonic stem cells in our drug product candidates, adverse publicity due to the ethical and social controversies surrounding the therapeutic use of such technologies, and reported side effects from any clinical trials using these technologies or the failure of such trials to demonstrate that these therapies are safe and effective may limit market acceptance our drug product candidates due to the perceived similarity between our drug product candidates and these other therapies. If our drug product candidates are approved but fail to achieve market acceptance among physicians, patients, hospitals, or others in the medical community, we will not be able to generate significant revenue.

Even if our products achieve market acceptance, we may not be able to maintain that market acceptance over time if new products or technologies are introduced that are more favorably received than our products, are more cost effective or render our products obsolete.

Our drug product candidates are biologics, which are complex to manufacture, and we may encounter difficulties in production, particularly with respect to process development or scaling-out of our manufacturing capabilities. If we or any of our third-party manufacturers encounter such difficulties, our ability to provide supply of our drug product candidates for clinical trials or our products for patients, if approved, could be delayed or stopped, or we may be unable to maintain a commercially viable cost structure.

Our drug product candidates are biologics and the process of manufacturing our products is complex, highly-regulated and subject to multiple risks. The manufacture of our drug product candidates involves complex processes, including harvesting cells from patients, selecting and expanding certain cell types, engineering or reprogramming the cells in a certain manner to create either cardiopoietic cells or CAR T-cells, expanding the cell population to obtain the desired dose, and ultimately infusing the cells back into a patient’s body. As a result

of the complexities, the cost to manufacture our drug product candidates is higher than traditional small molecule chemical compounds, and the manufacturing process is less reliable and is more difficult to reproduce. Our manufacturing process is susceptible to product loss or failure due to logistical issues associated with the collection of blood cells, or starting material, from the patient, shipping such material to the manufacturing site, shipping the final product back to the patient, and infusing the patient with the product, manufacturing issues associated with the differences in patient starting materials, interruptions in the manufacturing process, contamination, equipment or reagent failure, improper installation or operation of equipment, vendor or operator error, inconsistency in cell growth, and variability in product characteristics. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects, and other supply disruptions. Because some of our drug product candidates are manufactured for each particular patient, we are required to maintain a chain of identity with respect to materials as they move from the patient to the manufacturing facility, through the manufacturing process, and back to the patient. Maintaining such a chain of identity is difficult and complex and failure to do so could result in adverse patient outcomes, loss of product, or regulatory action including withdrawal of our products from the market. Further, as drug product candidates are developed through preclinical to late stage clinical trials towards approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods, are altered along the way in an effort to optimize processes and results. Such changes carry the risk that they will not achieve these intended objectives, and any of these changes could cause our drug product candidates to perform differently and affect the results of ongoing clinical trials or other future clinical trials.

Although we are working, or will be working, to develop commercially viable processes for the manufacture of our drug product candidates, doing so is a difficult and uncertain task, and there are risks associated with scaling to the level required for later-stage clinical trials and commercialization, including, among others, cost overruns, potential problems with process scale-out, process reproducibility, stability issues, lot consistency, and timely availability of reagents or raw materials. We may ultimately be unable to reduce the cost of goods for our drug product candidates to levels that will allow for an attractive return on investment if and when those drug product candidates are commercialized.

In addition, the manufacturing process that we develop for our drug product candidates is subject to regulatory authorities' approval processes, and we will need to make sure that we or our contract manufacturers, or CMOs, if any, are able to meet all regulatory authorities' requirements on an ongoing basis. If we or our CMOs are unable to reliably produce drug product candidates to specifications acceptable to the regulatory authorities, we may not obtain or maintain the approvals we need to commercialize such drug product candidates. Even if we obtain regulatory approval for any of our drug product candidates, there is no assurance that either we or our CMOs will be able to manufacture the approved product to specifications acceptable to the regulatory authorities, to produce it in sufficient quantities to meet the requirements for the potential launch of the product, or to meet potential future demand. Any of these challenges could have an adverse effect on our business, financial condition, results of operations and growth prospects.

We may face competition from biosimilars, which may have a material adverse impact on the future commercial prospects of our drug product candidates.

Even if we are successful in achieving regulatory approval to commercialize a drug product candidate faster than our competitors, we may face competition from biosimilars. The Biologics Price Competition and Innovation Act of 2009, or BPCI Act, created an abbreviated approval pathway for biological products that are demonstrated to be biosimilar to, or interchangeable with, an FDA-approved biological product. "Biosimilarity" means that the biological product is highly similar to the reference product notwithstanding minor differences in clinically inactive components and there are no clinically meaningful differences between the biological product and the reference product in terms of safety, purity, and potency of the product. To meet the higher standard of "interchangeability," an applicant must provide sufficient information to show biosimilarity and demonstrate that the biological product can be expected to produce the same clinical result as the reference product in any given patient and, if the biological product is administrated more than once to an individual, the risk in terms of safety

or diminished efficacy of alternating or switching between the use of the biological product and the reference product is not greater than the risk of using the reference product without such alternation or switch.

A reference biological product is granted 12 years of exclusivity from the time of first licensure of the product, and the FDA will not accept an application for a biosimilar or interchangeable product based on the reference biological product until four years after first licensure. First licensure typically means the initial date the particular product at issue was licensed in the United States. This does not include a supplement for the biological product or a subsequent application by the same sponsor or manufacturer of the biological product (or licensor, predecessor in interest, or other related entity) for a change that results in a new indication, route of administration, dosing schedule, dosage form, delivery system, delivery device, or strength, unless that change is a modification to the structure of the biological product and such modification changes our safety, purity, or potency. Whether a subsequent application, if approved, warrants exclusivity as the first licensure of a biological product is determined on a case-by-case basis with data.

This data exclusivity does not prevent another company from developing a product that is highly similar to the innovative product, generating our own data, and seeking approval. Data exclusivity only assures that another company cannot rely upon the data within the application for the reference biological product to support the biosimilar product's approval.

In the European Union, the European Commission has granted marketing authorizations for several biosimilars pursuant to a set of general and product class-specific guidelines for biosimilar approvals issued over the past few years. In the European Union, a competitor may reference data supporting approval of an innovative biological product, but will not be able do so until eight years after the time of approval of the innovative product and to get our biosimilar on the market until ten years from the aforementioned approval. This 10-year marketing exclusivity period will be extended to 11 years if, during the first eight of those ten years, the marketing authorization holder obtains an approval for one or more new therapeutic indications that bring significant clinical benefits compared with existing therapies. In addition, companies may be developing biosimilars in other countries that could compete with our products.

If competitors are able to obtain marketing approval for biosimilars referencing our products, our products may become subject to competition from such biosimilars, with the attendant competitive pressure and consequences.

Nearly all aspects of our activities are subject to substantial regulation. No assurance can be given that any of our product candidates will fulfil regulatory compliance. Failure to comply with such regulations could result in delays, suspension, refusals, fines and withdrawal of approvals.

The international pharmaceutical and medical technology industry is highly regulated by government bodies (hereinafter the "Competent Authorities") that impose substantial requirements covering nearly all aspects of our activities notably on research and development, manufacturing, preclinical tests, clinical trials, labelling, marketing, sales, storage, record keeping, promotion and pricing of our research programs and product candidates. Compliance with standards laid down by local Competent Authorities is required in each country where the Company, or any of our partners or licensees, conducts said activities in whole or in part. The Competent Authorities notably include the European Medicine Agency ("EMA") in the European Union and the Food and Drug Administration ("FDA") in the United States.

There can be no assurance that our product candidates will fulfill the criteria required to obtain necessary regulatory clearance to access the market. Also, at this time, we cannot guarantee or know the exact nature, precise timing and detailed costs of the efforts that will be necessary to complete the remainder of the development of our research programs and products candidates.

The specific regulations and laws, as well as the time required to obtain Competent Authorities approvals, may vary from country to country, but the general regulatory procedures are similar in the European Union and the

United States. Each Competent Authority may impose its own requirements, may discontinue an approval, may refuse to grant approval, or may require additional data before granting approval, notwithstanding that approval may have been granted by one or more other Competent Authorities. Competent Authority approval may be delayed, limited or denied for a number of reasons, most of which are beyond our control. Such reasons include the production process or site not meeting the applicable requirements for the manufacture of regulated products, or the products not meeting applicable requirements for safety or efficacy during the clinical development stage or after marketing. No assurance can be given that clinical trials will be approved by Competent Authorities or that products will be approved for marketing by Competent Authorities in any pre-determined indication or intended use. Competent Authorities may disagree with our interpretation of data submitted for their review. Even after obtaining approval for clinical trials or marketing, products will be subject to ongoing regulation and evaluation of their benefit/safety or risk/performance ratio; a negative evaluation of the benefit/safety or risk/performance ratio could result in a potential use restriction and/or withdrawal of approval for one or more products. At any time Competent Authorities may require discontinuation or holding of clinical trials or require additional data prior to completing their review or may issue restricted authorization or authorize products for clinical trials or marketing for narrower indications than requested or require further data or studies be conducted and submitted for their review. There can be no guarantee that such additional data or studies, if required, will corroborate earlier data.

Research programs and our product candidates must undergo rigorous preclinical tests and clinical trials, the start, timing of completion, number and results of which are uncertain and could substantially delay or prevent the products from reaching the market.

Preclinical tests and clinical trials are expensive and time-consuming and their results are uncertain. The Company, our collaborative partners or other third parties may not successfully complete the preclinical tests and clinical trials of the research programs and product candidates. Failure to do so may delay or prevent the commercialization of products. We cannot guarantee that our research programs and product candidates will demonstrate sufficient safety or efficacy or performance in our preclinical tests and clinical trials to obtain marketing authorization in any given territory or at all, and the results from earlier preclinical tests and clinical trials may not accurately predict the results of later-stage preclinical tests and clinical trials. At any stage of development, based on a review of available preclinical and clinical data, the estimated costs of continued development, market assessments and other factors, the development of any of our research programs and product candidates may be suspended or discontinued.

Clinical trials can be delayed for a variety of reasons, including, but not limited to, delays in obtaining regulatory approval to commence a trial, in reaching agreement on acceptable terms with prospective contract research organizations (CROs) and contract manufacturing organizations (CMOs) and clinical trial sites, in obtaining institutional review board or ethics committee approval, in recruiting suitable patients to participate in a trial, in having patients complete a trial or return for follow-up, in adding new sites or in obtaining sufficient supplies of clinical trial materials or clinical sites dropping out of a trial and in the availability to us of appropriate clinical trial insurances. Such delays could result in increased costs and delay or jeopardize our ability to obtain regulatory approval and commence product sales as currently contemplated. Many factors affect patient enrolment, including, but not limited to, the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the trial, the design of the clinical trial, competing clinical trials, clinicians' and patients' perceptions as to the potential advantages of the product being studied in relation to other available therapies, including any new products that may be approved for the indications we are investigating and whether the clinical trial design involves comparison to placebo or standard of care. If we experience lower than expected enrollment in the trials, the trials may not be completed as envisaged or may become more expensive to complete. We and our collaborative partners are, or may become subject to, numerous ongoing regulatory obligations, such as data protection, environmental, health and safety laws and restrictions on the experimental use of animals and/or human beings. The costs of compliance with applicable regulations, requirements or guidelines could be substantial, and failure to comply could result in sanctions, including fines, injunctions, civil penalties, denial of applications for marketing authorization of our products, delays, suspension

or withdrawal of approvals, license revocation, seizures or recalls of products, operating restrictions and criminal prosecutions, any of which could significantly increase our or our collaborative partners' costs or delay the development and commercialization of our product candidates.

We may face significant competition and technological change which could limit or eliminate the market opportunity for our product candidates.

The market for pharmaceutical products is highly competitive. Our competitors include many established pharmaceutical, biotechnology, universities and other research or commercial institutions, many of which have substantially greater financial, research and development resources than the Company. The fields in which we operate are characterized by rapid technological change and innovation. There can be no assurance that our competitors are not currently developing, or will not in the future develop technologies and products that are equally or more effective and/or are more economical as any current or future technology or product of the Company. Competing products may gain faster or greater market acceptance than our products and medical advances or rapid technological development by competitors may result in our product candidates becoming non-competitive or obsolete before we are able to recover our research and development and commercialization expenses. If we or our product candidates do not compete effectively, it may have a material adverse effect on our business.

The future commercial success of our product candidates will depend on the degree of market acceptance of our products among physicians, patients, healthcare payers and the medical community.

Our product candidates are at varying stages of development and we may never have a product that is commercially successful. To date, none of our product candidates have been authorized for marketing yet. Due to the inherent risk in the development of pharmaceutical and medical device products, it is probable that not all of the product candidates in our portfolio will successfully complete development and be marketed.

We do not expect to be able to market any of our products for a number of years. Furthermore, when available on the market physicians may not prescribe our products, which would prevent us from generating significant revenues or becoming profitable. Market acceptance of our future products by physicians, patients and healthcare payers will depend on a number of factors, many of which are beyond our control, including, but not limited to:

- the wording of the product label;
- acceptance by physicians, patients and healthcare payers of each product as safe, effective and cost-effective;
- relative convenience, ease of use, ease of administration and other perceived advantages over alternative products;
- prevalence and severity of adverse events;
- limitations, precautions or warnings listed in the summary of product characteristics, patient information leaflet, package labelling or instructions for use;
- the cost of treatment with our products in relation to alternative treatments;
- the extent to which products are approved for inclusion and reimbursed on formularies of hospitals and managed care organizations;
- whether products are designated in the label and/or under physician treatment guidelines and/or under reimbursement guidelines as a first-line therapy, or as a second-line, or third-line or last-line therapy.

The price setting, the availability and level of adequate reimbursement by third parties, such as insurance companies, governmental and other healthcare payers is uncertain and may impede on our ability to generate sufficient operating margins to offset operating expenses.

Our commercial performance will depend in part on the conditions for setting the sales price of our products by the relevant public commissions and bodies and the conditions of their reimbursement by the health agencies or insurance companies in the countries where we intend to market our products. The current context of healthcare cost control and economic and financial crisis that most countries are currently facing, coupled with the increase in health care budgets caused by the aging population creates extra pressure on health care spending in most if not all countries. Consequently, pressure on sales prices and reimbursement levels is intensifying owing in particular to:

- price controls imposed by many states;
- the increasing reimbursement limitations of some products under budgetary policies;
- the heightened difficulty in obtaining and maintaining a satisfactory reimbursement rate for medicines.

Obtaining adequate pricing decisions that would generate return on the investment incurred for the development of the product candidates developed by us are therefore uncertain. Our ability to manage our expenses and cost structure to adapt to increased pricing pressure is untested and uncertain.

All of these factors will have a direct impact on our ability to make profits on the products in question. The partial/no reimbursement policy of medicines could have a material adverse effect on the business, prospects, financial situation, earnings and growth of the Company.

Changes in regulatory approval policies or enactment of additional regulatory approval requirements may delay or prevent the product candidates from being marketed.

The regulatory clearance process is expensive and time consuming and the timing of marketing is difficult to predict. Once marketed, products may be subject to post-authorization safety studies or other pharmacovigilance or device vigilance activities or may be subject to limitations on their uses or may be withdrawn from the market for various reasons, including if they are shown to be unsafe or ineffective, or when used in a larger population that may be different from the trial population studied prior to market introduction of the product.

Our product candidates may become subject to changes in the regulatory framework or market conditions. Regulatory guidelines may change during the course of product development and review process, making the chosen development strategy suboptimal. Market conditions may change resulting in the emergence of new competitors or new treatment guidelines which may require alterations in the development strategy. These factors may result in significant delays, increased trial costs, significant changes in commercial assumptions or failure of the products to obtain marketing authorization.

We are subject to inspection and shall be subject to market surveillance by the FDA, EMA and other Competent Authorities for compliance with regulations that prohibit the promotion of our products for a purpose or indication other than those for which approval has been granted.

While a product manufacturer may not promote a product for such “off label” use, doctors are allowed, in the exercise of their professional judgment in the practice of medicine, to use a product in ways not approved by Competent Authorities. Off-label marketing regulations are subject to varying evolving interpretations.

Post-approval manufacturing and marketing of Company’s products may show different safety and efficacy profiles to those demonstrated in the data on which approval to test or market said products was based. Such circumstances could lead to the withdrawal or suspension of approval, which could have a material adverse effect on our business, financial condition, operating results or cash flows. In addition, Competent Authorities may not approve the labelling claims or advertisements that are necessary or desirable for the successful commercialization of our products.

Competent Authorities have broad enforcement power, and a failure by us or our collaboration partners to comply with applicable regulatory requirements can, among other things, result in recalls or seizures of products, operating and production restrictions, withdrawals of previously approved marketing applications, total or partial suspension of regulatory approvals, refusal to approve pending applications, warning letters, injunctions, penalties, fines, civil proceedings, criminal prosecutions and imprisonment.

We may fail to comply with evolving European and other privacy laws.

In Europe, Directive 95/46/EC of the European Parliament and of the Council of October 24, 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (the "Directive"), and Directive 2002/58/EC of the European Parliament and of the Council of July 12, 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (as amended by Directive 2009/136/EC) (the "e-Privacy-Directive"), have required the European Union, or EU member states, to implement data protection laws to meet strict privacy requirements. Violations of these requirements can result in administrative measures, including fines, or criminal sanctions. The e-Privacy Directive will likely be replaced in time by a new e-Privacy Regulation which may impose additional obligations and risk for our business.

Beginning on May 25, 2018, the Directive was replaced by Regulation (EU) 2016/679 of the European Parliament and of the Council of April 27, 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (the "GDPR"). The GDPR imposes a broad range of strict requirements on companies subject to the GDPR, such as us, including requirements relating to having legal bases for processing personal information relating to identifiable individuals and transferring such information outside the European Economic Area (the "EEA"), including to the United States, providing details to those individuals regarding the processing of their personal information, keeping personal information secure, having data processing agreements with third parties who process personal information, responding to individuals' requests to exercise their rights in respect of their personal information, reporting security breaches involving personal data to the competent national data protection authority and affected individuals, appointing data protection officers, conducting data protection impact assessments, and record-keeping. The GDPR increases substantially the penalties to which we could be subject in the event of any non-compliance, including fines of up to 10,000,000 Euros or up to 2% of our total worldwide annual turnover for certain comparatively minor offenses, or up to 20,000,000 Euros or up to 4% of our total worldwide annual turnover for more serious offenses. Given the new law, we face uncertainty as to the exact interpretation of the new requirements, and we may be unsuccessful in implementing all measures required by data protection authorities or courts in interpretation of the new law.

In particular, national laws of member states of the EU are in the process of being adapted to the requirements under the GDPR, thereby implementing national laws which may partially deviate from the GDPR and impose different obligations from country to country, so that we do not expect to operate in a uniform legal landscape in the EU. Also, in the field of handling genetic data, the GDPR specifically allows national laws to impose additional and more specific requirements or restrictions, and European laws have historically differed quite substantially in this field, leading to additional uncertainty.

We must also ensure that we maintain adequate safeguards to enable the transfer of personal data outside of the EEA, in particular to the United States in compliance with European data protection laws. We expect that we will continue to face uncertainty as to whether our efforts to comply with our obligations under European privacy laws will be sufficient. If we are investigated by a European data protection authority, we may face fines and other penalties. Any such investigation or charges by European data protection authorities could have a negative effect on our existing business and on our ability to attract and retain new clients or pharmaceutical partners. We may also experience hesitancy, reluctance, or refusal by European or multi-national clients or pharmaceutical partners to continue to use our products and solutions due to the potential risk exposure as a result of the current (and, in particular, future) data protection obligations imposed on them by certain data protection authorities in

interpretation of current law, including the GDPR. Such clients or pharmaceutical partners may also view any alternative approaches to compliance as being too costly, too burdensome, too legally uncertain, or otherwise objectionable and therefore decide not to do business with us. Any of the foregoing could materially harm our business, prospects, financial condition and results of operations.

Risks Related to Our Reliance on Third Parties

We have obtained and will obtain significant funding from the Walloon Region. The terms of the agreements signed with the Region may hamper our ability to partner part or all our products.

We contracted over the past year numerous funding agreements with the Walloon Region to partially finance our research and development programs. Under the terms of the agreements, we would need to obtain the consent of the Walloon Region for any out-licensing agreement or sale to a third party of any or all of our products, prototypes or installations which may reduce our ability to partner or sell part or all of our products.

Furthermore, when the research and development programs partially financed by us enter in "exploitation phase", we have to start reimbursing the funding received. We may not be able to reimburse such funding under the terms of the agreements or such reimbursement may jeopardize the funding of our clinical and scientific activities.

We rely and will continue to rely on collaborative partners regarding the development of our research programs and product candidates.

We are and expect to continue to be dependent on collaborations with partners relating to the development and commercialization of our existing and future research programs and product candidates. We had, have and will continue to have discussions on potential partnering opportunities with various pharmaceutical and medical device companies. If we fail to enter into or maintain collaborative agreements on reasonable terms or at all, our ability to develop our existing or future research programs and product candidates could be delayed, the commercial potential of our products could change and our costs of development and commercialization could increase.

Our dependence on collaborative partners subjects it to a number of risks, including, but not limited to, the following:

- we may not be able to control the amount or timing of resources that collaborative partners devote to our research programs and product candidates;
- we may be required to relinquish significant rights, including intellectual property, marketing and distribution rights;
- we relies on the information and data received from third parties regarding our research programs and product candidates and will not have control of the process conducted by the third party in gathering and composing such data and information. We may not have formal or appropriate guarantees from our contract parties with respect to the quality and the completeness of such data;
- a collaborative partner may develop a competing product either by itself or in collaboration with others, including one or more of our competitors;
- our collaborative partners' willingness or ability to complete their obligations under our collaboration arrangements may be adversely affected by business combinations or significant changes in a collaborative partner's business strategy; and/or
- we may experience delays in, or increases in the costs of, the development of our research programs and product candidates due to the termination or expiration of collaborative research and development arrangements.

On November 27, 2018, Ono Pharmaceuticals Co., Ltd. notified us of its decision to terminate the License and Collaboration Agreement dated July 11, 2016 between Ono Pharmaceuticals and the Company.

We rely on third parties to conduct, supervise and monitor our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our drug product candidates and our business could be substantially harmed.

We rely on clinical research organizations, or CROs, and clinical trial sites to ensure our clinical trials are conducted properly and on time. While we will have agreements governing their activities, we will have limited influence over their actual performance. We will control only certain aspects of our CROs' activities. Nevertheless, we will be responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities.

We and our CROs are required to comply with the FDA's GCPs for conducting, recording and reporting the results of clinical trials to assure that the data and reported results are credible and accurate and that the rights, integrity and confidentiality of clinical trial participants are protected. The FDA, the Competent Authorities of the Member States of the EEA, and comparable foreign regulatory authorities, enforce these GCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. If we or our CROs fail to comply with applicable GCPs, the clinical data generated in our future clinical trials may be deemed unreliable and the FDA, the EMA, or other foreign regulatory authorities may require us to perform additional clinical trials before approving any marketing applications. Upon inspection, the FDA may determine that our clinical trials did not comply with GCPs. In addition, our future clinical trials will require a sufficient number of test subjects to evaluate the safety and effectiveness of our drug product candidates. Accordingly, if our CROs fail to comply with these regulations or fail to recruit a sufficient number of patients, we may be required to repeat such clinical trials, which would delay the regulatory approval process.

Our CROs are not our employees, and we are therefore unable to directly monitor whether or not they devote sufficient time and resources to our clinical and preclinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other product development activities that could harm our competitive position. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements, or for any other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize, our drug product candidates. If any such event were to occur, our financial results and the commercial prospects for our drug product candidates would be harmed, our costs could increase, and our ability to generate revenues could be delayed.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs or to do so on commercially reasonable terms. Further, switching or adding additional CROs involves additional costs and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which could materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

Cell-based therapies rely on the availability of specialty raw materials, which may not be available to us on acceptable terms or at all.

Engineered-cell therapies require many specialty raw materials, some of which are manufactured by small companies with limited resources and experience to support a commercial product. The suppliers may be ill-equipped to support our needs, especially in non-routine circumstances like an FDA inspection or medical crisis, such as widespread contamination. We also do not have contracts with many of these suppliers, and may

not be able to contract with them on acceptable terms or at all. Accordingly, we may experience delays in receiving key raw materials to support clinical or commercial manufacturing.

In addition, some raw materials are currently available from a single supplier, or a small number of suppliers. We cannot be sure that these suppliers will remain in business, or that they will not be purchased by one of our competitors or another Company that is not interested in continuing to produce these materials for our intended purpose.

Risks Related to Our Intellectual Property

Our patents and other intellectual property rights portfolio are relatively young and may not adequately protect our research programs and product candidates, which may impede our ability to compete effectively.

Our success will depend in part on the ability of we to obtain, maintain and enforce our patents and other intellectual property rights. Our research programs and product candidates are covered by several patent application families, which are either licensed to us or owned by us. Out of the numerous patent applications filed by us, six national patents have been granted in Belgium and fifteen national patents have been granted in the US, of which only nine relate to the field of immuno-oncology. We cannot guarantee that it will be in a position in the future to develop new patentable inventions or that we or our licensors will be able to obtain or maintain these patent rights against challenges to their validity, scope and/or enforceability. We cannot guarantee that it is or has been the first to conceive an invention or to file a patent application on an invention, particularly given that patent applications are not published in most countries before 18-months after the date of filing. Moreover, we may have little or no control over its licensors abilities' to preventing the infringement of their patents or the misappropriation of their intellectual property. There can be no assurance that the technologies used in our research programs and product candidates are patentable, that pending or future applications will result in the grant to us or our licensors, that any patents will be of sufficient breadth to provide adequate and commercially meaningful protection against competitors with similar technologies or products, or that any patents granted to us or our licensors will not be successfully challenged, circumvented, invalidated or rendered unenforceable by third parties, enabling competitors to circumvent or use them and depriving us from the protection it would need against competitors. If we or our licensors do not obtain meaningful patents on their technologies or if the patents of us or our licensors are invalidated, third parties may use the technologies without payment to us. A third party's ability to use unpatented technologies is enhanced by the fact that the published patent application contains a detailed description of the relevant technology.

We cannot guarantee that third parties, contract parties or employees will not claim ownership rights over the patents or other intellectual property rights owned or held by the Company.

We also rely on proprietary know-how to protect our research programs and product candidates as well as our cardiopoiesis platform. Know-how is difficult to maintain and protect. We use reasonable efforts to maintain our know-how, but it cannot assure that our partners, employees, consultants, advisors or other third parties will not willfully or unintentionally disclose proprietary information to competitors. Furthermore, our competitors may independently develop equivalent knowledge and know-how, which could diminish or eliminate our competitive advantage.

The enforcement of patents, know-how and other intellectual property is costly, time consuming and highly uncertain. We cannot guarantee that it will be successful in preventing the infringement of our patented inventions, or the misappropriation of our know-how and other intellectual property rights and those of our licensors, and failure to do so could significantly impair the ability of us to compete effectively.

We may infringe on the patents or intellectual property rights of others and may face patent litigation, which may be costly and time consuming.

Our success will depend in part on our ability to operate without infringing or misappropriating the intellectual property rights of others. We cannot guarantee that our activities will not infringe on the patents or other

intellectual property rights owned by others. We may expend significant time and effort and may incur substantial costs in litigation if it is required to defend against patent or other intellectual property right suits brought against us regardless of whether the claims have any merit. Additionally, we cannot predict whether we will be successful in any litigation. If we are found to infringe the patents or other intellectual property rights of others, we may be subject to substantial claims for damages, which could materially impact our cash flow and financial position. We may also be required to cease development, use or sale of the relevant research program, product candidate or process or it may be required to obtain a license to the disputed rights, which may not be available on commercially reasonable terms, if at all.

There can be no assurance that we are even aware of third party rights that may be alleged to be relevant to any particular product candidate, method, process or technology.

We may spend significant time and effort and may incur substantial costs if required to defend against any infringement claims or to assert our intellectual property rights against third parties. The risk of such a claim by a third party may be increased by our public announcement regarding our research programs and product candidates. We may not be successful in defending our rights against such claims and may incur as a consequence thereof significant losses, costs or delays in our intended commercialization plans as a result thereof.

We depend on intellectual property licensed from third parties and termination of any of these licenses could result in the loss of significant rights, which would harm our business.

We are dependent on patents, know-how, and proprietary technology, both our own and licensed from others. We license technology from the Trustees of Dartmouth College, or Dartmouth College. Dartmouth College may terminate our license, if we fail to meet a milestone within the specified time period, unless we pay the corresponding milestone payment. Dartmouth College may terminate either the license in the event we default or breach any of the provisions of the applicable license, subject to 30 days' prior notice and opportunity to cure. In addition, the license automatically terminates in the event we become insolvent, make an assignment for the benefit of creditors or file, or have filed against us, a petition in bankruptcy. Furthermore, Dartmouth College may terminate our license, after April 30, 2024, if we fail to meet the specified minimum net sales obligations for any year, unless we pay to Dartmouth College the royalty we would otherwise be obligated to pay had we met such minimum net sales obligation. Any termination of this license or any of our other licenses could result in the loss of significant rights and could harm our ability to commercialize our drug product candidates. Disputes may also arise between us and our licensors regarding intellectual property subject to a license agreement, including those relating to:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether and the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the license agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- the amount and timing of milestone and royalty payments;
- whether we are complying with our diligence obligations with respect to the use of the licensed technology in relation to our development and commercialization of our drug product candidates; and
- the allocation of ownership of inventions and know-how resulting from the joint creation or use of intellectual property by us and our partners and by our licensors.

If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected drug product candidates. We are generally also subject to all of the same risks with respect to protection

of intellectual property that we license as it is for intellectual property that we own, which are described below. If we or our licensors fail to adequately protect this intellectual property, our ability to commercialize our products could suffer.

Our licenses may be terminated if we are unable to meet the payment obligations under the agreements (notably if we are unable to obtain additional financing).

We could be unsuccessful in obtaining or maintaining adequate patent protection for one or more of our drug product candidates.

The patent application process is expensive and time-consuming, and we and our current or future licensors and licensees may not be able to apply for or prosecute patents on certain aspects of our drug product candidates or deliver technologies at a reasonable cost, in a timely fashion, or at all. It is also possible that we or our current licensors, or any future licensors or licensees, will fail to identify patentable aspects of inventions made in the course of development and commercialization activities before it is too late to obtain patent protection on them. Therefore, our patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. It is possible that defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, such as with respect to proper priority claims, inventorship, claim scope or patent term adjustments. Under our existing license agreements with the Mayo Foundation for Medical Education and Research and the Trustees of Dartmouth College, we have the right, but not the obligation, to enforce our licensed patents. If our current licensors, or any future licensors or licensees, are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised and we might not be able to prevent third parties from making, using, and selling competing products. If there are material defects in the form or preparation of our patents or patent applications, such patents or applications may be invalid and unenforceable. Moreover, our competitors may independently develop equivalent knowledge, methods, and know-how. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business, financial condition and operating results.

We currently have issued patents and patent applications directed to our drug product candidates and medical devices, and we anticipate that it will file additional patent applications in several jurisdictions, including several European Union countries and the United States, as appropriate.

However, we cannot predict:

- if and when any patents will issue from patent applications;
- the degree and range of protection any issued patents will afford us against competitors, including whether third parties will find ways to invalidate or otherwise circumvent our patents;
- whether others will apply for or obtain patents claiming aspects similar to those covered by our patents and patent applications; or
- whether we will need to initiate litigation or administrative proceedings to defend our patent rights, which may be costly whether we win or lose.

We cannot be certain, however, that the claims in our pending patent applications will be considered patentable by patent offices in various countries, or that the claims of any of our issued patents will be considered valid and enforceable by local courts.

The strength of patents in the biotechnology and pharmaceutical field can be uncertain, and evaluating the scope of such patents involves complex legal and scientific analyses. The patent applications that we own or in-licenses may fail to result in issued patents with claims that cover our drug product candidates or uses thereof in the European Union, in the United States or in other jurisdictions. Even if the patents do successfully issue, third

parties may challenge the validity, enforceability, or scope thereof, which may result in such patents being narrowed, invalidated, or held unenforceable. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing their products to avoid being covered by our claims. If the breadth or strength of protection provided by the patent applications we hold with respect to our drug product candidates is threatened, this could dissuade companies from collaborating with us to develop, and could threaten our ability to commercialize, our drug product candidates. Further, because patent applications in most countries are confidential for a period of time after filing, we cannot be certain that we were the first to file any patent application related to our drug product candidates.

Patents have a limited lifespan. Various extensions may be available; however the life of a patent, and the protection it affords, is limited. Further, the extensive period of time between patent filing and regulatory approval for a drug product candidate limits the time during which we can market a drug product candidate under patent protection, which may particularly affect the profitability of our early-stage drug product candidates. If we encounter delays in our clinical trials, the period of time during which we could market our drug product candidates under patent protection would be reduced. Without patent protection for our drug product candidates, we may be open to competition from biosimilar versions of our drug product candidates.

Third-party claims of intellectual property infringement against us or our collaborators may prevent or delay our product discovery and development efforts.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. There is a substantial amount of litigation involving patents and other intellectual property rights in the biotechnology and pharmaceutical industries, as well as administrative proceedings for challenging patents, including interference, derivation, and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in foreign jurisdictions. Recently, due to changes in U.S. law referred to as patent reform, new procedures including *inter partes* review and post-grant review have been implemented. This reform adds uncertainty to the possibility of challenge to our patents in the future.

Numerous U.S. and foreign issued patents and pending patent applications owned by third parties exist in the fields in which we are developing our drug product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our drug product candidates may give rise to claims of infringement of the patent rights of others.

Although we have conducted analyses of the patent landscape with respect to our drug product candidates, and based on these analyses, we believe that we will be able to commercialize our drug product candidates, third parties may nonetheless assert that we infringe their patents, or that we are otherwise employing their proprietary technology without authorization, and may sue us. There may be third-party patents of which we are currently unaware with claims to compositions, formulations, methods of manufacture, or methods of use or treatment that cover our drug product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our drug product candidates may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies or the manufacture, use, or sale of our drug product candidates infringes upon these patents. If any such third-party patents were held by a court of competent jurisdiction to cover our technologies or drug product candidates, the holders of any such patents may be able to block our ability to commercialize the applicable drug product candidate unless we obtain a license under the applicable patents, or until such patents expire or are finally determined to be held invalid or unenforceable. Such a license may not be available on commercially reasonable terms or at all. If we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, our ability to commercialize our drug product candidates may be impaired or delayed, which could in turn significantly harm our business.

Third parties asserting their patent rights against us may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our drug product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a

substantial diversion of management and other employee resources from our business, and may impact our reputation. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, obtain one or more licenses from third parties, pay royalties, or redesign our infringing products, which may be impossible or require substantial time and monetary expenditure. In that event, we would be unable to further develop and commercialize our drug product candidates, which could harm our business significantly.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents on drug product candidates in all countries throughout the world would be prohibitively expensive. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as laws in the European Union or the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries, or from selling or importing products made using our inventions in and into other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection but enforcement is not as strong. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in a number of jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in some jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against the Company. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time-consuming, and unsuccessful.

Competitors may infringe our patents or the patents of our licensors. To address such infringement, we may be required to file patent infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding or a declaratory judgment action against us, a court may decide that one or more of our patents is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defence proceeding could put one or more of our or of our licensors' patents at risk of being invalidated, held unenforceable, interpreted narrowly, or amended such that they do not cover our drug product candidates. Such results could also increase the risk that pending patent applications of our or our licensors may not issue. Defence of these claims, regardless of their merit, would involve substantial litigation expense and could create a substantial diversion of employee resources from our business. Interference or derivation proceedings provoked by third parties may be necessary to determine the priority of inventions with respect to, or the correct inventorship of, our patents or patent applications or those of our licensors. An unfavorable outcome could result in a loss of our current patent rights and could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Litigation, interference, or derivation proceedings may result in a decision adverse to our interests and, even if we are successful, may result in substantial costs and distract our management and other employees.

Furthermore, because of the substantial amount of discovery required in some jurisdictions in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our ordinary shares.

Confidentiality agreements with employees and third parties may not prevent unauthorized disclosure of trade secrets and other proprietary information.

In addition to the protection afforded by patents, we seek to rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable or that we elect not to patent, processes for which patents are difficult to enforce, and any other elements of our product discovery and development processes that involve proprietary know-how, information, or technology that is not covered by patents. Trade secrets, however, may be difficult to protect. We seek to protect our proprietary processes, in part, by entering into confidentiality agreements with our employees, consultants, outside scientific advisors, contractors and collaborators. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, outside scientific advisors, contractors, and collaborators might intentionally or inadvertently disclose our trade secret information to competitors. In addition, competitors may otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Furthermore, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent unauthorized material disclosure of our intellectual property to third parties, or misappropriation of our intellectual property by third parties, we will not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, operating results and financial condition.

Issued patents covering our drug product candidates could be found invalid or unenforceable if challenged in court or before relevant authority.

If we or one of our licensing partners initiate legal proceedings against a third party to enforce a patent covering one of our drug product candidates, the defendant could counterclaim that the patent covering our drug product candidate is invalid or unenforceable. Third parties may also raise similar claims before administrative bodies, even outside the context of litigation. Such mechanisms include re-examination, *inter partes* review, post grant review, oppositions and derivation proceedings. Such proceedings could result in revocation or amendment to our or those of our licensing partners' patents in such a way that the patent no longer covers and protects the relevant drug product candidate(s). The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity of our patents, for example, we cannot be certain that there is no invalidating prior art of which the Company, our patent counsel, and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our drug product candidates. Such a loss of patent protection could have a material adverse impact on our business.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Obtaining and enforcing patents in the biopharmaceutical industry involves, both technological and legal complexity, and is therefore costly, time-consuming, and inherently uncertain. Numerous recent changes to the patent laws and proposed changes to the rules of the USPTO may have a significant impact on our ability to protect our technology and enforce our intellectual property rights. For example, the Leahy-Smith America Invents Act, or AIA, enacted in 2011 involves significant changes in patent legislation. An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned to a

‘‘first-to-file’’ system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. A third party that files a patent application with the USPTO after that date but before us could therefore be awarded a patent covering an invention of ours even if we had made the invention before it was made by the third party. This will require us to be cognizant going forward of the time from invention to filing of a patent application.

Among some of the other changes introduced by the AIA are changes that limit where a patentee may file a patent infringement suit and provide opportunities for third parties to challenge any issued patent in the USPTO. This applies to all of our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in United States federal court necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action.

In addition, recent court rulings in cases such as *Association for Molecular Pathology v. Myriad Genetics, Inc.* (Myriad I); *BRCA1- & BRCA2-Based Hereditary Cancer Test Patent Litig.* (Myriad II); and *Promega Corp. v. Life Technologies Corp.* have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents once obtained. Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. For example, in *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.* , the U.S. Supreme Court held that certain claims to naturally-occurring substances are not patentable. Although we do not believe that any of the patents owned or licensed by us will be found invalid based on this decision, we cannot predict how future decisions by the courts, the U.S. Congress, or the USPTO may impact the value of our patents.

We may be subject to claims that our employees, consultants, or independent contractors have wrongfully used or disclosed confidential information of third parties.

We have received confidential and proprietary information from third parties. In addition, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies. We may be subject to claims that we or our employees, consultants, or independent contractors have inadvertently or otherwise used or disclosed confidential information of these third parties or our employees’ former employers. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees.

Risks Related to Our Organization, Structure and Operation

Maintenance of high standards of manufacturing in accordance with Good Manufacturing Practices and other manufacturing regulations.

We, and key third-party suppliers on which we rely, currently or in the future must continuously adhere to (current) Good Manufacturing Practices and corresponding manufacturing regulations of Competent Authorities. In complying with these regulations, we and our third-party suppliers must expend significant time, money and effort in the areas of design and development, testing, production, record-keeping and quality control to assure that the products meet applicable specifications and other regulatory requirements. The failure to comply with these requirements could result in an enforcement action against the Company, including the seizure of products and shutting down of production. We and any of these third-party suppliers may also be subject to audits by the Competent Authorities. If any of our third-party suppliers or we ourselves fail to comply with (current) Good Manufacturing Practices or other applicable manufacturing regulations, our ability to develop and commercialize the products could suffer significant interruptions.

We rely on a single manufacturing facility.

We face risks inherent in operating a single manufacturing facility, since any disruption, such as a fire, natural hazards or vandalism could significantly interrupt our manufacturing capability. We currently do not have alternative production plans in place or disaster-recovery facilities available. In case of a disruption, we will have to establish alternative manufacturing sources. This would require substantial capital on our part, which it may not be able to obtain on commercially acceptable terms or at all. Additionally, we would likely experience months or years of manufacturing delays as we build or locate replacement facilities and seek and obtain necessary regulatory approvals. If this occurs, we will be unable to satisfy manufacturing needs on a timely basis, if at all. Also, operating any new facilities may be more expensive than operating our current facility. Further, business interruption insurance may not adequately compensate us for any losses that may occur and we would have to bear the additional cost of any disruption. For these reasons, a significant disruptive event of the manufacturing facility could have drastic consequences, including placing our financial stability at risk.

We will need increased manufacturing capacity.

We may not be able to expand the manufacturing capacity within the anticipated time frame or budget or may not be able to obtain the requisite regulatory approvals for the increase in manufacturing capacity on a timely basis, or at all. If we cannot obtain necessary approvals for this contemplated expansion in a timely manner, our ability to meet demand for our products would be adversely affected. We may have difficulties in finding suitable locations or commercially acceptable terms for the leasing of such facilities. We may also have difficulties in finding a commercial partner for the construction of those facilities and/or partners for investing in the capital expenses related to the manufacturing plants. We will need to obtain GMP certification of those plants for commercial products. Obtaining those certificates may be delayed, or may not be granted.

We are highly dependent on our key personnel, and if we are not successful in attracting, motivating and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

Our ability to compete in the highly competitive biotechnology and pharmaceutical industries depends upon our ability to attract, motivate and retain highly qualified managerial, scientific and medical personnel. We are highly dependent on members of our Executive Management Team, and our scientific and medical personnel. The loss of the services of any members of our Executive Management Team, other key employees, and other scientific and medical advisors, and our inability to find suitable replacements, could result in delays in product development and harm our business. On March 28, 2019, we announced the retirement of Dr.Christian Homsy as Chief Executive Officer of the Company and announced the appointment of Filippo Petti as new Chief Executive Officer with effective date on April 1 st , 2019. Dr. Homsy will continue to serve as director on our board of directors, member of the Nomination and Remuneration Committee and will become chair of the newly-formed Strategy Committee.

Competition for skilled personnel in the biotechnology and pharmaceutical industries is intense and the turnover rate can be high, which may limit our ability to hire and retain highly qualified personnel on acceptable terms or at all.

To induce valuable employees to remain within the Company, in addition to salary and cash incentives, we have provided warrants that vest over time. The value to employees of these equity grants that vest over time may be significantly affected by movements in our share price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. We do not maintain “key man” insurance policies on the lives of all of these individuals or the lives of any of our other employees.

The improper conduct of employees, agents, contractors, consultants or collaborators could adversely affect our reputation and business, prospects, operating results, and financial condition.

We cannot ensure that our compliance controls, policies, and procedures will in every instance protect it from acts committed by our employees, agents, contractors, or collaborators that would violate the laws or regulations

of the jurisdictions in which it operates, including, without limitation, healthcare, employment, foreign corrupt practices, environmental, competition, and patient privacy and other privacy laws and regulations. Such improper actions could subject us to civil or criminal investigations, and monetary and injunctive penalties, and could adversely impact our ability to conduct business, operating results, and reputation. In particular, our business activities may be subject to anti-bribery or anti-corruption laws, regulations or rules of countries in which it operates, including the Foreign Corrupt Practices Act, or FCPA, or the U.K. Bribery Act.

Violations of these laws and regulations could result in fines, criminal sanctions against the Company, our officers, or our employees, the closing down of our facilities, requirements to obtain export licenses, cessation of business activities in sanctioned countries, implementation of compliance programs, and prohibitions on the conduct of our business. Any such violations could include prohibitions on our ability to offer products in one or more countries and could materially damage our reputation, our brand, our international expansion efforts, our ability to attract and retain employees, and our business, prospects, operating results, and financial condition.

We have limited experience in sales, marketing and distribution.

Given our stage in development, we have never marketed a product and have therefore limited experience in the fields of sales, marketing and distribution of therapies. As a consequence, we will have to acquire marketing skills and develop our own sales and marketing infrastructure and would need to incur additional expenses, mobilize management resources, implement new skills and take the time necessary to set up the appropriate organization and structure to market the relevant product(s), in accordance with applicable laws.

While several of our managers have commercialized and launched high technology medical products there can be no assurance that the existing limited experience would be sufficient to effectively commercialize any or all of our product candidates. We may not be able to attract qualified sales and marketing personnel on acceptable terms in the future and therefore may experience constraints that will impede the achievement of our commercial objectives. Such events could have a material adverse effect on our business, prospects, financial situation, earnings and growth.

We will need to grow the size and capabilities of our organization, and we may experience difficulties in managing this growth.

As of December 31, 2018, we had 90 employees and seven senior managers, two being under employment contracts and five under management services agreements, most of whom are full-time. As our drug product candidates move into later stage clinical development and towards commercialization, we must add a significant number of additional managerial, operational, sales, marketing, financial, and other personnel. Future growth will impose significant added responsibilities on members of management, including:

- identifying, recruiting, integrating, maintaining, and motivating additional employees;
- managing our internal development efforts effectively, including the clinical and FDA review process for our drug product candidates, while complying with our contractual obligations to contractors and other third parties; and
- improving our operational, financial and management controls, reporting systems, and procedures.

Our future financial performance and our ability to commercialize our drug product candidates will depend, in part, on our ability to effectively manage any future growth, and our management may also have to divert a disproportionate amount of our attention away from day-to-day activities in order to devote a substantial amount of time to managing these growth activities.

If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, we may not be able to successfully implement the tasks necessary to further develop and commercialize our drug product candidates and, accordingly, may not achieve our research, development, and commercialization goals.

If we engage in future acquisitions or strategic partnerships, this may increase our capital requirements, dilute our shareholders, and cause it to incur debt or assume contingent liabilities, and subject it to other risks.

We may evaluate various acquisitions and strategic partnerships, including licensing or acquiring complementary products, intellectual property rights, technologies, or businesses. Any potential acquisition or strategic partnership may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of additional indebtedness or contingent liabilities;
- the issuance of our equity securities;
- assimilation of operations, intellectual property and products of an acquired Company, including difficulties associated with integrating new personnel;
- the diversion of our management's attention from our existing product programs and initiatives in pursuing such a strategic merger or acquisition;
- retention of key employees, the loss of key personnel, and uncertainties in our ability to maintain key business relationships;
- risks and uncertainties associated with the other party to such a transaction, including the prospects of that party and their existing products or drug product candidates and regulatory approvals; and
- our inability to generate revenue from acquired technology and/or products sufficient to meet our objectives in undertaking the acquisition or even to offset the associated acquisition and maintenance costs.

In addition, if we undertake acquisitions, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense. Moreover, we may not be able to locate suitable acquisition opportunities and this inability could impair our ability to grow or obtain access to technology or products that may be important to the development of our business.

We are subject to certain covenants as a result of certain non-dilutive financial support received to date.

We have received some non-dilutive financial supports from the Walloon Region to support various research programs. The support has been granted in the form of recoverable cash advances, or RCAs, and subsidies.

In the event we decide to exploit any discoveries or products from the research funded by under an RCA, the relevant RCA becomes refundable; otherwise the RCA is not refundable. We own the intellectual property rights which result from the research programs partially funded by the Region, unless it decides not to exploit, or cease to exploit, the results of the research in which case the results and intellectual property rights are transferred to the Region. Subject to certain exceptions, however, we cannot grant to third parties, by way of license or otherwise, any right to use the results without the prior consent of the Region. We also need the consent of the Region to transfer an intellectual property right resulting from the research programs or a transfer or license of a prototype or installation. Obtaining such consent from the Region could give rise to a review of the applicable financial terms. The RCAs also contain provisions prohibiting us from conducting research for any other person which would fall within the scope of a research program of one of the RCAs. Most RCAs provide that this prohibition is applicable during the research phase and the decision phase but a number of RCAs extend it beyond these phases.

Subsidies received from the Region are dedicated to funding research programs and patent applications and are not refundable. We own the intellectual property rights which result from the research programs or with regard to

a patent covered by a subsidy. Subject to certain exceptions, however, we cannot grant to third parties, by way of license, transfer or otherwise, any right to use the patents or research results without the prior consent of the Region. In addition, certain subsidies require that we exploit the patent in the countries where the protection was granted and to make an industrial use of the underlying invention. In case of bankruptcy, liquidation or dissolution, the rights to the patents covered by the patent subsidies will be assumed by the Region by operation of law unless the subsidy is reimbursed. Furthermore, we would lose our qualification as a small or medium-sized enterprise, the patent subsidies will terminate and no additional expenses will be covered by such patent subsidies. In 2019, we will be required to make exploitation decisions on our remaining outstanding RCA related to the CAR-T platform.

Failure to build our finance infrastructure and improve our accounting systems and controls could impair our ability to comply with the financial reporting and internal controls requirements for publicly traded companies.

As a public company, we are operating in an increasingly demanding regulatory environment that requires us to comply with, among other things, the Sarbanes-Oxley Act of 2002 and related rules and regulations of the Securities and Exchange Commission's substantial disclosure requirements, accelerated reporting requirements and complex accounting rules. Company responsibilities required by the Sarbanes-Oxley Act include establishing corporate oversight and adequate internal control over financial reporting and disclosure controls and procedures. Effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent financial fraud.

Management identified the following material weaknesses as of December 31, 2018: given the size of its operations, we maintain a limited finance and accounting staff, which does not ensure (i) a sufficient backup in personnel with an appropriate level of knowledge and experience in the application of IFRS, (ii) a proper and effective segregation of duties consistently, or (iii) allow the documentation, on a systematic basis, of performance of controls in accordance with internal control procedures.

See "Item 15—Controls and Procedures" of this Annual Report for further discussion of management's assessment of the effectiveness of our internal control over financial reporting.

Section 404 of the Sarbanes-Oxley Act requires that we include a report of management on our internal control over financial reporting in our annual report on Form 20-F. However, until we cease to be an "emerging growth company," as that term is defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, our independent registered public accounting firm will not be required to attest to and report on the effectiveness of our internal control over financial reporting. As such, our independent registered public accounting firm has not been engaged to express, nor have they expressed, an opinion on the effectiveness of our internal control over financial reporting. Had our independent registered public accounting firm performed an evaluation of our internal control over financial reporting in accordance with the provisions of the Sarbanes-Oxley Act, additional control deficiencies may have been identified by our independent registered public accounting firm.

Assessing our procedures to improve our internal control over financial reporting is an ongoing process. We can provide no assurance that our remediation efforts described herein will be successful and that we will not have material weaknesses in the future. Any additional material weaknesses we identify could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our consolidated financial statements. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations or cash flows. If we are unable to remedy the material weaknesses and conclude that our internal control over financial reporting is ineffective, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of the ADSs could decline, and we could be subject to sanctions or investigations by the NASDAQ Stock Market, the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Our international operations subject it to various risks, and our failure to manage these risks could adversely affect our results of operations.

We face significant operational risks as a result of doing business internationally, such as:

- fluctuations in foreign currency exchange rates;
- potentially adverse and/or unexpected tax consequences, including penalties due to the failure of tax planning or due to the challenge by tax authorities on the basis of transfer pricing and liabilities imposed from inconsistent enforcement;
- potential changes to the accounting standards, which may influence our financial situation and results;
- becoming subject to the different, complex and changing laws, regulations and court systems of multiple jurisdictions and compliance with a wide variety of foreign laws, treaties and regulations;
- reduced protection of, or significant difficulties in enforcing, intellectual property rights in certain countries;
- difficulties in attracting and retaining qualified personnel;
- restrictions imposed by local labour practices and laws on our business and operations, including unilateral cancellation or modification of contracts; and
- rapid changes in global government, economic and political policies and conditions, political or civil unrest or instability, terrorism or epidemics and other similar outbreaks or events, and potential failure in confidence of our suppliers or customers due to such changes or events; and tariffs, trade protection measures, import or export licensing requirements, trade embargoes and other trade barriers.

We incur portions of our expenses, and may in the future derive revenues, in currencies other than the euro, in particular, the U.S. dollar. As a result, we are exposed to foreign currency exchange risk as our results of operations and cash flows are subject to fluctuations in foreign currency exchange rates. We currently do not engage in hedging transactions to protect against uncertainty in future exchange rates between particular foreign currencies and the euro. Therefore, for example, an increase in the value of the euro against the U.S. dollar could be expected to have a negative impact on our revenue and earnings growth as U.S. dollar revenue and earnings, if any, would be translated into euros at a reduced value. We cannot predict the impact of foreign currency fluctuations, and foreign currency fluctuations in the future may adversely affect our financial condition, results of operations and cash flows.

Risks Related to Our Financial Position and Need for Capital

We have incurred net losses in each period since our inception and anticipate that we will continue to incur net losses in the future.

We are not profitable and have incurred losses in each period since our inception. For the years ended December 31, 2018 and 2017, we incurred a loss for the year of €38.5 million and €56.4 million, respectively. As of December 31, 2018, we had a retained loss of €218.6 million. We expects these losses to increase as it continues to incur significant research and development and other expenses related to our ongoing operations, continues to advance our drug product candidates through preclinical studies and clinical trials, seek regulatory approvals for our drug product candidates, scale-up manufacturing capabilities and hire additional personnel to support the development of our drug product candidates and to enhance our operational, financial and information management systems.

The main assets of we are intellectual property rights concerning technologies that have not led to commercialization of any product. Celyad has never been profitable and has never commercialized any (pharmaceutical) product.

Even if we succeeds in commercializing one or more of our drug product candidates, it will continue to incur losses for the foreseeable future relating to our substantial research and development expenditures to develop our technologies. We anticipate that our expenses will increase substantially if and as we:

- continue our research, preclinical and clinical development of our drug product candidates;
- expand the scope of therapeutic indications of our current clinical studies for our drug product candidates;
- initiate additional preclinical studies or additional clinical trials of existing drug product candidates or new drug product candidates;
- further develop the manufacturing process for our drug product candidates;
- change or add additional manufacturers or suppliers;
- seek regulatory and marketing approval for our drug product candidates that successfully complete clinical studies;
- establish a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain marketing approval, in the European Union and the United States;
- make milestone or other payments under any in-license agreements; and
- maintain, protect and expand our intellectual property portfolio.

We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue.

Our prior losses and expected future losses have had and will continue to have an adverse effect on our shareholders' equity and working capital. Further, the net losses we incur may fluctuate significantly from quarter to quarter and year to year, such that a period to period comparison of our results of operations may not be a good indication of our future performance.

We may need substantial additional funding, which may not be available on acceptable terms when needed, if at all.

Our operations have required substantial amounts of cash since inception. We expect to continue to spend substantial amounts to continue the clinical development of our drug product candidates, including our ongoing and planned clinical trials for CAR-T NKG2D and any future drug product candidates. If approved, we will require significant additional amounts in order to launch and commercialize our drug product candidates.

On December 31, 2018, we had €40.5 million in cash and €9.2 million in short-term investments. On May 22, 2018, we secured a share capital increase of €46.1 million through a global offering on both US and European markets.

We believe that such resources will be sufficient to fund our operations for at least the next 12 months from balance sheet date. However, changing circumstances may cause it to increase our spending significantly faster than it currently anticipates, and we may need to spend more money than currently expected because of circumstances beyond our control. We may require additional capital for the further development and commercialization of our drug product candidates and may need to raise additional funds sooner if we choose to expand more rapidly than we presently anticipate.

Our ability to raise additional funds will depend on financial, economic and market conditions and other factors, over which we may have no or limited control, and we cannot guarantee that additional funds will be available to

it when necessary on commercially acceptable terms, if at all. If the necessary funds are not available, we may need to seek funds through collaborations and licensing arrangements, which may require us to reduce or relinquish significant rights to our research programs and product candidates, to grant licenses on our technologies to partners or third parties or enter into new collaboration agreements, the terms could be less favorable to us than those we might have obtained in a different context. If adequate funds are not available on commercially acceptable terms when needed, we may be forced to delay, reduce or terminate the development or commercialization of all or part of our research programs or product candidates or we may be unable to take advantage of future business opportunities.

Raising additional capital may cause dilution to our existing shareholders, restrict our operations or require us to relinquish rights to our drug product candidates or technologies.

We may seek additional funding through a combination of equity offerings, debt financings, collaborations and/or licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the shareholders will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a shareholder. The incurrence of indebtedness and/or the issuance of certain equity securities could result in increased fixed payment obligations and could also result in certain additional restrictive covenants, such as limitations on our ability to incur additional debt and/or issue additional equity, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. In addition, issuance of additional equity securities, or the possibility of such issuance, may cause the market price of the Shares to decline. In the event that we enter into collaborations and/or licensing arrangements in order to raise capital, it may be required to accept unfavorable terms, including relinquishing or licensing to a third party on unfavorable terms our rights to technologies or drug product candidates that we otherwise would seek to develop or commercialize ourselves or potentially reserve for future potential arrangements when we might be able to achieve more favorable terms.

We may be exposed to significant foreign exchange risk.

We incur portions of our expenses, and may in the future derive revenues, in currencies other than the euro, in particular, the U.S. dollar. As a result, we are exposed to foreign currency exchange risk as our results of operations and cash flows are subject to fluctuations in foreign currency exchange rates. We currently do not engage in hedging transactions to protect against uncertainty in future exchange rates between particular foreign currencies and the euro. Therefore, for example, an increase in the value of the euro against the U.S. dollar could be expected to have a negative impact on our revenue and earnings growth as U.S. dollar revenue and earnings, if any, would be translated into euros at a reduced value. We cannot predict the impact of foreign currency fluctuations, and foreign currency fluctuations in the future may adversely affect our financial condition, results of operations and cash flows.

The investment of our cash and cash equivalents may be subject to risks that may cause losses and affect the liquidity of these investments.

As of December 31, 2018, we had cash and cash equivalents of €40.5 million and short-term investments of €9.2 million. We historically have invested substantially all of our available cash and cash equivalents in corporate bank accounts. Pending their use in our business, we may invest the net proceeds of our global offerings in investments that may include corporate bonds, commercial paper, certificates of deposit and money market funds. These investments may be subject to general credit, liquidity, and market and interest rate risks. We may realize losses in the fair value of these investments or a complete loss of these investments, which would have a negative effect on our financial statements.

Risks Related to Ownership of Our Ordinary Shares and ADSs

If securities or industry analysts do not publish research or publish inaccurate research or unfavorable research about our business, the price of the securities and trading volume could decline.

The trading market for the securities depends in part on the research and reports that securities or industry analysts publish about us or our business. If no or few securities or industry analysts cover the Company, the trading price would be negatively impacted. If one or more of the analysts who covers we downgrades the securities or publishes incorrect or unfavorable research about our business, the price of the securities would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, or downgrades the securities, demand for the securities could decrease, which could cause the price of the securities or trading volume to decline.

The market price of the shares could be negatively impacted by actual or anticipated sales of substantial numbers of Shares.

Sales of a substantial number of Shares in the public markets, or the perception that such sales might occur, might cause the market price of the Shares to decline. We cannot make any prediction as to the effect of any such sales or perception of potential sales on the market price of the Shares.

A public market for our shares may not be sustained.

We cannot guarantee the extent to which a liquid market for the Shares will be sustained. In the absence of such liquid market for the Shares, the price of the Shares could be influenced. The liquidity of the market for the Shares could be affected by various causes, including the factors identified in the next risk factor (below) or by a reduced interest of investors in biotechnology sector.

The market price of the shares may fluctuate widely in response to various factors.

A number of factors may significantly affect the market price of the Shares. The main factors are changes in our operating results and those of our competitors, announcements of technological innovations or results concerning the product candidates, changes in earnings estimates by analysts.

Other factors which could cause the price of the shares to fluctuate or could influence our reputation include, amongst other things:

- developments concerning intellectual property rights, including patents;
- public information regarding actual or potential results relating to products and product candidates under development by our competitors;
- actual or potential results relating to products and product candidates under development by us;
- regulatory and medicine pricing and reimbursement developments in Europe, the United States and other jurisdictions;
- any publicity derived from any business affairs, contingencies, litigation or other proceedings, our assets (including the imposition of any lien), our management, or our significant Shareholders or collaborative partners;
- Divergences in financial results from stock market expectations;
- Changes in the general conditions in the pharmaceutical industry and general economic, financial market and business conditions in the countries in which we operate.

In addition, stock markets have from time to time experienced extreme price and volume volatility which, in addition to general economic, financial and political conditions, could affect the market price for the Shares regardless of the operating results or financial condition of the Company.

We have no present intention to pay dividends on our ordinary shares in the foreseeable future and, consequently, your only opportunity to achieve a return on your investment during that time is if the price of the securities increases.

We have no present intention to pay dividends in the foreseeable future. Any recommendation by our Board of Directors to pay dividends will depend on many factors, including our financial condition (including losses carried-forward), results of operations, legal requirements and other factors. Furthermore, pursuant to Belgian law, the calculation of amounts available for distribution to shareholders, as dividends or otherwise, must be determined on the basis of our non-consolidated statutory accounts prepared in accordance with Belgian accounting rules. In addition, in accordance with Belgian law and our Articles of Association, we must allocate each year an amount of at least 5% of our annual net profit under our non-consolidated statutory accounts to a legal reserve until the reserve equals 10% of our share capital. Therefore, we are unlikely to pay dividends or other distributions in the foreseeable future. If the price of the securities or the underlying ordinary shares declines before we pay dividends, investors will incur a loss on their investment, without the likelihood that this loss will be offset in part or at all by potential future cash dividends.

Takeover provisions in the national law of Belgium may make a takeover difficult.

Public takeover bids on our shares and other voting securities, such as warrants or convertible bonds, if any, are subject to the Belgian Act of 1 April 2007 on public takeover bids, as amended and implemented by the Belgian Royal Decree of April 27, 2007, or Royal Decree, and to the supervision by the Belgian Financial Services and Markets Authority, or FSMA. Public takeover bids must be made for all of our voting securities, as well as for all other securities that entitle the holders thereof to the subscription to, the acquisition of or the conversion into voting securities. Prior to making a bid, a bidder must issue and disseminate a prospectus, which must be approved by the FSMA. The bidder must also obtain approval of the relevant competition authorities, where such approval is legally required for the acquisition of the Company. The Belgian Act of 1 April 2007 provides that a mandatory bid will be required to be launched for all of our outstanding shares and securities giving access to ordinary shares if a person, as a result of our own acquisition or the acquisition by persons acting in concert with it or by persons acting on their account, directly or indirectly holds more than 30% of the voting securities in a company that has our registered office in Belgium and of which at least part of the voting securities are traded on a regulated market or on a multilateral trading facility designated by the Royal Decree. The mere fact of exceeding the relevant threshold through the acquisition of one or more shares will give rise to a mandatory bid, irrespective of whether or not the price paid in the relevant transaction exceeds the current market price.

There are several provisions of Belgian company law and certain other provisions of Belgian law, such as the obligation to disclose important shareholdings and merger control, that may apply to us and which may make an unfriendly tender offer, merger, change in management or other change in control, more difficult. These provisions could discourage potential takeover attempts that third parties may consider and thus deprive the shareholders of the opportunity to sell their shares at a premium (which is typically offered in the framework of a takeover bid).

We may be at an increased risk of securities class action litigation.

Historically, securities class action litigation has often been brought against a company following a decline in the market price of our securities. This risk is especially relevant for us because biotechnology and biopharmaceutical companies have experienced significant share price volatility in recent years. If we were to be sued, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

Holders of the shares outside Belgium and France may not be able to exercise pre-emption rights (notice for non-Belgian resident investors).

In the event of an increase in our share capital in cash, holders of shares are generally entitled to full pre-emption rights unless these rights are excluded or limited either by a resolution of the general meeting, or by a resolution

of the Board of Directors (if the Board of Directors has been authorized by the general meeting in the articles of association to increase the share capital in that manner). Certain holders of shares outside Belgium or France may not be able to exercise pre-emption rights unless local securities laws have been complied with. In particular, U.S. holders of the shares may not be able to exercise pre-emption rights unless a registration statement under the Securities Act is declared effective with respect to the shares issuable upon exercise of such rights or an exemption from the registration requirements is available. We does not intend to obtain a registration statement in the U.S. or to fulfil any requirement in other jurisdictions (other than Belgium and France) in order to allow shareholders in such jurisdictions to exercise their pre-emptive rights (to the extent not excluded or limited).

Any future sale, purchase or exchange of shares may become subject to the Financial Transaction Tax.

On February 14, 2013, the European Commission published a proposal (the Draft Directive) for a Directive for a common FTT in Belgium, Germany, Estonia, Greece, Spain, France, Italy, Austria, Portugal, Slovenia and Slovakia (save for Estonia, the Participating Member States). However, Estonia has since then stated that it would not participate.

Pursuant to the Draft Directive, the FTT will be payable on financial transactions provided at least one party to the financial transaction is established or deemed established in a Participating Member State and there is a financial institution established or deemed established in a Participating Member State which is a party to the financial transaction, or is acting in the name of a party to the transaction. The FTT shall, however, not apply to, among others, primary market transactions referred to in Article 5(c) of Regulation (EC) No 1287/2006, including the activity of underwriting and subsequent allocation of financial instruments in the framework of their issue.

The rates of the FTT will be fixed by each Participating Member State but for transactions involving financial instruments other than derivatives shall amount to at least 0.1% of the taxable amount. The taxable amount for such transactions shall in general be determined by reference to the consideration paid or owed in return for the transfer. The FTT will be payable by each financial institution established or deemed established in a Participating Member State which is either a party to the financial transaction, or acting in the name of a party to the transaction or where the transaction has been carried out on our account. Where the FTT due has not been paid within the applicable time limit, each party to a financial transaction, including persons other than financial institutions, shall become jointly and severally liable for the payment of the FTT due.

Investors should note, in particular, that following implementation of the Draft Directive, any future sale, purchase or exchange of shares will be subject to the FTT at a minimum rate of 0.1% provided the above mentioned prerequisites are met. The investor may be liable to pay this charge or reimburse a financial institution for the charge, and/or the charge may affect the value of the Shares. The issuance of the new Shares by the Issuer should not be subject to the FTT.

The Draft Directive is still subject to negotiation among the Participating Member States. It may therefore be altered prior to any implementation, the timing of which remains unclear. Additional EU Member States may decide to participate.

Investors should consult their own tax advisers in relation to the consequences of the FTT associated with subscribing for, purchasing, holding and disposing of the Shares.

We have been subject to an investigation by the Belgian Financial Services and Markets Authority.

The Belgian Financial Services and Markets Authority, or the FSMA, opened an investigation against us on April 22, 2014. Such investigation was related to whether we had failed to timely disclose inside information to the market in relation to the IND clearance from the FDA for our CHART-2 Phase III heart-failure trial received on December 26, 2013 and reported on 9 January 2014. In April 2015, we notified the FSMA our agreement to

settle our investigation by paying the proposed settlement amount of €175,000. Although such settlement does not provide for any admission of guilt on our part, the fact that we have entered into a settlement with the FSMA could cause investors to have a negative perception of our governance structure, which would have a material adverse effect on our business. Further, any future allegations (based on other facts and circumstances) that we failed to comply with applicable securities laws, whether or not true, may subject it to fines, claims and/or sanctions, which could impair our ability to offer our securities or restrict trading in our securities. The occurrence of any of the foregoing could have a material adverse effect on the trading price of our securities and our business.

The market price for the ADSs may be volatile or may decline regardless of our operating performance.

The trading price of the ADSs has fluctuated, and is likely to continue to fluctuate, substantially. The trading price of the ADSs depends on a number of factors, many of which are beyond our control and may not be related to our operating performance, including, among others:

- actual or anticipated fluctuations in our financial condition and operating results;
- actual or anticipated changes in our growth rate relative to our competitors;
- competition from existing products or new products that may emerge;
- announcements by us, our partners or our competitors of significant acquisitions, strategic collaborations, joint ventures, collaborations, or capital commitments;
- failure to meet or exceed financial estimates and projections of the investment community or that we provide to the public;
- issuance of new or updated research or reports by securities analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- additions or departures of key management or scientific personnel;
- disputes or other developments related to proprietary rights, including patents, litigation matters, and our ability to obtain patent protection for our technologies;
- changes to coverage policies or reimbursement levels by commercial third-party payors and government payors and any announcements relating to coverage policies or reimbursement levels;
- announcement or expectation of additional debt or equity financing efforts;
- sales of the ADSs or ordinary shares by us, our insiders or our other shareholders; and
- general economic and market conditions.

These and other market and industry factors may cause the market price and demand for the ADSs to fluctuate substantially, regardless of our actual operating performance, which may limit or prevent investors from readily selling their ADSs and may otherwise negatively affect the liquidity of our ADSs shares. In addition, the stock market in general, and biotechnology and biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies.

Fluctuations in the exchange rate between the U.S. dollar and the euro may increase the risk of holding the ADSs.

Our ordinary shares currently trade on Euronext Brussels and Euronext Paris in euros, while the ADSs trade on NASDAQ in U.S. dollars. Fluctuations in the exchange rate between the U.S. dollar and the euro may result in differences between the value of the ADSs and the value of our ordinary shares, which may result in heavy

trading by investors seeking to exploit such differences. In addition, as a result of fluctuations in the exchange rate between the U.S. dollar and the euro, the U.S. dollar equivalent of the proceeds that a holder of the ADSs would receive upon the sale in Belgium of any ordinary shares withdrawn from the depositary upon calculation of the corresponding ADSs and the U.S. dollar equivalent of any cash dividends paid in euros on our ordinary shares represented by the ADSs could also decline.

Holders of the ADSs are not treated as shareholders of our company.

Holders of the ADSs are not treated as shareholders of our company, unless they cancel the ADSs and withdraw our ordinary shares underlying the ADSs. The depositary (or its nominee) is the shareholder of the ordinary shares underlying the ADSs. Holders of ADSs therefore do not have any rights as shareholders of our company, other than the rights that they have pursuant to the deposit agreement.

If securities or industry analysts do not publish research or publish inaccurate research or unfavorable research about our business, the price of the ordinary shares and the ADSs and trading volume could decline .

The trading market for the ordinary shares and the ADSs depends in part on the research and reports that securities or industry analysts publish about us or our business. If no or few securities or industry analysts cover our company, the trading price for the ordinary shares and the ADSs would be negatively impacted. If one or more of the analysts who covers us downgrades the ordinary shares or the ADSs or publishes incorrect or unfavorable research about our business, the price of the ordinary shares and the ADSs would likely decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, or downgrades the ordinary shares or the ADSs, demand for the ADSs and ordinary shares could decrease, which could cause the price of the ADSs and ordinary shares or trading volume to decline.

Our shareholders residing in countries other than Belgium may be subject to double withholding taxation with respect to dividends or other distributions made by us.

Any dividends or other distributions we make to shareholders will, in principle, be subject to withholding tax in Belgium at a rate of 30%, except for shareholders which qualify for an exemption of withholding tax such as, among others, qualifying pension funds or a company qualifying as a parent company within the meaning of the Council Directive (90/435/EEC) July 23, 1990, known as the Parent-Subsidiary Directive, or that qualify for a lower withholding tax rate or an exemption by virtue of a tax treaty. Various conditions may apply and shareholders residing in countries other than Belgium are advised to consult their advisers regarding the tax consequences of dividends or other distributions made by us. Our shareholders residing in countries other than Belgium may not be able to credit the amount of such withholding tax to any tax due on such dividends or other distributions in any other country than Belgium. As a result, such shareholders may be subject to double taxation in respect of such dividends or other distributions. Belgium and the United States have concluded a double tax treaty concerning the avoidance of double taxation, or the U.S.-Belgium Tax Treaty. The U.S.-Belgium Tax Treaty reduces the applicability of Belgian withholding tax to 15%, 5% or 0% for U.S. taxpayers, provided that the U.S. taxpayer meets the limitation of benefits conditions imposed by the U.S.-Belgium Tax Treaty. The Belgian withholding tax is generally reduced to 15% under the U.S.-Belgium Tax Treaty. The 5% withholding tax applies in case where the U.S. shareholder is a company which holds at least 10% of the shares in the company. A 0% Belgian withholding tax applies when the shareholder is a company which has held at least 10% of the shares for at least 12 months, or is, subject to certain conditions, a U.S. pension fund. The U.S. shareholders are encouraged to consult their own tax advisers to determine whether they can invoke the benefits and meet the limitation of benefits conditions as imposed by the U.S.-Belgium Tax Treaty.

We do not believe that we were a PFIC for the 2018 taxable year. It is uncertain whether we will be a PFIC for the 2019 taxable year or in future taxable years. Our status as a PFIC is a fact intensive determination and we cannot provide any assurances regarding our PFIC status for past, current or future taxable years. U.S. holders of the ADSs may suffer adverse tax consequences if we are characterized as a PFIC for any taxable year.

Generally, if, for any taxable year, at least 75% of our gross income is passive income, or at least 50% of the value of our assets is attributable to assets that produce passive income or are held for the production of passive income, including cash, we would be characterized as a passive foreign investment company (PFIC), for U.S. federal income tax purposes. For purposes of these tests, passive income includes dividends, interest, and gains from the sale or exchange of investment property and rents and royalties other than rents and royalties which are received from unrelated parties in connection with the active conduct of a trade or business. If we are characterized as a PFIC, U.S. holders (as defined below under "Material Tax Considerations—Certain Material U.S. Federal Income Tax Considerations to U.S. Holders") of the ADSs may suffer adverse tax consequences, including having gains realized on the sale of the ADSs treated as ordinary income, rather than capital gain, the loss of the preferential rate applicable to dividends received on the ADSs by individuals who are U.S. holders, and having interest charges apply to distributions by us and the proceeds of sales of the ADSs.

Our status as a PFIC will depend on the composition of our income, including the receipt of milestones, and the composition and value of our assets (which may be determined in large part by reference to the market value of the ADSs and ordinary shares, which may be volatile) from time to time.

We do not believe that we were a PFIC for the 2018 taxable year. With respect to our 2019 taxable year and possibly future taxable years, it is uncertain whether we will be a PFIC based upon the expected value of our assets, including any goodwill, and the expected composition of our income and assets. Our status as a PFIC is a fact intensive determination made on an annual basis and we cannot provide any assurances regarding our PFIC status for past, current or future taxable years.

Future sales of ordinary shares or ADSs by existing shareholders could depress the market price of the ADSs.

If our existing shareholders sell, or indicate an intent to sell, substantial amounts of ordinary shares or ADSs in the public market, the trading price of the ADSs could decline significantly. In the future we may file one or more registration statements with the SEC covering ordinary shares available for future issuance under our equity incentive plans. Upon effectiveness of such registration statements, any shares subsequently issued under such plans will be eligible for sale in the public market, except to the extent that they are restricted by the lock-up agreements referred to above and subject to compliance with Rule 144 in the case of our affiliates. Sales of a large number of the shares issued under these plans in the public market could have an adverse effect on the market price of the ADSs and the ordinary shares.

We are a Belgian public limited liability company, and shareholders of our company may have different and in some cases more limited shareholder rights than shareholders of a U.S. listed corporation.

We are a public limited liability company incorporated under the laws of Belgium. Our corporate affairs are governed by Belgian corporate and securities law. The rights provided to our shareholders under Belgian corporate law and our articles of association differ in certain respects from the rights that you would typically enjoy as a shareholder of a U.S. corporation under applicable U.S. federal and state laws. Under Belgian corporate law, other than certain information that we must make public and except in certain limited circumstances, our shareholders may not ask for an inspection of our corporate records, while under Delaware corporate law any shareholder, irrespective of the size of its shareholdings, may do so. Shareholders of a Belgian corporation have more limited rights to initiate a derivative action, a remedy typically available to shareholders of U.S. companies, in order to enforce a right of our Company, in case we fail to enforce such right ourselves.

A liability action can be instituted for our account by one or more of our shareholders who, individually or together, hold securities representing at least 1.0% of the votes or a part of the capital worth at least €1.25 million

and have not approved of the discharge from liability that was granted to the directors. If the court orders the directors to pay damages, they are due to us, though the amounts advanced by the minority shareholders (for example attorney's fees) are to be reimbursed by us. If the action is disallowed, the minority shareholders may be ordered to pay the costs, and, should there be grounds therefor, to pay damages to the directors, for example for having conducted provocative and reckless legal proceedings.

In addition, a majority of our shareholders present or represented at our meeting of shareholders may release a director from any claim of liability we may have, provided that the financial position of We are accurately reflected in the annual accounts. This includes a release from liability for any acts of the directors beyond their statutory powers or in breach of the Belgian Company Code, provided that the relevant acts were specifically mentioned in the convening notice to the meeting of shareholders deliberating on the discharge. In contrast, most U.S. federal and state laws prohibit a company or its shareholders from releasing a director from liability altogether if he or she has acted in bad faith or has breached his or her duty of loyalty to the company. Finally, Belgian corporate law does not provide any form of appraisal rights in the case of a business combination. As a result of these differences between Belgian corporate law and our articles of association, on the one hand, and the U.S. federal and state laws, on the other hand, in certain instances, you could receive less protection as an ADS holder of our company than you would as a shareholder of a listed U.S. company.

Holders of ADSs do not have the same voting rights as holders of our ordinary shares .

Holders of ADSs may exercise voting rights with respect to the ordinary shares represented by the ADSs only in accordance with the provisions of the deposit agreement. The deposit agreement provides that, upon receipt of notice of any meeting of holders of our ordinary shares, the depositary will fix a record date for the determination of ADS holders who shall be entitled to give instructions for the exercise of voting rights. Upon timely receipt of notice from us, if we so request, the depositary shall distribute to the holders as of the record date (1) the notice of the meeting or solicitation of consent or proxy sent by us and (2) a statement as to the manner in which instructions may be given by the holders. You may instruct the depositary of your ADSs to vote the ordinary shares underlying your ADSs. Otherwise, you will not be able to exercise your right to vote, unless you withdraw the ordinary shares underlying the ADSs you hold. However, you may not know about the meeting far enough in advance to withdraw those ordinary shares. We cannot guarantee you that you will receive the voting materials in time to ensure that you can instruct the depositary to vote your ordinary shares or to withdraw your ordinary shares so that you can vote them yourself. In addition, the depositary and its agents are not responsible for failing to carry out voting instructions or for the manner of carrying out voting instructions. This means that you may not be able to exercise your right to vote, and there may be nothing you can do if the ordinary shares underlying your ADSs are not voted as you requested.

Holders of ADSs may be subject to limitations on the transfer of their ADSs and the withdrawal of the underlying ordinary shares.

ADSs are transferable on the books of the depositary. However, the depositary may close its books at any time or from time to time when it deems expedient in connection with the performance of its duties. The depositary may refuse to deliver, transfer or register transfers of your ADSs generally when our books or the books of the depositary are closed, or at any time if we or the depositary think it is advisable to do so because of any requirement of law, government or governmental body, or under any provision of the deposit agreement, or for any other reason, subject to your right to cancel your ADSs and withdraw the underlying ordinary shares. Temporary delays in the cancellation of your ADSs and withdrawal of the underlying ordinary shares may arise because the depositary has closed its transfer books or we have closed our transfer books, the transfer of ordinary shares is blocked to permit voting at a shareholders' meeting or we are paying a dividend on our ordinary shares.

In addition, you may not be able to cancel your ADSs and withdraw the underlying ordinary shares when you owe money for fees, taxes and similar charges and when it is necessary to prohibit withdrawals in order to comply with any laws or governmental regulations that apply to ADSs or to the withdrawal of ordinary shares or other deposited securities.

We are an "emerging growth company" and are availing ourselves of reduced disclosure requirements applicable to emerging growth companies, which could make the ADSs or the ordinary shares less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and we intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We cannot predict if investors will find the ADSs or the ordinary shares less attractive because we may rely on these exemptions. If some investors find the ADSs or the ordinary shares less attractive as a result, there may be a less active trading market for the ADSs or the ordinary shares and the price of the ADSs or the ordinary shares may be more volatile. We may take advantage of these reporting exemptions until we are no longer an emerging growth company. We would cease to be an emerging growth company upon the earliest to occur of (1) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (2) the date we qualify as a "large accelerated filer," with at least $700 million of equity securities held by non-affiliates; (3) the issuance, in any three-year period, by our company of more than $1.0 billion in non-convertible debt securities held by non-affiliates; and (4) December 31, 2020. We may choose to take advantage of some but not all of these exemptions.

Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company" which would allow us to take advantage of many of the same exemptions from disclosure requirements, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act and reduced disclosure obligations regarding executive compensation. We cannot predict if investors will find our ordinary shares less attractive because we may rely on these exemptions. If some investors find our ordinary shares less attractive as a result, there may be a less active trading market for our ordinary shares and our share price may be more volatile.

As a foreign private issuer, we are exempt from a number of rules under the U.S. securities laws and are permitted to file less information with the SEC than a U.S. company. This may limit the information available to holders of ADSs or ordinary shares.

We are a "foreign private issuer," as defined in the SEC's rules and regulations and, consequently, we are not subject to all of the disclosure requirements applicable to public companies organized within the United States. For example, we are exempt from certain rules under the Exchange Act, that regulate disclosure obligations and procedural requirements related to the solicitation of proxies, consents or authorizations applicable to a security registered under the Exchange Act, including the U.S. proxy rules under Section 14 of the Exchange Act. In addition, our officers and directors are exempt from the reporting and "short-swing" profit recovery provisions of Section 16 of the Exchange Act and related rules with respect to their purchases and sales of our securities. Moreover, while we currently make annual and semi-annual filings with respect to our listing on Euronext Brussels and Euronext Paris, we will not be required to file periodic reports and financial statements with the SEC as frequently or as promptly as U.S. domestic issuers and will not be required to file quarterly reports on Form 10-Q or current reports on Form 8-K under the Exchange Act. Accordingly, there will be less publicly available information concerning our company than there would be if we were not a foreign private issuer.

As a foreign private issuer, we are permitted to adopt certain home country practices in relation to corporate governance matters that differ significantly from NASDAQ corporate governance listing standards. These practices may afford less protection to shareholders than they would enjoy if we complied fully with corporate governance listing standards.

As a foreign private issuer listed on NASDAQ, we are subject to corporate governance listing standards. However, rules permit a foreign private issuer like us to follow the corporate governance practices of its home

country. Certain corporate governance practices in Belgium, which is our home country, may differ significantly from corporate governance listing standards. For example, neither the corporate laws of Belgium nor our articles of association require a majority of our directors to be independent and we could include non-independent directors as members of our Nomination and Remuneration Committee, and our independent directors would not necessarily hold regularly scheduled meetings at which only independent directors are present. Currently, we intend to follow home country practice to the maximum extent possible. Therefore, our shareholders may be afforded less protection than they otherwise would have under corporate governance listing standards applicable to U.S. domestic issuers. See "Item 16G—Corporate Governance."

We may lose our foreign private issuer status in the future, which could result in significant additional cost and expense.

While we currently qualify as a foreign private issuer, the determination of foreign private issuer status is made annually on the last business day of an issuer's most recently completed second fiscal quarter and, accordingly, the next determination will be made with respect to us on June 30, 2018. In the future, we would lose our foreign private issuer status if we to fail to meet the requirements necessary to maintain our foreign private issuer status as of the relevant determination date. For example, if more than 50% of our securities are held by U.S. residents and more than 50% of the members of our executive management team or members of our Board of Directors are residents or citizens of the United States, we could lose our foreign private issuer status.

The regulatory and compliance costs to us under U.S. securities laws as a U.S. domestic issuer may be significantly more than costs we incur as a foreign private issuer. If we are not a foreign private issuer, we will be required to file periodic reports and registration statements on U.S. domestic issuer forms with the SEC, which are more detailed and extensive in certain respects than the forms available to a foreign private issuer. We would be required under current SEC rules to prepare our financial statements in accordance with U.S. generally accepted accounting principles, or U.S. GAAP, rather than IFRS, and modify certain of our policies to comply with corporate governance practices associated with U.S. domestic issuers. Such conversion of our financial statements to U.S. GAAP could involve significant time and cost. In addition, we may lose our ability to rely upon exemptions from certain corporate governance requirements on U.S. stock exchanges that are available to foreign private issuers such as the ones described above and exemptions from procedural requirements related to the solicitation of proxies.

I ***t may be difficult for investors outside Belgium to serve process on, or enforce foreign judgments against, us or our directors and senior management.***

We are a Belgian public limited liability company. Less than a majority of the members of our Board of Directors and members of our executive management team are residents of the United States. All or a substantial portion of the assets of such non-resident persons and most of our assets are located outside the United States. As a result, it may not be possible for investors to effect service of process upon such persons or on us or to enforce against them or us a judgment obtained in U.S. courts. Original actions or actions for the enforcement of judgments of U.S. courts relating to the civil liability provisions of the federal or state securities laws of the United States are not directly enforceable in Belgium.

The United States and Belgium do not currently have a multilateral or bilateral treaty providing for reciprocal recognition and enforcement of judgments, other than arbitral awards, in civil and commercial matters. In order for a final judgment for the payment of money rendered by U.S. courts based on civil liability to produce any effect on Belgian soil, it is accordingly required that this judgment be recognized or be declared enforceable by a Belgian court in accordance with Articles 22 to 25 of the 2004 Belgian Code of Private International Law. Recognition or enforcement does not imply a review of the merits of the case and is irrespective of any reciprocity requirement. A U.S. judgment will, however, not be recognized or declared enforceable in Belgium if it infringes upon one or more of the grounds for refusal that are exhaustively listed in Article 25 of the Belgian Code of Private International Law.

Actions for the enforcement of judgments of U.S. courts might be successful only if the Belgian court confirms the substantive correctness of the judgment of the U.S. court and is satisfied that:

- the effect of the enforcement judgment is not manifestly incompatible with Belgian public policy;
- the judgment did not violate the rights of the defendant;
- the judgment was not rendered in a matter where the parties transferred rights subject to transfer restrictions with the sole purpose of avoiding the application of the law applicable according to Belgian international private law;
- the judgment is not subject to further recourse under U.S. law;
- the judgment is not compatible with a judgment rendered in Belgium or with a subsequent judgment rendered abroad that might be recognized in Belgium;
- a claim was not filed outside Belgium after the same claim was filed in Belgium, while the claim filed in Belgium is still pending;
- the Belgian courts did not have exclusive jurisdiction to rule on the matter;
- the U.S. court did not accept its jurisdiction solely on the basis of either the nationality of the plaintiff or the location of the disputed goods; and
- the judgment submitted to the Belgian court is authentic.

In addition to recognition or enforcement, a judgment by a federal or state court in the United States against us may also serve as evidence in a similar action in a Belgian court if it meets the conditions required for the authenticity of judgments according to the law of the state where it was rendered. The findings of a federal or state court in the United States will not, however, be taken into account to the extent they appear incompatible with Belgian public policy.

We may be subject at an increased risk of securities class action litigation.

Historically, securities class action litigation has often been brought against a company following a decline in the market price of its securities. This risk is especially relevant for us because biotechnology and biopharmaceutical companies have experienced significant share price volatility in recent years. If we were to be sued, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

Tax law changes could adversely affect our shareholders and our business and financial condition.

We and our subsidiaries are subject to income and other taxes in Belgium, the United States, and other tax jurisdictions throughout the world. Tax laws and rates in these jurisdictions are subject to change. Our financial condition can be impacted by a number of complex factors, including, but not limited to: (i) interpretations of existing tax laws; (ii) the tax impact of existing or future legislation; (iii) changes in accounting standards; and (iv) changes in the mix of earnings in the various tax jurisdictions in which we operate. In recent years, many such changes have been made and changes are likely to continue to occur in the future. For example, in 2017 the U.S. government enacted comprehensive tax legislation that includes significant changes to the taxation of U.S. business entities. This legislation, among other things, contains significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limitation of the tax deduction for net interest expense to 30% of adjusted earnings (except for certain small businesses), limitation of the deduction for net operating losses to 80% of current year taxable income and elimination of net operating loss carrybacks, in each case, for losses generated after December 31, 2017 (though any such net operating losses may be carried forward indefinitely), and the modification or repeal of many business deductions and credits (including reducing the business tax credit for certain clinical testing expenses incurred in

the testing of certain drugs for rare diseases or conditions generally referred to as "orphan drugs"). Future changes in tax laws could have a material adverse effect on our business, cash flow, financial condition or results of operations. We urge our shareholders to consult with their legal and tax advisors with respect to any such legislation and the potential tax consequences of investing in our common shares.

Item 4. INFORMATION ON THE COMPANY

A. History and Development of the Company

Our legal and commercial name is Celyad SA. Prior to May 5, 2015, our corporate name was Cardio3 Biosciences SA. We are a limited liability company incorporated in the form of a *naamloze vennootschap/société anonyme* under Belgian law. We are registered with the Register of Legal Entities (RPM Nivelles) under the enterprise number 891.118.115. We were incorporated in Belgium on July 24, 2007 for an unlimited duration. Our fiscal year ends December 31.

Our principal executive and registered offices are located at rue Edouard Belin 2 1435 Mont-Saint-Guibert, Belgium and our telephone number is +32 10 394 100. Our agent for service of process in the United States is CT Corporation System, with an address at 111 8 th Avenue, New York, NY 10011. We also maintain a website at *www.celyad.com* . The reference to our website is an inactive textual reference only and the information contained in, or that can be accessed through, our website is not a part of this Annual Report.

Our actual capital expenditures for the years ended December 31, 2016, 2017 and 2018 amounted to €1.8 million, €0.9 million and €1.1 million, respectively. These capital expenditures primarily consisted of the acquisition of laboratory equipment and industrial tools, the refurbishment of our research and development laboratories and leasehold improvements of our corporate offices located in Belgium and the United States. We expect our capital expenditures to increase in absolute terms in the near term as we continue to advance our research and development programs and grow our operations. We anticipate our capital expenditure in 2019 to be financed mostly from finance leases.

In March 2018, we dissolved and wound up the affairs of our wholly owned subsidiary OnCyte, LLC, or OnCyte, pursuant to the Delaware Limited Liability Company Act. As a result of the dissolution of OnCyte, all the assets and liabilities of OnCyte, including the contingent consideration payable and our license agreement with Dartmouth College, were fully distributed to and assumed by Celyad SA. Celyad SA will continue to carry out the business and obligations of OnCyte, including under our license agreement with Dartmouth College.

B. Business Overview

We are a clinical-stage biopharmaceutical company focused on the development of cell-based therapies for the treatment of cancer. Our lead drug product candidate, CYAD-01 (CAR-T-NKG2D), is an autologous chimeric antigen receptor, or CAR, using NKG2D, an activating receptor of Natural Killer, or NK, cells transduced on T-lymphocytes, or T cells. NK cells are lymphocytes of the immune system that kill diseased cells. The receptors of the NK cells used in our therapies target the binding molecules, called ligands, that are expressed in cancer cells, but are absent or expressed at very low levels in normal cells. We believe NKG2D-based CAR-T approach has the potential to treat a broad range of both solid and hematologic tumors.

In December 2016, following the successful completion of a proof-of-concept clinical trial we conducted at the Dana-Farber Cancer Institute, in which we observed no treatment related safety concerns and we observed initial signs of clinical activity, we initiated a Phase 1 clinical trial, called THINK (THerapeutic Immunotherapy with NKR-2), to assess the safety and clinical activity of multiple administrations of CYAD-01 in seven refractory cancers, including both solid tumors and hematologic malignancies. As of December 31, 2018, we had treated 35 patients with CYAD-01 in the THINK trial. Data from the Phase 1 THINK trial reported at the Society for Immunotherapy of Cancer (SITC) and American Society of Hematology show that the cell therapy is well-

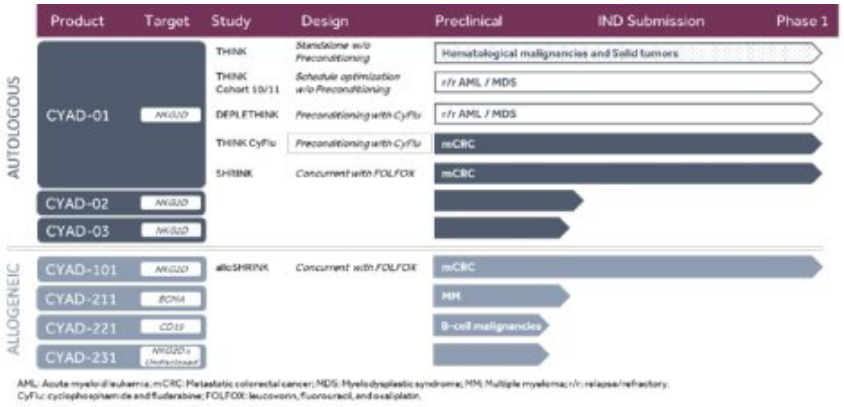
tolerated as a standalone treatment both in the treatment of solid tumors and hematological malignancies. In the solid tumor potion of the THINK trial, four patients experienced confirmed disease stabilization (three metastatic colorectal cancer (mCRC) patients and one patient with ovarian cancer) according to RECIST 1.1 criteria. For the hematological malignancy potion of the THINK trial, five patients with relapsed/refractory acute myeloid leukemia (r/r AML) showed anti-leukemic activity with three out of eight patients (38%) exhibiting objective response and two patients (25%) exhibiting disease stabilization with relevant bone marrow blasts decrease. As of December 31, 2018, both the solid tumor and hematological malignancy arms continue to enroll patients in the amended cohorts to evaluate cell therapy after lymphodepletion with cyclophosphamide and fludarabine for the treatment of mCRC (THINK CyFlu) and in schedule optimization portion of the trial (cohorts 10 and 11) for the treatment of r/r AML.

Based on promising results from the THINK trial, we initiated additional trials in 2018 to further evaluate CYAD-01 both in r/r AML and mCRC patients. These trials included the DEPLETHINK trial and SHRINK trial, respectively.

In November 2018, we also initiated the Phase 1 alloSHRINK trial, evaluating our second clinical candidate CYAD-101. CYAD-101 is a first-in-class, non-gene edited allogeneic (donor derived) CAR-T product candidate that co-expresses the chimeric antigen receptor NKG2D and the novel inhibitory peptide TIM (T cell receptor [TCR] Inhibiting Molecule). The expression of TIM reduces signaling of the TCR complex and could therefore reduce or eliminate Graft versus Host Disease (GvHD) in patients treated with CYAD-101. The alloSHRINK trial is evaluating CYAD-101 administered concurrently with FOLFOX chemotherapy in the treatment of patients with unresectable metastatic colorectal cancer (mCRC).

Beyond CYAD-01 and CYAD-101, we are also investigating several novel, CAR-T product candidates in preclinical development including the next-generation autologous NKG2D-based CAR-T product candidates CYAD-02 and CYAD-03 for the treatment of hematological malignancies and solid tumors as well as a series of short hairpin RNA (shRNA)-based allogeneic CAR-T candidates referred to as the CYAD-200 series. These include CYAD-211, B-cell maturation antigen (BCMA) targeting CAR-T candidate for the treatment of multiple myeloma, CYAD-221, CD19 targeting CAR-T candidate for the treatment of B-cell malignancies and CYAD-231, dual specific CAR-T candidate targeting NKG2D and an undisclosed membrane protein.

Company Product Pipeline (As of the date of this Annual Report)



Introduction

Cancer is the second leading cause of death in the United States after cardiovascular diseases, according to the U.S. Centers for Disease Control and Prevention. According to the American Cancer Society, in 2014, there were

an estimated 1.6 million new cancer cases diagnosed and over 550,000 cancer deaths in the United States alone. In the past decades, the cornerstones of cancer therapies have been surgery, chemotherapy and radiation therapy. Since 2001, molecules that specifically target cancer cells have emerged as standard treatments for a number of cancers. For example, Gleevec is marketed by Novartis AG for the treatment of leukemia, and Herceptin is marketed by Genentech, Inc. for the treatment of breast and gastric cancer. Although targeted therapies have significantly improved the outcomes for certain patients with these cancers, there is still a high unmet need for the treatment of these and many other cancers.

Below are the statistics regarding certain forms of solid and hematological cancers and their estimated death rates in the United States for 2018:

	2018 estimates for the United States	
	New cases	Deaths
Acute myeloid leukemia	19,520	10,670
Multiple myeloma	30,770	12,770
Colorectal cancer	140,250	50,630
Non-Hodgkin lymphoma	74,680	19,910

Source: SEER, American Cancer Society

CAR T-Cell Therapy

The immune system has a natural response to cancer, as cancer cells express antigens that can be recognized by cells of the immune system. Upon recognition of a cancer antigen, activated T-cells release substances that kill cancer cells and attract other immune cells to assist in the killing process. However, cancer cells can develop the ability to release inhibitory factors that allow them to evade immune response, resulting in the formation of cancers.

CAR T-cell therapy is a new technology that broadly involves engineering patients' own T-cells to express CARs so that these re-engineered cells recognize and kill cancer cells, overcoming cancer cells' ability to evade the immune response. CARs are comprised of the following elements:

- binding domains that encode proteins, such as variable fragments of antibodies that are expressed on the surface of a T-cell and allow the T-cell to recognize specific antigens on cancer cells;
- intracellular signaling domains derived from T-cell receptors that activate the signaling pathways responsible for the immune response following binding to cancer cells. This allows the T cell to trigger the killing activity of the target cancer cell once it is recognized; and
- costimulatory and adaptor domains, which enhance the effectiveness of the T-cells in their immune response.

Once activated, CAR T-cells proliferate and kill cancer cells directly through the secretion of cytotoxins that destroy cancer cells, and these cytokines attract other immune cells to the tumor site to assist in the killing process.

The CAR T-cell manufacturing process starts with collecting cells from a patient's blood. T-cells are then selected, following which the CAR is introduced into the T-cells using vectors. The CAR T-cells are then expanded prior to injection back into the patient.

Current Investigational Treatments of Cancer Using CAR T-Cells

CAR-T cell therapy is an emerging approach for the treatment of some cancers, such as B-cell malignancies.

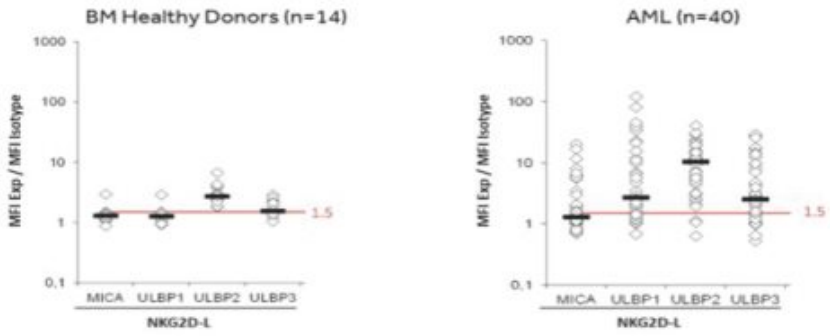
CAR CD19 is the most studied CAR. CAR CD19 has an antigen binding domain that recognizes the CD19 antigen that is present on all B lymphocytes. This means that if a cancer originates from B lymphocytes, such as Acute Lymphoblastic Leukemia (ALL), then a CAR bearing the CD19 antibody could potentially recognize it and destroy it. Indeed, results of a clinical trial reported in the New England Journal of Medicine in October 2014 demonstrated that CAR CD19 CAR therapy was effective in treating patients with relapsed and refractory ALL. Treatment was associated with a complete remission rate of 90% and sustained remissions of up to two year after treatment. Despite its promise, CAR CD19 therapy is inherently limited to the treatment of B-cell malignancies. CAR CD19 also targets normal B lymphocytes leading to the need to treat those patients with gamma globulins.

Our Approach

Our lead clinical candidates, CYAD-01, an autologous CAR-T cell therapy, and CYAD-101, an allogeneic CAR-T therapy, both use the native sequence of the NKG2D receptor in the CAR construct. Importantly, CYAD-101 also expresses the peptide TIM which is used to dampen the signaling of the TCR complex and classify the product as allogeneic. In both CYAD-01 and CYAD-101, the human natural sequence of NKG2D is expressed outside the T cell and bound to an intracellular domain called CD3 Zeta. This intracellular domain is used in most other CARs and is responsible for the activation of the T cell once NKG2D recognizes and binds to its target. In addition, the complex NKG2D CD3 Zeta binds to endogenous DAP 10, which is a co-stimulatory molecule present on T cells, which means that the activation triggered by the primary stimulatory chain CD3 Zeta is further strengthened by DAP 10, a secondary or co-stimulatory domain.

NKG2D receptor ligands are expressed in numerous solid tumors and blood cancers, including ovarian, bladder, breast, lung and liver cancers, as well as leukemia, lymphoma and myeloma. In preclinical studies, we have observed bioactivity of CYAD-01 when as few as 7% of the cancer cells within a given cell population expressed a NKG2D receptor ligand.

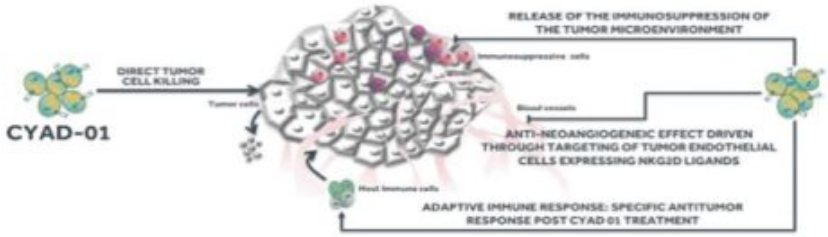
Cells under stress induced by factors such as viral infection, cancer or inflammation express the ligands recognized by the NKG2D receptor, which is naturally present on NK cells. Eight NKG2D ligands have been characterized (namely ULBP families 1 to 6, MICA and MICB). Those ligands are a signal for NK cells that the stressed cells are malfunctioning and should be destroyed. NKG2D ligands are present in most cells, but their expression at the cell surface is tightly regulated, meaning that expression at the cell surface is absent or limited in healthy cells but overexpressed in infected or stressed cells. Preclinical studies have demonstrated that multiple solid and hematological cancer tumors express one or more NKG2D ligands. However, in preclinical studies we have not observed the cell surface expression of NKG2D ligands in healthy tissue.



In addition, preclinical mouse studies conducted by Charles Sentman, Ph.D., of our academic collaborator Dartmouth College, have demonstrated that CAR-T NKG2D may have bioactivity beyond a direct cytotoxic effect of the CAR on the targeted tumor cell. Three additional potential modes of such activity are:

- Both regulatory T cells that modulate the immune system and bone marrow immune cells, called myeloid-derived suppressor cells (MDSCs), were shown to express NKG2D ligands when they are present in tumors. Hence, those immune suppressive cells are also a target of CYAD-01, thereby potentially suppressing immune inhibition in the tumor cell.
- Cells from rapidly dividing micro vessels in the tumor mass were shown to express NKG2D ligands. Hence, the blood supply to the tumor is a potential target of CYAD-01.
- In animals in which the tumors were eliminated following the administration of CAR-T NKG2D, a re-challenge by the same tumor cell line was ineffective, rendering the animal potentially "immunized" against this tumor cell line. Surviving animals challenged with other tumor cell lines showed evidence of tumor growth.

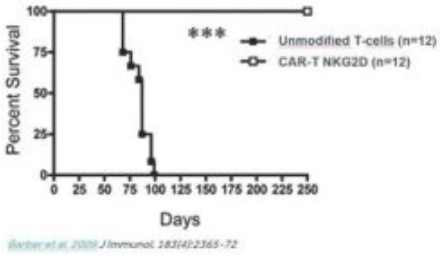
CYAD-01 Multi-Faceted Attack on the Tumor



Preclinical Development

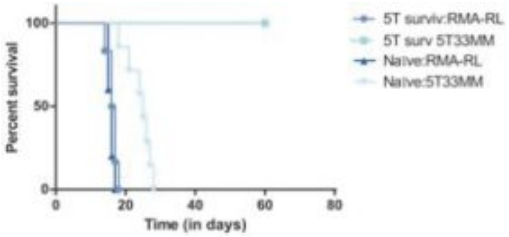
CYAD-01 has been tested in preclinical models of solid and blood cancers, including lymphoma, ovarian cancer, melanoma and myeloma. In preclinical studies, treatment with CYAD-01 significantly increased survival. In studies, 100% of treated mice survived through the follow-up period of the applicable study, which in one study was 325 days. All untreated mice died during the follow-up period of the applicable study.

In one representative study, as shown in the figure below, the treatment with CYAD-01 completely prevented tumor development in mice injected with ovarian cancer cells and followed over a period of 225 days. In contrast, all mice injected with ovarian cancer cells that were treated with unmodified T-cells developed cancerous tumors and died during that period.



Our preclinical models have shown that administration of CYAD-01 is followed by changes in a tumor's micro-environment resulting from the local release of chemokines, a family of small cytokines.

In a preclinical study, mice that had been injected with 5T33MM cancer cells (a myeloma cancer) and treated with CYAD-01 were rechallenged, either with the 5T33MM cancer cells or a different tumor type (RMA lymphoma cells). The mice that were rechallenged with the same tumor type survived, while the mice that were challenged with a different tumor type died, as shown in the figure below. Of note, at the time of the re-challenge of the surviving animals, no CYAD-01 was detected in the animals, hence the protection against the original tumor is linked to an adaptive immunity mechanism.



We do not believe that this effect has been observed with other CARs.

Moreover, preclinical studies have suggested that CYAD-01 could potentially have a direct effect on tumor vasculature. Tumor vessels express ligands for the NKG2D receptor that are not generally expressed by normal vessels. We believe that this expression may be linked to genotoxic stress, hypoxia and re-oxygenation in tumors and therefore that CYAD-01 could potentially inhibit tumor growth by decreasing tumor vasculature, which enhances the activity through a virtuous circle of anoxia of tumor cells and increased ligand expression of tumor cells.

Preclinical studies also suggest that CYAD-01 is active without lymphodepletion conditioning, which is the destruction of lymphocytes and T-cells, normally by radiation. We believe this absence of a pre-conditioning regimen may significantly expand the range of patients eligible for CAR T-cell treatment, reduce costs, reduce toxicity and thereby improve patient experience and acceptance.

No significant toxicology findings were reported from preclinical multiple-dose studies at dose levels below 10^7 CYAD-01 per animal. Some temporary weight loss was noted in animals treated with CYAD-01 at doses of $2x10^7$ per animal, a dose practically unattainable in human equivalents.

Clinical Development Program for CYAD-01

The CM-CS1 Phase 1 Clinical Trial

In December 2016, results from the first clinical trial of CYAD-01, called the CM-CS-1 trial, were presented at the American Society of Hematology, or ASH, Annual Meeting. The CM-CS-1 trial was a Phase 1 dose escalation clinical trial conducted at the Dana-Farber Cancer Institute in patients with AML and multiple myeloma, or MM. Patients received doses from $1×10^6$ up to $3×10^7$ CAR-T NKR-2 in a single intravenous injection. One AML patient treated with the highest dose level was observed to have normalized hematologic parameters for six months following treatment. No serious treatment-related adverse events were reported at the four doses tested in this trial, and signs of clinical activity were observed.

THINK Phase 1 Clinical Trial

Overview

In December 2016, we initiated the THINK (THerapeutic Immunotherapy with NKr-2) trial, a multinational (E.U./U.S.), open-label Phase 1 clinical trial to assess the safety and clinical activity of multiple administrations of CYAD-01 in seven metastatic tumor types, including five solid tumors (colorectal, ovarian, bladder, triple-negative breast and pancreatic cancers) and two hematological malignancies (AML and MM) in patients who did

not respond to or relapsed after first and second line therapies. In the THINK trial, CYAD-01 is administered as a monotherapy in patients without chemotherapy preconditioning.

The trial contains two consecutive segments: a dose escalation segment with two arms (one in solid tumor types and one in hematological tumor types) at three dose levels adjusted to body weight (up to $3x10^8$, $1x10^9$ and $3x10^9$ CAR-T NKR-2 cells). At each dose, the patients are intended to receive three successive administrations of the specified dose, two weeks apart. In 2018, we made several amendments to the trial including: 1) as of dose level 2, patients were eligible for a second cycle of three injections in absence of progressive disease; 2) in the hematological malignancy portion of the trial, a more frequent dosing schedule of CYAD-01, referred to as schedule optimization, will assess six injections without preconditioning over two months of administration; and 3) in the solid tumor segment of the trial, treatment of CYAD-01 after non-myeloablative preconditioning chemotherapy regimen of cyclophosphamide and fludarabine will be assessed. As of December 31, 2018, a total of 35 patients had been treated in the dose-escalation Phase 1 study, including the aforementioned amended cohorts. The schedule optimization cohorts are ongoing and are expected to enroll a minimum of six patients, while the extension phase of the trial associated with the schedule optimization portion of the trial is planned to enroll up to 14 patients. The primary endpoint of the dose escalation segment of the trial is a safety endpoint—the occurrence of dose limiting toxicities in patients during the treatment until 14 days after the last treatment. The primary endpoint in the expansion segment is objective response rate.

Interim Clinical Data as of December 31, 2018

As of December 31, 2018, we had treated 35 patients with CYAD-01 drug product in the THINK trial. Patients have been treated at the third dose level in both the solid tumor and hematological malignancy cohort of the dose escalation part of the trial. We are currently enrolling patients for the third dose level phase in the hematological arm and we have completed the dose escalation portion in the solid tumor cohort. We are currently enrolling patients in the schedule optimization portion of the trial in the hematological malignancy arm of the trial. Of the 35 patients treated as of December 31, 2018, 31 were dosed at the per-protocol intended dose and four were treated at a dose lower than the per-protocol intended dose due to an inability to obtain sufficient cell numbers in the drug product using our prior manufacturing method. See "—Manufacturing" below.

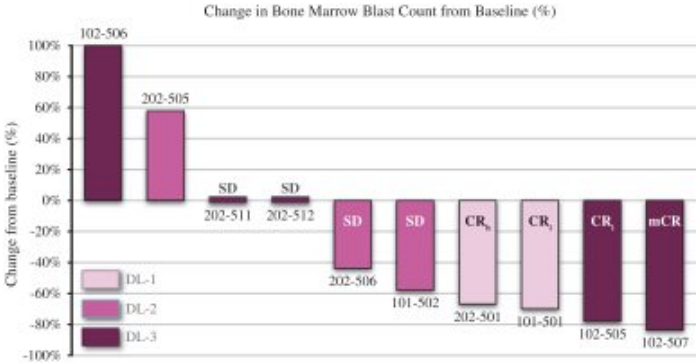
In patients treated with CYAD-01 at the per-protocol intended dose in the THINK trial we observed signs of clinical activity ranging from SD to CR. Signs of clinical activity were observed in patients with AML, Myelodysplastic syndrome (MDS), CRC and ovarian cancer. No signs of clinical activity were observed in patients treated with a dose lower than the per-protocol intended dose.

Based on the interim individual data of patients treated, we believe that preconditioning chemotherapy or concurrent treatment with chemotherapy may be beneficial in strengthening the responses seen to date, and we have initiated additional trials to further evaluate this approach in both hematological malignancies and solid tumors. See "—Additional Clinical Development for CYAD-01" below.

Hematological Malignancy Segment of the THINK Phase 1 Trial

In December 2018, at the 60 th American Society of Hematology Annual Meeting we reported interim results from the hematological portion of the THINK Phase 1 trial. Data from 14 patients treated across all three dose levels showed that treatment with monotherapy CYAD-01 without preconditioning was well tolerated. Out of eight r/r AML patients evaluable per protocol (at least one cycle of treatment) in the dose escalation segment of the trial, five patients (62%) showed anti-leukemic activity with three out of eight patients (38%) exhibiting objective response. As of January 7, 2019, four out of 10 patients (40%) were reported to exhibit a complete response, defined as either a complete response with partial hematological recovery (CRh), complete response with incomplete marrow recovery (CRi) or marrow complete response (mCR). The r/r AML patient who achieved a CRh was bridged to allotransplant and remains in minimal residual disease negative complete response (CR MRD-, defined as no detection of tumor cells by high sensitivity methods) for over 17 months.

Evidence of Complete Response in 40% of Relapsed/Refractory AML / MDS Patients with CYAD-01 Without Preconditioning Chemotherapy



CRh: Complete response with partial hematological recovery
CRi: Complete response with incomplete hematological recovery
mCR: Marrow complete response
CR (MRD-): Complete response without minimal residual disease
SD: Stable disease

Treatment Related Adverse Events in Hematological Malignancy Portion of THINK Trial as of December 31, 2018

	DL-1 3x10 8 N=6 (15 injections)			DL-2 1x10 9 N=3 (12 injections)			DL-3 3x10 9 N=5 (11 injections)		
	All Grades	Grade 3	Grade 4	All Grades	Grade 3	Grade 4	All Grades	Grade 3	Grade 4
Adverse Event (AE) Prefered Term									
Total pts with at least ≥ 1 related AE (%)	6 (100)	—	1 (16.7)	3 (100)	2 (66.7)	—	5 (100)	—	3 (60.0)
Cytokine release syndrome (CRS)	1 (16.7)	—	—	2 (66.7)	2 (66.7)	—	3 (60.0)	—	1 (20.0)
Pyrexia	3 (50.0)	—	—	3 (100)	—	—	2 (40.0)	—	—
Chills	1 (16.7)	—	—	—	—	—	—	—	—
Hypoxia	1 (16.7)	—	1 (16.7)	3 (100)	—	—	2 (40.0)	—	—
Pneumonitis	1 (16.7)	—	1 (16.7)	—	—	—	—	—	—
Dyspnoea	—	—	—	1 (33.3)	—	—	—	—	—
Bronchial hyperreactivity	—	—	—	—	—	—	1 (20.0)	—	—
Tachycardia	—	—	—	—	—	—	2 (40.0)	—	—
Hypotension	—	—	—	2 (66.7)	—	—	2 (40.0)	—	—
Fatigue	2 (33.3)	—	—	—	—	—	—	—	—
Nausea	2 (33.3)	—	—	—	—	—	—	—	—
Vomiting	1 (16.7)	—	—	—	—	—	—	—	—
Diarrhoea	1 (16.7)	—	—	—	—	—	—	—	—
Decreased appetite	1 (16.7)	—	—	—	—	—	—	—	—
Weight increased	—	—	—	—	—	—	1 (20.0)	—	—
Peripheral swelling	1 (16.7)	—	—	—	—	—	—	—	—
Infusion related reaction	1 (16.7)	—	—	—	—	—	—	—	—
Dizziness	—	—	—	1 (33.3)	—	—	—	—	—
Bone pain	1 (16.7)	—	—	—	—	—	—	—	—
C-reactive protein increased	—	—	—	—	—	—	1 (20.0)	—	—
Anaemia	—	—	—	1 (33.3)	—	—	—	—	—
Leukocytosis	—	—	—	—	—	—	1 (20.0)	—	—
Lymphopenia	1 (16.7)	—	1 (16.7)	—	—	—	1 (20.0)	—	1 (20.0)
Thrombocytopenia	—	—	—	1 (33.3)	1 (33.3)	—	1 (20.0)	—	1 (20.0)

Solid Tumor Segment of the THINK Phase 1 Trial

In November 2018, at the Society for Immunotherapy of Cancer (SITC) 33rd Annual Meeting we reported results from the solid tumor portion trial. Data from 14 patients treated across all three dose levels showed that treatment with monotherapy CYAD-01 without preconditioning was well tolerated. Out of eleven patients with mCRC evaluable per protocol (at least one cycle of treatment) in the dose escalation segment of the trial, the best clinical response observed was stable disease in three patients (27%) based on RECIST 1.1 criteria. In addition, one patient with ovarian cancer treated at dose level 2 also experienced a stable disease.

In February 2018, the THINK trial was amended to include a cohort known as THINK CyFlu. The cohort is evaluating a single injection of CYAD-01 following treatment with the standard preconditioning regimen of cyclophosphamide (300 mg/m²) and fludarabine (30 mg/m²), or CyFlu.

As of the date of this Annual Report, treatment with CYAD-01 following the standard preconditioning regimen of CyFlu was well tolerated with no occurrence of DLT nor an increase of treatment-related AEs rate. Tumorassessment for the THINK CyFlu cohort of the trial has yet to be reported.

Treatment Related Adverse Events in Solid Tumor Portion of THINK Trial as of December 31, 2018

	THINK without preconditioning									THINK CyFlu with preconditioning		
	DL-1 3x10 8 N=4			DL-2 1x10 9 N=4			DL-3 3x10 9 N=6			3x10 8 N=2		
	All grades	Grade 3	Grade 4	All grades	Grade 3	Grade 4	All grades	Grade 3	Grade 4	All grades	Grade 3	Grade 4
Adverse Event (AE) Preferred Term												
Total pts with at least ≥ 1 related AE (%) *	**4 (100)**	**1 (25.0)**	**—**	**4 (100)**	**1 (25.0)**	**—**	**5 (83.3)**	**2 (33.3)**	**1 (16.7)**	**2 (100)**	**—**	**—**
Cytokine release syndrome (CRS)	—	—	—	3 (75.0)	1 (25.0)	—	4 (66.7)	—	1 (16.7)	2 (100)	—	—
Pyrexia	3 (75.0)	—	—	2 (50.0)	—	—	1 (16.7)	—	—	2 (100)	—	—
Chills	1 (25.0)	1 (25.0)	—	—	—	—	1 (16.7)	—	—	1 (50)	—	—
Infusion related reaction	1 (25.0)	—	—	—	—	—	—	—	—	—	—	—
Hot flush	1 (25.0)	—	—	—	—	—	1 (16.7)	—	—	—	—	—
Headache	1 (25.0)	—	—	—	—	—	2 (33.3)	—	—	—	—	—
Dyspnoea	—	—	—	1 (25.0)	—	—	1 (16.7)	1 (16.7)	—	—	—	—
Acute respiratory distress syndrome	—	—	—	—	—	—	1 (16.7)	—	1 (16.7)	—	—	—
Vomiting	2 (50.0)	—	—	—	—	—	—	—	—	1 (50)	—	—
Nausea	2 (50.0)	—	—	1 (25.0)	—	—	1 (16.7)	—	—	1 (50)	—	—
Decreased appetite	1 (25.0)	—	—	2 (50.0)	—	—	—	—	—	—	—	—
Fatigue	4 (100)	—	—	1 (25.0)	—	—	2 (33.3)	—	—	—	—	—
Myalgia	—	—	—	1 (25.0)	—	—	1 (16.7)	—	—	—	—	—
Blood pressure decreased	—	—	—	—	—	—	1 (16.7)	—	—	1(50.0)	—	—
Dry mouth	1 (25.0)	—	—	—	—	—	—	—	—	—	—	—
Erythema	1 (25.0)	—	—	—	—	—	—	—	—	—	—	—
Anaemia	—	—	—	—	—	—	—	—	—	—	—	—
Alanine aminotransferase increased	—	—	—	—	—	—	1 (16.7)	1 (16.7)	—	—	—	—
Lymphocyte count decreased	—	—	—	—	—	—	1 (16.7)	—	1 (16.7)	—	—	—

Nature of Interim Data

It should be noted that the interim data summarized above are current as of December 31, 2018 and are preliminary in nature. As of the date of this Annual Report, our THINK trial is not yet complete.

Additional Clinical Development for CYAD-01

AML Clinical Development Program

AML is one of the deadliest cancers in hematological malignancies, with a five-year survival rate of 27.4%. Currently the only available potentially curative therapy for AML is allogenic HSCT. However, this approach has significant limitations, including difficulties in finding appropriate genetically-matched donors and the risk of transplant-related rejection, graft-versus-host disease, or GVHD, and mortality, and is therefore typically only available on a limited basis. First line therapies can result in a complete response, but the risk of relapse is high. Until 2017, there were no therapies approved by the U.S. Food and Drug Administration, or FDA, for relapsed refractory patients. Based on data from the National Cancer Institute (NCI), the incidence of AML in the United States was approximately 19,520 new cases in 2018.

As an initial matter, as we seek to complete the schedule optimization of the hematological malignancy arm of the THINK trial, we plan to recruit only AML and MDS patients. Based on the encouraging interim results of the THINK trial, we are currently exploring and intend to further explore the administration of CYAD-01 in AML and MDS patients.

DEPLETHINK Phase 1 Clinical Trial

In October 2018, we initiated a new Phase 1 clinical trial in AML and MDS patients that will evaluate the administration of CYAD-01 after patients have undergone a conventional chemotherapy preconditioning program, which is intended to provide an environment for the engineered T cells to thrive, and could result in a higher rate of objective response. However, because chemotherapy preconditioning can lead to undesirable side effects, we expect that a proper risk-benefit ratio will be considered and contrasted with a monotherapy approach as we progress this program into later stages of clinical development.

The trial, referred to as DEPLETHINK (LymphoDEPLEtion and THerapeutic Immunotherapy With NKR-2) was initiated in October 2018. The open-label, dose-escalation trial will evaluate a single injection of CYAD-01 following treatment with the standard low-intensity preconditioning regimen of cyclophosphamide (300 mg/m²) and fludarabine (30 mg/m²), or CyFlu. The trial includes two different intervals between lymphodepletion and administration of CYAD-01. In addition, the trial will evaluate two dose levels of CYAD-01 including 100 million and 300 million cells per injection, respectively. Following disease assessment at day 35, patients presenting no signs of progression are eligible to receive a cycle of three CYAD-01 injections without preconditioning with two-week intervals at their initial dose levels. The study will enroll up to 21 patients (dose escalation and expansion phases). The primary endpoint of the trial is safety and secondary endpoints include clinical activity and pharmacokinetics.

In December 2018, we reported initial data from the first cohort of the trial, in which the administration of CYAD-01 following the preconditioning regimen of cyclophosphamide and fludarabine was well-tolerated, with no dose-limiting toxicity or treatment-related grade 3 or above adverse events observed. Based on these preliminary safety data, enrollment has been initiated in the second cohort of the trial. As of the date of this Annual Report we have added a fourth cohort to the trial which will evaluate a single administration of 1 billion cells per injection.

CRC Clinical Development Program

CRC is the third most diagnosed cancer and the second in terms of deaths. The median progression free survival rate of patients treated with the current standards of care (regorafinib or trifluridine/tipiracil) is between 1.9 and 3.2 months. We estimate the incidence of CRC in the United States is approximately 134,000 new cases per year.

Based on the encouraging interim results of the THINK trial, we are currently exploring the administration of CYAD-01 in CRC patients.

SHRINK Phase 1 Clinical Trial

In May 2018, we enrolled our first patient into the dose-escalation Phase 1 SHRINK (Standard cHemotherapy Regimen and Immunotherapyy with NKR-2) trial. SHRINK is designed to assess the safety and clinical activity of multiple administrations of CYAD-01 concurrently with a conventional chemotherapy for CRC called FOLFOX (a combination of 5-fluorouracil, leucovorin and oxaliplatin) as first line therapy, with the goal of reducing liver metastasis and allowing for surgical resection. Patients will receive six cycles of FOLFOX chemotherapy every two weeks and three administrations of CYAD-01 every two weeks 48 hours after the end of chemotherapy at cycles two, three and four. Based upon initial assessment of clinical activity, patients could be eligible to receive three additional administrations of CYAD-01 at the same dose level. The trial will enroll up to 36 patients (dose escalation and expansion phases). This trial is being conducted outside the United States and is currently open for enrollment.

As of the date of this Annual Report, interim results from the first cohort of patients based on response evaluation criteria in solid tumors (RECIST) from dose level 1 of the trial confirmed one patient achieved a partial response and two patients experienced disease stabilization. In addition, concurrent treatment of CYAD-01 with FOLFOX chemotherapy appears to be well tolerated, with no occurrence of SAEs nor increase in treatment-related AEs rate.

LINK Phase 1 Clinical Trial

In July 2017, we initiated the LINK trial (L ocoregional I mmunotherapy with NK R-2), a Phase 1 trial designed to assess the safety and clinical activity of multiple administrations of CYAD-01 in the hepatic artery in CRC patients with primarily liver metastasis. Following a strategic review of the CYAD-01 program in CRC, we have decided to stop enrollment of the LINK trial in January 2019.

Next-Generation, Autologous, Preclinical NKG2D-based CAR-Ts

Over the past year we have continued to explore opportunities to enhance the characteristics of CYAD-01, including increasing the persistence of the product candidate as well as the product candidate's ability to infiltrate the tumor and combat the hostile tumor microenvironment. This has led to the preclinical candidates CYAD-02 and CYAD-03. CYAD-2 includes the addition of a short hairpin RNA to target NKG2D ligand MICA and MICB, while CYAD-03 incorporates cytokines to the NKG2D-based CAR-T. We continue to further evaluate these preclinical candidates through 2019, which could lead to potential IND filings over the next 12 to 18 months.

Allogenic Platform—TCR Inhibiting Molecule (TIM)

While autologous CAR-T cells have yielded impressive results in B cell malignancies, addressing larger indications such as CRC using the current centralized manufacturing paradigm may be more challenging, at least from a cost and logistical perspective. However, we believe that an allogeneic approach must address two key challenges: (1) graft versus host disease (GvHD) which is the rejection of the patient tissues by the grafted cells, and (2) rejection of the graft by the host immune system, or transplant rejection. GvHD is mediated by the T Cell Receptor (TCR) complex on T lymphocytes. We have developed a method to interfere with the TCR signaling through the expression of a TCR Inhibiting Molecule (TIM). In preclinical mouse models, we observed that mice treated with TIM transduced T cells did not demonstrate GvHD, while 80% of the animals treated with control T cells died from GvHD within a 50 day window. In addition, we demonstrated in a similar mouse model bearing a colorectal cancer that the antitumor activity of CYAD-101 (the allogeneic version of our CYAD-01 drug product candidate) is maintained.

Clinical Development Program for CYAD-101

Background on CYAD-101

CYAD-101 is an investigational, non-gene edited, allogeneic (donor derived) CAR-T therapy that co-expresses the chimeric antigen receptor NKG2D found in our CYAD-01 clinical candidate with the novel inhibitory peptide TIM (T cell receptor [TCR] Inhibiting Molecule). TCR signaling is responsible for Graft versus Host Disease (GvHD) and the expression of TIM reduces signaling of the TCR complex and could therefore reduce or eliminate GvHD in patients treated with CYAD-101.

alloSHRINK Phase 1 Clinical Trial

In November 2018, we initiated the open-label, dose-escalation, Phase 1 alloSHRINK trial evaluating our non-gene edited allogeneic CAR-T product candidate, CYAD-101, administered concurrently with FOLFOX chemotherapy in the treatment of patients with unresectable metastatic CRC. Patients will receive six cycles of FOLFOX chemotherapy every two weeks and three administrations of CYAD-101 every two weeks 48 hours after the initiation of chemotherapy cycles one, two and three. The three dose levels to be evaluated are 100 million, 300 million and 1 billion cells per injection, respectively. The Phase I dose-escalation segment will enroll a maximum of 18 patients. The primary endpoint of the study is safety and tolerability.

Allogenic Platform—short hairpin RNA (shRNA) **Seasonality**

Our business is currently not materially affected by seasonality.

Manufacturing

We recently modified the manufacturing process we use to produce our CYAD-01 drug product candidate, in order to significantly increase the yield of T cell expansion in the drug product candidate we produce, while at the same time aiming to reduce process complexity and cost.

Until late 2017, our CYAD-01 drug product candidate was manufactured using a process, which we refer to as the LY process, intended to reduce the co-expression of NKG2D and stress ligands induced by the manufacturing process. However, this reduction of the co-expression was not sufficient, especially at higher doses, and yielded a higher than anticipated fratricide effect; that is, the expressed T cells in the drug product candidate would kill each other or kill themselves. As a result, the LY process failed to consistently produce the required number of T cells in the drug product candidate, resulting in some cases in our inability to manufacture drug product candidate consistent with the protocol for our THINK trial. All 15 patients treated in the THINK trial as of December 31, 2017 were treated with drug product manufactured using the LY process. Of these 15 patients, 10 were dosed at the per-protocol intended dose and five were treated at a dose lower than the per-protocol intended dose due to our inability to obtain sufficient cell numbers in the drug product candidate using this manufacturing method.

In response to these manufacturing challenges, we modified the manufacturing process to include a monoclonal antibody (mAb) that inhibits NKG2D expression on the T cell surface during production. This method has the potential to yield significantly higher cell numbers than the LY process. We have evaluated this new manufacturing process, which we refer to as the mAb process, in both *in vivo* and *ex vivo* models, in order to demonstrate reproducibility and comparability, and our THINK protocol has been amended for this new approach.

The first patient in our THINK trial to be administered drug product candidate manufactured using the mAb process was treated in late January 2018. Throughout 2018, all patients treated with CYAD-01 were administered drug product candidate manufactured using the mAb process and no critical safety issues related to the cell therapy have been reported. There can be no assurance that drug product candidate manufactured using the mAb process will have similar or improved safety and clinical activity compared to drug product candidate manufactured using the LY manufacturing process.

In addition, we are seeking to develop an automated and closed system to manufacture our cells, with minimal human interactions, with a goal of further reducing manufacturing costs, minimizing operator errors and allowing the manufacturing process to be run in lower grades or classified manufacturing space. This concept could potentially be deployed as a point-of-care manufacturing system in the future.

Termination of C-Cure and Heart-Xs Programs

Until mid-2016, we were focused on the development of a cardiovascular drug product candidate called C-Cure, an autologous cell therapy for the treatment of patients with ischemic heart failure. This program was funded in part through various research programs from the Walloon Region of Belgium. In June 2016, we reported topline results from a Phase 3 clinical trial for this drug product candidate. Following the announcement of these results, we explored strategic options to further develop and commercialize C-Cure, while we focused on our CAR-T oncology drug product candidates. In December 2017, we elected to shelve this program, as a result of which the research data and intellectual property rights associated with this development program were transferred to the Walloon Region which partially financed the C-Cure program.

Also in December 2017, our board of Directors decided to pause the development of the Heart-Xs platform.

Licensing and Collaboration Agreements

Dartmouth College and Celdara

Background

In January 2015, we entered into a stock purchase agreement with Celdara Medical, LLC, or Celdara, pursuant to which we purchased all of the outstanding membership interests of OnCyte, LLC, or OnCyte. In connection with this transaction, we, Celdara and OnCyte entered into an asset purchase agreement pursuant to which Celdara sold to OnCyte certain data, protocols, regulatory documents and intellectual property, including the rights and obligations under two license agreements between OnCyte and Dartmouth College, or Dartmouth, related to our CAR-T development programs. In connection with the asset purchase agreement, OnCyte and Celdara entered into a services agreement under which Celdara provided certain development activities related to the development of CAR-T products.

Amended Asset Purchase Agreement

On August 3, 2017, we, Celdara and OnCyte, our wholly-owned subsidiary, entered into an amendment to the asset purchase agreement described above. In connection with the amendment, the following payments were made to Celdara: (i) an amount in cash equal to $10.5 million, (ii) newly issued shares of Celyad valued at $12.5 million, (iii) an amount in cash equal to $6.0 million in full satisfaction of any payments owed to Celdara in connection with a clinical milestone related to our CAR-T NKR-2 product candidate, (iv) an amount in cash equal to $0.6 million in full satisfaction of any payments owed to Celdara in connection with our license agreement with Novartis International Pharmaceutical Ltd., and (v) an amount in cash equal to $0.9 million in full satisfaction of any payments owed to Celdara in connection with our license agreement with Ono Pharmaceutical Co., Ltd.

Under the amended asset purchase agreement, OnCyte is obligated to make certain development-based milestone payments to Celdara up to $40.0 million for our clinical-stage product candidate (using autologous NKR-2 T-cells), the first product candidate in the first of four defined product groups. We are also obligated to make certain development-based milestone payments up to $36.5 million for the first product candidate in one of three additional defined preclinical-stage product groups. Under the prior agreement these payments were payable once per licensed product whereas under the amended asset purchase agreement these payments are now payable for the first CAR-T product in each of these four defined CAR-T product groups. We are also obligated to make sales-based milestone payments up to $76.0 million for the first CAR-T product in the first of the four defined

CAR-T product groups and up to $80.0 million for the first CAR-T product in the next three defined CAR-T product groups. Under the amended asset purchase agreement, OnCyte is required to make tiered single-digit royalty payments to Celdara in connection with the sales of CAR-T products within each of the four defined CAR-T product groups, subject to reduction in countries in which there is no patent coverage for the applicable product or in the event OnCyte is required to secure licenses from third parties to commercialize the applicable product. Such royalties are payable on a product-by-product and country-by-country basis until the later of (i) the last day that at least one valid patent claim covering the applicable product exists, or (ii) the tenth anniversary of the day of the first commercial sale of the applicable product in such country.

Under the amended asset purchase agreement, in lieu of royalties previously payable on sales by sublicensees, OnCyte is now required to pay Celdara a percentage of sublicense income, including royalty payments, for each sublicense ranging from the mid-single digits to the mid-twenties, depending on which of a specified list of clinical and regulatory milestones the applicable product has achieved at the time the sublicense is executed. These percentages will be applied on a product-by-product basis to each payment included within sublicense income that is attributable to the grant of rights in, or the achievement of a milestone with respect to a specific product that is subject to, such sublicense. Under the amended asset purchase agreement, OnCyte is required to pay Celdara a single-digit percentage of any research and development funding received by OnCyte for each of the four defined CAR-T product groups, not to exceed $7.5 million for each product group. We can opt out of the development of any product if the data does not meet the scientific criteria of success. We may also opt out of development of any product for any other reason upon payment of a termination fee of $2.0 million to Celdara.

In connection with the amended asset purchase agreement, OnCyte and Celdara terminated the services agreement related to certain development activities related to the development of CAR-T products in consideration of a cash payment to Celdara in the amount of $0.9 million out of the $1.8 million remaining contractual amount.

Amended Dartmouth License

As described above, as a result of our acquisition of all of the outstanding membership interests of OnCyte and the asset purchase agreement among us, Celdara and OnCyte, OnCyte became our wholly-owned subsidiary and acquired certain data, protocols, regulatory documents and intellectual property, including the rights and obligations under two license agreements between OnCyte and Dartmouth. The first of these two license agreements concerned patent rights related, in part, to methods for treating cancer involving chimeric NK and NKP30 receptor targeted therapeutics and T cell receptor-deficient T cell compositions in treating tumor, infection, GVHD, transplant and radiation sickness, or the CAR-T License, and the second of these two license agreements concerned patent rights related, in part, to anti-B7-H6 antibody, fusion proteins and methods of using the same, or the B7H6 License. On August 2, 2017, OnCyte and Dartmouth entered into an amendment agreement in order to combine OnCyte's rights under B7H6 Agreement with OnCyte's rights under the CAR-T License, resulting in the termination of the B7H6 License, and in order to make certain other changes to the agreement. In connection with the amendment, OnCyte paid Dartmouth a non-refundable, non-creditable amendment fee in the amount of $2.0 million, charged to the income statement of 2017 as part of the costs of the amendments of the Celdara Medical and Dartmouth College agreements.

Under the amended license agreement, Dartmouth granted OnCyte an exclusive, worldwide, royalty-bearing license to certain know-how and patent rights to make, have made, use, offer for sale, sell, import and commercialize any product or process for human therapeutics, the manufacture, use or sale of which, is covered by such patent rights or any platform product. Dartmouth reserves the right to use the licensed patent rights and licensed know-how, in the same field, for education and research purposes only. The patent rights included in the amended license agreement also include the patents previously covered by the B7H6 License.

In consideration for the rights granted to us under the amended license agreement, OnCyte is required to pay to Dartmouth an annual license fee as well as a low single-digit royalty based on annual net sales of the licensed

products by OnCyte, with certain minimum net sales obligations beginning April 30, 2024 and continuing for each year of sales thereafter. Under the amended license agreement, in lieu of royalties previously payable on sales by sublicensees, OnCyte is now required to pay Dartmouth a percentage of sublicense income, including royalty payments, (i) for each product sublicense ranging from the mid-single digits to low-single digits, depending on which of a specified list of clinical and regulatory milestones the applicable product has achieved at the time the sublicense is executed and (ii) for each platform sublicense in the mid-single digits. These percentages will be applied on a product-by-product basis to each payment included within sublicense income that is attributable to the grant of rights in, or the achievement of a milestone with respect to a specific product that is subject to, such sublicense. Additionally, the agreement requires that OnCyte exploit the licensed products, and OnCyte has agreed to meet certain developmental and regulatory milestones. Upon successful completion of such milestones, OnCyte is obligated to pay to Dartmouth certain clinical and regulatory milestone payments up to an aggregate amount of $1.5 million and a commercial milestone payment in the amount of $4.0 million. We are responsible for all expenses in connection with the preparation, filing, prosecution and maintenance of the patents covered under the agreement.

After April 30, 2024, Dartmouth may terminate the amended license if OnCyte fails to meet the specified minimum net sales obligations for any year, unless OnCyte pays to Dartmouth the royalty OnCyte would otherwise be obligated to pay had OnCyte met such minimum net sales obligation. Dartmouth may also terminate the license if OnCyte fails to meet a milestone within the specified time period, unless OnCyte pays the corresponding milestone payment. Either party may terminate the agreement in the event the other party defaults or breaches any of the provisions of the agreement, subject to 30 days' prior notice and opportunity to cure. In addition, the agreement automatically terminates in the event OnCyte becomes insolvent, make an assignment for the benefit of creditors or file, or have filed against us, a petition in bankruptcy. Absent early termination, the agreement will continue until the expiration date of the last to expire patent right included under the agreement in the last to expire territory. We expect that the last to expire patent right included under this agreement will expire in 2033, absent extensions or adjustments.

Dissolution of OnCyte

In March 2018, we dissolved and wound up the affairs of our wholly owned subsidiary OnCyte, LLC, or OnCyte, pursuant to the Delaware Limited Liability Company Act. As a result of the dissolution of OnCyte, all the assets and liabilities of OnCyte, including the contingent consideration payable and our license agreement with Dartmouth College, were fully distributed to and assumed by Celyad SA. Celyad SA will continue to carry out the business and obligations of OnCyte, including under our license agreement with Dartmouth College.

ONO Pharmaceuticals

On July 11, 2016, we entered into a license and collaboration agreement, or the License and Collaboration Agreement, with ONO Pharmaceuticals Co., Ltd., or ONO, in connection with which we granted ONO an exclusive license for the development, manufacture and commercialization of allogenic products incorporating our NKR-T cell technology in Japan, Korea and Taiwan. Under the terms of the collaboration, ONO is solely responsible for and bears all costs incurred in the research, development and commercialization of such products in its geographies. In addition, we granted ONO an exclusive option to obtain an exclusive license to develop, manufacture and commercialize autologous products incorporating our autologous CAR-T NKR-2 cell technology in Japan, Korea and Taiwan.

On November 27, 2018, Ono Pharmaceuticals Co., Ltd. notified us of its decision to terminate the License and Collaboration Agreement.

Novartis

In May 2017, we announced that we had entered into a non-exclusive license agreement with Novartis International AG, or Novartis, regarding U.S. patents related to allogeneic CAR-T cells. The agreement includes

our intellectual property rights under U.S. Patent No. 9,181,527. This agreement is related to two undisclosed targets currently under development by Novartis. Under the terms of the agreement, we received an upfront payment of $4 million and is eligible to receive additional milestone payments in aggregate amounts of up to $92 million. In addition, we are eligible to receive royalties based on net sales of the licensed target associated products at percentages in the single digits. We retain all rights to grant further licenses to third parties for the use of allogeneic CAR-T cells.

Horizon Discovery Group

In 2018, we signed exclusive agreements with Horizon Discovery Group plc, for the use of its shRNA technology to generate our second non-gene-edited allogeneic platform. Data from preclinical studies have demonstrated the versatility of the shRNA platform in the allogeneic setting and may pave the way for the next steps in the development of our differentiated non-gene-edited allogeneic approach to CAR-T cell therapy.

Intellectual Property

Patents and Patent Applications

Patents, patent applications and other intellectual property rights are important in the sector in which we operate. We consider on a case-by-case basis filing patent applications with a view to protecting certain innovative products, processes, and methods of treatment. We may also license or acquire rights to patents, patent applications or other intellectual property rights owned by third parties, academic partners or commercial companies which are of interest to us.

Our patent portfolio includes pending patent applications and issued patents in the United States and in foreign countries.

The term of a U.S. patent may be eligible for patent term extension under the Hatch-Waxman Act to account for at least some of the time the drug or device is under development and regulatory review after the patent is granted. With regard to a drug or device for which FDA approval is the first permitted marketing of the active ingredient, the Hatch-Waxman Act allows for extension of the term of one U.S. patent. The extended patent term cannot exceed the shorter of five years beyond the non-extended expiration of the patent or 14 years from the date of the FDA approval of the drug or device. Some foreign jurisdictions have analogous patent term extension provisions that allow for extension of the term of a patent that covers a device approved by the applicable foreign regulatory agency.

NKR-T Cell Platform Patents

As of February 28, 2019, our CAR T-cell portfolio includes four patent families exclusively licensed to us by Dartmouth. This portfolio includes eleven issued U.S. patents; eight pending U.S. patent applications; and 13 foreign patent applications pending in jurisdictions including Australia, Brazil, Canada, China, Europe, Hong Kong, India, Japan, Mexico and Russia. These patents and patent applications relate to specific chimeric antigen receptors and to T-cell receptor deficient T-cells, and are further detailed below.

A first patent family relates to chimeric NK receptors and methods for treating cancer. There are two granted U.S. patents in this family (US 7,994,298 and US 8,252,914) and a further pending US application. The scope of this patent family includes chimeric natural killer cell receptors (NKR CARs), T-cells with such receptors (NKR CAR-T cells) and methods of treating cancer with these NKR CAR-T cells.

A second patent family is entitled “NKp30 receptor targeted therapeutics” and describes a specific NKR CAR based on the NKp30 receptor. One U.S. patent is granted (US 9,833,476) and there is a further U.S. application pending.

A third family relates to an anti-B7H6 antibody, CARs and BiTE molecules containing the antibody; to CAR-T cells; and methods of treating cancer with the CAR-T cells. One U.S. patent is granted (US9,790,278), and applications are pending in China, Europe, Japan and the United States.

A fourth patent family relates to T-cell receptor-deficient compositions. T-cell receptor, or TCR, deficient human T-cells could be particularly useful to generate allogeneic CAR-T cells. The family includes members that relate to the concept (irrespective of the way the T-cell is made TCR deficient), as well as members describing specific ways of making the cells TCR deficient. There are seven granted U.S. patents in this family (US 9,181,527;US 9,273,283; US9,663,763; US9,822,340; US9,821,011; US 9,938,497; and US 9,957,480), as well as five further pending US applications and ten applications in other jurisdictions.

Trade Secrets

In addition to our patents and patent applications, we keep certain of our proprietary information as trade secrets, which we seek to protect by confidentiality agreements with our employees and third parties, and by fragmenting know-how between different individuals, in accordance with standard industry practices.

Competition

The industry in which we operate is subject to rapid technological change. We face competition from pharmaceutical, biopharmaceutical and medical devices companies, as well as from academic and research institutions. Some of these competitors are pursuing the development of medicinal products and other therapies that target the same diseases and conditions that we are targeting.

Some of our current or potential competitors, either alone or with their collaboration partners, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials and marketing approved products than we do. Mergers and acquisitions in the pharmaceutical, biotechnology and gene therapy industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. The key competitive factors affecting the success of all of our programs are likely to be their efficacy, safety and convenience.

Many of our competitors have substantially greater financial, technical and other resources.

For a breakdown of our total revenues by activity and geographic market, please see “Note 6—Operating segment information” in our consolidated financial statements appended to this Annual Report.

CAR T-Cell Therapy

Early results from clinical trials have fueled continued interest in CAR T-cell therapies and our competitors as of the date of this Annual Report include Adaptimmune Therapeutics plc, Allogene Therapeutics Inc., Atara Biotherapeutics, Inc., Autolus Therapeutics plc, Bellicum Pharmaceuticals, Inc., bluebird bio, Inc., Celgene Corporation, Cellectis S.A., Cellular Biomedicine Group, Fate Therapeutics, Inc., CRISPR Therapeutics, Inc.,

Gilead Sciences Inc, Legend Biotech USA, Inc., Mustang Bio, Inc., NantKwest, Inc., Nkarta Therapeutics, Inc., Novartis AG, Poseida Therapeutics, Inc., Precigen, Inc. Precision Biosciences, Inc., Servier Laboratories Limited, TCR 2 Therapeutics, Inc., Unum Therapeutics, Inc., and Ziopharm Oncology, Inc.

Government Regulation

U.S. Regulation

Government authorities in the United States at the federal, state and local level and in other countries extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of drug and biological products, or biologics, such as our drug product candidates. Generally, before a new drug or biologic can be marketed, considerable data demonstrating its quality, safety and efficacy must be obtained, organized into a format specific for each regulatory authority, submitted for review and an application for marketing authorization must be approved by the regulatory authority.

Certain products may be comprised of components that are regulated under separate regulatory authorities and by different centers at the FDA. These products are known as combination products. A combination product is comprised of a combination of a drug and a device; a biological product and a device; a drug and a biological product; or a drug, a device, and a biological product. Under regulations issued by the FDA, a combination product includes:

- a product comprised of two or more regulated components that are physically, chemically, or otherwise combined or mixed and produced as a single entity;
- two or more separate products packaged together in a single package or as a unit and comprised of drug and device products, device and biological products, or biological and drug products;
- a drug, device, or biological product packaged separately that according to its investigational plan or proposed labeling is intended for use only with an approved individually specified drug, device or biological where both are required to achieve the intended use, indication, or effect and where upon approval of the proposed product the labeling of the approved product would need to be changed, e.g., to reflect a change in intended use, dosage form, strength, route of administration, or significant change in dose; or
- any investigational drug, device, or biological packaged separately that according to its proposed labeling is for use only with another individually specified investigational drug, device, or biological product where both are required to achieve the intended use, indication, or effect.

Under the FDCA, the FDA is charged with assigning a center with primary jurisdiction, or a lead center, for review of a combination product. That determination is based on the "primary mode of action" of the combination product, which means the single mode of action that provides the most important therapeutic action of the combination product, i.e., the mode of action expected to make the greatest contribution to the overall intended therapeutic effects of the combination product. Thus, if the primary mode of action of a device-biologic combination product is attributable to the biologic product, that is, if it acts by means of a virus, therapeutic serum, toxin, antitoxin, vaccine, blood, blood component or derivative, allergenic product, or analogous product, the FDA center responsible for premarket review of the biologic product (the Center for Biologics Evaluation and Research, or CBER) would have primary jurisdiction for the combination product.

U.S. Biological Product Development

In the United States, the FDA regulates biologics under the Federal Food, Drug, and Cosmetic Act, or FDCA, and the Public Health Service Act, or PHSA, and their implementing regulations. Biologics are also subject to

other federal, state and local statutes and regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or after approval, may subject an applicant to administrative or judicial sanctions. These sanctions could include, among other actions, the FDA's refusal to approve pending applications, withdrawal of an approval or license revocation, a clinical hold, untitled or warning letters, product recalls or withdrawals from the market, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement, or civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

Our drug product candidates must be approved by the FDA through the Biologics License Application, or BLA, process before they may be legally marketed in the United States. The process required by the FDA before a biologic may be marketed in the United States generally involves the following:

- completion of extensive nonclinical, sometimes referred to as preclinical, laboratory tests, animal studies and formulation studies in accordance with applicable regulations, including the FDA's Good Laboratory Practice, or GLP, regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials in accordance with applicable IND regulations, good clinical practices, or GCPs, and other clinical trial-related regulations to establish the safety and efficacy of the proposed drug product candidate for its proposed indication;
- submission to the FDA of a BLA;
- satisfactory completion of an FDA pre-approval inspection of the manufacturing facility or facilities where the product is produced to assess compliance with the FDA's current good manufacturing practice, or cGMP, requirements to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality, purity and potency;
- potential FDA audit of the preclinical study sites and/or clinical trial sites that generated the data in support of the BLA; and
- FDA review and approval of the BLA prior to any commercial marketing or sale of the product in the United States.

The data required to support a BLA is generated in two distinct development stages: preclinical and clinical. The preclinical development stage generally involves laboratory evaluations of drug chemistry, formulation and stability, as well as studies to evaluate toxicity in animals, which support subsequent clinical testing. The conduct of the preclinical studies must comply with federal regulations, including GLPs. The sponsor must submit the results of the preclinical studies, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, as well as other information, to the FDA as part of the IND. An IND is a request for authorization from the FDA to administer an investigational drug product to humans. The central focus of an IND submission is on the general investigational plan and the protocol(s) for human trials. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA raises concerns or questions regarding the proposed clinical trials and places the IND on clinical hold within that 30-day time period. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. The FDA may also impose clinical holds on a drug product candidate at any time before or during clinical trials due to safety concerns, non-compliance, or other issues affecting the integrity of the trial. Accordingly, we cannot be sure that submission of an IND will result in the FDA allowing clinical trials to begin, or that, once begun, issues will not arise that could cause the trial to be suspended or terminated. Where a trial is conducted at, or sponsored by, institutions receiving NIH funding for recombinant DNA research, prior to the submission of an IND to the FDA, a protocol and related documentation is submitted to and the trial is registered

with the NIH Office of Biotechnology Activities, or OBA, pursuant to the NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules, or NIH Guidelines. Compliance with the NIH Guidelines is mandatory for investigators at institutions receiving NIH funds for research involving recombinant DNA, however many companies and other institutions not otherwise subject to the NIH Guidelines voluntarily follow them. The NIH is responsible for convening the Recombinant NDA Advisory Committee, or RAC, a federal advisory committee, which discusses protocols that raise novel or particularly important scientific, safety or ethical considerations at one of its quarterly public meetings. The OBA will notify the FDA of the RAC's decision regarding the necessity for full public review of a gene therapy protocol. RAC proceedings and reports are posted to the OBA web site and may be accessed by the public.

The clinical stage of development involves the administration of the drug product candidate to healthy volunteers and patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control, in accordance with GCPs, which include the requirement that all research subjects provide their informed consent for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety and assess efficacy. Each protocol, and any subsequent amendments to the protocol, must be submitted to the FDA as part of the IND. Further, each clinical trial must be reviewed and approved by an independent institutional review board, or IRB, at or servicing each institution at which the clinical trial will be conducted. An IRB is charged with protecting the welfare and rights of trial participants and considers such items as whether the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the informed consent form that must be provided to each clinical trial subject or his or her legal representative and must monitor the clinical trial until completed.

There are also requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries. Sponsors of certain clinical trials of FDA-regulated products, including biologics, are required to register and disclose certain clinical trial information, which is publicly available at www.clinicaltrials.gov. Information related to the product, patient population, phase of investigation, study sites and investigators, and other aspects of the clinical trial is then made public as part of the registration. Sponsors are also obligated to discuss the results of their clinical trials after completion. Disclosure of the results of these trials can be delayed until the new product or new indication being studied has been approved. However, there are evolving rules and increasing requirements for publication of trial-related information, and it is possible that data and other information from trials involving biologics that never garner approval could in the future require disclosure. In addition, publication policies of major medical journals mandate certain registration and disclosures as a pre-condition for potential publication, even if not currently mandated as a matter of law. Competitors may use this publicly available information to gain knowledge regarding the progress of development programs.

Clinical trials are generally conducted in three sequential phases, known as Phase 1, Phase 2 and Phase 3, and may overlap. Phase 1 clinical trials generally involve a small number of healthy volunteers who are initially exposed to a single dose and then multiple doses of the drug product candidate. The primary purpose of these clinical trials is to assess the metabolism, pharmacologic action, side effect tolerability and safety of the drug product candidate and, if possible, to gain early evidence on effectiveness. Phase 2 clinical trials typically involve studies in disease-affected patients to determine the dose required to produce the desired benefits. At the same time, safety and further pharmacokinetic and pharmacodynamic information is collected, as well as identification of possible adverse effects and safety risks and preliminary evaluation of efficacy. Phase 3 clinical trials generally involve large numbers of patients at multiple sites, in multiple countries, and are designed to provide the data necessary to demonstrate the efficacy of the product for its intended use, its safety in use, and to establish the overall benefit/risk relationship of the product and provide an adequate basis for product approval. Phase 3 clinical trials may include comparisons with placebo and/or other comparator treatments. The duration of treatment is often extended to mimic the actual use of a product during marketing. Generally, two adequate and well-controlled Phase 3 clinical trials are required by the FDA for approval of a BLA.

Post-approval trials, sometimes referred to as Phase IV clinical trials, may be conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, FDA may condition approval of a BLA on the sponsor's agreement to conduct additional clinical trials to further assess the biologic's safety and effectiveness after BLA approval.

Progress reports detailing the results of the clinical trials, among other information, must be submitted at least annually to the FDA, and written IND safety reports must be submitted to the FDA and the investigators for serious and unexpected suspected adverse events, findings from other studies suggesting a significant risk to humans exposed to the biologic, findings from animal or in vitro testing that suggest a significant risk for human subjects, and any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, if at all. The FDA, the IRB, or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether or not a trial may move forward at designated intervals based on access to certain data from the trial. We may also suspend or terminate a clinical trial based on evolving business objectives and/or competitive climate. Concurrent with clinical trials, companies usually complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug product candidate as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug product candidate and, among other things, must develop methods for testing the identity, strength, quality and purity of the final product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug product candidate does not undergo unacceptable deterioration over its shelf life.

BLA and FDA Review Process

Following trial completion, trial data are analyzed to assess safety and efficacy. The results of preclinical studies and clinical trials are then submitted to the FDA as part of a BLA, along with proposed labeling for the product and information about the manufacturing process and facilities that will be used to ensure product quality, results of analytical testing conducted on the chemistry of the drug product candidate, and other relevant information. The BLA is a request for approval to market the biologic for one or more specified indications and must contain proof of safety, purity, potency and efficacy, which is demonstrated by extensive preclinical and clinical testing. The application may include both negative or ambiguous results of preclinical and clinical trials as well as positive findings. Data may come from company-sponsored clinical trials intended to test the safety and efficacy of a use of a product, or from a number of alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and efficacy of the investigational product to the satisfaction of the FDA. FDA approval of a BLA must be obtained before a biologic may be marketed in the United States.

Under the Prescription Drug User Fee Act, or PDUFA, as amended, each BLA must be accompanied by a significant user fee, which is adjusted on an annual basis. PDUFA also imposes an annual prescription drug product program fee. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business.

Once a BLA has been accepted for filing, which occurs, if at all, sixty days after the BLA's submission, the FDA's goal is to review BLAs within 10 months of the filing date for standard review or six months of the filing date for priority review, if the application is for a product intended for a serious or life-threatening condition and the product, if approved, would provide a significant improvement in safety or effectiveness. The review process is often significantly extended by FDA requests for additional information or clarification.

After the BLA submission is accepted for filing, the FDA reviews the BLA to determine, among other things, whether the proposed drug product candidate is safe and effective for its intended use, and whether the drug product candidate is being manufactured in accordance with cGMP to assure and preserve the drug product candidate's identity, strength, quality, purity and potency. The FDA may refer applications for novel drug product candidates or drug product candidates which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions. The FDA will likely re-analyze the clinical trial data, which could result in extensive discussions between the FDA and us during the review process. The review and evaluation of a BLA by the FDA is extensive and time consuming and may take longer than originally planned to complete, and we may not receive a timely approval, if at all.

Before approving a BLA, the FDA will conduct a pre-approval inspection of the manufacturing facilities for the new product to determine whether they comply with cGMPs. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. In addition, before approving a BLA, the FDA may also audit data from clinical trials to ensure compliance with GCP requirements. After the FDA evaluates the application, manufacturing process and manufacturing facilities, it may issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A Complete Response Letter indicates that the review cycle of the application is complete and the application will not be approved in its present form. A Complete Response Letter usually describes all of the specific deficiencies in the BLA identified by the FDA. The Complete Response Letter may require additional clinical data and/or an additional pivotal Phase III clinical trial(s), and/or other significant and time-consuming requirements related to clinical trials, preclinical studies or manufacturing. If a Complete Response Letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, withdraw the application or request a hearing. Even if such data and information is submitted, the FDA may ultimately decide that the BLA does not satisfy the criteria for approval. Data obtained from clinical trials are not always conclusive, and the FDA may interpret data differently than we interpret the same data.

There is no assurance that the FDA will ultimately approve a product for marketing in the United States, and we may encounter significant difficulties or costs during the review process. If a product receives marketing approval, the approval may be significantly limited to specific populations, severities of allergies, and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling or may condition the approval of the BLA on other changes to the proposed labeling, development of adequate controls and specifications, or a commitment to conduct post-market testing or clinical trials and surveillance to monitor the effects of approved products. For example, the FDA may require Phase IV testing which involves clinical trials designed to further assess the product's safety and effectiveness and may require testing and surveillance programs to monitor the safety of approved products that have been commercialized. The FDA may also place other conditions on approvals including the requirement for a Risk Evaluation and Mitigation Strategy, or REMS, to assure the safe use of the product. If the FDA concludes a REMS is needed, the sponsor of the BLA must submit a proposed REMS. The FDA will not approve the NDA without an approved REMS, if required. A REMS could include medication guides, physician communication plans, or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. Any of these limitations on approval or marketing could restrict the commercial promotion, distribution, prescription or dispensing of products. Product approvals may be withdrawn for non-compliance with regulatory standards or if problems occur following initial marketing.

Expedited Development and Review Programs

The FDA has a Fast Track program that is intended to expedite or facilitate the process for reviewing new drugs and biological products that meet certain criteria. Specifically, new drugs and biological products are eligible for Fast Track designation if they are intended to treat a serious or life-threatening condition and nonclinical or clinical data demonstrate the potential to address unmet medical needs for the condition. Fast Track designation applies to the combination of the product and the specific indication for which it is being studied. The sponsor of a new drug or biologic may request the FDA to designate the drug or biologic as a Fast Track product concurrently with, or at any time after, submission of an IND, and the FDA must determine if the product qualifies for Fast Track designation within 60 days of receipt of the sponsor's request. Unique to a Fast Track product, the FDA may consider for review sections of the marketing application on a rolling basis before the complete application is submitted, if the sponsor provides a schedule for the submission of the sections of the application, the FDA agrees to accept sections of the application and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the application.

Any product submitted to the FDA for marketing, including under a Fast Track program, may be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. Any product is eligible for priority review, or review within a six-month timeframe from the date a complete BLA is accepted for filing, if it has the potential to provide a significant improvement in safety and effectiveness compared to available therapies. The FDA will attempt to direct additional resources to the evaluation of an application for a new drug or biological product designated for priority review in an effort to facilitate the review.

Additionally, a product may be eligible for accelerated approval. An investigational drug may obtain accelerated approval if it treats a serious or life-threatening condition and generally provides a meaningful advantage over available therapies and demonstrates an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, or IMM, that is reasonably likely to predict an effect on IMM or other clinical benefit. As a condition of approval, the FDA may require that a sponsor of a drug or biological product receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. If the FDA concludes that a drug shown to be effective can be safely used only if distribution or use is restricted, it will require such post-marketing restrictions as it deems necessary to assure safe use of the drug, such as:

- distribution restricted to certain facilities or physicians with special training or experience; or
- distribution conditioned on the performance of specified medical procedures.

The limitations imposed would be commensurate with the specific safety concerns presented by the product. In addition, the FDA currently requires as a condition for accelerated approval pre-approval of promotional materials, which could adversely impact the timing of the commercial launch of the product. Fast Track designation, priority review and accelerated approval do not change the standards for approval but may expedite the development or approval process.

Breakthrough Designation

A product can be designated as a breakthrough therapy if it is intended to treat a serious or life-threatening condition and preliminary clinical evidence indicates that it may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints. A sponsor may request that a drug product candidate be designated as a breakthrough therapy concurrently with, or at any time after, the submission of an IND, and the FDA must determine if the drug product candidate qualifies for breakthrough therapy designation within 60 days of receipt of the sponsor's request. If so designated, the FDA shall act to expedite the development and review of the product's marketing application, including by meeting with the sponsor throughout the product's development, providing timely advice to the sponsor to ensure that the development

program to gather preclinical and clinical data is as efficient as practicable, involving senior managers and experienced review staff in a cross-disciplinary review, assigning a cross-disciplinary project lead for the FDA review team to facilitate an efficient review of the development program and to serve as a scientific liaison between the review team and the sponsor, and taking steps to ensure that the design of the clinical trials is as efficient as practicable.

Accelerated Approval for Regenerative Advanced Therapies

As part of the 21st Century Cures Act, Congress amended the FD&C Act to create an accelerated approval program for regenerative advanced therapies, which include cell therapies, therapeutic tissue engineering products, human cell and tissue products, and combination products using any such therapies or products. Regenerative advanced therapies do not include those human cells, tissues, and cellular and tissue based products regulated solely under section 361 of the Public Health Service Act and 21 CFR Part 1271. The new program is intended to facilitate efficient development and expedite review of regenerative advanced therapies, which are intended to treat, modify, reverse, or cure a serious or life-threatening disease or condition. A drug sponsor may request that FDA designate a drug as a regenerative advanced therapy concurrently with or at any time after submission of an IND. FDA has 60 calendar days to determine whether the drug meets the criteria, including whether there is preliminary clinical evidence indicating that the drug has the potential to address unmet medical needs for a serious or life-threatening disease or condition. A new drug application or BLA for a regenerative advanced therapy may be eligible for priority review or accelerated approval through (1) surrogate or intermediate endpoints reasonably likely to predict long-term clinical benefit or (2) reliance upon data obtained from a meaningful number of sites. Benefits of such designation also include early interactions with FDA to discuss any potential surrogate or intermediate endpoint to be used to support accelerated approval. A regenerative advanced therapy that is granted accelerated approval and is subject to postapproval requirements may fulfill such requirements through the submission of clinical evidence, clinical studies, patient registries, or other sources of real world evidence, such as electronic health records; the collection of larger confirmatory data sets; or postapproval monitoring of all patients treated with such therapy prior to its approval.

Pediatric Trials

Under the Pediatric Research Equity Act, or PREA, a BLA or supplement to a BLA must contain data to assess the safety and efficacy of the product for the claimed indications in all relevant pediatric subpopulations and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDCA requires that a sponsor who is planning to submit a marketing application for a drug or biological product that includes a new active ingredient, new indication, new dosage form, new dosing regimen or new route of administration submit an initial Pediatric Study Plan, or PSP, within sixty days of an end-of-Phase II meeting or as may be agreed between the sponsor and FDA. The initial PSP must include an outline of the pediatric study or studies that the sponsor plans to conduct, including study objectives and design, age groups, relevant endpoints and statistical approach, or a justification for not including such detailed information, and any request for a deferral of pediatric assessments or a full or partial waiver of the requirement to provide data from pediatric studies along with supporting information. FDA and the sponsor must reach agreement on the PSP. A sponsor can submit amendments to an agreed-upon initial PSP at any time if changes to the pediatric plan need to be considered based on data collected from nonclinical studies, early phase clinical trials, and/or other clinical development programs. The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of data or full or partial waivers.

Post-Marketing Requirements

Following approval of a new product, a manufacturer and the approved product are subject to continuing regulation by the FDA, including, among other things, monitoring and recordkeeping activities, reporting to the applicable regulatory authorities of adverse experiences with the product, providing the regulatory authorities with updated safety and efficacy information, product sampling and distribution requirements, and complying

with promotion and advertising requirements, which include, among others, standards for direct-to-consumer advertising, restrictions on promoting products for uses or in patient populations that are not described in the product's approved labeling (known as "off-label use"), limitations on industry-sponsored scientific and educational activities, and requirements for promotional activities involving the internet. Although physicians may prescribe legally available drugs and biologics for off-label uses, manufacturers may not market or promote such off-label uses.

Modifications or enhancements to the product or its labeling or changes of the site of manufacture are often subject to the approval of the FDA and other regulators, which may or may not be received or may result in a lengthy review process. Prescription drug promotional materials must be submitted to the FDA in conjunction with their first use. Any distribution of prescription drug products and pharmaceutical samples must comply with the U.S. Prescription Drug Marketing Act, or the PDMA, a part of the FDCA.

In the United States, once a product is approved, its manufacture is subject to comprehensive and continuing regulation by the FDA. The FDA regulations require that products be manufactured in specific approved facilities and in accordance with cGMPs. The cGMP requirements for constituent parts of cross-labeled combination products that are manufactured separately and not co-packaged are the same as those that would apply if these constituent parts were not part of a combination product. For single-entity and co-packaged combination products, there are two ways to demonstrate compliance with cGMP requirements, either compliance with all cGMP regulations applicable to each of the constituent parts included in the combination product, or a streamlined approach demonstrating compliance with either the drug/biologic cGMPs or the medical device quality system regulation rather than demonstrating full compliance with both, under certain conditions. These conditions include demonstrating compliance with specified provisions from the other of these two sets of cGMP requirements. We rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our products in accordance with cGMP regulations. cGMP regulations require, among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation and the obligation to investigate and correct any deviations from cGMP. Manufacturers and other entities involved in the manufacture and distribution of approved products are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP and other laws. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance. These regulations also impose certain organizational, procedural and documentation requirements with respect to manufacturing and quality assurance activities. BLA holders using contract manufacturers, laboratories or packagers are responsible for the selection and monitoring of qualified firms, and, in certain circumstances, qualified suppliers to these firms. These firms and, where applicable, their suppliers are subject to inspections by the FDA at any time, and the discovery of violative conditions, including failure to conform to cGMP, could result in enforcement actions that interrupt the operation of any such facilities or the ability to distribute products manufactured, processed or tested by them. Discovery of problems with a product after approval may result in restrictions on a product, manufacturer, or holder of an approved BLA, including, among other things, recall or withdrawal of the product from the market.

The FDA also may require post-approval testing, sometimes referred to as Phase IV testing, risk minimization action plans and post-marketing surveillance to monitor the effects of an approved product or place conditions on an approval that could restrict the distribution or use of the product. Discovery of previously unknown problems with a product or the failure to comply with applicable FDA requirements can have negative consequences, including adverse publicity, judicial or administrative enforcement, untitled or warning letters from the FDA, mandated corrective advertising or communications with doctors, and civil or criminal penalties, among others. Newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications, and also may require the implementation of other risk management measures. Also, new government requirements, including those resulting from new legislation, may be established, or the FDA's policies may change, which could delay or prevent regulatory approval of our products under development.

Other Regulatory Matters

Manufacturing, sales, promotion and other activities following product approval are also subject to regulation by numerous regulatory authorities in addition to the FDA, including, in the United States, the Centers for Medicare & Medicaid Services, or CMS, other divisions of the Department of Health and Human Services, the Drug Enforcement Administration, the Consumer Product Safety Commission, the Federal Trade Commission, the Occupational Safety & Health Administration, the Environmental Protection Agency and state and local governments. In the United States, sales, marketing and scientific/educational programs must also comply with federal and state fraud and abuse laws, data privacy and security laws, transparency laws, and pricing and reimbursement requirements in connection with governmental payor programs, among others. The handling of any controlled substances must comply with the U.S. Controlled Substances Act and Controlled Substances Import and Export Act. Products must meet applicable child-resistant packaging requirements under the U.S. Poison Prevention Packaging Act. Manufacturing, sales, promotion and other activities are also potentially subject to federal and state consumer protection and unfair competition laws.

The distribution of pharmaceutical products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of pharmaceutical products.

The failure to comply with regulatory requirements subjects firms to possible legal or regulatory action. Depending on the circumstances, failure to meet applicable regulatory requirements can result in criminal prosecution, fines or other penalties, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of product approvals, or refusal to allow a firm to enter into supply contracts, including government contracts. In addition, even if a firm complies with FDA and other requirements, new information regarding the safety or efficacy of a product could lead the FDA to modify or withdraw product approval. Prohibitions or restrictions on sales or withdrawal of future products marketed by us could materially affect our business in an adverse way.

Changes in regulations, statutes or the interpretation of existing regulations could impact our business in the future by requiring, for example: (i) changes to our manufacturing arrangements; (ii) additions or modifications to product labeling; (iii) the recall or discontinuation of our products; or (iv) additional record-keeping requirements. If any such changes were to be imposed, they could adversely affect the operation of our business.

U.S. Patent Term Restoration and Marketing Exclusivity

Depending upon the timing, duration and specifics of the FDA approval of our drug product candidates, some of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, commonly referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent restoration term of up to five years as compensation for patent term lost during product development and the FDA regulatory review process. However, patent term restoration cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent term restoration period is generally one-half the time between the effective date of an IND and the submission date of a BLA plus the time between the submission date of a BLA and the approval of that application, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved drug is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The U.S. PTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we may apply for restoration of patent term for our currently owned or licensed patents to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant BLA.

An abbreviated approval pathway for biological products shown to be biosimilar to, or interchangeable with, an FDA-licensed reference biological product was created by the Biologics Price Competition and Innovation Act of

2009, or BPCI Act, which was part of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA. This amendment to the PHSA attempts to minimize duplicative testing. Biosimilarity, which requires that the biological product be highly similar to the reference product notwithstanding minor differences in clinically inactive components and that there be no clinically meaningful differences between the product and the reference product in terms of safety, purity, and potency, can be shown through analytical studies, animal studies, and a clinical trial or trials. Interchangeability requires that a biological product be biosimilar to the reference product and that the product can be expected to produce the same clinical results as the reference product in any given patient and, for products administered multiple times, that the product and the reference product may be switched after one has been previously administered without increasing safety risks or risks of diminished efficacy relative to exclusive use of the reference biological product. However, complexities associated with the larger, and often more complex, structure of biological products as compared to small molecule drugs, as well as the processes by which such products are manufactured, pose significant hurdles to implementation that are still being worked out by the FDA.

A reference biological product is granted twelve years of exclusivity from the time of first licensure of the product, and the FDA will not accept an application for a biosimilar or interchangeable product based on the reference biological product until four years after first licensure. “First licensure” typically means the initial date the particular product at issue was licensed in the United States. This does not include a supplement for the biological product or a subsequent application by the same sponsor or manufacturer of the biological product (or licensor, predecessor in interest, or other related entity) for a change that results in a new indication, route of administration, dosing schedule, dosage form, delivery system, delivery device, or strength, unless that change is a modification to the structure of the biological product and such modification changes its safety, purity, or potency. Whether a subsequent application, if approved, warrants exclusivity as the “first licensure” of a biological product is determined on a case-by-case basis with data submitted by the sponsor.

Pediatric exclusivity is another type of regulatory market exclusivity in the United States. Pediatric exclusivity, if granted, adds six months to existing exclusivity periods and patent terms. This six-month exclusivity, which attaches to the twelve-year exclusivity period for reference biologics, may be granted based on the voluntary completion of a pediatric trial in accordance with an FDA-issued “Written Request” for such a trial.

European Union Drug Development

In the European Union, our future drug product candidates will also be subject to extensive regulatory requirements. As in the United States, medicinal products can only be marketed if a marketing authorization, or MA, from the competent regulatory agencies has been obtained.

Clinical Trials

Similar to the United States, the various phases of preclinical and clinical research in the European Union are subject to significant regulatory controls. Although the EU Clinical Trials Directive 2001/20/EC has sought to harmonize the European Union clinical trials regulatory framework, setting out common rules for the control and authorization of clinical trials in the European Union, the European Union Member States have transposed and applied the provisions of the Directive differently. This has led to significant variations in the Member State regimes. To improve the current system, a new Regulation No. 536/2014, or the Regulation, on clinical trials on medicinal drug product candidates for human use, which repealed Directive 2001/20/EC, was adopted on April 16, 2014, and published in the European Official Journal on May 27, 2014. The new Regulation aims at harmonizing and streamlining the clinical trials authorization process, simplifying adverse event reporting procedures, improving the supervision of clinical trials, and increasing their transparency. The new Regulation entered into force on June 16, 2014, but the timing of its application depends on the development of a fully functional EU clinical trials portal and database. The Regulation becomes applicable six months after the European Commission publishes a notice of this confirmation. According to the latest information publicly

available, the entry into application of the Regulation is currently estimated to occur in 2019. So far, however, such confirmation has not been published. Until then the Clinical Trials Directive 2001/20/EC will still apply. In addition, the transitory provisions of the new Regulation offer the sponsors the possibility to choose between the requirements of the Directive and the Regulation if the request for authorization of a clinical trial is submitted between 6 and 18 months after publication of the confirmation by the Commission that the clinical trials portal and database is functional. In that case, the clinical continues to be governed by the Directive until 42 months after the date of the publication.

Under the current regime, before a clinical trial can be initiated it must be approved in each of the European Union countries where the trial is to be conducted by two distinct bodies: the National Competent Authority, or NCA, and one or more Ethics Committees, or ECs. More specifically, a clinical trial may not be started until the relevant EC has issued a favorable opinion, and the NCA has not informed the Sponsor of the trial of any grounds for non-acceptance or confirmed that no such grounds exist. Approval will only be granted if satisfactory information demonstrating the quality of the investigational agent and its non-clinical safety has been provided, together with a study plan that details the manner in which the trial will be carried out.

ECs determine whether the proposed clinical trial will expose participants to unacceptable conditions of hazards, while considering, among other things, the trial design, protocol, facilities, investigator and supporting staff, recruitment of clinical trial subjects, the Investigator's Brochure, or IB, indemnity and insurance, etc. The EC also determines whether clinical trial participants have given informed consent to participate in the trial. Following receipt of an application (which must be submitted in the national language), ECs must deliver their opinion within 60 days (or sooner if the Member State has implemented a shorter time period). For clinical trials of gene therapy, somatic cell therapy, and all medicinal products containing genetically modified organisms, this timeline may be extended (with an additional 120 days).

Similarly, a valid request for authorization (in the national language) must be submitted to the NCA of each Member State where the trial will be conducted. Sponsors must be notified of the decision within 60 days of receipt of the application (unless shorter time periods have been fixed), in the absence of which, the trial is considered approved. However, for clinical trials of gene therapy, somatic cell therapy, and all medicinal products containing genetically modified organisms, a written authorization by the competent NCA is required. Similar timeline extensions as for ECs exist.

Studies must comply with ethical guidelines and Good Clinical Practice (GCP) guidelines. Monitoring of adverse reactions that occur during clinical trials, including, where applicable, notification of the same to the competent NCA and ECs, is also required. Trials can be terminated early if a danger to human health is established or continuing the trial would be considered unethical. Consequently, the rate of completion of clinical trials may be delayed by many factors, including slower than anticipated patient enrollment or adverse events occurring during clinical trials.

Drug Review and Approval

In the European Economic Area, or EEA (which is comprised of the 28 Member States of the European Union plus Norway, Iceland and Liechtenstein), medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA.

There are two types of marketing authorizations:

The Centralized MA, which is issued by the European Commission through the Centralized Procedure, based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the European Medicines Agency, or EMA, and which is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, advanced-therapy medicines such as gene-therapy, somatic cell-therapy or tissue-engineered medicines, and

medicinal products containing a new active substance indicated for the treatment of HIV, AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and other immune dysfunctions, and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which is in the interest of public health in the European Union.

National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in other Member State(s) through the Mutual Recognition Procedure, or MRP. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure, or DCP. Under the DCP an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member State, or RMS. The competent authority of the RMS prepares a draft assessment report, a draft summary of product characteristics, or SmPC, and a draft of the labeling and package leaflet, which are sent to the other Member States (referred to as the Concerned Member States, or CMSs) for their approval. If the CMSs raise no objections, based on a potential serious risk to public health, to the assessment, SmPC, labeling, or packaging proposed by the RMS, the product is subsequently granted a national MA in all the relevant Member States (i.e. in the RMS and the CMSs).

Under the above described procedures, before granting the MA, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

Marketing Authorization Application

Following positive completion of clinical trials, pharmaceutical companies can submit a MA application. The MA application shall include all information that is relevant to the evaluation of the medicinal products, whether favorable or unfavorable. The application dossier must include, among other things, the results of pharmaceutical (physicochemical, biological, or microbiological) tests, preclinical (toxicological and pharmacological) tests, and clinical trials, including the therapeutic indications, contra-indications, and adverse reactions, and the recommended dosing regimen or posology.

In addition to demonstrating the safety and efficacy of the medicinal product, pharmaceutical companies are required to guarantee the consistent quality of the product. Therefore, the conditions for obtaining a MA include requirements that the manufacturer of the product complies with applicable legislation including Good Manufacturing Practice, or GMP, related implementing measures and applicable guidelines that involve, amongst others, ongoing inspections of manufacturing and storage facilities.

Early Access Mechanisms

Several schemes exist in the EU to support earlier access to new medicines falling within the scope of the Centralized Procedure, in particular (i) accelerated assessment; (ii) conditional MAs; and (iii) MAs granted under exceptional circumstances.

For a medicine, which is of "major public health interest" (in particular, in terms of therapeutic innovation), accelerated assessment can be requested, taking up to 150 days instead of the usual period of up to 210 days. There is no single definition of what constitutes major public health interest. This should be justified by the applicant on a case-by-case basis. The justification should present the arguments to support the claim that the medicinal product introduces new methods of therapy or improves on existing methods, thereby addressing to a significant extent the greater unmet needs for maintaining and improving public health.

Conditional MAs may be granted on the basis of less complete data than usual in order to meet unmet medical needs of patients and in the interest of public health, subject to specific obligations with regard to further studies and intended to be replaced by a full unconditional MA once the missing data is provided. A conditional MA is valid for one year on a renewable basis.

Medicines for which the MA applicant can demonstrate that the normally required comprehensive efficacy and safety data cannot be provided (for example because the disease which the medicine treats is extremely rare) may be eligible for a MA under exceptional circumstances. These are medicines for which it is never intended that a full MA will be obtained. MAs under exceptional circumstances are reviewed annually to reassess the risk-benefit balance.

Supplementary Protection Certificates and Data/market Exclusivity

In Europe, the extension of effective patent term to compensate originator pharmaceutical companies for the period between the filing of an application for a patent for a new medicinal product and the first MA for such product, has been achieved by means of a Supplementary Protection Certificate (SPC) which can be applied for by the originator pharmaceutical company within six months from the granting of the first MA and comes into effect on expiry of the basic patent. Such SPC attaches only to the active ingredient of the medicinal product for which the MA has been granted. The SPC for an active ingredient has a single last potential expiry date throughout the EEA, and cannot last for more than five years from the date on which it takes effect (*i.e.* , patent expiry). Furthermore, the overall duration of protection afforded by a patent and a SPC cannot exceed 15 years from the first MA. The duration of a medicinal product SPC can be extended by a single six-month period, or pediatric extension, when all studies in accordance with a pediatric investigation plan, or PIP, have been carried out.

Innovative medicines benefit from specific data and marketing exclusivity regimes. These regimes are intended to provide general regulatory protection to further stimulate innovation. The current rules provide for (i) an 8-year data protection (from the MA of an innovative medicine) against the filing of an abridged application for a follow-on product, referring to the data supporting the MA of the innovative medicine (data exclusivity); and (ii) a 10-year protection against the marketing of a follow-on product (marketing exclusivity), with a possible extension by 1 year if, during the first 8 years, a new therapeutic indication (which is considered to bring a significant clinical benefit in comparison with existing therapies) is approved. This protection is often referred to as the “eight, plus two, plus one” rule. Additional reward mechanisms exist, most notably a 10-year orphan medicines’ marketing exclusivity, and a 1-year data exclusivity for developing a new indication for an old substance and for switch data supporting a change in prescription status.

The current rules also provide for a system of obligations and rewards and incentives intended to facilitate the development and accessibility of pediatric medicinal products, and to ensure that such products are subject to high quality ethical research. Pursuant to such rules, pharmaceutical companies are often required to submit a Pediatric Investigation Plan, or PIP, at a relatively early stage of product development, which defines the pediatric studies to be completed before a MA application can be submitted. Upon completion of the studies in the agreed PIP, we may be entitled to a “reward”, *i.e.* , the afore-mentioned 6-month pediatric extension of the SPC for non-orphan medicinal products; or a two-year extension of the 10-year marketing exclusivity period for orphan medicines.

Post-marketing and Pharmacovigilance Requirements

When granting a MA, competent authorities (*i.e.* , the EMA or the relevant NCAs) may impose an obligation to conduct additional clinical testing, sometimes referred to as Phase IV clinical trials, or other post-approval commitments, to monitor the product after commercialization. Additionally, the MA may be subjected to limitations on the indicated uses for the product.

Also, after a MA has been obtained, the marketed product and its manufacturer and MA holder will continue to be subject to a number of regulatory obligations, as well as to monitoring/inspections by the competent authorities.

Under applicable pharmacovigilance rules, pharmaceutical companies must, in relation to all their authorized products, irrespective of the regulatory route of approval, collect, evaluate and collate information concerning all suspected adverse reactions and, when relevant, report it to the competent authorities. This information includes both suspected adverse reactions signaled by healthcare professionals, either spontaneously or through post-authorization studies, regardless of whether or not the medicinal product was used in accordance with the authorized SmPC and/or any other marketing conditions, and suspected adverse reactions identified in worldwide-published scientific literature. To that end, a MA holder must have (permanently and continuously) at its disposal an appropriately qualified person responsible for pharmacovigilance and establish an adequate pharmacovigilance system. All relevant suspected adverse reactions, including suspected serious adverse reactions, which must also be reported on an expedited basis, should be submitted to the competent authorities in the form of Periodic Safety Update Reports, or PSURs. PSURs are intended to provide an update for the competent authorities on the worldwide safety experience of a medicinal product at defined time points after authorization. PSURs must therefore comprise a succinct summary of information together with a critical evaluation of the risk/benefit balance of the medicinal product, taking into account any new or changing information. The evaluation should ascertain whether any further investigations need to be carried out, and whether the SmPC or other product information needs to be modified.

To ensure that pharmaceutical companies comply with pharmacovigilance regulatory obligations, and to facilitate compliance, competent authorities will conduct pharmacovigilance inspections. These inspections are either routine (*i.e.* aimed at determining whether the appropriate personnel, systems, and resources are in place) or targeted to companies suspected of being non-compliant. Reports of the outcome of such inspections will be used to help improve compliance and may also be used as a basis for enforcement action.

Other Regulatory Matters

Advertising of medicines is subject to tighter controls than general consumer goods and specific requirements are set forth in Directive 2001/83/EC, which apply in addition to the general rules. In general, advertising of unapproved medicinal products or of unapproved uses of otherwise authorized medicinal products (*e.g.* , off-label uses) is prohibited, and advertising for prescription medicinal products must be directed only towards health care professionals (*i.e.* , advertising of these products to the general public is prohibited). Member States have implemented the advertising rules differently and the requirements vary significantly depending on the specific country. Advertising of medicinal products in an online setting, including social media, can be particularly challenging given the strict rules in place.

Pricing and Reimbursement

United States

Sales of our products will depend, in part, on the extent to which our products, once approved, will be covered and reimbursed by third-party payors, such as government health programs, commercial insurance and managed healthcare organizations. These third-party payors are increasingly reducing reimbursements for medical products and services. The process for determining whether a third-party payor will provide coverage for a drug product, including a biologic, typically is separate from the process for setting the price of a drug product or for establishing the reimbursement rate that a payor will pay for the drug product once coverage is approved. Third-party payors may limit coverage to specific drug products on an approved list, also known as a formulary, which might not include all of the approved drugs for a particular indication.

In order to secure coverage and reimbursement for any drug product candidate that might be approved for sale, we may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and

cost-effectiveness of the drug product candidate, in addition to the costs required to obtain FDA or other comparable regulatory approvals. Whether or not we conduct such studies, our drug product candidates may not be considered medically necessary or cost-effective. A third-party payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a product does not assure that other payors will also provide coverage, and adequate reimbursement, for the product. Third party reimbursement may not be sufficient to enable us to maintain price levels high enough to realize an appropriate return on our investment in product development.

The containment of healthcare costs has become a priority of federal and state governments, and the prices of drugs, including biologics, have been a focus in this effort. The U.S. government, state legislatures and foreign governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our net revenue and results. Decreases in third-party reimbursement for our drug product candidate or a decision by a third-party payor to not cover our drug product candidate could reduce physician usage of the drug product candidate and have a material adverse effect on our sales, results of operations and financial condition.

For example, the ACA, enacted in March 2010, has had a significant impact on the health care industry. The ACA has expanded coverage for the uninsured while at the same time containing overall healthcare costs. With regard to pharmaceutical products, among other things, the ACA expanded and increased industry rebates for drugs covered under Medicaid programs and made changes to the coverage requirements under the Medicare Part D program.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. On August 2, 2011, the Budget Control Act of 2011 among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, started in April 2013 and will stay in effect through 2027 unless additional Congressional action is taken. On January 2, 2013, then-President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Some of the provisions of ACA have yet to be fully implemented, while certain provisions have been subject to judicial and Congressional challenges. On January 20, 2017, President Trump signed an Executive Order directing federal agencies with authorities and responsibilities under ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of ACA that would impose a fiscal burden on states or a cost, fee, tax, penalty or regulatory burden on individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. On October 13, 2017, President Trump signed an Executive Order terminating the cost-sharing subsidies that reimburse insurers under the ACA. Several state Attorneys General filed suit to stop the administration from terminating the subsidies, but their request for a restraining order was denied by a federal judge in California on October 25, 2017. In addition, CMS has recently proposed regulations that would give states greater flexibility in setting benchmarks for insurers in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the ACA for plans sold through such marketplaces. Congress may consider other legislation to replace elements of the ACA.

The Tax Cuts and Jobs Act of 2017, or TCJA, includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal

year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plan, the annual fee imposed on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device exercise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the ACA, effective January 1, 2019, to reduce the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." Congress also could consider subsequent legislation to replace elements of ACA that are repealed. Thus, the full impact of ACA, any law replacing elements of it, or the political uncertainty related to any repeal or replacement legislation on our business remains unclear.

In addition, in some foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing vary widely from country to country.

European Union

In Europe, pricing and reimbursement for pharmaceutical products are not harmonized and fall within the exclusive competence of the national authorities, provided that basic transparency requirements (such as maximum timelines) defined at the European level are met as set forth in the EU Transparency Directive 89/105/EEC. A Member State may approve a specific price for a medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. For example, in France, effective access to the market assumes that our future products will be reimbursed by social security. The price of medications is negotiated with the Economic Committee for Health Products, or CEPS.

As a consequence, reimbursement mechanisms by public national healthcare systems, or private health insurers also vary from country to country. In public healthcare systems, reimbursement is determined by guidelines established by the legislator or a competent national authority. In general, inclusion of a product in reimbursement schemes is dependent upon proof of the product efficacy, medical need, and economic benefits of the product to patients and the healthcare system in general. Acceptance for reimbursement comes with cost, use and often volume restrictions, which again vary from country to country.

The pricing and reimbursement level for medicinal products will depend on the strength of the clinical data set and, as for most novel therapies, restrictions may apply. In most countries, national competent authorities ensure that the prices of registered medicinal products sold in their territory are not excessive. In making this judgment, they usually compare the proposed national price either to prices of existing treatments and/or to prices of the product at issue in other countries—so-called "international reference pricing"—also taking into account the type of treatment (preventive, curative or symptomatic), the degree of innovation, the therapeutic breakthrough, volume of sales, sales forecast, size of the target population and/or the improvement (including cost savings) over comparable treatments. Given the growing burden of medical treatments on national healthcare budgets, reimbursement and insurance coverage is an important determinant of the accessibility of medicines.

The various public and private plans, formulary restrictions, reimbursement policies, patient advocacy groups, and cost-sharing requirements may play a role in determining effective access to the market of our product candidates. The national competent authorities may also use a range of policies and other initiatives intended to influence pharmaceutical consumption. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our drug product candidates. Historically, products launched in the European Union do not follow price structures of the United States and generally tend to be priced at a significantly lower level.

Other Healthcare Laws and Compliance Requirements

Our business operations in the United States and our arrangements with clinical investigators, healthcare providers, consultants, third-party payors and patients may expose us to broadly applicable federal and state

fraud and abuse and other healthcare laws. These laws may impact, among other things, our research, proposed sales, marketing and education programs of our drug product candidates that obtain marketing approval. The laws that may affect our ability to operate include, among others:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, receiving, offering or paying remuneration (including any kickback, bribe or rebate), directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, lease, order, or recommendation of, an item, good, facility or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs;
- federal civil and criminal false claims laws and civil monetary penalty laws, which impose penalties and provide for civil whistleblower or qui tam actions against individuals and entities for, among other things, knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payers that are false or fraudulent, or making a false statement or record material to payment of a false claim or avoiding, decreasing, or concealing an obligation to pay money to the federal government, including for example, providing inaccurate billing or coding information to customers or promoting a product off-label;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created federal criminal statutes that prohibit, among other things, executing a scheme to defraud any healthcare benefit program, obtaining money or property of the health care benefit program through false representations, or knowingly and willingly falsifying, concealing or covering up a material fact, making false statements or using or making any false or fraudulent document in connection with the delivery of or payment for healthcare benefits or services.
- the federal Physician Payments Sunshine Act, enacted as part of the ACA, which requires applicable manufacturers of covered drugs, devices, biologics and medical supplies to track and annually report to CMS payments and other transfers of value provided to physicians and teaching hospitals and certain ownership and investment interest held by physicians or their immediate family members in applicable manufacturers and group purchasing organizations;
- HIPAA, as amended by the Health Information Technology and Clinical Health Act, or HITECH, and its implementing regulations, which imposes certain requirements on covered entities and their business associates relating to the privacy, security and transmission of individually identifiable health information; and
- state law equivalents of each of the above federal laws, such as state anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers, state marketing and/or transparency laws applicable to manufacturers that may be broader in scope than the federal requirements, state laws that require biopharmaceutical companies to comply with the biopharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect as HIPAA, thus complicating compliance efforts.

The ACA broadened the reach of the federal fraud and abuse laws by, among other things, amending the intent requirement of the federal Anti-Kickback Statute and certain applicable federal criminal healthcare fraud statutes. Pursuant to the statutory amendment, a person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation. In addition, the ACA provides that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act or the civil monetary penalties statute.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws will involve substantial costs. It is possible that governmental authorities will conclude that our business

practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant administrative, civil, and/or criminal penalties, damages, fines, disgorgement, individual imprisonment, exclusion from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. If the physicians or other healthcare providers or entities with whom we expect to do business are found to be not in compliance with applicable laws, they also may be subject to administrative, civil, and/or criminal sanctions, including exclusions from government funded healthcare programs.

Legal Proceedings

From time to time we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

C. Organizational Structure.

We and our subsidiaries, or the Group, is made of the following entities as of December 31, 2018. The following diagram illustrates our corporate structure.

Name	Country of Incorporation and Place of Business	Nature of Business	Proportion of ordinary shares directly held by parent (%)	Proportion of ordinary shares held by the group (%)	Proportion of ordinary shares held by non-controlling interests (%)
Celyad SA	BE	Biopharma	Parent company		
Celyad Inc.	US	Biopharma	100%	100%	0%
Biological Manufacturing Services SA	BE	Manufacturing	100%	100%	0%
CorQuest Medical, Inc.	US	Medical Device	100%	100%	0%

See “Item 4.A.—History and Development of the Company.”

D. Property, Plants and Equipment.

We rent a 2,284 square meter office space from the Axis Parc developer located at the Axis Parc in Mont-Saint-Guibert pursuant to a lease agreement dated October 15, 2015 as amended from time to time, which expires on September 30, 2025. We also rent a 1,120 square meter office and laboratory space from the Axis Parc developer pursuant to a lease agreement dated November 11, 2017, as amended from time to time, which expires on September 30, 2020. In January 2016, we entered into a six-year lease agreement for our U.S. corporate offices located in Boston, Massachusetts.

We have committed to maintain our headquarters and registered office in the Walloon region of Belgium and all of our existing activities will continue to be performed in the Walloon region.

ITEM 4A. UNRESOLVED STAFF COMMENTS.

Not applicable.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

We are a clinical-stage biopharmaceutical company focused on the development of specialized cell-based therapies. We utilize our expertise in cell engineering to target cancer. Our lead drug product candidate,

CYAD-01 (CAR-T-NKG2D), is an autologous chimeric antigen receptor, or CAR, using NKG2D, an activating receptor of Natural Killer, or NK, cells transduced on T-lymphocytes, or T cells. NK cells are lymphocytes of the immune system that kill diseased cells. The receptors of the NK cells used in our therapies target the binding molecules, called ligands, that are expressed in cancer cells, but are absent or expressed at very low levels in normal cells. We believe our CAR-T-NKG2D approach has the potential to treat a broad range of both solid and hematologic tumors.

In December 2016, following the successful completion of a proof-of-concept clinical trial we conducted at the Dana-Farber Cancer Institute, in which we observed no treatment related safety concerns and we observed initial signs of clinical activity, we initiated a Phase 1 clinical trial, called THINK (TH erapeutic I mmunotherapy with NK R-2), to assess the safety and clinical activity of multiple administrations of CYAD-01 in seven refractory cancers, including both solid and hematologic cancers. As of December 31, 2017, we had treated 15 patients with CYAD-01 in the THINK trial, and we did not observe the same Grade 4 or above adverse event in two or more patients and no patient experienced a Grade 5 adverse event. No patient experienced an adjudicated Grade 4 or higher cytokine release syndrome, or CRS, adverse event or neurotoxic adverse event. In six of the 10 patients treated at the per-protocol intended dose we observed signs of clinical activity ranging from Stable Disease, or SD, to Complete Response, or CR. We plan to enroll up to 36 patients in the dose escalation part and up to 86 patients in the extension part of the THINK trial. Based on the promising interim results of the THINK trial, we plan to further evaluate CYAD-01 in a series of additional Phase 1 clinical trials in patients with acute myeloid leukemia, or AML, and colorectal cancer, or CRC.

In October 2017, we announced a world's first with the complete response in a patient with refractory and relapsed AML, obtained without preconditioning chemotherapy or other treatments combined with CYAD-01. Importantly, clinical activity has been observed in all AML patients dosed in 2017 at the intended dose, with all patients seeing a reduction in their blast counts in the bone marrow and improvements in their hematological parameters.

Data collected in 2017 in the THINK trial confirmed the safety profile of CYAD-01 and validated activity of the NKG2D. In addition to the results in the liquid arm, data also showed promising results for CYAD-01 in solid tumors: Stabilization of the disease was observed in an ovarian patient and in colorectal patients demonstrating first sign of clinical activity in solid tumors.

At the end of 2017, we initiated the SHRINK trial, an open-label Phase 1 study evaluating the safety and clinical activity of multiple doses of CYAD-01, administered concurrently with the neoadjuvant FOLFOX treatment in patients with potentially resectable liver metastases from colorectal cancer. The trial includes a dose escalation and an extension stage.

The dose escalation design of SHRINK will include three dose-levels of CYAD-01: $1x10^{8}$, $3x10^{8}$ and $1x10^{9}$ CYAD-01 per administration (adjusted only to body weight for patients below 65 kg). At each dose-level, patients will receive three successive administrations, two weeks apart, at the specified dose administered at a specific timing within the FOLFOX cycle. The dose escalation portion of the study will enroll 3 patients per dose level and the extension phase will enroll 21 additional patients. SHRINK is being conducted in oncology centers in Belgium.

Collaborations

On November 5, 2014, we acquired CorQuest Medical, Inc., a private U.S. company, or CorQuest, for a single cash payment of €1.5 million and a potential earn-out payment to the sellers if the intellectual property acquired from CorQuest is sold, in whole or in part, to a third party within ten years of November 5, 2014. The earn-out payment shall be 2.0% of the value of the cash and non-cash consideration from such sale, or Net Revenue, if the Net Revenue is €10.0 million or less, and 4.0% of the Net Revenue, if the Net Revenue is greater than €10.0 million.

On January 21, 2015, we purchased OnCyte, LLC, or OnCyte, a wholly-owned subsidiary of Celdara Medical, LLC, a privately-held U.S. biotechnology company for an upfront payment of $10.0 million, of which, $6.0 million was paid in cash and $4.0 million was paid in the form of 93,087 of our ordinary shares. A deferred payment of $5.0 million will be due upon the enrolment of the first patient of the second cohort of the NKR-T clinical trial. Additional contingent payments with an estimated fair value of $27.9 million are payable upon the attainment of various clinical and sales milestones. As a result of this transaction we acquired our NKR-T cell drug product candidates and related technology, including technology licensed from the Trustees of Dartmouth College.

In August 2017, we amended the agreements executed in January 2015 with Celdara Medical LLC and Dartmouth College following the acquisition of OnCyte, LLC and related to the CAR-T NK cell drug product candidates. Under the amended agreements Celyad is to receive an increased share of future revenues generated by these assets, including revenues from its sub-licensees. In return, Celyad paid Celdara Medical LLC and Dartmouth College an upfront payment of a total of $12.5 million (€10.6 million), respectively $10.5 million and $2.0 million, and issued to Celdara Medical LLC $12.5 million worth of Celyad's ordinary shares at a share price of €32.35.

On May 17, 2016, we acquired 100% of Biological Manufacturing Services SA, or BMS. BMS owns GMP laboratories and had rented its laboratories to us since 2009. Before this acquisition, BMS was considered as a related party to us.

In July 2016, we granted ONO Pharmaceutical Co. Ltd., or ONO, a leading Japanese immuno-oncology company, an exclusive license for the development and commercialization of our allogeneic CYAD-01 immunotherapy. On 27 November, 2018, ONO has notified us of its decision to terminate the exclusive license with immediate effect, in accordance with contract terms. .

In May 2017, we signed a non-exclusive license agreement with Novartis regarding U.S. patents related to allogeneic CAR-T cells. The agreement includes Celyad's intellectual property rights under U.S. Patent No. 9,181,527. This agreement is related to two undisclosed targets currently under development by Novartis. Under the terms of the agreement, Celyad received an upfront payment and is eligible to receive payments in aggregate amounts of up to $96 million. In addition, Celyad is eligible to receive royalties based on net sales of the licensed target associated products at percentages in the single digits. Celyad retains all rights to grant further licenses to third parties for the use of allogeneic CAR-T cells.

In 2018, we signed exclusive agreements with Horizon Discovery Group plc, for the use of its shRNA technology to generate our second non-gene-edited allogeneic platform. Data from preclinical studies have demonstrated the versatility of the shRNA platform in the allogeneic setting and may pave the way for the next steps in the development of our differentiated non-gene-edited allogeneic approach to CAR-T cell therapy.

As of December 31, 2018, we have been funded through the following transactions:

- proceeds of €42.0 million from private financing rounds;
- proceeds of €26.5 million from an initial public offering of our ordinary shares on Euronext Brussels and Euronext Paris in July 2013, or the Euronext IPO;
- proceeds of €25.0 million from a private financing by Medisun International Limited, or Medisun in June 2014;
- proceeds of €31.7 million from a private placement in March 2015;
- proceeds of €88.0 million from our global offering of 1,460,000 ordinary shares, consisting of an underwritten public offering of 1,168,000 ADSs and a concurrent European private placement of 292,000 ordinary shares, in June 2015.

- proceeds of €46.1 million from our global offering of 2,070,000 ordinary shares, consisting of an underwritten public offering of 568,500 ordinary shares in the form of ADSs and 1,501,500 ordinary shares, in May 2018.
- proceeds of €23.7 million from recoverable cash advances, or RCAs, granted by Walloon Region government, a non-dilutive financing source.

We have incurred net losses in each year since our inception. Substantially all of our net losses have resulted from costs incurred in connection with our research and development programs and from general and administration expenses associated with our operations. For the years ended December 31, 2018, 2017 and 2016, we incurred a loss for the year of €37.4 million, €56.4 million and, €23.6 million respectively. As of December 31, 2018, we had an accumulated deficit of €217.8 million. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. We anticipate that our expenses will increase substantially in connection with our ongoing activities, as we:

- continue the development of our drug product candidates, including planned and future clinical trials;
- conduct additional research and development for drug product candidate discovery and development;
- seek regulatory approvals for our drug product candidates;
- prepare for the potential launch and commercialization of our drug product candidates, if approved;
- establish a sales and marketing infrastructure for the commercialization of our drug product candidates, if approved;
- in-license or acquire additional drug product candidates or technologies;
- build-out additional manufacturing capabilities; and
- hire additional personnel, including personnel to support our drug product development and commercialization efforts and operations as a U.S. public company.

We generate limited revenue from sales of C-Cath $_{ez,}$ our proprietary catheter for injecting cells into the heart. We believe that C-Cath $_{ez}$ revenue will remain immaterial in the future as we intend to sell C-Cath $_{ez}$ to research laboratories and clinical-stage companies only.

We do not expect to generate material revenue from drug product sales unless and until we successfully complete development of, and obtain marketing approval for, one or more of our drug product candidates, which we expect will take a number of years and is subject to significant uncertainty. Accordingly, we anticipate that we will need to raise additional capital prior to commercialization of our lead product candidates. Until such time that we can generate substantial revenue from drug product sales, if ever, we expect to finance our operating activities through a combination of equity offerings, debt financings, government or other third-party funding, including government grants and RCAs, and collaborations and licensing arrangements. However, we may be unable to raise additional funds or enter into such arrangements when needed on favorable terms, or at all, which would have a negative impact on our financial condition and could force us to delay, limit, reduce or terminate our development programs or commercialization efforts or grant to others rights to develop or market drug product candidates that we would otherwise prefer to develop and market ourselves. Failure to receive additional funding could cause us to cease operations, in part or in full.

Our financial statements for 2016, 2017 and 2018 have been prepared in accordance with International Financial Reporting Standards, or IFRS, as issued by the International Accounting Standards Board, or IASB.

Financial Operations Overview

A. Operating Results

Our operating income consists of revenues and other income.

Revenues

For the periods presented in this Annual Report, the revenues we generated were composed of:

- Licensing agreements with external biopharmaceutical partners: Mesoblast (revenue 2018), Novartis (revenue 2017) and ONO (revenue 2016) ;
- A services agreement with ONO (revenue 2018); and
- Third-party sales of C-Cath $_{ez}$ medical devices (revenue 2017 and 2016). The development and commercialization of this device have been assigned to Mesoblast, through an exclusive license agreement signed in May 2018. Therefore, these medical devices sales did not repeat in 2018.

Licensing Revenues

In 2018, the Group has entered into an exclusive license agreement with Mesoblast Ltd., an Australian biotechnology company, to develop and commercialize Celyad's intellectual property rights relating to C-Cath $_{ez}$, an intra-myocardial injection catheter. The license agreement foresees a transaction price broken down between a non-refundable upfront payment (amounting to $1.0 million) and variable consideration (of up to $17.5 million) related to future regulatory- and commercial-based milestones. From the above, a total amount of €2.4 million was qualifying for revenue recognition at year-end 2018. The remaining contingent milestone payments will not be recognized until it becomes highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur.

For the year 2018, the Group posted additional revenue of €0.7 million, referring to a non-clinical supply agreement (time & material type of contract) with ONO Pharmaceutical Co., Ltd. The revenue reported reflects the services delivered for the year, consisting in performing cell production and animal experiments requested by Ono. This agreement has been completed at year-end, and no performance obligations remain outstanding.

In 2017, we received an upfront fee of $4.0 million associated to the license agreement signed with Novartis. The non-exclusive license agreement includes Celyad's intellectual property rights under U.S. patents related to allogeneic CAR-T cells. This agreement is related to two undisclosed targets currently under development by Novartis. Under its terms, Celyad received an upfront payment and is eligible to receive payments in aggregate amounts of up to $96 million. In addition, Celyad is eligible to receive royalties based on net sales of the licensed target associated products at percentages in the single digits. Celyad retains all rights to grant further licenses to third parties for the use of allogeneic CAR-T cells. The revenue amount booked in 2017 corresponds to the upfront payment received from Novartis. The 15% sub-license fee owed to Dartmouth College, the inventor of the CAR-T NKR platform in-licensed by Celyad in January 2015, is reported within Cost of Sales for the year 2017.

In 2016, we received an upfront payment associated to the License Agreement signed with ONO Pharmaceutical. The license agreement with ONO grants them the exclusive right to develop and commercialize our allogeneic CYAD-01 T-Cell immunotherapy in Japan, Korea and Taiwan. In exchange for receiving a license in these countries, ONO will pay Celyad up to $311.5 million in development and commercial milestones, including an upfront payment of $12.5 million plus double-digit royalties on net sales in ONO territories. The revenue amount booked in 2016 correspond to the upfront payment after deduction of the non-refundable Japanese withholding taxes and the 15% sub-license fee owed to Dartmouth College, the inventor of the CAR-T NKR platform in-licensed by Celyad in January 2015.

Cost of sales

For the year 2017, costs of sales include an amount of $0.6 million, which represents the above-mentioned 15% sub-license fee on the Novartis upfront fee, owed to Dartmouth College.

For the years 2017 and 2016, costs of sales were also related to the cost of manufacturing our medical device C-Cath $_{ez}$, whose development and commercialization has been assigned to Mesoblast Ltd., since May 2018.

Research and Development expenses

Research and development expenses amounted to €23.6 million, €22.9 million and €27.7 million for the years ended December 31, 2018, 2017 and 2016, respectively, and represented 69%, 71% and 74% of our total R&D and G&A operating expenses. For the periods presented in this report, research and development expenses gathered all operating expenses of the Group, except the general and administrative expenses. It included all the costs related to our operations in the following departments; research and development, clinical, manufacturing, regulatory, quality and intellectual property.

With the exception of the C-Cath $_{ez}$ development costs capitalized since May 2012, we expense all research and development costs as they are incurred. A total of €1.1 million development costs of C-Cath $_{ez}$ have been capitalized since May 1, 2012, the month following our receipt of the CE mark for C-Cath $_{ez}$. We may review this policy in the future depending on the outcome of our current development programs.

We utilize our research and development staff and infrastructure resources across projects in our programs and many of our costs historically have not been specifically attributable to a single project. In addition, our research and development expense may vary substantially from period to period based on the timing and scope of our research and development activities, the timing of regulatory approvals or authorizations and the rate of commencement and enrollment of patients in clinical trials.

Research and development activities are central to our business. We expect that our other research and development expenses will continue to grow in the future mostly with the development of drug product candidates from our CAR-T NKR cell program. The expected increase in research and development expenditures will mostly relate to higher personnel costs, outsourcing costs and additional preclinical and clinical studies.

Salaries represented the biggest cost by nature within our operations over the last three years. We at Celyad have the strategy to internalize all operations when they become material or critical to our operations. We subcontract all one-time projects, or tasks that cannot be taken in house for quality or regulatory purposes. Other important costs of our operations are our preclinical studies, clinical studies, scale-up and automation of the production processes.

The costs associated to preclinical studies are laboratory supplies and the costs of our outsourced research and development studies and services.

The costs associated to clinical studies comprised the preparation, the conduct and the supervision of our clinical trials. We expect that these expenses will increase in the near future given the expected clinical trial activities associated with our CAR-T NKR cell drug product candidates. We cannot determine with certainty the duration and completion costs of our current or future clinical trials of our drug product candidates or if, when, or to what extent we will generate revenue from the commercialization and sale of any of our drug product candidates that obtain regulatory approval. We may never succeed in achieving regulatory approval for any of our drug product candidates. The duration, costs and timing of clinical trials and development of our drug product candidates will depend on a variety of factors, including:

- per patient clinical trial costs;
- the number of patients that participate in clinical trials;
- the drop-out or discontinuation rates of patients;
- the duration of patient follow-up;

- the scope, rate of progress and expense of our ongoing as well as any additional non-clinical studies, clinical trials and other research and development activities;
- clinical trial and early-stage results;
- the terms and timing of regulatory approvals;
- the expense of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights; and
- the ability to market, commercialize and achieve market acceptance of CYAD-01 or any of our other product candidates.

A change in the outcome of any of these variables with respect to the development of CYAD-01 or any other drug product candidate that we are developing could mean a significant change in the costs and timing associated with the development of CYAD-01 or such other drug product candidate. For example, if FDA, European Medicines Agency, or EMA, or other regulatory authority were to require us to conduct additional preclinical studies and clinical trials beyond those which we currently anticipate will be required for the completion of clinical development of our drug product candidates, or if we experience significant delays in enrollment in any clinical trials, we would be required to spend significant additional financial resources and time on the completion of the clinical development of the applicable drug product candidate.

Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials.

We have not received regulatory approval from the FDA, EMA or any other regulatory authority to market any of our drug product candidates. The successful development of our drug product candidates is highly uncertain. Our drug product candidates are tested in numerous preclinical studies for safety, pharmacology and efficacy. We then conduct clinical trials for those drug product candidates that are determined to be the most promising. We fund these trials ourselves or through non-dilutive funding. As we obtain results from clinical trials, we may elect to discontinue or delay trials for some drug product candidates in order to focus resources on drug product candidates that we believe are more promising. Completion of clinical trials may take several years or more, and the length of time generally varies substantially according to the type, complexity, novelty and intended use of a drug product candidate. The cost of clinical trials for a particular drug product candidate may vary significantly.

At this time we cannot reasonably estimate the time and costs necessary to complete the development of any of our drug product candidates or the period, if any, in which we will generate drug product revenue. There are numerous risks and uncertainties associated with drug product development, including:

- terms and timing of regulatory approvals and authorizations; and
- the number, the design and the size of the clinical trials required by the regulatory authorities to seek marketing approval.

For the periods presented in this report, the manufacturing expenses included the costs to manufacture our product candidates, namely CYAD-01 (as from the year 2016), CYAD-101 (as from the year 2018) and C-Cure (until the year 2016) and the costs associated to the process development of such product candidates, including the scale-up and the automation of such processes. These costs are mainly comprised of production raw material and supplies, maintenance and calibration charges of equipment and the rental of Good Manufacturing Practices laboratory facilities. Raw materials are the main component to the current cost of production of CYAD-01 / CTAD-101 and will remain as such in the future as they are closely associated to the production of clinical batches. Most of our raw material suppliers are large companies, and pursuant to our internal procedures, we are trying to have an alternative supplier for each critical material, to limit risk of disruption and price sensitivity.

We lease our production facility from a real estate company, through our wholly owned subsidiary Biological Manufacturing Services SA.

Manufacturing expenses are mostly driven by the number and the size of clinical trials that we conduct on our drug product candidates. We expect these expenses will remain significant in the near future and will increase as our clinical trials include a greater number of patients and we potentially commence commercialization of our drug product candidates, if approved.

General and administrative expenses

General and administrative expenses represented 31%, 29% and 26% of our total R&D and G&A operating expenses for the years ended December 31, 2018, 2017 and 2016, respectively.

Our general and administrative expenses consist primarily of salaries, fees and other share-based compensation costs for personnel in executive, finance and accounting, people, communication and legal functions. It also includes costs related to professional fees for auditors and lawyers, consulting fees not related to research and development operations, and fees related to functions that are outsourced by us such as information technology, or IT. After having hired a Chief Legal Officer in 2016, general and administrative expenses are expected to remain on an increase trend in the near future with the expansion of our executive management team to include new personnel responsible for Communications & Corporate Strategy, IT, Sales and Marketing, as well as with the additional responsibilities related to becoming a U.S. public company.

Amendments of the Celdara Medical and Dartmouth College agreements

In 2017, the Group recognized non-recurring expenses related to the amendment of the agreements with Celdara Medical LLC and Dartmouth College (totalling €24.3 million, out of which an amount of €10.6 million was settled in shares, and was thus a non-cash expense).

Write-off of C-Cure and Corquest assets and derecognition or related liabilities

In 2017, the Group also proceeded with the write-off of the C-Cure and Corquest assets and derecognition of related liabilities (for net expense amounts of €0.7 million and €1.2 million respectively).

Other income

For the periods presented in this Annual Report, our other income is primarily generated from :

(i) government grants received either from the Regional government, or Walloon Region, in the form of RCAs or from the European Commission under the Seventh Framework Program (FP7); or

(ii) R&D tax credit

Recoverable Cash Advances

RCAs support specific development programs and are typically granted by regional governmental entities, and in our case, the Walloon Region. All RCA contracts, in essence, consist of three phases, i.e., the “research phase”, the “decision phase” and the “exploitation phase”. During the research phase, we receive funds from the Walloon Region based on statements of expenses. In accordance with IAS 20.10A and IFRS Interpretations Committee’s, or IC’s, conclusion that contingently repayable cash received from a government to finance a research and development project is a financial liability under IAS 32, ‘Financial instruments; Presentation’, the RCAs are initially recognized as a financial liability at fair value, determined as per IFRS 9. The benefit (RCA grant component) consisting in the difference between the cash received (RCA proceeds) and the above-mentioned financial liability’s fair value (RCA liability component) is treated as a government grant in accordance with IAS 20.

The RCA grant component is recognized in profit or loss on a systematic basis over the periods in which the entity recognizes the underlying research and development expenses subsidized by the RCA. Subsequent measurement of the RCAs liability component (RCA financial liability) is performed at amortized cost using the cumulative catch-up approach, under which the carrying amount of the liability is adjusted to the present value of the future estimated cash flows, discounted at the liability's original effective interest rate. The resulting adjustment is recognized within profit or loss.

At the end of the research phase, the Group should within a period of six months decide whether or not to exploit the results of the research phase (decision phase). The exploitation phase may have a duration of up to 10 years. In the event the Group decides to exploit the results under an RCA, the relevant RCA becomes contingently refundable, and the fair value of the RCA liability adjusted accordingly, if required.

When the Group does not exploit (or ceases to exploit) the results under an RCA, it has to notify the Walloon Region of this decision. This decision is of the sole responsibility of the Group. The related liability is then discharged by the transfer of such results to the Walloon Region. Also, when the Group decides to renounce to its rights to patents which may result from the research, title to such patents will be transferred to the Walloon Region. In that case, the RCA liability is extinguished.

Since inception through December 31, 2018, we have banked subsidies RCAs totaling €23.7 million. In 2019, we will be required to make exploitation decisions on our remaining outstanding RCAs related to the CAR-T platform.

Other Government Grants

Since inception, we have also received other types of grants from European Commission and Walloon Region authorities and we expect to continue to apply for such grants (EU framework programs for research and development, investment subsidies, sales-promotion subsidies, etc.). These grants are used to partially finance early stage projects such as fundamental research, applied research and prototype design.

As of the date of this Annual Report, none of the grants received are subject to any conditions. As per our agreements with these governmental authorities, grants are paid upon our submission of a statement of expenses. We incur project expenses first and ask for partial reimbursement according to the terms of the agreements.

The government grants are recognized in profit or loss on a systematic basis over the periods in which we recognize as expenses the related costs for which the grants are intended to compensate.

R&D tax credit

Since financial year 2013, the Company applies for R&D tax credit, a tax incentive measure for European SME's set-up by the Belgian federal government. When incurring R&D spend, the Company may either i) get a reduction of its taxable income (at current income tax rate applicable); or ii) if no sufficient taxable income is available, apply for the refund of the unutilized tax credits, calculated on the R&D expenses amount for the year. Such settlement occurs at the earliest 5 financial years after the tax credit application filed by the Company.

In 2017, the Company recognized in this respect, for the first time, a receivable on the amounts to collect from the federal government (€1.2 million income), including a one-off catch-up effect. A further tax credit income (€0.3 million) has been recorded for the year 2018, which is restricted to a base increment for the current year. Collection of the research and development tax credits is expected as from financial year 2020.

Other expenses

For the year 2018, the Group's other expenses mainly refer to non-cash expenses relating to liability remeasurement required by IFRS:

i) the amortized cost remeasurement of the recoverable cash advances liability (non-cash expense of €1.0 million);

ii) the change in fair value of the contingent consideration and other financial liabilities (non-cash expense of €5.6 million).

The increase in these liabilities reflects both the advancement in 2018 to the allogeneic CAR-T NKG2D program (CYAD-101 product candidate) as well as the management's higher estimate for overall future commercial revenue (risk-adjusted).

Finance income

Finance income relates to interest income earned on bank accounts and from currency exchange rate differences. Our cash and cash equivalents have been deposited primarily in savings and deposit accounts with original maturities of three months or less. Savings and deposit accounts generate a modest amount of interest income. We expect to continue this investment philosophy.

Finance expenses

Finance expenses relate to interest payable on bank or governmental loans (RCA's), finance leases, and overdrafts, as well as currency exchange rate differences.

Recently Issued Accounting Standards

For information regarding recently issued accounting standards, please see "Note 2— General information and statement of compliance" in our consolidated financial statements appended to this Annual Report.

Critical Accounting Policies

For information regarding our critical accounting policies, please see "Note 5—Critical accounting estimates and judgements" in our consolidated financial statements appended to this Annual Report. The preparation of our consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the year. These items are considered further to be the accounting policies that are most critical to our results of operations, financial condition and cash flows.

Consolidated Financial Data

The following is a summary of our consolidated financial data.

Comparisons for the Years Ended December 31, 2018 and 2017

Revenues

(€'000)	For the year ended December 31, 2018	2017
Out-licensing revenue	2,399	3,505
C-CathEZ sales	—	35
Other revenue	716	—
Total	**3,115**	**3,540**

Total revenue amounts to €3.1 million for the year 2018. Revenue reported refer to:

i) the exclusive license agreement signed by the Group with Mesoblast Ltd., an Australian biotechnology company, focused on the development and commercialization of Celyad's intellectual property rights related to C-CathEZ, an intra-myocardial injection catheter. This agreement involved a transaction amount split between upfront and contingent milestone payments. A total amount of €2.4 million qualified for top-line revenue recognition at December 31, 2018, out of which, €0.8 million has been settled at year-end.

ii) the non-clinical supply agreement concluded with ONO Pharmaceutical Co., Ltd. with respect to the development of product candidate CYAD-101 for their licensed territories. The agreement with ONO was time and material driven, involved performing cell production and animal experiments requested by ONO, and has been completed at year-end, generating a revenue of €0.7 million in 2018. As ONO decided to terminate the license and collaboration agreement for strategic and business reasons, there was no milestone payment received from ONO during the year 2018 with regards to advancement of CYAD-101 into the clinic. As a result, Celyad has recovered worldwide development and commercialization rights to CYAD-101.

For the previous year, total revenue amounted to €3.5 million and corresponded to the non-refundable upfront payment received from Novartis, within the framework of the non-exclusive license agreement signed in May 2017. This upfront payment has been fully recognized upon receipt as there were no performance obligations nor subsequent deliverables associated with the payment.

In 2017, the total revenue generated with our medical device C-Cathez amounted to €35,000.

Cost of sales

(€'000)	For the year ended December 31, 2018	2017
In-licensing cost of sales	—	(515)
C-Cathez cost of sales	—	—
Total Cost of Sales	**—**	**(515)**

For the year 2017, costs of sales included an amount of €0.5 million, which represents the 15% sub-license fee owed to Dartmouth College on the above-mentioned Novartis upfront payment.

Research and development expenses

(€'000)	For the year ended December 31, 2018	2017
Salaries	7,902	7,007
Share-based payments	1,264	862
Travel and living	466	359
Pre-clinical studies	2,945	1,995
Clinical studies	3,656	3,023
Raw materials & consumables	2,770	1,825
Delivery systems	117	430
Consulting fees	1,663	1,522
External collaborations	110	885
IP filing and maintenance fees	397	513
Scale-up & automation	23	1,892
Rent and utilities	651	371
Depreciation and amortization	848	1,488
Other costs	765	735
Total Research and Development expenses	**23,577**	**22,908**

R&D expenses show a net increase year-on-year, which reflects the organic growth of the Company's operations, for both pre-clinical and clinical activities. The underlying operational staff headcount increased by 15% compared to prior year. Scale-up and automation budget has been carried forward to 2019. The absence of amortization expenses relating to C-Cure and Corquest assets (as a consequence of their full impairment recorded at year-end 2017) explains the lower level of depreciation & amortization expense compared to prior year.

The vast majority (€23.2 million in 2018 and €20.0 million in 2017) of the research and development expenses were dedicated to the development of the immune-oncology programs, namely our CAR-T platform. In 2017, the research and development expenses associated to the cardiology programs (€2.9 million) related to the follow-up and completion costs of CHART-1 clinical study.

General and administrative expenses

(€'000)	For the year ended December 31, 2018	2017
Employee expenses	3,312	2,630
Share-based payments	2,331	1,707
Rent	1,097	1,053
Communication & Marketing	676	761
Consulting fees	2,192	2,227
Travel & Living	253	211
Post-employment benefits	(3)	—
Depreciation	267	229
Other	263	490
Total General and administration	**10,387**	**9,308**

General and administrative expenses increased by €1.1 million at €10.4 million in 2018 as compared to €9.3 million in 2017. This increase relates primarily to the share-based payments expense associated to the vesting of the warrant plan issued mid-2017 (non-cash expense recorded in accordance with IFRS 2 standard).

Other income and expenses

(€'000)	For the year ended December 31, 2018	2017
Remeasurement of contingent consideration	5,604	—
Clinical Development milestone payment	1,372	—
Remeasurement of RCA's	998	—
Fair value adjustment on securities	182	—
Other	243	41
Total Other Expenses	**8,399**	**41**

(€'000)	For the year ended December 31, 2018	2017
Grant income (RCA's)	768	824
Grant income (Other)	—	56
Remeasurement of RCA's	—	396
Remeasurement of contingent consideration	—	193
R&D tax credit	310	1,161
Total Other Income	**1,078**	**2,630**

The Group's other income is associated with grants received from the Regional government in the form of recoverable cash advances (RCAs), and to R&D tax credit income:

- with respect to grant income, the Group posts a revenue in line with last year at €0.8 million;
- with respect to R&D tax credit, the Company recognized prior year for the first time a receivable on the amounts to collect from the federal government (€1.2 million income posted in 2017), including a one-off catch-up effect. The decrease for the current year income is predicated on a R&D tax credit recorded (€0.3 million), which is restricted to a base increment in 2018.

For the year 2018, the Group's other expenses mainly refer to non-cash expenses relating to remeasurement required by IFRS:

- the amortized cost remeasurement of the recoverable cash advances liability (non-cash expense of €1.0 million);
- the change in fair value of the contingent consideration and other financial liabilities (non-cash expense of €5.6 million).

The increase in these liabilities reflects both the advancement in 2018 to the allogeneic CAR-T NKG2D program (CYAD-101 product candidate) as well as the management's higher estimate for overall future commercial revenue (risk-adjusted).

Non-recurring operating income and expenses

(€'000)	For the year ended December 31, 2018	2017
Amendment of Celdara Medical and Dartmouth College agreements	—	(24,341)
C-Cure IP asset impairment expense	—	(6,045)
C-Cure RCA reversal income	—	5,356
Corquest IP asset impairment expenses	—	(1,244)
Write-off C-Cure and Corquest assets and derecognition of related liabilities	—	(1,932)
Total Non-Recurring Operating expenses	—	(26,273)

For the previous year, the Group recognized non-recurring expenses related to the amendment of the agreements with Celdara Medical LLC and Dartmouth College and the write-off of the C-Cure and Corquest assets and liabilities (respectively for €24.3 million, €0.7 million and €1.2 million). No such non-recurring items are reported in the income statement of 2018.

Operating loss

At year-end 2018, the loss from operations before financial results and taxes amounted to €38.2 million versus €52.9 million in 2017.

Financial income and financial expenses

(€'000)	For the year ended December 31, 2018	2017
Interest finance leases	18	18
Interest on overdrafts and other finance costs	29	36
Interest on RCA's	15	90
Foreign Exchange differences	—	4,309
Finance expenses	**62**	**4,453**
Interest income bank account	308	927
Foreign Exchange differences	387	
Other financial income	109	6
Finance income	**804**	**934**
Net Financial result	**743**	**(3,519)**

Financial result refers mainly to interest income on short-term investments (reported as financial income) and foreign exchange differences. Due to the depreciation of the USD compared to EUR in the previous year, the Group recognized a loss on foreign exchange differences of €4.3 million for the year 2017. For the year 2018, the gain on foreign exchange differences amounts to €0.4 million, driving the improvement in our financial net result of €4.3 million.

Income taxes

As we incurred losses in all the relevant periods, we had no taxable income and therefore incurred no corporate taxes.

Loss for the year

As a result of the foregoing, the net loss for the financial year 2018 amounts to €37.4 million versus a net loss of €56.4 million for the prior year.

Comparisons for the Years Ended December 31, 2017 and 2016

Revenues

	For the year ended December 31,	
(€'000)	**2017**	**2016**
Out-licensing revenue (non-refundable upfront payment)	3,505	9,929
C-Cathez sales	35	83
Other revenue	—	—
	3,540	**10,012**

Total revenues amounted to €3.5 million in 2017 and corresponded to the non-refundable upfront payment received from Novartis, as a result of the non-exclusive license agreement signed in June 2017. This upfront payment has been fully recognized upon receipt as there are no performance obligations nor subsequent deliverables associated with the payment. The revenues of 2016 corresponded to the payment received from ONO under the exclusive license agreement signed in July 2016. There was no milestone received from ONO in 2017. In 2017, the total revenue generated with C-Cath $_{ez}$ amounted to €35,000 compared to €83,000 in 2016. There are no recurring sales generated by this device.

Cost of sales

	For the year ended December 31,	
(€'000)	**2017**	**2016**
In-licensing cost of sales	(515)	(1,489)
C-Cathez cost of sales	—	(53)
Total Cost of Sales	**(515)**	**(1,542)**

For the year 2017, costs of sales included an amount of €0.5 million, which represents the 15% sub-license fee owed to Dartmouth College on the above-mentioned Novartis upfront payment.

Research and development expenses

(€'000)	For the year ended December 31 2017	2016
Salaries	7,007	8,160
Share-based payments	862	—
Travel and living	359	577
Preclinical studies	1,995	4,650
Clinical studies	3,023	4,468
Raw materials and consumables	1,825	—
Delivery systems	430	964
Consulting fees	1,522	791
External collaborations	885	—
Intellectual property filing and maintenance fees	513	799
Scale-up and automation	1,892	4,164
Rent and utilities	371	939
Depreciation and amortization	1,488	1,345
Other costs	735	817
Total research and development expenses	**22,908**	**27,675**

The research and development expenses decreased by €4.7 million in 2017 compared to 2016, explained by the change in the mix of research and development performed, namely the cardiology business segment versus the immuno-oncology business segment.

In 2017, the vast majority (€20.0 million) of the research and development expenses were dedicated to the development of the immune-oncology programs, namely our CAR-T platform. The research and development expenses associated to the cardiology programs (€2.9 million) related to the follow-up costs of CHART-1 only.

The variance with the prior year is mainly explained by the fact that in 2016 we were still incurring significant expenses in the cardiology segment, relating to our Phase 3 study for C-Cure.

The research and development expenses relating to the immuno-oncology segment (€20.0 million for the year 2017) increased by €5.1 million in comparison with 2016.

General and administrative expenses

(€'000)	For the year ended December 31 2017	2016
Employee expenses	2,630	2,486
Share-based payments	1,707	2,847
Rent	1,053	791
Communication and marketing	761	728
Consulting fees	2,227	2,029
Travel and living	211	450
Post-employment benefits	—	(24)
Depreciation	229	173
Other	490	265
Total general and administrative expenses	**9,310**	**9,744**

General and administrative expenses decreased by €0.4 million compared to 2016. This variance primarily resulted from the valuation of the share-based payments, which relate to our warrant plans.

Net other income and expenses

(€'000)	For the year ended December 31, 2017	2016
Grant income (RCAs)	824	2,704
Grant income (other)	56	124
Remeasurement of RCAs	396	2,154
Research and development tax credit	1,161	—
Change of fair value of contingent liability	193	—
Total other income	**2,630**	**4,982**
Change of fair value of contingent liability	—	(1,634)
Other	(41)	(8)
Total other expenses	**(41)**	**(1,642)**
Total other income and expenses	**2,590**	**3,340**

Other operating income and expenses were primarily related to the non-dilutive funding received from the Walloon Region and the European FP7 funding programs. In 2017, the net amount of the other operating income and expenses decreased by €0.8 million. This variance resulted mainly from the change in the RCA fair value adjustment (non-cash entry) and from the decrease in RCA grant income.

For the year 2017, we recognized for the first time a receivable on the amounts to collect from the Belgian federal government as a research and development tax credit (reported as an operating income for an amount of €1.2 million).

Non-recurring operating income and expenses

(€'000)	For the year ended December 31, 2017	2016
Amendment of Celdara Medical and Dartmouth College agreements	**(24,341)**	**—**
C-Cure IP asset impairment expense	(6,045)	—
C-Cure RCA reversal income	5,356	—
Corquest IP asset impairment expenses	(1,244)	—
Write-off C-Cure and Corquest assets and derecognition of related liabilities	**(1,932)**	

In 2017, the Group recognized non-recurring expenses related to the amendment of the agreements with Celdara Medical LLC and Dartmouth College (totaling €24.3 million, out of which an amount of €10.6 million was equity-settled and thus a non-cash expense). The Group also proceeded with the write-off of the C-Cure and Corquest assets and liabilities (respectively for €0.7 million and €1.2 million). There were no non-recurring items reported on the income statement for 2016.

Operating loss

As a result of the foregoing, our operating loss increased by €27.3 million in 2017 as compared to 2016, totaling €52.9 million in 2017.

Financial income and financial expenses

(€'000)	For the year ended December 31 2017	2016
Interest finance leases	18	19
Interest on overdrafts and other finance costs	36	37
Interest on RCAs	90	53
Exchange differences	4,309	98
Finance expenses	**4,454**	**207**
Interest income bank account	927	1,413
Exchange differences and miscellaneous	6	791
Finance income	**933**	**2,204**

Financial expenses represent interest paid, bank charges and foreign exchange difference.

Due to the depreciation of the USD compared to EUR, the Group recognized an unrealized loss on foreign exchange differences of €4.3 million in 2017. In 2016, the unrealized gain on foreign exchange differences amounted to €0.8 million.

Interest income on short term deposits decreased significantly from 2016 to 2017, reflecting the decline of the interest rates on such deposits.

Income taxes

As we incurred losses in all the relevant periods, we had no taxable income and therefore incurred no corporate taxes.

Loss for the year

As a result of the foregoing, our loss for the year increased by €32.8 million from €23.6 million in 2016 to €56.4 million in 2017.

B. Liquidity and Capital Resources

We have financed our operations since inception through several private placements of equity securities, several contributions in kind, an initial public offering on Euronext Brussels and Paris, an initial U.S. public offering on Nasdaq, follow-on offerings on Euronext and Nasdaq, and non-dilutive governmental support. Through December 31, 2018, the total gross proceeds of the placement of our securities amounted to €235 million and, RCA's total non-dilutive funding amounted to €23.7 million. For information on our use of and policies regarding financial instruments, please see Note 3 and Note 22 included in our consolidated financial statements appended to this Annual Report.

The table hereunder summarizes our sources and uses of cash for the years ended December 31, 2018, 2017, and 2016.

(€'000)	For the years ended December 31, 2018	2017	2016
Cash used in operating activities	(27,249)	(44,441)	(24,692)
Cash from/(used in) investing activities	607	17,613	(30,157)
Cash flows from financing activities	43,928	605	3,031
Net increase/(decrease) in cash and cash equivalents	**17,286**	**(26,223)**	**(51,818)**

Comparison between 2018 and 2017

In 2018, the net cash used in our operations amounted to €27.2 million and decreased by €17.2 million compared to 2017. The underlying R&D cash spend is in line with prior year. This decrease is explained by:

- favorable foreign exchange differences (due to USD appreciation, the Group posts a €0.4 million income in this respect for the year 2018 against a loss of €4.3 million for the year 2017);
- the absence of any non-recurring items in 2018. The latter amounted to €13.3 million in the prior year, and referred to clinical development milestones payment and cash component relating to Celdara Medical LLC and Dartmouth College agreements' amendment compensation settled in 2017;

The cash used in investing activities refers mainly to transactions done on short-term investments (in 2018, we withdrew a net amount of €2.3 million from our short-term deposits, while in 2017 we withdrew a net amount of €23.6 million). In 2017, the cash flows from investing activities include also the payment of a clinical development milestone to Celdara Medical LLC of €5.3 million.

In 2018, the net cash flow from our financing activities includes the net proceeds from May 2018 capital raise (amounting to €43.0 million). In 2017, there had been an exercise of warrants, triggering cash flow from financing activities of €0.6 million. Additionally, in 2018 our proceeds from non-dilutive funding exceeded our repayments by €0.7 million, while in 2017, these proceeds and their repayments were cancelling out.

Comparison between 2017 and 2016

In 2017, the net cash used in our operations amounted to €44.4 million and increased by €24.8 million compared to 2016. This increase is explained by:

- the decrease in our net licensing revenue by €5.0 million, mostly offset by the decrease in our research and development expenses by €4.7 million;
- the non-recurring expenses for the year, for which the cash component amounted to €13.3 million (compensation relating to the amendment of the agreements with Celdara Medical LLC and Dartmouth College);

The cash used in investing activities varied significantly compared to 2016. The variance is explained by the use of our short-term deposits to finance part of our operations (in 2017, we withdrew a net amount of €23.6 million from our short-term deposits, while in 2016 we invested a net amount of €26.9 million into short-term deposits) and by the payment of a clinical development milestones to Celdara Medical LLC of €5.3 million.

Our net cash flow from our financing activities decreased by €2.4 million from €3.0 million in 2016. In 2017, the proceeds from non-dilutive funding cancelled out their repayments, while in 2016 we earned net proceeds from non-dilutive funding of €2.3 million (gross proceeds of €3.1 million, offset by repayments of €0.8 million).

Cash and Funding Sources

Over the last three years, we obtained new financing mostly through the issuance of our shares. A summary of our funding activities is as follows:

(€'000)	Total	Equity capital	Finance leases	Loans
2016	1,165	0	371	794
2017	1,168	625	543	—
2018	43,960	43,011	730	220
Total financing	**46,293**	**43,636**	**1,644**	**1,014**

We refer to "Note 22—Financial instruments on balance sheet" included in our consolidated financial statements appended to this Annual Report for information related to the maturity profile of our leases and loans.

In May 2018, we completed a $54.4 million (€46.1 million) financing, before deducting underwriting commissions and offering expenses, via a global offering of 2,070,000 ordinary shares to purchasers in the United States, Europe and certain countries outside the United States and Europe, comprised of 568,500 ordinary shares in the form of American Depositary Shares (ADSs) at a price per ADS of $26.28, and 1,501,500 ordinary shares at a price per share of €22.29. Each ADS represents the right to receive one ordinary share.

Warrants were exercised for an equity capital proceeds amount of €0.01 million in 2018 and €0.63 million in 2017, respectively.

Most of our capital expenditures in 2018 related to laboratory and office equipment are financed with three-year maturity finance leases (€0.7 million), similar to years 2017 (€0.5 million) and 2016 (€0.4 million).

In 2018 and in 2016, we also contracted bank loans to partially finance the leasehold improvements brought on a regular basis to our manufacturing facility and corporate office.

Amounts received from the Walloon Region, booked as advances repayable, correspond to funding received under several RCAs, dedicated to supporting specific development programs related to CAR-T platform, THINK clinical study and C-Cath $_{ez}$ at the end of 2018.

The changes in the advances repayable balance recorded in 2018, 2017 and 2016 are summarized in the table below:

(€'000)	
Balance of January 1, 2016	**11,382**
+ liability recognition	—
- repayments	(842)
+/- other transactions including change of fair value	(2,102)
Balance at December 31, 2016	**8,438**
+ liability recognition	—
- repayments	(1,233)
+/- other transactions including change of fair value	(5,435)
Balance at December 31, 2017	**1,770**
+ liability recognition	598
- repayments	(226)
+/- other transactions including change of fair value	998
Balance at December 31, 2018	**3,140**

At year-end 2017, we reversed an RCA liability amount of €5.4 million, relating to the decision of ceasing the exploitation of our product candidate C-Cure (Cardio business).

Capital Expenditures

We do not capitalize our research and development expenses until we receive marketing authorization for the applicable product candidate. Accordingly, all clinical, research and development spend related to the development of our CAR-T product candidates and allogeneic platform have been accounted for as operating expenses for the current year 2018, like for prior years.

Our capital expenditures were €1.8 million, €0.9 million and €1.8 million for the years ended December 31, 2018, 2017 and 2016 respectively.

In 2019, we anticipate new capital expenditures in our laboratories and manufacturing plant. We plan to finance most of these expenses through new finance leases.

The non-current assets are detailed in the following table.

	As of December 31,		
(€'000)	2018	2017	2016
Intangible assets	36,164	36,508	49,566
Property, plant and equipment	3,014	3,290	3,563
Other non-current assets	3,430	1,434	311
Total	**42,607**	**41,232**	**53,440**

The increase observed at year-end 2018 in the caption Other non-current assets results of the recognition of a non-current trade receivable (€1.7 million at December 31, 2018), which did not exist at year-end 2017. This receivable refers to the discounted and risk-adjusted milestone payments, to be received by the Group in accordance with the terms of the exclusive license agreement signed with Mesoblast Ltd. for C-CathEZ device development, as described in section A.

The decrease observed at year-end 2017 compared to year-end 2016 in the caption intangible assets results of:

- an impairment of €7.2 million relating to Mayo Clinic (€6.0 million) and Corquest (€1.2 million) patents
- a currency translation adjustment of €4.8 million for USD depreciation towards EUR, on OnCyte underlying in-process research and development

Operating Capital Requirements

Based on its current scope of activities, the Group estimates that its treasury position as of December 31, 2018 is sufficient to cover its cash requirements until mid-2020, therefore beyond the readouts of our clinical trials currently ongoing. We have based this estimate on assumptions that may prove to be wrong, and we could use our capital resources sooner than we currently expect. In any event, we will require additional capital to pursue preclinical and clinical activities, obtain regulatory approval for, and to commercialize our drug product candidates.

Until we can generate a sufficient amount of revenue from our drug product candidates, if ever, we expect to finance our operating activities through a combination of equity offerings, debt financings, government, including RCAs and subsidies, or other third-party financings and collaborations. Additional capital may not be available on reasonable terms, if at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we may have to significantly delay, scale back or discontinue the development or commercialization of one or more of our drug product candidates. If we raise additional funds through the issuance of additional debt or equity securities, it could result in dilution to our existing shareholders, increased fixed payment obligations and these securities may have rights senior to those of our ordinary shares. If we incur indebtedness, we could become subject to covenants that would restrict our operations and potentially impair our competitiveness, such as limitations on our ability to incur additional debt, limitations on our ability to acquire, sell or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. Any of these events could significantly harm our business, financial condition and prospects.

There are no legal or economic restrictions on the ability of our subsidiaries to transfer funds to Celyad SA in the form of cash dividends, loans or advances.

Our present and future funding requirements will depend on many factors, including, among other things:

- the size, progress, timing and completion of our clinical trials for any current or future drug product candidates, including CYAD-01 and CYAD-101;
- the number of potential new drug product candidates we identify and decide to develop;
- the costs involved in filing patent applications, maintaining and enforcing patents or defending against claims or infringements raised by third parties;
- the time and costs involved in obtaining regulatory approval for drug products and any delays we may encounter as a result of evolving regulatory requirements or adverse results with respect to any of these drug products; and
- the amount of revenue, if any, we may derive either directly or in the form of royalty payments from future potential collaboration agreements on our technology platforms.

For more information as to the risks associated with our future funding needs, see the section of this Annual Report titled "Item 3.D.—Risk Factors".

JOBS Act Exemptions

We qualify as an "emerging growth company" as defined in the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act; and
- to the extent that we no longer qualify as a foreign private issuer, (1) reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and (2) exemptions from the requirements of holding a non-binding advisory vote on executive compensation, including golden parachute compensation We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company upon the earliest to occur of (1) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (2) the date we qualify as a "large accelerated filer," with at least $700 million of equity securities; (3) the issuance, in any three-year period, by our company of more than $1.0 billion in non-convertible debt securities held by non-affiliates; and (4) December 31, 2020. We may choose to take advantage of some but not all of these exemptions. For example, Section 107 of the JOBS Act provides that an emerging growth company can use the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Given that we currently report and expect to continue to report under IFRS as issued by the IASB, we have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required by the IASB. We have taken advantage of reduced reporting requirements in this Annual Report. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold equity securities.

C. Research and Development

For a discussion of our research and development activities, see "Item 4.B.—Business Overview" and "Item 5.A—Operating Results."

D. Trend Information

Other than as disclosed elsewhere in this annual report, we are not aware of any trends, uncertainties, demands, commitments or events for the period from January 1, 2018 to December 31, 2018 that are reasonably likely to

have a material adverse effect on our net revenues, income, profitability, liquidity or capital resources, or that caused the disclosed financial information to be not necessarily indicative of future operating results or financial conditions. For a discussion of trends, see "Item 4.B.—Business Overview," "Item 5.A.—Operating Results" and "Item 5.B.—Liquidity and Capital Resources."

E. Off-Balance Sheet Arrangements

During the periods presented, we did not and do not currently have any off-balance sheet arrangements as defined under SEC rules, such as relationships with unconsolidated entities or financial partnerships, which are often referred to as structured finance or special purpose entities, established for the purpose of facilitating financing transactions that are not required to be reflected on our balance sheets.

During the periods presented, we had bank guarantees granted to the landlords of our Belgian and U.S. offices (€0.3 million). These bank guarantees will last until the termination of the respective lease agreements.

For other contingent liabilities, see "Item 5.F.—Tabular Disclosure of Contractual Obligations" below.

F. Tabular Disclosure of Contractual Obligations

The table below analyses the Group's non-derivative financial liabilities into relevant maturity groupings based on the remaining period at the balance sheet date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows, except for advances repayable which are presented at amortised cost.

(€'000)	Total	Less than one year	One to three years	Three to five years	More than five years
As of December 31, 2018					
Finance leases	1,136	484	652	—	—
Bank loan	510	281	229	—	—
Operating leases	2,912	708	942	729	533
Pension obligations	131	—	—	—	131
Advances repayable (current and non-current)	3,140	276	717	560	1,587
Total—material contractual obligations	**7,829**	**1,749**	**2,540**	**1,290**	**2,250**

G. Safe Harbor.

This Annual Report contains forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act and as defined in the Private Securities Litigation Reform Act of 1995. See "Special Note Regarding Forward-Looking Statements."

ITEM 6. Directors, Senior Management and Employees

A. Directors and Senior Management .

Board of Directors

As provided by Article 521 of the Belgian Company Code, we are managed by a Board of Directors acting as a collegiate body. The Board of Directors' role is to pursue our long-term success by providing entrepreneurial leadership and enabling risks to be assessed and managed. The Board of Directors decides on our values and strategy, its risk preference and key policies. The Board of Directors ensures that the necessary leadership, financial and human resources are in place for us to meet its objectives.

We have opted for a one-tier governance structure. As provided by Article 522 of the Belgian Company Code, the Board of Directors is our ultimate decision-making body, except with respect to those areas that are reserved by law or by our articles of association to the Shareholders' Meeting.

Our articles of association state that the number of directors, who may be natural persons or legal entities, must be at least five. At least half of the members of the Board of Directors must be non-executive directors and at least three of them must be independent directors.

A meeting of the Board of Directors is validly constituted if at least half of its members are present in person or represented at the meeting. If this quorum is not met, a new board meeting may be convened by any director to deliberate and decide on the matters on the agenda of the board meeting for which a quorum was not met, provided that at least two members are present. Meetings of the Board of Directors are convened by the Chairman of the Board, whenever our interest so requires. In principle, the Board of Directors will meet at least four times per year.

The Chairman of the Board of Directors shall have a casting vote on matters submitted to the Board of Directors in the event of a tied vote.

At the date of this Report, the Board of Directors consists of nine members, one of which is an executive director (as a member of the Executive Management Team) and eight of which are non-executive directors, including six independent directors. In accordance with the Belgian Company Code (hereafter "BCC"), we will ensure, at the latest at the next shareholders meeting, that a third of the Board members are of different gender.

Name	Position	Term	Board Committee Membership
Michel Lussier	Chairman Independent Director	2020	Chairman of the Nomination and Remuneration Committee
LSS Consulting SPRL represented by its permanent representative Christian Homsy	Non-executive Director	2020	
Serge Goblet	Non-executive director	2020	
Chris Buyse	Independent director	2020	Chairman of the Nomination and Remuneration Committee Member of the Audit Committee
Rudy Dekeyser	Independent director	2020	Member of the Nomination and Remuneration Committee Member of the Audit Committee
Debasish Roychowdhury	Independent director	2019	
Hilde Windels [1]	Independent director	2022	Member of the Audit Committee
Margo Roberts [4]	Independent Director	2019	

[1] Hilde Windels was been appointed as Director on May 7, 2018

[4] Tolefi SA resigned from the Board of Directors on August 1, 2018 and Margo Roberts was co-opted as Director in replacement of Tolefi SA on the same date.

The business address for our Board of Directors and executive management team is Rue Edouard Belin 2, 1435 Mont-Saint-Guibert, Belgium.

The following paragraphs contain brief biographies of each of the directors, or in case of legal entities being director, their permanent representatives, with an indication of other relevant mandates as member of administrative, management or supervisory bodies in other companies during the previous five years.

Michel Lussier has served as Chairman of the Board of Directors since 2007 and is also a co-founder of the Company. Mr. Lussier founded Medpole Ltd, the North American satellite of MedPole SA, a European incubator for medical technology start-up companies located in Belgium, and serves as the Chief Executive Officer for the group. In this capacity, he is an advisor to Fjord Ventures, a Laguna Hills, California based medical technology accelerator / incubator. Mr. Lussier also serves as the Chief Executive Officer of Metronom Health Inc, an early stage medical device company founded by Fjord Ventures, developing a continuous glucose monitoring system. Prior to that, from 2002 to 2013, he worked for Volcano Corporation, where he served in a number of positions, most recently as President, Clinical and Scientific Affairs from 2012 to 2013, and prior to that from 2007 to 2012, Group President, Advanced Imaging Systems, Global Clinical & Scientific Affairs and General Management of Europe, Africa and the Middle East. Mr. Lussier obtained a Bachelor of Sciences degree in Electrical Engineering and Master's degree in Biomedical Engineering at the University of Montreal. He also holds an MBA from INSEAD (European Institute of Business Administration), France. In addition to serving on our Board of Directors, he also serves on the boards of directors of several early stage medical devices companies.

Christian Homsy (permanent representative of LSS consulting SPRL) , is a founder of Celyad and served as Chief Executive Officer (CEO) from 2007 to March 2019. Christian Homsy obtained his Medical Doctorate at the University of Louvain and holds an MBA from the IMD in Lausanne (Switzerland). Christian gained his business experience in senior research and development, marketing, business development and sales positions at Guidant Corporation, a leading medical device company active in the treatment of cardiovascular disease. He was also founder of Guidant Institute for Therapy Development, a landmark facility for physician and health care professionals' education that gained international recognition and praise. Before starting Celyad, Christian Homsy was General Manager of Medpole, a European incubator dedicated to initiating the European operations for start-up companies in the medical device or biotechnology fields. He also holds a director mandate in Medpole SA.

Serge Goblet holds a Master Degree in Business and Consular Sciences from ICHEC, Belgium and has many years of international experience as director in Belgian and foreign companies. He is the managing director of TOLEFI SA, a Belgian holding company and holds director mandates in subsidiaries of TOLEFI.

Chris Buyse brings more than 30 years of international financial expertise and experience in introducing best financial management practices. He is currently Managing Director of FUND+, a fund that invests in innovative Belgian Life Sciences companies, Between August 2006 and June 2014, Mr. Buyse served as the Chief Financial Officer and board member of ThromboGenics NV, a leading biotech company that is listed on NYSE Euronext Brussels. Before joining ThromboGenics, he was the Chief Financial Officer of the Belgian biotech company CropDesign, where he coordinated the acquisition by BASF in July 2006. Prior to joining CropDesign he was financial manager of WorldCom/MCI Belux, a European subsidiary of one of the world's largest telecommunication companies and he was also the Chief Financial Officer and interim Chief Executive Officer of Keyware Technologies. Mr. Buyse holds a master degree in applied economic sciences from the University of Antwerp and an MBA from Vlerick School of Management in Gent. He currently serves, in his own name or as permanent representative of a management company, as member of the board of directors the following publicly and privately held companies: Iteos SA, Bioxodes SA, Bio Incubator NV, Immo David NV, Pinnacle Investments SA, CreaBuild NV, Sofia BVBA, Pienter-Jan BVBA, Life Sciences Research Partners VZW, Inventiva SA, The Francqui Foundation and Keyware Technologies NV.

Rudy Dekeyser is managing partner of the LSP Health Economics Fund, a private equity fund investing in late stage European and North American health care companies. Prior to joining LSP, Rudy has been managing director of VIB (Flanders Institute for Biotechnology), where he was also responsible for the intellectual property

portfolio, business development and new venture activities. He obtained a Ph.D. in molecular biology at the University Ghent. He holds non-executive director positions in Curetis AG, Sequana Medical AG and Remynd NV, and held non-executive director positions in Devgen NV, CropDesign NV, Ablynx NV, Actogenix NV, Pronota NV, Flandersbio VZW, Bioincubator Leuven NV, Multiplicom NV and Lumeon Inc. He is a co-founder of ASTP (the European associations of technology transfer managers) and Chairman of EMBLEM (EMBL's business arm). Rudy has been advisor to several seed and venture capital funds and to multiple regional and international committees on innovation.

Debasish Roychowdhury has served as a member of the Board of Directors since 2015. Debasish is a medical oncologist with over 15 years of comprehensive pharmaceutical industry experience and 14 years of patient care and academic research. In the pharmaceutical industry, Debasish held multiple positions of growing responsibility respectively at Eli Lilly, GSK and Sanofi, with direct therapeutic area experience mostly in oncology and hematology. He is the co-founder of Partner Therapeutics, a commercial stage biotech. Based in Boston, Massachusetts, Debasish is now using his extensive experience and global network to advise companies, organizations, and institutions in the biomedical field.

Hilde Windels is CEO of Mycartis NV and member of its Board of Directors. Hilde brings 20 years of experience in biotech with a track record of business and corporate strategy, building and structuring organizations, private fundraising, mergers and acquisitions and public capital markets. Hilde has worked as CFO for several biotech companies, amongst those the Belgium based molecular Dx company Biocartis where she started as CFO in 2011. She transitioned to the co-CEO role in 2015 and CEO a.i. in 2017. She still serves as board member at Biocartis. In addition, Hilde is member of the boards of Erytech, MdxHealth and VIB. She holds a Masters in Economics (Commercial Engineer) from the University of Leuven (Belgium).

Margo Roberts Dr. Margo Roberts, Ph.D. has more than three decades of biomedical research experience in both biotechnology and academia. Dr. Roberts is currently Chief Scientist Officer at Lyell Immunotherapy. She serves also on the board of directors of Unity Biotechnology, a US public company focused on developing medicines that slow or reverse age-associated diseases, and on the board of directors of InsTIL Bio, a US startup company focused on developing Timor infiltrating lymphocyte (TIL)—based therapies for the treatment of cancer. Until July 2018, Dr. Roberts served as Senior Vice President of Discovery Research at Kite Pharma focusing on the development of next generation therapeutic approaches, including heading up Kite's universal allogeneic T-cell programs. Prior that, in 2013, she was Chief Scientific Officer at Kite Pharma Inc., where she built a talented research organization that played an instrumental role in the successful development of Yescarta ® , and the clinical advancement of additional CAR/TCR-engineered T-cell therapies. Prior to her tenure at Kite Pharma, Dr. Roberts was Principal Scientist and Director of Immune and Cell Therapy at Cell Genesys, Inc., where she led the development and application of CAR technology to T-cells and stem cells, culminating in the very first CAR T-cell trial initiated in 1994. Dr. Roberts was also an associate professor at the University of Virginia, has authored over 30 scientific publications, and is the inventor on 13 issued US patents and three published US patent applications related to CAR technology and tumor vaccine therapies. Dr. Roberts received both her Bachelor of Science degree with honors and her Ph.D. degree from the University of Leeds in England.

Filippo Petti joined the Company on September 2018 as the Chief Financial Officer and became the Chief Executive Officer on April 1 st , 2019. Prior to joining the Company, Mr. Petti worked in healthcare investment banking both at Wells Fargo Securities and William Blair & Company. Prior to his roles in investment banking, Filippo spent several years in equity research covering U.S. biotechnology companies both at William Blair & Company and Wedbush Securities. He began his career as a research scientist at OSI Pharmaceuticals, Inc. focused on drug discovery and translational research before transitioning into corporate development with the company. Mr. Petti holds a Master of Business Administration from Cornell University, a Master of Science from St. John's University and a Bachelor of Science from Syracuse University.

The Executive Management Team

The Board of Directors has established an executive management team which does not constitute an executive committee under Article 524bis of the Belgian Company Code. The terms of service of the executive management team have been determined by the Board of Directors and are set out in our Governance Charter (the "Charter").

The Executive Management Team consists of the "Chief Executive Officer" (CEO, who is the chairman of the Executive Management team) and the "Chief Financial Officer" (CFO), the "Chief Operating Officer", the "Chief Legal Officer", the "Vice President Clinical Development and Medical Affairs" and the "Vice President Research & Development".

The Executive Management Team discusses and consults with the Board of Directors and advises the Board of Directors on our day-to-day management in accordance with our values, strategy, general policy and budget, as determined by the Board of Directors.

Each member of the Executive Management Team has been made individually responsible for certain aspects of our day-to-day management and our business (in the case of the CEO, by way of delegation by the Board of Directors; in the case of the other member of the Executive Management Team, by way of delegation by the CEO). The further tasks for which the Executive Management Team is responsible are described in greater detail in the terms of reference of the Executive Management Team as set out in our corporate governance charter.

The members of the Executive Management Team are appointed and may be dismissed by the Board of Directors at any time. The Board of Directors appoints them on the basis of the recommendations of the Nomination and Remuneration Committee, which shall also assist the Board of Directors on the remuneration policy of the members of the Executive Management Team, and their individual remunerations. The remuneration, duration and conditions of dismissal of Executive Management Team members will be governed by the agreement entered into between us and each member of the Executive Management Team in respect of their function within the Company.

In accordance with Schedule C, Section F, subsection 7 of the Corporate Governance Code, all agreements with members of the Executive Management Team entered into on or after July 1, 2009 must refer to the criteria to be taken into account when determining variable remuneration and will contain specific provisions relating to early termination. In principle, the Executive Management Team meets every month. Additional meetings may be convened at any time by the Chairman of the Executive Management Team or at the request of two of its members. The Executive Management Team will constitute a quorum when all members have been invited and the majority of the members are present or represented at the meeting. Absent members may grant a power of attorney to another member of the Executive Management Team. Members may attend the meeting physically or by telephone or video conference. The absent members must be notified of the discussions in their absence by the Chairman (or the Company Secretary, if the Executive Management Team has appointed a Company Secretary from among its members).

The members of the Executive Management Team will provide the Board of Directors with information in a timely manner, if possible in writing, on all facts and developments concerning us which the Board of Directors may need in order to function as required and to properly carry out its duties. The CEO (or, in the event that the CEO is not able to attend the Board of Directors' meeting, the CFO or, in the event that the CFO is not able to attend the Board of Directors' meeting, another representative of the Executive Management Team) will report at every ordinary meeting of the Board of Directors on the material deliberations of the previous meeting(s) of the Executive Management Team.

The current members of the Executive Management Team are listed in the table below.

Name	Function	Year of birth
Filippo Petti	Chief Executive Officer and Chief Financial Officer	1972
KNCL SPRL, represented by Jean-Pierre Latere	Chief Operating Officer	1975
NandaDevi SPRL, represented by Philippe Dechamps	Chief Legal Officer	1970
MC Consult, represented by Philippe Nobels	Global Head of Human Resources	1966
ImXense SPRL, represented by Frederic Lehmann	Vice President Clinical Development & Medical Affairs	1964
David Gilham	Vice President Research & Development	1965

PaJe SPRL, represented by Patrick Jeanmart, has served as our CFO of until August 31, 2018. PaJe SPRL remained an advisor through December 31, 2018 to ensure a smooth and effective transition with Filippo Petti.

The following paragraphs contain brief biographies of each of the members of the Executive Management Team or in case of legal entities being a member of the Executive Management Team or key manager, their permanent representatives.

Jean-Pierre Latere (representative of KNCL SPRL), has previously acted as Vice President of Regenerative Medicine and Medical Devices franchise. Since January 2017 he serves as Chief Operating Officer in charge of program management, manufacturing, quality, clinical operations and regulatory affairs. He leads the effort to further strengthen the organization as we grow as a leader in immuno-oncology. He started his career as a Research Associate at the Michigan State University in the United States. Following that assignment, he moved to the Johnson & Johnson group where he held various positions, from Scientist to Senior Scientist. He then joined Celyad in 2008 as Project Manager Delivery System and left in 2012 in the position of Senior Director Business Development. Prior to joining Celyad, Jean-Pierre served as Beauty Care and Healthcare Market Global Leader at Dow Corning. Jean-Pierre holds a PhD in Chemistry from the University of Liège, Belgium.

Philippe Dechamps (representative of NandaDevi SPRL), has served as Chief Legal Officer since September 2016. Philippe started his legal career as an associate in Brussels with the law firm Linklaters De Bandt from 1994 to 1998. He left private practice in 1998 and until 2003, he served as an in-house counsel at Solvay Group to assist the company in its turnaround through several M&A operations in Europe, India and Far-East Asia. In 2003, he took over the position of Legal Director at Guidant, the U.S. company formerly active in the medical devices business before its acquisition by Boston Scientific and Abbott Laboratories in 2005. Within Abbott, Philippe took over responsibility for the legal affairs of Abbott Vascular International outside of the United States. In 2008, Philippe joined Delhaize Group taking responsibility for the legal and government affairs in Europe and Asia, before becoming Group General Counsel and Secretary to the Board of Directors in 2015. In this position, he piloted the legal strategy to merge Delhaize Group with Royal Ahold in July 2016. Since December 2018, Philippe is also member of the Board of Directors of Petserco SA, the holding company of the Tom&Co group. Philippe earned law degrees from the Université Catholique de Louvain (UCL) and Vrije Universiteit Brussel (VUB), and a Masters of Law (LL.M) from Harvard University.

Philippe Nobels (representative of MC Consult Sprl) has served as Global Head of Human Resources since October 2016. He started his career at Price Waterhouse (now PwC) as auditor in 1989. He also went in rotational assignment in Congo during 2 years on consulting missions for the World Bank. In 1995, he joined Fourcroy as plant controller. Then, he joined Dow Corning in 1997 where he held different positions in Finance and Human Resources. He led the human resources operations in Europe, became the human resources manager for Dow Corning in Belgium, and Human Resources Business Partner for the sales and marketing functions globally. As a member of the sales and marketing Leadership teams, he contributed to the company's major transformation initiatives to increase organizational effectiveness, employees' engagement & performance as well as Business results. Philippe hold a master degree in Economics from the University of Namur.

Frédéric Lehmann (representative of ImXense SPRL), has served as the Vice President Clinical Development & Medical Affairs since July 2016 and prior to that he has served as the Vice President Immuno-Oncology Since September 2015. Dr. Lehmann is a physician by training, specialized in hematology and oncology. Dr. Lehmann has extensive experience in oncology drug development spanning early to late phase, including clinical trial design, translational research, regulatory interactions, and clinical risk management. He started his academic career at the Ludwig Institute for Cancer Research in Brussels, followed by a position at the Institute Jules Bordet. He then moved to the European Organization for Research and Treatment of Cancer (EORTC) as Medical Advisor. Dr. Lehmann began his corporate career at GlaxoSmithKline, where he led the early worldwide clinical development program for our cancer vaccines and went on to lead the research and development incubator for cancer immunotherapeutics.

David Gilham, has served as Vice President Research and Development since September 2016. Prior to joining our team, Mr. Gilham was a Reader and Group Leader within the Manchester Cancer Research Centre at the University of Manchester, UK leading a research group of 15 scientists in the area of cellular immunotherapy. Mr. Gilham obtained his Ph.D. from the University of Dundee in 1998 in Molecular Pharmacology under the supervision of Professor Roland Wolf, OBE. After a short post-doctoral position at the University of Bristol, Mr. Gilham moved to the University of Manchester with Professor Robert Hawkins to establish translational research activity in the field of engineered cellular therapy. The group has carried out several clinical trials of CAR-T cells of which Mr. Gilham has been Lead scientific advisor and led several European framework programs bringing together researchers from all over Europe (ATTACK and ATTRACT programs). In 2010, along with Professor Hawkins and other colleagues, Mr. Gilham co-founded Cellular Therapeutics, a cell production company based in Manchester. He has published more than 60 peer reviewed articles and further book chapters and reviews. He has also sat on many review boards and charity grant committees and consulted for several biotechnology companies and pharmaceutical companies concerning immune cell therapies.

Family Relationships

There are no family relationships among any of the members of our executive committee or directors.

B. Compensation

The aggregate compensation paid and benefits in kind granted by us to the current members of our executive management team and directors, including share-based compensation, for the year ended December 31, 2018, was €5.03 million. For the year ended December 31, 2018, approximately €16,000 of the amounts set aside or accrued to provide pension, retirement or similar benefits to our employees was attributable to members of our executive management team.

For a discussion of our employment arrangements with members of our executive management team and consulting arrangement with our directors, see the section of this Annual Report titled “Item 7.B.—Related Party Transactions—Agreements with Our Directors and Members of Our Executive Management Team.” For more information regarding warrant grants, see the section of this report titled “—Warrant Plans.”

Except the arrangements described in the section of this Annual Report titled “Certain relationships and related party transactions-Agreements with Our Directors and Members of our Executive Management Team,” there are no arrangements or understanding between us and any of our other executive officers or directors providing for benefits upon termination of their employment, other than as required by applicable law.

There are no agreements or contracts between the directors and the members of the Executive Management Team and us or any of our subsidiaries providing for benefits for the directors upon termination of employment or services agreements in place that provide for benefits upon termination of employment.

Compensation of our Board of Directors

The remuneration of the Directors is determined by the shareholders' meeting upon proposal of the Board of Directors on the basis of the recommendations made by the Nomination and Remuneration Committee. The Nomination and Remuneration Committee benchmarks Directors' compensation against peer companies to ensure that it is competitive. Remuneration is linked to the time committed to the Board of Directors and its various committees.

The non-executive Directors receive a fixed remuneration in consideration for their membership of the Board of Directors and their membership of the Committees (see below). Directors are not entitled to any variable compensation as defined under Articles 96 §3 5° and 520bis of the BCC, as no performance criteria apply to the remuneration of non-executive directors.

On the advice of the Nomination and Remuneration Committee, the Board of Directors may propose to the Shareholders Meeting to grant options or warrants in order to attract or retain non-executive directors with the most relevant skills, knowledge and expertise. The grant of stock base incentive schemes is not linked or subject to any performance criteria and, consequently, qualifies as fixed remuneration. It is the Board of Directors' reasonable opinion, that the grant of warrants provides additional possibilities to attract or retain competent non-executive directors and to offer them an attractive additional remuneration without the consequence that this additional remuneration weighs on our cash and financial results. Furthermore, the grant of warrants is a commonly used method in the sector in which we operate. Without this possibility, we would be subject to a considerable disadvantage compared to competitors who do offer warrants to their non-executive directors. The Board of Directors is of the opinion that the grant of options or warrants has no negative impact on the functioning of the non-executive directors. As of December 31, 2018, non-executive directors owned in total 135,000 Company warrants.

Without prejudice to the powers granted by law to the Shareholders Meeting, the Board of Directors sets and, from time to time, revises the rules and the level of compensation for directors carrying out a special mandate or sitting on one of the committees and the rules for the reimbursement of directors' business-related out-of-pocket expenses. The remuneration of Directors will be disclosed to our shareholders in accordance with applicable laws and regulations.

On May 9, 2016,, the Shareholders Meeting approved a remuneration and compensation scheme for the non-executive directors. The remuneration package is made up of fixed annual fee of €10,000 for non-executive directors, supplemented by a fixed annual fee of €10,000 for the Chairman. The annual fee is supplemented by a €5,000 fee for any non-executive directors covering the participation to the four ordinary Board of Directors' meetings. Any participation to an extraordinary Board of Directors' meetings gives right to a supplemental fee of €5,000 EUR. This remuneration package is also supplemented with a fixed annual fee of €15,000 for membership of each committee of the Board of Directors, to be increased by €5,000 in case the relevant director chairs the Nomination and Remuneration Committee or the Audit Committee. Finally, an extraordinary fee of €3,000 is granted to non-executive directors in case of appointment of such directors, on request of the CEO and with prior approval of the Board of Directors, for specific missions requiring the presence of the concerned director. This scheme has been applicable directly since the Shareholders Meeting of 9 May 2016. As part of the fixed remuneration for non-executive directors, all directors may receive from time to time Company warrants subject to shareholders' approval. As mentioned above, the grant of warrants to non-executive directors is not linked or subject to performance criteria. Directors are also entitled to the reimbursement of out-of-pocket expenses actually incurred as a result of participation in meetings of the Board of Directors.

On May 7, 2018, the Shareholders Meeting approved the terms and conditions of a template of warrants plan to comply with in the event of an implementation of such plan in the next 12 months, upon proposal of the nomination and remuneration committee, with a vesting period of 3 years and for which the exercise price will be the lowest between (i) the average of the closing price of the share in the 30 days preceding the offer and (ii) the last closing price of the share on the date preceding the offer (notwithstanding that, regarding the beneficiaries

who are not members of the personnel of the Company, the exercise price will have to be higher than the average closing price of the 30 days preceding the date of the issuance). More specifically, the Shareholders Meeting approved pursuant to the art. 556 of the BCC, the clause of anticipated vesting in the event of a change of control or a public offering on the shares of the company.

The directors' mandate may be terminated at any time without any form of compensation.

No loans or guarantees were given to members of the Board of Directors during the year ended December 31, 2018.

There are no employment or service agreements that provide for notice periods or indemnities between us and members of the Board of Directors who are not a member of the executive management team. In respect of the members of the Board of Directors who are members of the executive management team, reference is made to the section "—Compensation of Members of the Executive Management Team" below.

The following table sets forth the fees received by our non-executive directors for the performance of their mandate as a board member, during the year ended December 31, 2018:

Name	Fees Earned (€)
Michel Lussier	73,000
Serge Goblet	38,000
Chris Buyse	60,000
Debasish Roychowdhury	36,750
Hanspeter Spek	16,250
Rudy Dekeyser	73,000
Tolefi SA, represented by its permanent representative, Serge Goblet	—
Hilde Windels	36,750
Margo Roberts	23,000
Total	**356,750**

The table below provides an overview as of December 31, 2018 of the warrants held by the non-executive directors.

	Warrant Awards		
Name	Number of Ordinary Shares Underlying Warrants	Warrant Exercise Price in euros	Warrant Expiration Date
Michel Lussier	10,000	34.65	November 5, 2020
	10,000	31.34	June 29, 2022
Chris Buyse	10,000	34.65	November 5, 2020
	10,000	31.34	June 29, 2022
Rudy Dekeyser	10,000	34.65	November 5, 2020
	10,000	31.34	June 29, 2022
Hanspeter Spek	5,000	35.79	May 5, 2019
	10,000	34.65	November 5, 2020
	10,000	31.34	June 29, 2022
Debasish Roychowdhury	10,000	34.65	November 5, 2020
	10,000	31.34	June 29, 2022
Serge Goblet	10,000	31.34	June 29, 2022
Hilde Windels	10,000	22.04	October 25, 2023
Margo Roberts	10,000	22.04	October 25, 2023
Total	**135,000**		

Compensation of Members of the Executive Management Team

The compensation of the members of our executive management team is determined by our Board of Directors based on the recommendations by our Nomination and Remuneration Committee.

The remuneration of the members of our executive management team consists of different components:

- Fixed remuneration: a basic fixed fee designed to fit responsibilities, relevant experience and competences, in line with market rates for equivalent positions. The amount of fixed remuneration is evaluated and determined by the Board of Directors every year.
- Short-term variable remuneration: members of the executive management team may be entitled to a yearly bonus, given the level of achievement of the criteria set out in the corporate objective for that year.
- Incentive plan: warrants have been granted and may be granted in the future, to the members of the executive management team. For a description of the main characteristics of our warrant plans, see the section of this Annual report titled "—Warrant Plans."
- Other: Members of the executive management team with an employee contract with us entitle them to our pension, company car and payments for invalidity and healthcare cover and other fringe benefits of non-material value.

No loans, quasi-loans or other guarantees were granted to members of our executive management team during the year ended on December 31, 2018.

The following table sets forth information regarding compensation earned by LSS Consulting SPRL, represented by Christian Homsy, our Chief Executive Officer, during the year ended December 31, 2018. On March 28, 2019, Mr. Homsy announced his retirement as Chief Executive Officer, with effective date April 1 st , 2019.

	Compensation (in kEuros)
Fixed fee	426
Variable fee	170
Total	**596**

In 2018, Mr. Homsy was not granted warrants and didn't exercise any warrant.

The following table sets forth information concerning the aggregate compensation earned during the year ended December 31, 2018 by the other members of our executive management team, including the CEO.

	Compensation (in kEuros)
Fixed remuneration (gross)	469
Variable remuneration (short-term)	270
Fixed fee	1,643
Variable fee	815
Pension/Life	16
Other benefits	28
Total	**3,240**

The table below provides an overview as of December 31, 2018 of the warrants held by the members of our executive management team.

	Warrant Awards		
Name	Number of Ordinary Shares Underlying Warrants	Warrant Exercise Price in euros	Warrant Expiration Date
Christian Homsy [1]	40,000	34.65	November 5, 2020
	40,000	32.36	June 29, 2022
Filippo Petti	20,000	22.04	October 25, 2023
Frédéric Lehmann [2]	20,000	34.65	November 5, 2020
	20,000	32.36	June 29, 2022
	10,000	22.04	October 25, 2023
Jean-Pierre Latere [3]	20,000	34.65	November 5, 2020
	3,000	32.36	June 29, 2022
Philippe Dechamps [4]	20,000	15.90	December 31, 2021
	20,000	32.36	June 29, 2022
David Gilham	10,000	15.90	November 5, 2025
	6,000	31.34	June 29, 2022
Philippe Nobels [5]	10,000	15.90	December 31, 2021
	20,000	32.36	June 29, 2022
TOTAL	**259,000**		

[1] Christian Homsy holds these warrants in person, whereby he is the representative of LSS Consulting SPRL, his management company, which has been appointed as Chief Executive Officer.

[2] Frederic Lehmann holds these warrants in person, whereby he is the representative of ImXense SPRL, his management company, which has been appointed as Vice President Clinical Development & Medical Affairs.

[3] Jean-Pierre Latere holds these warrants in person, whereby he is the representative of KNCL SPRL, his management company, which has been appointed as Chief Operating Officer.

[4] Philippe Dechamps holds these warrants in person, whereby he is the representative of NandaDevi SPRL, his management company, which has been appointed as Chief Legal Officer.

[5] Philippe Nobels holds these warrants in person, whereby he is the representative of MC Consult SPRL, his management company, which has been appointed as Chief Human Resources Officer.

Limitations on Liability and Indemnification Matters

Under Belgian law, the directors of a company may be liable for damages to us in case of improper performance of their duties. Our directors may be liable to our company and to third parties for infringement of our articles of association or Belgian company law. Under certain circumstances, directors may be criminally liable.

We maintain liability insurance for our directors and officers, including insurance against liability under the Securities Act.

Certain of our non-executive directors may, through their relationships with their employers or partnerships, be insured and/or indemnified against certain liabilities in their capacity as members of our Board of Directors.

In the underwriting agreements we entered into in connection with our June 2015 and May 2018 global offerings, the underwriters agreed to indemnify, under certain conditions, us, the members of our Board of Directors and persons who control our company within the meaning of the Securities Act against certain liabilities, but only to the extent that such liabilities are caused by information relating to the underwriters furnished to us in writing expressly for use in our registration statement and certain other disclosure documents.

Warrant Plans

We have created various incentive plans under which warrants were granted to our employees, consultants or directors. This section provides an overview of the outstanding warrants as of December 31, 2017.

Upon proposal of the Board of Directors, the extraordinary shareholders' meeting approved the issuance of, in the aggregate, warrants giving right to subscribe to shares as follows:

- on September 26, 2008, (warrants giving right to 90,000 shares). Of these 90,000 warrants, 50,000 were offered and accepted. None are outstanding as of the date hereof;
- on May 5, 2010 (warrants giving right to 50,000 shares). Of these 50,000 warrants (15,000 warrants A, 5,000 warrants B and 30,000 warrants C), 12,710 warrants A were accepted, but none are outstanding as of the date hereof; 5,000 warrants B were accepted and none are outstanding as of the date hereof; and 21,700 warrants C were accepted and none are outstanding as of the date hereof;
- on October 29, 2010 (warrants giving right to 79,500 shares). Out of the 79,500 warrants offered, 61,050 warrants were accepted by the beneficiaries and 766 warrants are outstanding as of the date hereof;
- on January 31, 2013 (warrants giving right to 140,000 shares). Out of the 140,000 warrants, 120,000 were granted to certain members of the executive management team and a pool of 20,000 warrants was created. The warrants attributed to certain members of the executive management team were fully vested at December 31, 2013 and were all exercised in January 2014 and therefore converted into ordinary shares. The remaining 20,000 warrants were not granted and therefore lapsed;
- on May 6, 2013 (11 investor warrants are attached to each Class B Share subscribed in the capital increase in cash which was decided on the same date, with each investor warrant giving the right to subscribe to one ordinary share—as a result, these warrants give rights to a maximum of 2,433,618 ordinary shares, subject to the warrants being offered and accepted by the beneficiaries. On May 31, 2013, warrants giving rights to 2,409,176 ordinary shares were issued and accepted, all of which have been exercised as of the date hereof;
- on May 6, 2013 (warrants giving right to 266,241 ordinary shares). Out of the 266,241 warrants offered, 253,150 warrants were accepted by the beneficiaries and 7,000 warrants are outstanding as of the date hereof;
- on June 11, 2013 (overallotment warrant giving right to a maximum number of shares equal to 15% of the new shares issued in the context of the offering, *i.e.* , 207,225 shares). The overallotment warrant was exercised on July 17, 2013;
- on May 5, 2014 (warrants giving right to 100,000 shares), a plan of 100,000 warrants was approved. Warrants were offered to new employees, non-employees and directors in several tranches. Out of the warrants offered, 94,400 warrants were accepted by the beneficiaries and 60,697 warrants are outstanding as of the date hereof;
- on November 5, 2015 (warrants giving right to 466,000 shares), a plan of 466,000 warrants was approved. Warrants were offered to new employees, non-employees and directors in several tranches. Out of the warrants offered, 343,550 warrants were accepted by the beneficiaries and 245,982 warrants are outstanding as of the date hereof;
- on December 12, 2016 (warrants giving right to 100,000 shares), the Board of Directors issued a new plan of 100,000 warrants. An equivalent number of warrants was cancelled from the remaining pool of warrants of the plan approved on November 5, 2015. Warrants were offered to new employees and non-employees in several tranches. Out of the warrants offered, 45,000 warrants were accepted by the beneficiaries and 42,500 warrants are outstanding as of the date hereof.
- on September 27, 2017, (warrants giving rights to 520,000 shares), a plan of 520,000 warrants was approved. Warrants were offered to new employees, non-employees and directors in several tranches.

Out of the warrants offered, 334,400 warrants were accepted by the beneficiaries and 294,484 warrants are outstanding as of the date hereof.

- on 26 October 2018 (Warrants giving rights to 700,000 shares), 700,000.00 Warrants have been issued in the framework of the authorised capital. 89,300 Warrants were accepted by the beneficiaries, out of which 84,300 Warrants are still outstanding on the date hereof.

As a result, as of December 31, 2018, there are 731,229 Warrants outstanding which represent approximately 6.12% of the total number of all its issued and outstanding voting financial instruments.

Issue Date	Term	Number of Warrants Issued [1]	Number of Warrants Granted in number of shares [2]	Exercise Price (in Euros)	Number of Warrants No Longer Exercisable	Warrants exercised	Number of Warrants Outstanding	Exercise periods vested warrants [3]
September 26, 2008	From December 26, 2008 to December 31, 2014	90,000	50,000	22.44	32,501	17,499	—	January 1, 2012 – December 31, 2014
May 5, 2010	From May 5, 2010 to the day of the contribution in kind of Company's debt under the Loan C Agreement	15,000	12,710	22.44	410	12,300	—	The day of the contribution in kind of Company's debt under the Loan C Agreement
May 5, 2010	From May 5, 2010 to May 5, 2016	5,000	5,000	35.36	5,000	—	—	May 5, 2013 – May 5, 2016
May 5, 2010	From May 5, 2010 to December 31, 2016	30,000	21,700	22.44	19,035	2,665	—	January 1, 2012 – December 31, 2016
October 29, 2010	From October 29, 2010 to October 28, 2020	79,500	61,050	35.36	53,418	6,866	766	January 1, 2014 – October 28, 2020
January 31, 2013	From January 31, 2013 to January 31, 2023	140,000	120,000	4.52	—	120,000	—	From January 1, 2014 to January 31, 2023
May 6, 2013	From May 6, 2013 to June 4, 2013	2,409,176	2,409,176	0.01	—	2,409,176	—	From May 6, 2013 to June 4, 2013
May 6, 2013	From May 6, 2013 to May 6, 2023	266,241	253,150	2.64	21,050	229,600	2,500	From January 1, 2017 to May 6, 2023 May 2018 for non-employees and to May 6, 2023 for employees
May 5, 2014	From May 16, 2014 to May 15, 2024	100,000	94,400	From 33.49 to 45.05	33,703	—	60,697	From January 1, 2018 to May 15, 2019 for non-employees and to May 15, 2024 for employees
November 5, 2015	From November 5, 2015 to November 4, 2025	466,000	353,550	From 15.90 to 34.65	107,568	—	245,982	From January 1, 2019 to November 4, 2020 for non-employees and to November 4, 2025 for employees
December 12, 2016	From December 9, 2016 to December 31, 2021	100,000	45,000	From 17.60 to 36.81	2,500	—	42,500	From January 1, 2020 to December 31, 2021
May 5, 2017	From July 20, 2017 to July 31, 2022	520,000	334,400	From 31.34 to 48.89	39,916	—	294,484	From January 1, 2021 to July 31, 2022
October 26, 2018	From December 26, 2018 to December 25, 2023	700,000	89,300	From 21.16 to 22.04	5,000	—	84,300	From January 1, 2022 to December 31, 2023

[1] Issued under the condition precedent of the Warrant effectively being offered and accepted.
[2] The numbers reflect the number of shares for which the holder of Warrants can subscribe upon exercise of all relevant Warrants.
[3] The Warrants (i) can only be exercised by the holder of Warrants if they have effectively vested, and (ii) can only be exercised during the exercise periods as set out in the respective issue and exercise conditions.

Apart from the warrants and warrant plans, we do not currently have other stock options, options to purchase securities, convertible securities or other rights to subscribe for or purchase securities outstanding.

C. Board Practices

Our Board of Directors can set up specialized committees to analyze specific issues and advise the Board of Directors on those issues.

The committees are advisory bodies only and the decision-making remains within the collegial responsibility of the Board of Directors. The Board of Directors determines the terms of service of each committee with respect to the organization, procedures, policies and activities of the committee.

Our Board of Directors has set up and appointed an Audit Committee and a Nomination and Remuneration Committee. The composition and function of all of our committees will comply with all applicable requirements of the Belgian Company Code, the Belgian Corporate Governance Code, the Exchange Act, the applicable rules of the NASDAQ Stock Market and SEC rules and regulations.

Audit Committee

Our Board of Directors has established an audit committee. Our Audit Committee consists of three members: Chris Buyse, Rudy Dekeyser and Hilde Windels.

Our Board of Directors has determined that all members of the Audit Committee are independent under Rule 10A-3 of the Exchange Act and the applicable rules of the NASDAQ Stock Market and that Chris Buyse qualifies as an "Audit Committee financial expert" as defined under the Exchange Act.

The role of our Audit Committee is to ensure the effectiveness of our internal control and risk management systems, the internal audit (if any) and its effectiveness and the statutory audit of the annual and consolidated accounts, and to review and monitor the independence of the external auditor, in particular regarding the provision of additional services to the company. The Audit Committee reports regularly to our Board of Directors on the exercise of its functions. It informs our Board of Directors about all areas in which action or improvement is necessary in its opinion and produces recommendations concerning the necessary steps that need to be taken. The audit review and the reporting on that review cover us and our subsidiaries as a whole. The members of the Audit Committee are entitled to receive all information which they need for the performance of their function, from our Board of Directors, executive management team and employees. Every member of the Audit Committee shall exercise this right in consultation with the chairman of the Audit Committee.

Our Audit Committee's duties and responsibilities to carry out its purposes include, among others: our financial reporting, internal controls and risk management, and our internal and external audit process. These tasks are further described in the Audit Committee charter as set out in our corporate governance charter and in Article 526 *bis* of the Belgian Company Code.

The Audit Committee holds a minimum of four meetings a year.

Nomination and Remuneration Committee

Our Nomination and Remuneration Committee consists of four members: Michel Lussier (Chairman), Chris Buyse and Rudy Dekeyser.

Our Board of Directors has determined that all members of the Nomination and Remuneration Committee are independent under the applicable rules of the NASDAQ Stock Market.

The role of the Nomination and Remuneration Committee is to assist the Board of Directors in all matters:

- relating to the selection and recommendation of qualified candidates for membership of the Board of Directors;
- relating to the nomination of the CEO;
- relating to the nomination of the members of the executive management team, other than the CEO, upon proposal by the CEO;
- relating to the remuneration of independent directors;
- relating to the remuneration of the CEO;
- relating to the remuneration of the members of the executive management team, other than the CEO, upon proposal by the CEO; and
- on which the Board of Directors or the chairman of the Board of Directors requests the Nomination and Remuneration Committee's advice.
- Additionally, with regard to matters relating to remuneration, except for those areas that are reserved by law to the Board of Directors, the nomination and remuneration committee will at least have the following tasks:
- preparing the remuneration report (which is to be included in the board of director's corporate governance statement); and
- explaining its remuneration report at the annual shareholders' meeting.

The committee's tasks are further described in the Nomination and Remuneration Committee charter as set out in our corporate governance charter and Article 526 *quater* of the Belgian Company Code.

For information on the dates of expiration for our Board of Directors' terms in office, see the section of this Annual Report titled "Item 6.A.—Directors and Senior Management." For information with our contracts with our Board of Directors, see the section of this Annual Report titled "Item 7.B.—Related Party Transactions—Agreements with Our Directors and Members of Our Executive Management Team."

D. Employees

As of December 31, 2018, we employed 85 full-time employees, four part-time employees and 7 senior managers under management services agreements. We have never had a work stoppage, and none of our employees is represented by a labor organization or under any collective-bargaining arrangements. We consider our employee relations to be good.

A split of our employees and consultants by main department and geography for the years ended December 31, 2018, 2017 and 2016 was as follows:

	At December 31,		
	2018	2017	2016
By function:			
Clinical & Regulatory, IP, Marketing	19	16	15
Research & Development	30	29	29
Manufacturing /Quality	34	26	31
General Administration	13	16	13
Total	**96**	**87**	**88**
By Geography:			
Belgium	91	83	83
United States	5	4	5
Total	**96**	**87**	**88**

E. Share Ownership

For information regarding the share ownership of our directors and executive officers and arrangements for involving our employees in our capital, see "Item 6.B—Compensation" and "Item 7.A—Major Shareholders."

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

The committee's tasks are further described in the Nomination and Remuneration Committee charter as set out in our corporate governance charter and Article 526 *quater* of the Belgian Company Code.

A. Major shareholders

The following table sets forth information with respect to the beneficial ownership of our ordinary shares as of February 28, 2019 for:

- each person who is known by us to own beneficially more than 5% of our outstanding ordinary shares;
- each member of our Board of Directors;
- each member of our executive management team; and
- all members of our Board of Directors and executive management team as a group.

Beneficial ownership is determined in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities and include ordinary shares that can be acquired within 60 days of February 28, 2019. The percentage ownership information shown in the table is based upon 11,942,344 ordinary shares outstanding as of February 28, 2019.

Except as otherwise indicated, all of the shares reflected in the table are ordinary shares and all persons listed below have sole voting and investment power with respect to the shares beneficially owned by them, subject to applicable community property laws. The information is not necessarily indicative of beneficial ownership for any other purpose.

In computing the number of ordinary shares beneficially owned by a person and the percentage ownership of that person, we deemed outstanding ordinary shares subject to warrants held by that person that are immediately exercisable. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person. The information in the table below is based on information known to us or ascertained by us from public filings made by the shareholders. Except as otherwise indicated in the table below,

addresses of the directors, members of the executive management team and named beneficial owners are in care of Rue Edouard Belin 2, 1435 Mont-Saint-Guibert, Belgium.

NAME OF BENEFICIAL OWNER	SHARES BENEFICIALLY OWNED	
5% Shareholders	Number	Percentage
TOLEFI SA	2,295,701	19,22%
Victory Capital Management, Inc. [1]	646,351	5.41%
Directors and Members of the Executive Management Team		
Michel Lussier [2]	159,950	1.31%
Serge Goblet	56,003	0.47%
Rudy Dekeyser	—	—
Chris Buyse	—	—
Debasish Roychowdhury	—	—
Christian Homsy	132,500	1.11%
Philippe Dechamps	—	—
Philippe Nobels	—	—
David Gilham	—	—
Frederic Lehman	—	—
Jean-Pierre Latere	—	—
All directors and members of the executive management team as a group	**345453**	**2.89%**

[1] As reported in a Schedule 13G filed by Victory Capital Management Inc. on February 1, 2019. Victory Capital Management Inc. has sole voting and dispositive power over these shares. The address of the principal office of Victory Capital Management Inc. is 4900 Tiedeman Rd. 4th Floor, Brooklyn, OH 44144.

[2] Of which 145,150 are ordinary shares and 11,800 are ADSs.

Each of our shareholders is entitled to one vote per ordinary share. None of the holders of our shares have different voting rights from other holders of shares. We are not aware of any arrangement that may, at a subsequent date, result in a change of control of our company.

As of February 28, 2019, assuming that all of our ordinary shares represented by ADSs are held by residents of the United States, we estimate that approximately 7.00% of our outstanding ordinary shares were held in the United States by one registered holder of record. The actual number of holders is greater than these numbers of record holders, and includes beneficial owners whose ADSs are held in street name by brokers and other nominees. This number of holders of record also does not include holders whose shares may be held in trust by other entities.

Change in Ownership of Major Shareholders

On August 3, 2016, Medisun International Limited crossed the 5% ownership threshold downwards following its sale of shares.

On February 17, 2017, Tolefi SA crossed the 25% ownership threshold downwards following the capital increase resulting from the exercise of outstanding warrants.

On May 22, 2018, Tolefi SA crossed the 20% ownership threshold downwards following the capital increase resulting from the raising of funds through a contribution in cash subscribed in a private placement.

On September 25, 2018, Victory Capital Management crossed the 5% ownership upwards.

B. Related Party Transactions.

Since January 1, 2018, we have engaged in the following transactions with our directors, executive officers and holders of more than 5% of our outstanding voting securities and their affiliates, which we refer to as our related parties.

As of December 31, 2018, there were no outstanding loans, nor guarantees made by us or our subsidiaries to or for the benefit of any related party.

Transactions with Our Principal Shareholders

We have not engaged into any transactions with our principal shareholders.

Agreements with Our Directors and Members of our Executive Management Team

Employment Arrangements

We have entered into employment agreements with the below members of our executive management team:

David Gilham

On September 12, 2016, we entered into an employment agreement with Mr. David Gilham, our Vice President research and development, with an effective date as of September 12, 2016. Pursuant to this agreement, Mr. Gilham is entitled to an annual base salary and is also eligible to receive a bonus capped at 30% of his annual compensation, determined in full discretion by the Board of Directors on the basis of the Mr. Gilham performance and our overall performance. Mr. Gilham is also eligible to receive warrants.

Filippo Petti

On July 30, 2018, we entered into an employment agreement with Mr. Filippo Petti, our CFO, with an effective date as of September 3, 2018. Pursuant to this agreement, Mr. Petti is entitled to an annual base salary and is also eligible to receive a bonus capped at 35% of his annual compensation, determined in full discretion by the Board of Directors on the basis of the Mr. Petti performance and our overall performance. Mr. Petti is also eligible to receive warrants.

Management Services Arrangements

We have entered into management services agreements with the below members of our senior leadership team.

Christian Homsy

On January 23, 2014, we contracted with LSS Consulting SPRL, permanently represented by Mr. Homsy. Under this agreement, LSS Consulting SPRL is entitled to an annual base fee. LSS Consulting SPRL is also eligible to receive warrants and a bonus capped at 40% of his annual base fee, determined in full discretion by the Board of Directors on the basis of the LSS Consulting SPRL's performance and our overall performance.

Patrick Jeanmart

On January 7, 2008, we entered into a management services agreement with PaJe SPRL, represented by Patrick Jeanmart, our Chief Financial Officer. Under this agreement, PaJe SPRL is entitled to an annual base fee. PaJe SPRL is also eligible for a bonus capped at 30% of his annual base fee, determined in full discretion by the Board of Directors on the basis of PaJe SPRL's performance and our overall performance. The management services agreement with PaJe SPRL was terminated on August 31, 2018 with effective date as of December 31, 2018. A termination indemnity of 9 months fee has been paid to PaJe SPRL.

Jean-Pierre Latere

On December 7, 2015, we entered into a management services agreement with KNCL SPRL, represented by Jean-Pierre Latere, our Chief Operating Officer. Under this agreement, KNCL SPRL is entitled to an annual base fee. KNCL SPRL is also eligible for a bonus capped at 30% of his annual base fee, determined in full discretion by the Board of Directors on the basis of KNCL SPRL's performance and our overall performance.

Philippe Dechamps

On May 20, 2016, we entered into a management services agreement with NandaDevi SPRL, represented by Philippe Dechamps, our Chief Legal Officer. Under this agreement, NandaDevi SPRL is entitled to an annual base fee. NandaDevi SPRL is also eligible for a bonus capped at 30% of his annual base fee, determined in full discretion by the Board of Directors on the basis of NandaDevi SPRL's performance and our overall performance.

Philippe Nobels

On January 17, 2017, we entered into a management services agreement with MC Consult SPRL, represented by Philippe Nobels, our Global Head of Human Resources. Under this agreement, MC Consult SPRL is entitled to an annual base fee. NandaDevi SPRL is also eligible for a bonus capped at 30% of his annual base fee, determined in full discretion by the Board of Directors on the basis of MC Consult SPRL's performance and our overall performance.

Director and Executive Management Team Compensation

See "Item 6.B.—Compensation" for information regarding compensation of directors and members of our executive management team.

Warrants

Since our inception, we have granted warrants to certain of our directors and members of our executive management team. See "Item 6.B.—Compensation" for information regarding warrants issued to members of our executive management team and directors.

Indemnification Agreements

In connection with our global offering in June 2015, we entered into indemnification agreements with each of our directors and members of our executive management team. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling us pursuant to the foregoing provisions, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Transactions with Related Companies

Related Party Transactions Policy

Article 524 of the Belgian Company Code provides for a special procedure that applies to intragroup or related party transactions with affiliates. The procedure applies to decisions or transactions between us and our affiliates that are not one of our subsidiaries. Prior to any such decision or transaction, our Board of Directors must appoint a special committee consisting of three independent directors, assisted by one or more independent experts. This committee must assess the business advantages and disadvantages of the decision or transaction, quantify its financial consequences and determine whether the decision or transaction causes a disadvantage to us that is manifestly illegitimate in view of our policy. If the committee determines that the decision or transaction is not

illegitimate but will prejudice us, it must analyze the advantages and disadvantages of such decision or transaction and set out such considerations as part of its advice. Our Board of Directors must then make a decision, taking into account the opinion of the committee. Any deviation from the committee's advice must be justified. Directors who have a conflict of interest are not entitled to participate in the deliberation and vote. The committee's advice and the decision of the Board of Directors must be notified to our statutory auditor, who must render a separate opinion. The conclusion of the committee, an excerpt from the minutes of the Board of Directors and the opinion by the statutory auditor must be included in our annual report. This procedure does not apply to decisions or transactions in the ordinary course of business under customary market conditions and security documents, or to transactions or decisions with a value of less than 1% of our net assets as shown in our consolidated annual accounts.

In addition to this, our corporate governance charter provides for guidelines for transactions between us and our directors or members of the executive management team. According to such guidelines:

- A member of our Board of Directors or executive management team will in any event be considered to have a conflict of interests if:
- he/she has a personal financial interest in a company with which we intend to enter into a transaction;
- he/she, his/her spouse, registered partner or other life companion, foster child or relative by blood or marriage up to the second degree is a member of the executive management of or board of a company with which we intend to enter into a transaction;
- he/she is a member of the board or executive management of, or holds similar office with, a company with which we intend to enter into a transaction;
- under applicable law, including the rules of any stock market on which our shares may be listed, such conflict of interests exists or is deemed to exist.

Each member of the Board of Directors or each member of the executive management team must immediately report any potential conflict of interests to the chairman and to the other members of the Board of Directors or of the executive management team, as the case may be. The members concerned must provide the chairman and the other members of the Board of Directors or of executive management team, as the case may be, with all information relevant to the conflict, including information relating to the persons with whom he has a family law relationship (his/her spouse, registered partner or other life companion, foster child or relative by blood or marriage up to the second degree) to the extent relevant for the assessment of the existence of a conflict of interests. The chairman of the Board of Directors or of the executive management team will determine whether a reported (potential) conflict of interests qualifies as a conflict of interests.

If this is the case, a member of the Board of Directors or of the executive management team, as the case may be, must not participate in the discussions or decision-taking process of the Board of Directors or of the executive management team, as the case may be, on a subject or transaction in relation to which he has a conflict of interests with us. This transaction, if approved, must be concluded on term customary in the sector concerned and be approved, in the case of a decision by the executive management team, by the Board of Directors. Without prejudice to the foregoing, each member of the Board of Directors who is faced, directly or indirectly, with a financial interest that conflicts with a decision or transaction within the competence of the Board of Directors, within the meaning of Article 523, or Article 524ter of the Belgian Company Code, as the case may be, must inform the other members of the Board of Directors thereof prior to the deliberations. The declaration, as well as the justification, must be included in the minutes of the relevant meeting of the Board of Directors. The relevant member of the Board of Directors must inform the statutory auditor of his conflict of interests. With a view to publication in the annual report, the Board of Directors must set out in its minutes the nature of the decision or transaction and the justification thereof, including the financial consequences of the decision or transaction for us. In the case of a conflict of interests within the executive management team, a copy of the minutes of the executive management team must be submitted to the Board of Directors at its next meeting. The chairman must

procure that all these transactions involving conflicts of interests will be referred to in the annual report, with a declaration that the provisions in our corporate governance charter have been complied with.

C. Interest of Experts and Counsel

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. Consolidated Statements and Other Financial Information Consolidated Financial Statements

Our consolidated financial statements are appended at the end of this Annual Report, starting at page F-1, and incorporated herein by reference.

Dividend Policy

We have never declared or paid any cash dividends on our ordinary shares. We do not anticipate paying cash dividends on our equity securities in the foreseeable future and intend to retain all available funds and any future earnings for use in the operation and expansion of our business. All of the ordinary shares, including in the form of the ADSs, offered by this report will have the same dividend rights as all of our other outstanding ordinary shares. In general, distributions of dividends proposed by our Board of Directors require the approval of our shareholders at a meeting of shareholders with a simple majority vote, although our Board of Directors may declare interim dividends without shareholder approval, subject to the terms and conditions of the Belgian Company Code.

Pursuant to Belgian law, the calculation of amounts available for distribution to shareholders, as dividends or otherwise, must be determined on the basis of our non-consolidated statutory financial accounts prepared under Belgian GAAP, and not on the basis of IFRS consolidated accounts. In addition, under the Belgian Company Code, we may declare or pay dividends only if, following the declaration and issuance of the dividends, the amount of our net assets on the date of the closing of the last financial year according to our statutory annual accounts (i.e., the amount of the assets as shown in the balance sheet, decreased with provisions and liabilities, all as prepared in accordance with Belgian accounting rules), decreased with the non-amortized costs of incorporation and expansion and the non-amortized costs for research and development, does not fall below the amount of the paid-up capital (or, if higher, the called capital), increased with the amount of non-distributable reserves. Finally, prior to distributing dividends, we must allocate at least 5% of our annual net profits (under our non-consolidated statutory accounts prepared in accordance with Belgian accounting rules) to a legal reserve, until the reserve amounts to 10% of our share capital.

For information regarding the Belgian withholding tax applicable to dividends and related U.S. reimbursement procedures, see “Item 10.E.—Taxation—Belgian Tax Consequences.”

Legal Proceedings

From time to time we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. We are not presently a party to any legal proceedings that, if determined adversely to us, would individually or taken together have a material adverse effect on our business, results of operations, financial condition or cash flows. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

B. Significant Changes

In March 2018, we dissolved and wound up the affairs of our wholly owned subsidiary OnCyte, LLC, or OnCyte, pursuant to the Delaware Limited Liability Company Act. As a result of the dissolution of OnCyte, all the assets

and liabilities of OnCyte, including the contingent consideration payable and our license agreement with Dartmouth College, were fully distributed to and assumed by Celyad SA. Celyad SA will continue to carry out the business and obligations of OnCyte, including under our license agreement with Dartmouth College.

ITEM 9. THE OFFER AND LISTING

A. Offer and Listing Details

The ADS have been listed on NASDAQ under the symbol "CYAD" since June 19, 2015. Prior to that date, there was no public trading market for ADSs. Our ordinary shares have been trading on Euronext Brussels and Euronext Paris under the symbol "CYAD" since July 5, 2013. Prior to that date, there was no public trading market for ADSs or our ordinary shares.

B. Plan of Distribution

Not applicable.

C. Markets.

The ADSs have been listed on the Nasdaq under the symbol "CYAD" since June 19, 2015 and the ordinary shares have been listed on the Euronext Brussels and Euronext Paris under the symbol "CYAD" since July 5, 2013.

D. Selling Shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the Issue.

Not applicable.

ITEM 10. ADDITIONAL INFORMATION

A. Share Capital

Not applicable.

B. Memorandum and Articles of Association

The information set forth in our Registration Statement on Form F-3 (File No. 333-220285), as amended, originally filed with the SEC on August 31, 2017 and declared effective by the SEC on October 6, 2017, under the headings "Description of Share Capital" and "Description of Securities", as supplemented by the sections titled "Description of Share Capital" in the final prospectus supplement on Form 424(b)(5) dated May 17, 2018 filed with the SEC on May 18, 2018 is incorporated herein by reference.

C. Material Contracts

We entered into an underwriting agreement with Wells Fargo Securities, LLC and Bryan, Garnier & Co., as representatives of the underwriters, in May 2018, with respect to the ADSs and ordinary shares sold in our global

offering. We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, and to contribute to payments the underwriters may be required to make in respect of such liabilities. For additional information on our material contracts, please see the sections of this Annual Report titled "Item 4.B.—Business Overview—Licensing and Collaboration Agreements" and "Item 7—Major Shareholders and Related Party Transactions."

D. Exchange Controls.

Exchange Controls and Limitations Affecting Shareholders

There are no Belgian exchange control regulations that impose limitations on our ability to make, or the amount of, cash payments to residents of the United States.

We are in principle under an obligation to report to the National Bank of Belgium certain cross-border payments, transfers of funds, investments and other transactions in accordance with applicable balance-of-payments statistical reporting obligations. Where a cross-border transaction is carried out by a Belgian credit institution on our behalf, the credit institution will in certain circumstances be responsible for the reporting obligations.

E. Taxation

Material Income Tax Considerations

The information presented under the caption "Certain Material U.S. Federal Income Tax Considerations to U.S. Holders" below is a discussion of certain material U.S. federal income tax considerations to a U.S. holder (as defined below) of investing in ADSs. The information presented under the caption "Belgian Tax Consequences" is a discussion of the material Belgian tax consequences of investing in ADSs.

You should consult your tax advisor regarding the applicable tax consequences to you of investing in ADSs under the laws of the United States (federal, state and local), Belgium, and any other applicable foreign jurisdiction.

Certain Material U.S. Federal Income Tax Considerations to U.S. Holders

The following is a summary of certain material U.S. federal income tax considerations relating to the acquisition, ownership and disposition of ADSs by a U.S. holder (as defined below). This summary addresses only the U.S. federal income tax considerations for U.S. holders that are initial purchasers of the ADSs pursuant to the offering and that will hold such ADSs as capital assets for U.S. federal income tax purposes. This summary does not address all U.S. federal income tax matters that may be relevant to a particular U.S. holder. This summary does not address tax considerations applicable to a holder of ADSs that may be subject to special tax rules including, without limitation, the following:

- banks, financial institutions or insurance companies;
- brokers, dealers or traders in securities, currencies, commodities, or notional principal contracts;
- tax-exempt entities or organizations, including an "individual retirement account" or "Roth IRA" as defined in Section 408 or 408A of the Code (as defined below), respectively;
- real estate investment trusts, regulated investment companies or grantor trusts;
- persons that hold the ADSs as part of a "hedging," "integrated" or "conversion" transaction or as a position in a "straddle" for U.S. federal income tax purposes;
- partnerships (including entities and arrangements classified as partnerships for U.S. federal income tax purposes) or other pass-through entities, or persons that will hold the ADSs through such an entity;

- certain former citizens or long-term residents of the United States;
- persons required under Section 451(b) of the Code to conform the timing of income accruals with respect to the ADSs to their financial statements;
- holders that own (directly, indirectly, or through attribution) 10% or more of the value of the ADSs and shares; and
- holders that have a "functional currency" for U.S. federal income tax purposes other than the U.S. dollar.

Further, this summary does not address the U.S. federal estate, gift, or alternative minimum tax considerations, or any U.S. state, local, or non-U.S. tax considerations of the acquisition, ownership and disposition of the ADSs.

This description is based on the U.S. Internal Revenue Code of 1986, as amended, or the Code; existing, proposed and temporary U.S. Treasury Regulations promulgated thereunder, administrative and judicial interpretations thereof; and the income tax treaty between Belgium and the United States in each case as of and available as of the date hereof. All the foregoing is subject to change, which change could apply retroactively, and to differing interpretations, all of which could affect the tax considerations described below. There can be no assurances that the U.S. Internal Revenue Service, or IRS, will not take a contrary or different position concerning the tax consequences of the acquisition, ownership and disposition of the ADSs or that such a position would not be sustained. Holders should consult their own tax advisors concerning the U.S. federal, state, local and non-U.S. tax consequences of owning, and disposing of the ADSs in their particular circumstances.

For the purposes of this summary, a "U.S. holder" is a beneficial owner of ADSs that is (or is treated as), for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation, or other entity that is treated as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust, (1) if a court within the United States is able to exercise primary supervision over its administration and one or more U.S. persons have the authority to control all of the substantial decisions of such trust or (2) if the trust has a valid election in effect under applicable U.S. Treasury Regulations to be treated as a United States person.

If a partnership (or any other entity or arrangement treated as a partnership for U.S. federal income tax purposes) holds ADSs, the U.S. federal income tax consequences relating to an investment in the ADSs will depend in part upon the status of the partner and the activities of the partnership. Such a partner or partnership should consult its tax advisor regarding the U.S. federal income tax considerations of owning and disposing of the ADSs in its particular circumstances.

In general, a U.S. holder who owns ADSs will be treated as the beneficial owner of the underlying shares represented by those ADSs for U.S. federal income tax purposes. Accordingly, no gain or loss will generally be recognized if a U.S. holder exchanges ADSs for the underlying shares represented by those ADSs.

As indicated below, this discussion is subject to U.S. federal income tax rules applicable to a "passive foreign investment company," or a PFIC.

Persons considering an investment in the ADSs should consult their own tax advisors as to the particular tax consequences applicable to them relating to the acquisition, ownership and disposition of the ADSs, including the applicability of U.S. federal, state and local tax laws and non-U.S. tax laws.

Distributions . Although we do not currently plan to pay dividends, and subject to the discussion under "—Passive Foreign Investment Company Considerations" below, the gross amount of any distribution (before reduction for any amounts withheld in respect of Belgian withholding tax) actually or constructively received by a U.S. holder with respect to ADSs will be taxable to the U.S. holder as a dividend to the extent of the U.S. holder's pro rata share of our current and accumulated earnings and profits as determined under U.S. federal income tax principles. Distributions in excess of earnings and profits will be non-taxable to the U.S. holder to the extent of, and will be applied against and reduce, the U.S. holder's adjusted tax basis in the ADSs. Distributions in excess of earnings and profits and such adjusted tax basis will generally be taxable to the U.S. holder as either long-term or short-term capital gain depending upon whether the U.S. holder has held the ADSs for more than one year as of the time such distribution is received. However, since we do not calculate our earnings and profits under U.S. federal income tax principles, it is expected that any distribution will be reported as a dividend, even if that distribution would otherwise be treated as a non-taxable return of capital or as capital gain under the rules described above. Non-corporate U.S. holders may qualify for the preferential rates of taxation with respect to dividends on ADSs applicable to long-term capital gains (*i.e.* , gains from the sale of capital assets held for more than one year) applicable to qualified dividend income (as discussed below) if we are a "qualified foreign corporation" and certain other requirements (discussed below) are met. A non-U.S. corporation (other than a corporation that is classified as a PFIC for the taxable year in which the dividend is paid or the preceding taxable year) generally will be considered to be a qualified foreign corporation (a) if it is eligible for the benefits of a comprehensive tax treaty with the United States which the Secretary of Treasury of the United States determines is satisfactory for purposes of this provision and which includes an exchange of information provision, or (b) with respect to any dividend it pays on ADSs which are readily tradable on an established securities market in the United States. The ADSs are listed on the Nasdaq Global Market, or NASDAQ, which is an established securities market in the United States, and we expect the ADSs to be readily tradable on NASDAQ. However, there can be no assurance that the ADSs will be considered readily tradable on an established securities market in the United States in later years. We are incorporated under the laws of Belgium, and we believe that we qualify as a resident of Belgium for purposes of, and are eligible for the benefits of, The Convention between the Government of the United States and the Government of the Kingdom of Belgium for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income, signed on November 27, 2006 (the U.S.-Belgium Tax Treaty), although there can be no assurance in this regard. Further, the IRS has determined that the U.S.-Belgium Tax Treaty is satisfactory for purposes of the qualified dividend rules and that it includes an exchange-of-information program. Therefore, subject to the discussion under "—Passive Foreign Investment Company Considerations" below, such dividends will generally be "qualified dividend income" in the hands of individual U.S. holders, provided that a holding period requirement (more than 60 days of ownership, without protection from the risk of loss, during the 121-day period beginning 60 days before the ex-dividend date) and certain other requirements are met. Dividends received by a corporate U.S. holder will not be eligible for the dividends-received deduction generally allowed to corporate U.S. holders.

A U.S. holder generally may claim the amount of any Belgian withholding tax as either a deduction from gross income or a credit against U.S. federal income tax liability. However, the foreign tax credit is subject to numerous complex limitations that must be determined and applied on an individual basis. Generally, the credit cannot exceed the proportionate share of a U.S. holder's U.S. federal income tax liability that such U.S. holder's "foreign source" taxable income bears to such U.S. holder's worldwide taxable income. In applying this limitation, a U.S. holder's various items of income and deduction must be classified, under complex rules, as either "foreign source" or "U.S. source." In addition, this limitation is calculated separately with respect to specific categories of income. Furthermore, Belgian income taxes that are withheld in excess of the rate applicable under the U.S.-Belgium Tax Treaty or that are refundable under Belgian law will not be eligible for credit against a U.S. holder's federal income tax liability. Each U.S. holder should consult its own tax advisors regarding the foreign tax credit rules.

In general, the amount of a distribution paid to a U.S. holder in a foreign currency will be the dollar value of the foreign currency calculated by reference to the spot exchange rate on the day the U.S. holder receives the distribution, regardless of whether the foreign currency is converted into U.S. dollars at that time.

The U.S. holder will take a tax basis in the foreign currency equal to their U.S. dollar equivalent on such date. The conversion of the foreign currency into U.S. dollars at a later date will give rise to foreign currency exchange gain or loss equal to the difference between their U.S. dollar equivalent at such later time and their tax basis. Any foreign currency gain or loss a U.S. holder recognizes on a subsequent conversion of foreign currency into U.S. dollars will be U.S. source ordinary income or loss. If a distribution received in a foreign currency is converted into U.S. dollars on the day they are received, a U.S. holder should not be required to recognize foreign currency gain or loss in respect of the distribution. For foreign credit limitation purposes, distributions paid on ADSs that are treated as dividends will generally be foreign source income and will generally constitute passive category income.

Sale, Exchange or Other Taxable Disposition of the ADSs . A U.S. holder will generally recognize gain or loss for U.S. federal income tax purposes upon the sale, exchange or other taxable disposition of ADSs in an amount equal to the difference between the U.S. dollar value of the amount realized from such sale or exchange and the U.S. holder's tax basis for those ADSs. Subject to the discussion under "—Passive Foreign Investment Company Considerations" below, this gain or loss will generally be a capital gain or loss. The adjusted tax basis in the ADSs generally will be equal to the cost of such ADSs. Capital gain from the sale, exchange or other taxable disposition of ADSs of a non-corporate U.S. holder is generally eligible for a preferential rate of taxation applicable to capital gains, if the non-corporate U.S. holder's holding period determined at the time of such sale, exchange or other taxable disposition for such ADSs exceeds one year (*i.e.* , such gain is long-term taxable gain). The deductibility of capital losses for U.S. federal income tax purposes is subject to limitations. Any such gain or loss that a U.S. holder recognizes generally will be treated as U.S. source income or loss for foreign tax credit limitation purposes.

Medicare Tax . Certain U.S. holders that are individuals, estates or trusts are subject to a 3.8% tax on all or a portion of their "net investment income," which may include all or a portion of their dividend income and net gains from the disposition of ADSs. Each U.S. holder that is an individual, estate or trust is urged to consult its tax advisors regarding the applicability of the Medicare tax to its income and gains in respect of its investment in the ADSs.

Passive Foreign Investment Company Considerations . If we are a PFIC for any taxable year when a U.S. holder owns our ADSs, the U.S. holder would be subject to special rules generally intended to reduce or eliminate any benefits from the deferral of U.S. federal income tax that a U.S. holder could derive from investing in a non-U.S. company that does not distribute all of its earnings on a current basis.

A corporation organized outside the United States generally will be classified as a PFIC for U.S. federal income tax purposes in any taxable year in which, after applying certain look-through rules with respect to the income and assets of its subsidiaries, either: (i) at least 75% of its gross income is "passive income" or (ii) at least 50% of the average quarterly value of its total gross assets (which is measured by the fair market value of our assets, and for which purpose the total value of our assets may be determined in part by reference to the market value of the ADSs and our ordinary shares, which is subject to change) is attributable to assets that produce "passive income" or are held for the production of "passive income."

Passive income for this purpose generally includes dividends, interest, royalties, rents, gains from commodities and securities transactions, the excess of gains over losses from the disposition of assets which produce passive income, and includes amounts derived by reason of the temporary investment of cash, including the funds raised in offerings of the ADSs. If a non-U.S. corporation owns directly or indirectly at least 25% by value of the stock of another corporation, the non-U.S. corporation is treated for purposes of the PFIC tests as owning its proportionate share of the assets of the other corporation and as receiving directly its proportionate share of the

other corporation's income. If we are a PFIC for any year with respect to which a U.S. holder owns the ADSs, we will continue to be treated as a PFIC with respect to such U.S. holder in all succeeding years during which the U.S. holder owns the ADSs, regardless of whether we continue to meet the tests described above.

Whether we are a PFIC for any taxable year will depend on the composition of our income and the projected composition and estimated fair market values of our assets in each year, and because this is a factual determination made annually after the end of each taxable year, there can be no assurance that we will not be considered a PFIC for any taxable year. The market value of our assets may be determined in large part by reference to the market price of the ADSs and our ordinary shares, which is likely to fluctuate after the offering. Based on the foregoing, we do not believe that we were a PFIC for the 2018 taxable year. With respect to our 2019 taxable year and future taxable years, it is uncertain whether we will be a PFIC based upon the expected value of our assets, including any goodwill, and the expected composition of our income and assets,. Notwithstanding the foregoing, we cannot provide any assurances regarding our PFIC status for the current, prior or future taxable years.

If we are a PFIC for any taxable year, then unless you make one of the elections described below, a special tax regime will apply to both (a) any "excess distribution" by us to you (generally, your ratable portion of distributions in any year which are greater than 125% of the average annual distribution received by you in the shorter of the three preceding years or your holding period for the ADSs) and (b) any gain realized on the sale or other disposition of the ADSs. Under this regime, any excess distribution and realized gain will be treated as ordinary income and will be subject to tax as if (a) the excess distribution or gain had been realized ratably over your holding period, (b) the amount deemed realized in each year had been subject to tax in each year of that holding period at the highest marginal rate for such year (other than income allocated to the current period or any taxable period before we became a PFIC, which would be subject to tax at the U.S. holder's regular ordinary income rate for the current year and would not be subject to the interest charge discussed below), and (c) the interest charge generally applicable to underpayments of tax had been imposed on the taxes deemed to have been payable in those years. In addition, dividend distributions made to you will not qualify for the lower rates of taxation applicable to long-term capital gains discussed above under "—Distributions."

Certain elections exist that would result in an alternative treatment (such as mark-to-market treatment) of the ADSs. If a U.S. holder makes the mark-to- market election, the U.S. holder generally will recognize as ordinary income any excess of the fair market value of the ADSs at the end of each taxable year over their adjusted tax basis, and will recognize an ordinary loss in respect of any excess of the adjusted tax basis of the ADSs over their fair market value at the end of the taxable year (but only to the extent of the net amount of income previously included as a result of the mark-to-market election). If a U.S. holder makes the election, the U.S. holder's tax basis in the ADSs will be adjusted to reflect these income or loss amounts. Any gain recognized on the sale or other disposition of ADSs in a year when we are a PFIC will be treated as ordinary income and any loss will be treated as an ordinary loss (but only to the extent of the net amount of income previously included as a result of the mark-to-market election). The mark-to- market election is available only if we are a PFIC and the ADSs are "regularly traded" on a "qualified exchange." The ADSs will be treated as "regularly traded" in any calendar year in which more than a *de minimis* quantity of the ADSs are traded on a qualified exchange on at least 15 days during each calendar quarter (subject to the rule that trades that have as one of their principal purposes the meeting of the trading requirement as disregarded). NASDAQ is a qualified exchange for this purpose and, consequently, if the ADSs are regularly traded, the mark- to-market election will be available to a U.S. holder.

We do not currently intend to provide the information necessary for U.S. holders to make qualified electing fund elections if we are treated as a PFIC for any taxable year.

If we are determined to be a PFIC for any taxable year included in the holding period a U.S. holder, such holder may be subject to adverse tax consequences. U.S. holders should consult their tax advisors to determine whether any of these elections, or other elections for current or past taxable years, may be available and if so, what the consequences of the alternative treatments would be in their particular circumstances.

If we are determined to be a PFIC, the general tax treatment for U.S. holders described in this section would apply to indirect distributions and gains deemed to be recognized by U.S. holders in respect of any of our subsidiaries that also may be determined to be PFICs.

If a U.S. holder owns ADSs during any taxable year in which we are a PFIC, the U.S. holder generally will be required to file an IRS Form 8621 (Information Return by a Shareholder of a Passive Foreign Investment Company or Qualified Electing Fund) with respect to the company, generally with the U.S. holder's federal income tax return for that year. If our company were a PFIC for a given taxable year, then you should consult your tax advisor concerning your annual filing requirements.

The U.S. federal income tax rules relating to PFICs are complex. Prospective U.S. investors are urged to consult their own tax advisors with respect to the acquisition, ownership and disposition of the ADSs, the consequences to them of an investment in a PFIC, any elections available with respect to the ADSs and the IRS information reporting obligations with respect to the acquisition, ownership and disposition of the ADSs.

Backup Withholding and Information Reporting . U.S. holders generally will be subject to information reporting requirements with respect to dividends on ADSs and on the proceeds from the sale, exchange or disposition of ADSs that are paid within the United States or through U.S.-related financial intermediaries, unless the U.S. holder is an "exempt recipient." In addition, U.S. holders may be subject to backup withholding on such payments, unless the U.S. holder provides a correct taxpayer identification number and a duly executed IRS Form W-9 or otherwise establishes an exemption. Backup withholding is not an additional tax, and the amount of any backup withholding will be allowed as a credit against a U.S. holder's U.S. federal income tax liability and may entitle such holder to a refund, provided that the required information is timely furnished to the IRS.

Foreign Asset Reporting . Certain U.S. holders who are individuals and certain entities controlled by individuals may be required to report information relating to an interest in the ADSs, subject to certain exceptions (including an exception for shares held in accounts maintained by U.S. financial institutions) by filing IRS Form 8938 (Statement of Specified Foreign Financial Assets) with their federal income tax return. U.S. holders are urged to consult their tax advisors regarding their information reporting obligations, if any, with respect to their acquisition, ownership and disposition of the ADSs.

THE DISCUSSION ABOVE IS A GENERAL SUMMARY. IT DOES NOT COVER ALL TAX MATTERS THAT MAY BE OF IMPORTANCE TO A PROSPECTIVE INVESTOR. EACH PROSPECTIVE INVESTOR IS URGED TO CONSULT ITS OWN TAX ADVISOR ABOUT THE TAX CONSEQUENCES TO IT OF AN INVESTMENT IN ADSS IN LIGHT OF THE INVESTOR'S OWN CIRCUMSTANCES.

Belgian Tax Consequences

The following paragraphs are a summary of material Belgian tax consequences of the ownership of ADSs by an investor. The summary is based on laws, treaties and regulatory interpretations in effect in Belgium on the date of this Annual Report, all of which are subject to change, including changes that could have retroactive effect.

The summary only discusses Belgian tax aspects which are relevant to U.S. holders of ADSs (Holders). This summary does not address Belgian tax aspects which are relevant to persons who are fiscally resident in Belgium or who avail of a permanent establishment or a fixed base in Belgium to which the ADSs are effectively connected.

This summary does not purport to be a description of all of the tax consequences of the ownership of ADSs, and does not take into account the specific circumstances of any particular investor, some of which may be subject to special rules, or the tax laws of any country other than Belgium. This summary does not describe the tax

treatment of investors that are subject to special rules, such as banks, insurance companies, collective investment undertakings, dealers in securities or currencies, persons that hold, or will hold, ADSs in a position in a straddle, share-repurchase transaction, conversion transactions, synthetic security or other integrated financial transactions. Investors should consult their own advisors regarding the tax consequences of an investment in ADSs in the light of their particular circumstances, including the effect of any state, local or other national laws.

In addition to the assumptions mentioned above, it is also assumed in this discussion that for purposes of the domestic Belgian tax legislation, the owners of ADSs will be treated as the owners of the ordinary shares represented by such ADSs. However, the assumption has not been confirmed by or verified with the Belgian Tax Authorities.

Dividend Withholding Tax

As a general rule, a withholding tax of 30% is levied on the gross amount of dividends paid on the ordinary shares represented by the ADSs, subject to such relief as may be available under applicable domestic or tax treaty provisions.

Dividends subject to the dividend withholding tax include all benefits attributed to the ordinary shares represented by the ADSs, irrespective of their form, as well as reimbursements of statutory share capital by us, except reimbursements of fiscal capital made in accordance with the Belgian Companies Code. In principle, fiscal capital includes paid-up statutory share capital, and subject to certain conditions, the paid-up issue premiums and the amounts subscribed to at the time of the issue of profit sharing certificates. As a rule, any reduction of fiscal capital is deemed to be paid out on a *pro rata* basis of the fiscal capital and certain reserves (in the following order: the taxed reserves incorporated in the statutory capital, the taxed reserves not incorporated in the statutory capital and the tax-exempt reserves incorporated in the statutory capital). Only the part of the capital reduction that is deemed to be paid out of the fiscal capital will, for Belgian withholding tax purposes, not be considered as a dividend distribution provided such repayment is carried out in accordance with the relevant provisions of company law.

In case of a redemption by us of our own shares represented by ADSs, the redemption distribution (after deduction of the portion of fiscal capital represented by the redeemed shares) will be treated as a dividend which in principle is subject to the withholding tax of 30%, subject to such relief as may be available under applicable domestic or tax treaty provisions. In case of a liquidation of our company, any amounts distributed in excess of the fiscal capital will also be treated as a dividend, and will in principle be subject to a 30% withholding tax, subject to such relief as may be available under applicable domestic or tax treaty provisions.

For non-residents the dividend withholding tax, if any, will be the only tax on dividends in Belgium, unless the non-resident avails of a fixed base in Belgium or a Belgian permanent establishment to which the ADSs are effectively connected.

Relief of Belgian Dividend Withholding Tax

Under the U.S.-Belgium Tax Treaty, under which we are entitled to benefits accorded to residents of Belgium, there is a reduced Belgian withholding tax rate of 15% on dividends paid by us to a U.S. resident which beneficially owns the dividends and is entitled to claim the benefits of the U.S.-Belgium Tax Treaty under the limitation of benefits article included in the U.S.-Belgium Tax Treaty (Qualifying Holders).

If such Qualifying Holder is a company that owns directly at least 10% of our voting stock, the Belgian withholding tax rate is further reduced to 5%. No withholding tax is however applicable if the Qualifying Holder, is either of the following:

- a company that is a resident of the United States that has owned directly ADSs representing at least 10% of our capital for a twelve-month period ending on the date the dividend is declared, or
- a pension fund that is a resident of the United States, provided that such dividends are not derived from the carrying on of a business by the pension fund or through an associated enterprise.

Under the normal procedure, we or our paying agent must withhold the full Belgian withholding tax, without taking into account the reduced U.S.-Belgium Tax Treaty rate. Qualifying Holders may then make a claim for reimbursement for amounts withheld in excess of the rate defined by the U.S.-Belgium Tax Treaty. The reimbursement form (Form 276 Div-Aut.) can be obtained as follows:

- by letter from the Bureau Central de Taxation Bruxelles-Etranger, Boulevard du Jardin Botanique 50 boîte 3429, 1000 Brussels, Belgium;
- by fax at +32 (0) 257/968 42;
- via e-mail at ctk.db.brussel.buitenland@minfin.fed.be; or at
- *http://financien.belgium.be/nl/ondernemingen/vennootschapsbelasting/voorheffingen/roerende_ voorheffing/formulieren* .

The reimbursement form is to be sent to the Bureau Central de Taxation Bruxelles-Etranger, Boulevard du Jardin Botanique 50 boîte 3429, 1000 Brussels, Belgium as soon as possible and in each case within a term of five years starting from the first of January of the year the withholding tax was withheld.

Qualifying Holders may also, subject to certain conditions, obtain the reduced U.S.-Belgium Tax Treaty rate at source. Qualifying Holders should deliver a duly completed Form 276 Div-Aut. no later than ten days after the date on which the dividend has been paid or attributed (whichever comes first).

Additionally, pursuant to Belgian domestic tax law, dividends distributed to corporate Holders that qualify as a parent company will be exempt from Belgian withholding tax provided that the ADSs held by the Holder, upon payment or attribution of the dividends, amount to at least 10% of our share capital and are held or will be held during an uninterrupted period of at least one year, and provided the anti-abuse provision does not apply. A Holder qualifies as a parent company if it has a legal form similar to the ones listed in the annex to the EU Parent-Subsidiary Directive of 23 July 1990 (90/435/EC), if it is considered to be a tax resident according to the laws of the United States and the U.S.-Belgium Tax Treaty, and if it is subject to a tax similar to the Belgian corporate income tax without benefiting from a tax regime that derogates from the ordinary tax regime.

In order to benefit from this exemption, the Holder must provide us or its paying agent with a certificate confirming its qualifying status and the fact that it satisfies the required conditions. If the Holder holds the ADSs for less than one year, at the time the dividends are paid on or attributed to the shares represented by the ADSs, we must deduct the withholding tax but we do not need to transfer it to the Belgian Treasury provided that the Holder certifies its qualifying status, the date from which the Holder has held the ADSs, and the Holder's commitment to hold the shares for an uninterrupted period of at least one year. The Holder must also inform us or its paying agent when the one-year period has expired or if its shareholding drops below 10% of our share capital before the end of the one-year holding period. Upon satisfying the one-year shareholding requirement, the deducted dividend withholding tax will be paid to the Holder.

Dividends paid or attributable to a corporate Holder will under certain conditions benefit from a full withholding tax exemption, provided that the Holder has a legal form similar to the ones listed in in Annex I, Part A to Council Directive 2011/96/EU of November 30, 2011 on the common system of taxation applicable in the case

of parent companies and subsidiaries of different Member States, as amended by the Council Directive of July 8, 2014 (2014/86/EU) and holds a share participation in our share capital, upon payment or attribution of the dividends, of less than 10% but with an acquisition value of at least EUR 2,500,000 and has held this share participation in full legal ownership during an uninterrupted period of at least one year. The Holder should also be subject to corporate income tax or a similar tax without benefiting from a tax regime that derogates from the ordinary tax regime.

The Holder must provide us or its paying agent with a certificate confirming its qualifying status and the fact that it meets the required conditions.

As of assessment year 2019, linked to a taxable period starting at the earliest on January 1, 2018, the reduced 1.6995% withholding tax has been replaced by a full withholding tax exemption. Not all conditions to benefit from the withholding tax exemption are mentioned in the text, *e.g.* , the non-resident company should be subject to corporate income tax or a similar tax without benefiting from a tax regime that derogates from the ordinary tax regime. Withholding tax is also not applicable, pursuant to Belgian domestic tax law, on dividends paid to a U.S. pension fund which satisfies the following conditions:

(i) to be an entity with a separate legal personality with fiscal residence in the United States and without a permanent establishment or fixed base in Belgium,

(ii) whose corporate purpose consists solely in managing and investing funds collected in order to pay legal or complementary pensions,

(iii) whose activity is limited to the investment of funds collected in the exercise of its statutory mission, without any profit making aim and without operating a business in Belgium,

(iv) which is exempt from income tax in the United States, and

(v) provided that it (save in certain particular cases as described in Belgian law) is not contractually obligated to redistribute the dividends to any ultimate beneficiary of such dividends for whom it would manage the shares or ADSs, nor obligated to pay a manufactured dividend with respect to the shares or ADSs under a securities borrowing transaction. The exemption will only apply if the U.S. pension fund provides an affidavit confirming that it is the full legal owner or usufruct holder of the shares or ADSs and that the above conditions are satisfied. The organization must then forward that affidavit to us or our paying agent.

Non-resident individuals may be eligible for an exemption of the first tranche of dividend income up to the amount of €640 for the 2018 taxable year for dividends paid or attributed as of January 1, 2018. Prospective Holders are encouraged to consult their own tax advisors to determine whether they qualify for an exemption or a reduction of the withholding tax rate upon payment of dividends and, if so, the procedural requirements for obtaining such an exemption or a reduction upon the payment of dividends or making claims for reimbursement.

Capital Gains and Losses

Pursuant to the U.S.-Belgium Tax Treaty, capital gains and/or losses realized by a Qualifying Holder from the sale, exchange or other disposition of ADSs are exempt from tax in Belgium.

Capital gains realized on ADSs by a corporate Holder who is not a Qualifying Holder are generally not subject to taxation in Belgium unless such Holder is acting through a Belgian permanent establishment or a fixed place in Belgium to which the ADSs are effectively connected (in which case a 29.58%, 25.75%, or 0% tax on the capital gain may apply, depending on the particular circumstances, taking into account that different rates may apply if the establishment qualifies as a small enterprise). As of assessment year 2021, linked to a taxable period starting at the earliest on January 1, 2020, the 25.75% rate will be abolished and replaced with the ordinary corporate income tax rate of 25%. As of assessment year 2021, linked to a taxable period starting at the earliest on January 1, 2020, the 29.58% rate will be reduced to 25%. Capital losses are generally not tax deductible.

Private individual Holders who are not Qualifying Holders and who are holding ADSs as a private investment will, as a rule, not be subject to tax in Belgium on any capital gains arising out of a disposal of ADSs. Losses will, as a rule, not be tax deductible.

However, if the gain realized by such individual Holders on ADSs is deemed to be realized outside the scope of the normal management of such individual's private estate and the capital gain is obtained or received in Belgium, the gain will be subject to a final tax of 33%.

Moreover, capital gains realized by such individual Holders on the disposal of ADSs for consideration, outside the exercise of a professional activity, to a non-resident corporation (or a body constituted in a similar legal form), to a foreign state (or one of its political subdivisions or local authorities) or to a non-resident legal entity that is established outside the European Economic Area, are in principle taxable at a rate of 16.5% if, at any time during the five years preceding the realization event, such individual Holders own or have owned directly or indirectly, alone or with his/her spouse or with certain other relatives, a substantial shareholding in us (that is, a shareholding of more than 25% of our shares).

Capital gains realized by a Holder upon the redemption of ADSs or upon our liquidation will generally be taxable as a dividend. See "—Dividend Withholding Tax" above.

Estate and Gift Tax

There is no Belgium estate tax on the transfer of ADSs on the death of a Belgian non-resident. Donations of ADSs made in Belgium may or may not be subject to gift tax depending on the modalities under which the donation is carried out.

Belgian Tax on Stock Exchange Transactions

A stock market tax is normally levied on the purchase and the sale and on any other acquisition and transfer for consideration in Belgium of ADSs through a professional intermediary established in Belgium on the secondary market, so-called "secondary market transactions." The tax is due from the transferor and the transferee separately. The applicable rate amounts to 0.35% with a cap of €1600 per transaction and per party. Such tax is also due for transactions the order for which is directly or indirectly given by an individual with habitual abode in Belgium, or by a legal entity on account of its Belgian seat or establishment, to an intermediary established outside Belgium. In such case, this individual or legal entity should declare and pay the tax on stock exchange transactions due, unless if he can prove that it was already paid.

Belgian non-residents who purchase or otherwise acquire or transfer, for consideration, ADSs in Belgium for their own account through a professional intermediary may be exempt from the stock market tax if they deliver a sworn affidavit to the intermediary in Belgium confirming their non-resident status, unless they would be considered to have their habitual abode (for individuals) or their seat or establishment (for legal entities) in Belgium. Intermediaries located or established outside of Belgium may appoint a Stock Exchange Tax Representative in Belgium, subject to certain conditions and formalities.

In addition to the above, no stock market tax is payable by: (i) professional intermediaries described in Article 2, 9 and 10 of the Law of August 2, 2002 acting for their own account, (ii) insurance companies described in Article 2, §1 of the Law of July 9, 1975 acting for their own account, (iii) professional retirement institutions referred to in Article 2, §1 of the Law of October 27, 2006 relating to the control of professional retirement institutions acting for their own account, (iv) collective investment institutions acting for their own account, (v) the aforementioned non-residents acting for their own account (upon delivery of a certificate of non-residency in Belgium), or (vi) regulated real estate companies acting for their own account.

No stock market tax will thus be due by Holders on the subscription, purchase or sale of ADSs, if the Holders are acting for their own account. In order to benefit from this exemption, the Holders must file with the professional intermediary in Belgium a sworn affidavit evidencing that they are non-residents for Belgian tax purposes.

Proposed Financial Transactions Tax

The European Commission has published a proposal for a Directive for a common financial transactions tax, or FTT, in Belgium, Germany, Estonia, Greece, Spain, France, Italy, Austria, Portugal, Slovenia and Slovakia, or collectively, the Participating Member States. However, Estonia has since stated that it will not participate, and it is unclear whether Belgium will participate.

The proposed FTT has a very broad scope and could, if introduced in its current form, apply to certain dealings in ADS's in certain circumstances. Under current proposals, the FTT could apply in certain circumstances to persons both within and outside of the Participating Member States. Generally, it would apply to certain dealings in ADSs where at least one party is a financial institution, and at least one party is established in a Participating Member State.

A financial institution may be, or be deemed to be, ''established'' in a Participating Member State in a broad range of circumstances, including by transacting with a person established in a Participating Member State.

The proposal currently stipulates that once the FTT enters into force, the participating Member States shall not maintain or introduce taxes on financial transactions other than the FTT (or VAT as provided in the Council Directive 2006/112/EC on the common system of value added tax). For Belgium, the tax on stock exchange transactions should thus be abolished once the FTT enters into force. The proposal is still subject to negotiation between the participating Member States and therefore may be changed at any time.

Prospective investors are advised to seek their own professional advice in relation to the FTT.

Prospective Tax on Securities Accounts

Belgium also applies a prospective tax on securities accounts of 0.15% on the average value of certain qualifying financial instruments held in one or more securities accounts during a reference period of 12 consecutive months. Prospective Holders are encouraged to consult their own tax advisors to determine the applicability and extent of such tax with respect to their ADSs.

F. Dividends and Paying Agents

Not applicable

G. Statement by Experts

Not applicable

H. Documents on Display

We are subject to the information reporting requirements of the Exchange Act applicable to foreign private issuers and under those requirements will file reports with the SEC. Those reports may be inspected without charge on the websites described below. As a foreign private issuer, we are exempt from the rules under the Exchange Act related to the furnishing and content of proxy statements, and our officers, directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act. In addition, we are not required under the Exchange Act to file periodic reports and financial statements with the SEC as frequently or as promptly as United States companies whose securities are registered under the Exchange Act. Nevertheless, we will file with the SEC an Annual Report on Form 20-F containing financial statements that have been examined and reported on, with and opinion expressed by an independent registered public accounting firm.

We maintain a corporate website at *www.celyad.com* . We intend to post our Annual Report on our website promptly following it being filed with the SEC. Information contained on, or that can be accessed through, our website does not constitute a part of this Annual Report. We have included our website address in this Annual Report solely as an inactive textual reference.

The SEC maintains a website (*www.sec.gov*) that contains reports, proxy and information statements and other information regarding registrants, such as Celyad, that file electronically with the SEC.

With respect to references made in this Annual Report to any contract or other document of Celyad, such references are not necessarily complete and you should refer to the exhibits attached or incorporated by reference to this Annual Report for copies of the actual contract or document.

I. Subsidiary Information

Not applicable

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to a variety of financial risks: market risk (including foreign exchange risk and interest rate risk), credit risk and liquidity risk. Our overall risk management program focuses on preservation of capital given the unpredictability of financial markets. For additional information on general risk factors, please see the section of this Annual Report titled “Item 3.D—Risk Factors.”

Interest rate risk

Our interest rate risk is very limited as the Group has only a limited amount of finance leases and outstanding bank loans. So far, because of the materiality of the exposure, the Group did not enter into any interest hedging arrangements.

Credit risk

We have a limited amount of trade receivables due to the fact that sales to third parties are not significant, and thus our credit risk arises mainly from cash and cash equivalents and deposits with banks and financial institutions. The Group only works with international reputable commercial banks and financial institutions.

Foreign Exchange Risk

We are exposed to foreign exchange risk as certain short-term deposits, collaborations or supply agreements of raw materials are denominated in USD. Moreover we have also investments in foreign operations, whose net assets are exposed to foreign currency translation risk (USD). So far, because of the materiality of the exposure, we did not enter into any currency hedging arrangements. No sensitivity has been performed on the foreign exchange risk as up till now we still consider this risk as immaterial.

We are exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the USD. Our functional currency is the Euro, but we have several of our product suppliers and clinical vendors invoicing US in USD or in other currencies. In addition, we plan to convert a substantial portion of the proceeds from the global offering to Euros.

We have not established any formal practice to manage the foreign exchange risk against our functional currency. As of December 31, 2018, we had no trade receivables denominated in USD and had trade payables denominated in USD of $1.5 million.

Foreign exchange rate movements had no material effect on our results for the years ended December 31, 2016 and 2017. For the year ended December 31, 2018, we recorded an unrealized foreign exchange loss of arising mainly from our cash and short-term deposits denominated in USD. Because of our growing activities in the United States, the foreign exchange risk may increase in the future.

In 2018, the percentage of our total costs expressed in USD represented 16% or $8.0 million. In the same period of 2017 and 2016, it was respectively 27.4% or $9.0 million and 29% or $11.5 million. In 2019 and beyond, we expect the part of the USD expressed costs will increase due to the establishing of the US team & offices as well as the large part of CAR-T NKG2D clinical studies to be initiated in the United States.

Liquidity Risk

The Group is pursuing a strategy to develop therapies to treat unmet medical needs in oncology. Management has prepared detailed budgets and cash flow forecasts for the years 2019 and 2020. These forecasts reflect the strategy of the Group and include significant expenses and cash outflows in relation to the development of selected research programs and product candidates.

Based on its current scope of activities, the Group estimates that its treasury position as of December 31, 2018 is sufficient to cover its cash requirements until mid-2020, therefore beyond the readouts of our clinical trials currently ongoing.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

A. Debt Securities

Not applicable

B. Warrants and Rights

Not applicable

C. Other Securities

Not applicable

D. American Depositary Shares

Citibank, N.A. is the depositary for our American Depositary Shares. Citibank's depositary offices are located at 388 Greenwich Street, New York, New York 10013. American Depositary Shares are frequently referred to as "ADSs" and represent ownership interests in securities that are on deposit with the depositary. ADSs may be represented by certificates that are commonly known as "American Depositary Receipts" or "ADRs." The depositary typically appoints a custodian to safekeep the securities on deposit. In this case, the custodian is Citibank Europe plc, located at EGSP 186, 1 North Wall Quay, Dublin 1 Ireland.

We have appointed Citibank as depositary pursuant to a deposit agreement. A copy of the deposit agreement is on file with the SEC under cover of a Registration Statement on Form F-6 (File No. 333-204724).

Fees and Charges

Pursuant to the terms of the deposit agreement, the holders of ADSs will be required to pay the following fees:

Service	Fees
• Issuance of ADSs upon deposit of shares (excluding issuances as a result of distributions of shares)	Up to U.S. 5¢ per ADS issued
• Cancellation of ADSs	Up to U.S. 5¢ per ADS canceled
• Distribution of cash dividends or other cash distributions (i.e., sale of rights and other entitlements)	Up to U.S. 5¢ per ADS held
• Distribution of ADSs pursuant to (i) stock dividends or other free stock distributions, or (ii) exercise of rights to purchase additional ADSs	Up to U.S. 5¢ per ADS held
• Distribution of securities other than ADSs or rights to purchase additional ADSs (i.e., spin-off shares)	Up to U.S. 5¢ per ADS held
• ADS Services	Up to U.S. 5¢ per ADS held on the applicable record date(s) established by the depositary

As an ADS holder you will also be responsible to pay certain charges such as:

- taxes (including applicable interest and penalties) and other governmental charges;
- the registration fees as may from time to time be in effect for the registration of ordinary shares on the share register and applicable to transfers of ordinary shares to or from the name of the custodian, the depositary or any nominees upon the making of deposits and withdrawals, respectively;
- certain cable, telex and facsimile transmission and delivery expenses;
- the expenses and charges incurred by the depositary in the conversion of foreign currency;
- the fees and expenses incurred by the depositary in connection with compliance with exchange control regulations and other regulatory requirements applicable to ordinary shares, ADSs and ADRs; and
- the fees and expenses incurred by the depositary, the custodian, or any nominee in connection with the servicing or delivery of deposited property.

ADS fees and charges payable upon (i) deposit of ordinary shares against issuance of ADSs and (ii) surrender of ADSs for cancellation and withdrawal of ordinary shares are charged to the person to whom the ADSs are delivered (in the case of ADS issuances) and to the person who delivers the ADSs for cancellation (in the case of ADS cancellations). In the case of ADSs issued by the depositary into DTC or presented to the depositary via DTC, the ADS issuance and cancellation fees and charges may be deducted from distributions made through DTC, and may be charged to the DTC participant(s) receiving the ADSs or the DTC participant(s) surrendering the ADSs for cancellation, as the case may be, on behalf of the beneficial owner(s) and will be charged by the DTC participant(s) to the account(s) of the applicable beneficial owner(s) in accordance with the procedures and practices of the DTC participant(s) as in effect at the time. ADS fees and charges in respect of distributions and the ADS service fee are charged to the holders as of the applicable ADS record date. In the case of distributions of cash, the amount of the applicable ADS fees and charges is deducted from the funds being distributed. In the case of (i) distributions other than cash and (ii) the ADS service fee, holders as of the ADS record date will be invoiced for the amount of the ADS fees and charges and such ADS fees and charges may be deducted from distributions made to holders of ADSs. For ADSs held through DTC, the ADS fees and charges for distributions other than cash and the ADS service fee may be deducted from distributions made through DTC, and may be charged to the DTC participants in accordance with the procedures and practices prescribed by DTC and the DTC participants in turn charge the amount of such ADS fees and charges to the beneficial owners for whom they hold ADSs.

In the event of refusal to pay the depositary fees, the depositary may, under the terms of the deposit agreement, refuse the requested service until payment is received or may set off the amount of the depositary fees from any distribution to be made to the ADS holder. Note that the fees and charges you may be required to pay may vary over time and may be changed by us and by the depositary. You will receive prior notice of such changes. The depositary may reimburse us for certain expenses incurred by us in respect of the ADR program, by making available a portion of the ADS fees charged in respect of the ADR program or otherwise, upon such terms and conditions as we and the depositary agree from time to time.

PART II

The deposit agreement and the ADSs will be interpreted in accordance with the laws of the State of New York. The rights of holders of ordinary shares (including ordinary shares represented by ADSs) are governed by the laws of Belgium.

ITEM 13. Defaults, Dividend Arrearages And Delinquencies

Not applicable.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

Not applicable.

ITEM 15. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures as such term is defined in Rules 13(a)-15(e) and 15(d)-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in our reports filed or submitted under the Exchange Act is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Disclosure controls and procedures, no matter how well designed and operated, can only provide reasonable assurance of achieving the desired control objectives.

Our chief executive officer (*principal executive officer*) and chief financial officer (*principal financial officer*) has carried out an evaluation of the effectiveness of our disclosure controls and procedures as of December 31, 2018. Based on that evaluation, our chief executive officer (*principal executive officer*) and chief financial officer (*principal financial officer*) concluded that our disclosure controls and procedures were not effective as of December 31, 2018 at the reasonable assurance level due to the fact that material weaknesses described below under “Management’s Annual Report on Internal Control over Financial Reporting” continued to exist at December 31, 2018, as discussed below.

Management’s Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with generally accepted accounting principles.

Under the supervision and with the participation of our management, including our chief executive officer (*principal executive officer*) and chief financial officer (*principal financial officer*), we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2018 based on the guidelines established in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Management identified the following material weaknesses as of December 31, 2018: given the size of its operations, the company maintains a limited finance and accounting staff, which does neither ensure (i) a sufficient backup in personnel with an appropriate level of knowledge and experience in the application of IFRS, nor (ii) a proper and effective segregation of duties consistently, nor (iii) allows the documentation, on a systematic basis, of performance of controls in accordance with internal control procedures.

These material weaknesses did not result in material adjustments, or restatements of our audited consolidated financial statements or disclosures for any prior period previously reported by the company. However, there is a reasonable possibility that a material misstatement of the consolidated financial statements would not have been prevented or detected on a timely basis, and therefore, they have been evaluated as material weaknesses.

As a result of the material weaknesses described above, we have concluded our internal control over financial reporting was not effective as of December 31, 2018.

Notwithstanding these material weaknesses and management's assessment that internal control over financial reporting was ineffective as of December 31, 2018, our management, including our chief executive officer (*principal executive officer*) and chief financial officer (*principal financial officer*), believes that the consolidated financial statements contained in this Annual Report present fairly, in all material respects, our financial position, results of operations and cash flows for the periods presented in conformity with IFRS.

Management's Plan for Remediation

With the oversight of senior management and our audit committee, we evaluate our internal control over financial reporting on an ongoing basis and have taken, and are taking, several remedial actions to address the material weaknesses that have been identified:

- We have hired, and are hiring, additional finance, accounting, payroll and legal staff, who are familiar with external financial reporting under IFRS and have experience with establishing appropriate financial reporting policies and control procedures, to provide more resources to support, design, implement and document effective internal controls over financial reporting ;
- We have engaged, and are engaging, external professional advisors with international accounting, reporting and controlling expertise to assist us in the implementation and evaluation of internal controls over financial reporting and segregating duties amongst finance and accounting personnel.

Attestation Report of the Registered Public Accounting Firm

Because we qualify as an emerging growth company under the JOBS Act, this Annual Report does not include an attestation report of our independent registered public accounting firm regarding internal control over financial reporting as required by Section 404(b) of the Sarbanes Oxley Act of 2002.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the period covered by this annual report that have materially affected our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will provide absolute assurance that all appropriate information will, in fact, be communicated to management to allow timely decisions to be made or prevent all error and fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Additionally, the design of a control system must reflect the fact that there are resource constraints, and the benefit of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the company have been detected or that our control system will operate effectively under all circumstances. Moreover, the design of any system of controls is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.

ITEM 16. RESERVED

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Audit Committee

Our Board of Directors has determined that Chris Buyse is an Audit Committee financial expert as defined by SEC rules and has the requisite financial sophistication under the applicable rules and regulations of the Nasdaq Stock Market. Chris Buyse is independent as such term is defined in Rule 10A-3 under the Exchange Act and under the listing standards of the Nasdaq Stock Market.

ITEM 16B. CODE OF ETHICS

We have adopted a Code of Business Conduct and Ethics, or the Code of Conduct, that is applicable to all of our employees, executive officers and directors. The Code of Conduct is available on our website at *www.celyad.com* . The Audit Committee of our Board of Directors will be responsible for overseeing the Code of Conduct and will be required to approve any waivers of the Code of Conduct for employees, executive officers and directors. We expect that any amendments to the Code of Conduct, or any waivers of its requirements, will be disclosed on our website.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

BDO Réviseurs d'Entreprises SCRL has been our Auditor since May 5, 2017 as decided by shareholders at the Annual General Assembly. PwC Réviseurs d'Entreprises sccrl served as our auditor from May 5, 2014 until May 5, 2017. Hereunder the fees billed by our Auditors for the last three years:

	Year Ended December 31, (euro in thousands)		
	2018	**2017**	**2016**
Audit fees	316	129	127
Audit-related fees	—	—	10
Tax fees	—	—	—
Other fees	14	12	4
Total	**330**	**141**	**141**

"Audit Fees" are the aggregate fees billed for the audit of our annual financial statements. This category also includes services that generally the independent accountant provides, such as consents and assistance with and review of documents filed with the SEC. In 2015, "Audit Fees" also include fees billed for assurance and related services regarding our global offering.

"Audit-Related Fees" are the aggregate fees billed for assurance and related services that are reasonably related to the performance of the audit and are not reported under Audit Fees.

"Tax Fees" are the aggregate fees billed for professional services rendered by the principal accountant for tax compliance, tax advice and tax planning related services.

"Other Fees" are any additional amounts billed for products and services provided by the principal accountant.

Audit and Non-Audit Services Pre-Approval Policy

The Audit Committee has responsibility for, among other things, appointing, setting compensation of and overseeing the work of our independent registered public accounting firm. In recognition of this responsibility, the Audit Committee has adopted a policy governing the pre-approval of all audit and permitted non-audit services performed by our independent registered public accounting firm to ensure that the provision of such services does not impair the independent registered public accounting firm's independence from us and our management. Unless a type of service to be provided by our independent registered public accounting firm has received general pre-approval from the Audit Committee, it requires specific pre-approval by the Audit Committee. The payment for any proposed services in excess of pre-approved cost levels requires specific pre-approval by the Audit Committee.

Pursuant to its pre-approval policy, the Audit Committee may delegate its authority to pre-approve services to the chairperson of the Audit Committee. The decisions of the chairperson to grant pre-approvals must be presented to the full Audit Committee at its next scheduled meeting. The Audit Committee may not delegate its responsibilities to pre-approve services to the management.

BDO Réviseurs d'Entreprises Soc. Civ. SCRL or BDO has served as our independent registered public accounting firm since May 2017. Audit fees with respect to 2018 amounted to €330,000. Audit fees are the aggregate fees billed for the audit of our annual financial statements. This category also includes services that BDO generally provides, such as consents, comfort letters, reports in accordance with Belgian Company Law and assistance with and review of documents filed with the SEC.

There were no audit-related fees, tax fees or other fees paid to BDO with respect to 2018. In accordance with Regulation S-X, Rule 2-01, paragraph (c)(7)(i), no fees for professional services were approved pursuant to any waivers of the pre-approval requirement.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

Not applicable

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

Not applicable

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT

For information regarding our change of independent auditors, see the section titled "Change in Registrant's Certifying Accountant" in our Registration Statement on Form F-3 (File No. 333-220285) filed with the SEC on September 29, 2017 and declared effective by the SEC on October 6, 2017.

ITEM 16G. CORPORATE GOVERNANCE

Along with our articles of association, we adopted a corporate governance charter in accordance with the recommendations set out in the Belgian Corporate Governance Code issued on March 12, 2009 by the Belgian

Corporate Governance Committee. The Belgian Corporate Governance Code is based on a "comply or explain" system: Belgian listed companies are expected to follow the Belgian Corporate Governance Code, but can deviate from specific provisions and guidelines (though not the principles) provided they disclose the justification for such deviations.

Our Board of Directors complies with the Belgian Corporate Governance Code.

Our Board of Directors reviews its corporate governance charter from time to time and makes such changes as it deems necessary and appropriate. Additionally, our Board of Directors adopted written terms of reference for each of the executive management team, the Audit Committee and the Nomination and Remuneration Committee, which are part of the corporate governance charter.

Differences between Our Corporate Governance Practices and the Listing Rules of the NASDAQ Stock Market

The listing rules of the NASDAQ Stock Market include certain accommodations in the corporate governance requirements that allow foreign private issuers, to follow "home country" corporate governance practices in lieu of the otherwise applicable corporate governance standards of the NASDAQ Stock Market. The application of such exceptions requires that we disclose each noncompliance with the NASDAQ Stock Market listing rules that we do not follow and describe the Belgian corporate governance practices we do follow in lieu of the relevant NASDAQ Stock Market corporate governance standard.

We intend to continue to follow Belgian corporate governance practices in lieu of the corporate governance requirements of the NASDAQ Stock Market in respect of the following:

- **Quorum at Shareholder Meetings** . NASDAQ Stock Market Listing Rule 5620(c) requires that for any meeting of shareholders, the quorum must be no less than 33.33% of the outstanding ordinary shares. There is no general quorum requirement under Belgian law for ordinary meetings of shareholders, except in relation to decisions regarding certain matters.'
- **Compensation Committee.** NASDAQ Stock Market Listing Rule 5605(d)(2) requires that compensation of officers must be determined by, or recommended to, the Board of Directors for determination, either by a majority of the independent directors, or a compensation committee comprised solely of independent directors. NASDAQ Stock Market Listing Rule 5605(e) requires that director nominees be selected, or recommended for selection, either by a majority of the independent directors or a nominations committee comprised solely of independent directors. Under Belgian law, we are not subject to any such requirements. In particular, we are not required by Belgian law to set up any compensation or nominations committees within our Board of Directors, and are therefore not subject to any Belgian legal requirements as to the composition of such committees either. However, our articles of association provide that our Board of Directors may form committees from among its members. Our Board of Directors has set up and appointed a Nomination and Remuneration Committee. Pursuant article 526 *quater* of the Belgian Company Code, only a majority of the members of the committee must qualify as independent as defined under article 526 *ter* of the Belgian Company Code. Our Nomination and Remuneration Committee is currently comprised of four directors, all of whom are independent in accordance with article 526ter of the Belgian Company Code and the NASDAQ rules.
- **Independent Director Majority on Board/Meetings** . NASDAQ Stock Market Listing Rules 5605(b)(1) and (2) require that a majority of the Board of Directors must be comprised of independent directors and that independent directors must have regularly scheduled meetings at which only independent directors are present. We are not required under Belgian law to have more than two independent directors on our Board of Directors. However, our articles of association provide that our Board of Directors must be comprised of at least three directors, of which, pursuant to our corporate

governance charter, at least three directors must be independent directors under Belgian law. We do not intend to require our independent directors to meet separately from the full Board of Directors on a regular basis or at all although the Board of Directors is supportive of its independent members voluntarily arranging to meet separately from the other members of our Board of Directors when and if they wish to do so.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

PART III

ITEM 17. FINANCIAL STATEMENTS

Not applicable.

ITEM 18. FINANCIAL STATEMENTS

See pages F-1 through F-64 of this Annual Report.

ITEM 19. EXHIBITS

The Exhibits listed in the Exhibit Index at the end of this Annual Report are filed as Exhibits to this Annual Report.

Index to Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors
Celyad SA
Mont-Saint-Guibert, Belgium

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial position of Celyad SA (the "Company") and subsidiaries as of December 31, 2018 and 2017, the related consolidated statements of income (loss) and comprehensive income (loss), changes in shareholders' equity, and cash flows for each of the two years in the period ended December 31, 2018, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company and subsidiaries at December 31, 2018 and 2017, and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2018 **,** in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

BDO Réviseurs d'Entreprises SCRL

Represented by Bert Kegels

/s/ Bert Kegels

We have served as the Company's auditor since 2017.

Zaventem, Belgium

April 5, 2019

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Celyad SA

In our opinion, the accompanying consolidated statements of income (loss), comprehensive income (loss), changes in shareholder's equity and cash flows present fairly, in all material respects, the results of operations and cash flows of Celyad SA and its subsidiaries for the year ended December 31, 2016 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for revenue from contracts with customers in 2018.

Liège, Belgium

April 4, 2017, except for the change in the manner in which the Company accounts for revenue from contracts with customers discussed in Note 2 to the consolidated financial statements, as to which the date is April 5, 2019

PwC Reviseurs d'Entreprises scrl

Represented by

/s/ Patrick Mortroux

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(€'000)	Notes	As at December 31, 2018	2017
NON-CURRENT ASSETS		**42,607**	**41,232**
Intangible assets	7	36,164	36,508
Property, Plant and Equipment	8	3,014	3,290
Non-current trade receivables	9	1,743	—
Other non-current assets	9	1,687	1,434
CURRENT ASSETS		**51,692**	**36,394**
Trade and Other Receivables	11	367	233
Other current assets	11	1,585	2,255
Short-term investments	12	9,197	10,653
Cash and cash equivalents	13	40,542	23,253
TOTAL ASSETS		**94,299**	**77,626**
EQUITY		**55,589**	**47,535**
Share Capital	15	41,553	34,337
Share premium		206,149	170,297
Other reserves	18	25,667	23,322
Retained loss		(217,778)	(180,421)
NON-CURRENT LIABILITIES		**29,063**	**22,146**
Bank loans		229	326
Finance leases		652	482
Advances repayable	19	2,864	1,544
Contingent and other financial liabilities	22	25,187	19,583
Post employment benefits		131	204
Other non-current liabilities		—	7
CURRENT LIABILITIES		**9,647**	**7,945**
Bank loans		281	209
Finance leases		484	427
Advances repayable	19	276	226
Trade payables	21	5,916	4,800
Other current liabilities	21	2,690	2,282
TOTAL EQUITY AND LIABILITIES		**94,299**	**77,626**

The accompanying notes form an integral part of these consolidated financial statements.

CONSOLIDAT ED STATEMENTS OF INCOME (LOSS)

(€'000)	Notes	For the year ended December 31, 2018	2017	2016
Revenues	24, 2	**3,115**	**3,540**	**10,012**
Cost of sales	2	—	(515)	(1,542)
Gross profit		**3,115**	**3,025**	**8,471**
Research and Development expenses	25	(23,577)	(22,908)	(27,675)
General and administrative expenses	25	(10,387)	(9,310)	(9,744)
Other income	24	1,078	2,630	4,982
Other expenses	24	(8,399)	(41)	(1,642)
Amendment of Celdara Medical and Dartmouth College agreements	25	—	(24,341)	—
Write-off C-Cure and Corquest assets and derecognition of related liabilities	25	—	(1,932)	—
Operating Loss		**(38,170)**	**(52,876)**	**(25,609)**
Financial income	27	804	933	2,204
Financial expenses	27	(62)	(4,454)	(207)
Share of Loss of investment accounted for using the equity method		—	—	—
Loss before taxes		(37,427)	(56,396)	(23,612)
Income taxes	28	0	1	6
Loss for the year [1]		**(37,427)**	**(56,395)**	**(23,606)**
Weighted average number of shares outstanding		11,142,244	9,627,601	9,313,603
Basic and diluted loss per share (in €)		(3.36)	(5.86)	(2.53)

[1] For 2018, 2017 and 2016, the Group does not have any non-controlling interests and the losses for the year are fully attributable to owners of the parent.

The accompanying notes form an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME(LOSS)

(€'000)	For the year ended December 31, 2018	2017	2016
Loss for the year	**(37,427)**	**(56,395)**	**(23,606)**
Other comprehensive income/(loss)	—		
Items that will not be reclassified to profit and loss	**70**	**—**	**(107)**
Remeasurements of post employment benefit obligations, net of tax	70	—	(107)
Items that may be subsequently reclassified to profit or loss	**(1,194)**	**(769)**	**277**
Currency translation differences	(1,194)	(769)	277
Other comprehensive income / (loss) for the year, net of tax	**(1,124)**	**(769)**	**170**
Total comprehensive loss for the year	**(38,551)**	**(57,164)**	**(23,436)**
Total Comprehensive loss for the year attributable to Equity Holders	**(38,551)**	**(57,164)**	**(23,436)**

The accompanying notes form an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(€'000)	Notes	For the year ended December 31, 2018	2017	2016
Cash Flow from operating activities				
Loss for the year		(37,427)	(56,395)	(23,606)
Non-cash adjustments				
Intangibles—Amortisation & Impairment	7	66	8,038	756
PP&E—Depreciation	8	1,048	966	760
Non-Cash expense for amendment of Celdara Medical and Dartmouth College agreements	25	—	10,620	
Post-Employment Benefit		(3)	—	(24)
Deconsolidation of CELYAD Asia Ltd.		—	—	—
Change in fair value of Contingent consideration and other financial liabilities	24	5,604	(193)	1,633
Remeasurement of RCAs	25	998	(5,356)	(2,154)
RCAs and Grants income		(768)	(1,376)	(3,003)
Currency Translation Adjustment			—	(144)
Upfront payment settled in shares		(843)		
Non-cash employee benefits expense – share based payments	16	3,595	2,569	2,847
Change in working capital				
Trade receivables, other receivables, other non-current assets		(1,459)	(832)	(1,018)
Trade payables, other payable and accruals		1,940	(2,482)	(740)
Net cash used in operations		**(27,249)**	**(44,441)**	**(24,692)**
Cash Flow from investing activities				
Acquisitions of Property, Plant & Equipment	8	(833)	(851)	(1,687)
Acquisitions of Intangible assets	7	(932)	(7)	(95)
Disposals of fixed assets		74	—	78
Contingent consideration pay out	22	—	(5,107)	—
Acquisition of short term investments	12	(26,561)	(10,749)	(34,230)
Proceeds from short term investments	12	28,859	34,326	7,338
Acquisition of BMS SA			—	(1,560)
Net cash (used in)/from investing activities		**607**	**17,613**	**(30,157)**
Cash Flow from financing activities				
Proceeds from finance leases and bank borrowings	23	950	543	1,165
Repayments of finance leases and bank borrowings	23	(749)	(576)	(399)
Proceeds from issuance of shares and exercise of warrants	15	43,011	625	—
Proceeds from RCAs & other grants	19	1,187	1,376	3,107
Repayment of advances	19	(471)	(1,364)	(842)
Net cash (used in)/from financing activities		**43,928**	**605**	**3,031**
Net cash and cash equivalents at beginning of the period		**23,253**	**48,357**	**100,174**
Change in Cash and cash equivalents		17,286	(26,224)	(51,818)
Effects of exchange rate changes on cash and cash equivalents		3	1,120	—
Net cash and cash equivalents at the end of the period		**40,542**	**23,253**	**48,357**

The accompanying notes form an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

(€'000)	Share capital (Note 15)	Share premium (Note 15)	Other reserves (Note 18)	Accumulated deficit	Total Equity
Balance as at 1st January 2016	**32,571**	**158,010**	**21,205**	**(100,313)**	**111,473**
Share-based payments			2,848		2,848
Total transactions with owners, recognized directly in equity	**—**	**—**	**2,848**	**—**	**2,848**
Loss for the year				(23,606)	(23,606)
Currency Translation differences			277		277
Remeasurements of defined benefit obligation				(107)	(107)
Total comprehensive gain/(loss) for the year	**—**	**—**	**277**	**(23,713)**	**(23,436)**
Balance as at December 31, 2016	**32,571**	**158,010**	**24,330**	**(124,026)**	**90,885**
Capital increase resulting from Celdara and Dartmouth College agreements amendment	1,141	9,479			10,620
Exercise of warrants	625				625
Share-based payments		2,808	(239)		2,569
Total transactions with owners, recognized directly in equity	**1,766**	**12,287**	**(239)**		**13,814**
Loss for the year				(56,395)	(56,395)
Currency Translation differences			(769)		(769)
Total comprehensive gain/(loss) for the year	**—**	**—**	**(769)**	**(56,395)**	**(57,164)**
Balance as at December 31, 2017	**34,337**	**170,297**	**23,322**	**(180,421)**	**47,535**
Capital increase in cash	7,204	38,937	—	—	46,140
Transaction costs associated with capital increases	—	(3,141)	—	—	(3,141)
Exercise of warrants	12	—	—	—	12
Share-based payments	—	56	3,539	—	3,595
Total transactions with owners, recognized directly in equity	**7,215**	**35,851**	**3,539**	**—**	**46,606**
Loss for the year	—	—	—	(37,427)	(37,427)
Currency Translation differences	—	—	(1,194)	—	(1,194)
Remeasurements of defined benefit obligation	—	—	—	70	70
Total comprehensive gain/(loss) for the year	**—**	**—**	**(1,194)**	**(37,357)**	**(38,551)**
Balance as at 31 December 2018	**41,552**	**206,149**	**25,667**	**(217,778)**	**55,589**

The accompanying disclosure notes form an integral part of these consolidated financial statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1: THE COMPANY

Celyad is a clinical-stage biopharmaceutical company focused on the development of engineered CAR-T cell-based therapies for the treatment of both hematological malignancies and solid tumors.

The Company's lead candidate, CYAD-01, is an investigational autologous CAR-T therapy which expresses the NKG2D receptor from natural killer (NK) cells that binds to eight stress-induced ligands expressed on tumor cells. CYAD-01 is currently being evaluated for safety and clinical activity in multiple dose-escalation Phase 1 clinical trials both as a monotherapy without preconditioning chemotherapy and following preconditioning chemotherapy for the treatment of patients with r/r AML and when concurrently administered with standard-of-care chemotherapy or preconditioning chemotherapy in mCRC patients. Celyad's second clinical candidate, CYAD-101, is an investigational, non-gene edited allogeneic (donor derived) CAR-T therapy that co-expresses the NKG2D receptor of CYAD-01 and the novel inhibitory peptide TIM (Tcell receptor [TCR] Inhibiting Molecule). CYAD-101 is currently being evaluated for safety and clinical activity in a dose-esclation Phase 1 trial when concurrently administered with standard-of-care chemotherapy for the treatment of mCRC.

Celyad SA was incorporated on July 24, 2007 under the name "Cardio3 BioSciences". Celyad is a limited liability company (Société Anonyme) governed by Belgian law with its registered office at Axis Parc, Rue Edouard Belin 2, B-1435 Mont-Saint-Guibert, Belgium (company number 0891.118.115). The Company's ordinary shares are listed on NYSE Euronext Brussels and NYSE Euronext Paris regulated markets and the Company's American Depositary Shares (ADSs) are listed on the NASDAQ Global Market, all under the ticker symbol CYAD.

The Company has three fully owned subsidiaries (together, the Group) located in Belgium (Biological Manufacturing Services SA) and in the United States (Celyad Inc. and Corquest Medical, Inc.). OnCyte LLC has been dissolved on March 8, 2018 and, as a result, all of its assets and liabilities were since then fully distributed to and assumed by Celyad SA.

These consolidated financial statements have been approved for issuance by the Company's Board of Directors on March 28, 2019. These statements have been audited by BDO Réviseurs d'entreprises SCRL, the statutory auditor of the Company.

NOTE 2: GENERAL INFORMATION AND STATEMENT OF COMPLIANCE

The year-end consolidated financial statements of Celyad for the twelve months ended December 31, 2018 (the "year") include Celyad SA and its subsidiaries. The significant accounting policies used for preparing these consolidated financial statements are explained below.

Basis of preparation

The consolidated financial statements have been prepared on a historical cost basis, except for :

- Financial instruments – Fair value through profit or loss
- Contingent consideration and other financial liabilities
- Post-employment benefits liability
- Equity securities held as short-term investments at 31 December 2018

The policies have been consistently applied to all the years presented, unless otherwise stated. The consolidated financial statements are presented in euro and all values are presented in thousands (€000) except when otherwise indicated. Amounts have been rounded off to the nearest thousand and in certain cases, this may result in minor discrepancies in the totals and sub-totals disclosed in the financial tables.

Statement of compliance

The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards, International Accounting Standards and Interpretations (collectively, IFRSs) as issued by the International Accounting Standards Board (IASB) and as endorsed by the European Union.

The preparation of the consolidated financial statements in accordance with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgment in the process of applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, are areas where assumptions and estimates are significant to the financial statements. They are disclosed in note 5

Changes to accounting standards and interpretations

The Group has applied the same accounting policies and methods of computation in its year-end consolidated financial statements as prior year, except for those that relate to new standards and interpretations effective for the first time for periods beginning on (or after) 1 January 2018. The Group has adopted the following new standards that went into effect on January 1, 2018:

- IFRS 9 *Financial Instruments* ; and
- IFRS 15 *Revenue from Contracts with Customers*

Details of the impact of these two standards on the Group are given below.

- IFRS 9 Financial Instruments (effective for annual periods beginning on or after 1 January 2018) is the standard issued as part of a wider project to replace IAS 39. IFRS 9 introduces a logical approach for the classification of financial assets, which is driven by cash flow characteristics and the business model in which an asset is held; defines a new expected-loss impairment model that will require more timely recognition of expected credit losses; and introduces a substantially-reformed model for hedge accounting, with enhanced disclosures about risk management activity. The new hedge accounting model represents a significant overhaul of hedge accounting that aligns the accounting treatment with risk management activities. IFRS 9 also removes the volatility in profit or loss that was caused by changes in the credit risk of liabilities elected to be measured at fair value.
    - Regarding the classification and measurement of financial assets, the impact is limited since the Group does not hold significant equity or debt investments.
    - Likewise, the impact in the Group of the new guidance on impairment of financial assets is very limited considering the nature of financial assets held and specifically the current low amount of trade receivables.
    - The Group does not currently apply hedge accounting.
    - There are no substantial changes to the measurement of financial liabilities under the new guidance.

  Considering all of the above and the characteristics of the financial instruments held by the Company, management has analyzed the implications of the retrospective adoption on the required effective date of this standard in accordance with IAS 8. The Company has concluded that the application of IFRS 9 does not have a significant impact on the financial statements.
- IFRS 15 Revenue from Contracts with Customers (effective for annual periods beginning on or after 1 January 2018) is the new standard ruling revenue recognition. Its core principle requires to depict the transfer of goods or services to customers in amounts that reflect the consideration (that is, payment) to which the company expects to be entitled in exchange for those goods or services. The new standard also results in enhanced disclosures about revenue, provides guidance for transactions that were not previously addressed comprehensively (for example, service revenue and contract modifications) and improve guidance for multiple-element arrangements.

The Group has applied the full retrospective transition approach. For the comparative year presented in the 2018 financial statements, the most significant revenue source of the Company was the license agreement signed with Novartis in May 2017. Management has analyzed the contract using the guidance under the new standard and has concluded that the adoption of IFRS 15 does not affect the previous accounting treatment under IAS 18. In this respect, the licensing revenue relating to the Novartis agreement reported for the year ended December 31, 2017, has been concluded by management as follows:

- in accordance with 'Licensing' Application Guidance set forth in IFRS 15—Appendix B, para. B52 until B63: it shall not be subject to any recognition restatement, as the agreement qualify as a 'right-to-use' license;
- in order to comply with 'Principal vs. Agent' guidance set forth in IFRS 15 Appendix B, para. B34 until B38: it shall not be subject to any presentation restatement, as both 'revenue' and 'cost of licensing' (expense) were already presented separately under IAS 18, evidencing properly that the Company is acting as a 'Principal' in this transaction.

For comparative periods presented in this annual report, IFRS 15 implementation had no impact on the gross margin previously reported under IAS 18, it had a limited presentation impact for the year 2016 only, as summarized in the table below:

€'000	2017 IFRS 15	Restatement	2017 IAS 18	2016 IFRS 15	Restatement	2016 IAS 18
Licensing revenue	3,540	0	3,540	9,929	1,489	8,440
Cost of licensing	(515)	0	(515)	(1,489)	(1,489)	0
Gross profit	3,025	0	3,025	8,440	0	8,440

Except for IFRS 16 *Leases* , other new or amended standards and Interpretations issued by the IASB and the IFRIC that will apply for the first time in future annual periods are not expected to have a material effect on the Group as they are either not relevant to the Group's activities or require accounting which is consistent with the Group's current accounting policies. Details of IFRS 16 impact on the Group are given below:

- IFRS 16 Leases is a new standard effective for annual periods beginning on or after 1 January 2019. Therefore, the Group shall transition as of 1 January 2019 and will issue financial statements prepared for the first time in accordance with IFRS 16 at Half Year 2019.

  The standard replaces the existing lease accounting requirements and, in particular, represents a significant change in the accounting and reporting of leases that were previously classified as 'operating leases' under IAS 17, with incremental assets and liabilities to be reported on the balance sheet and a different recognition of lease costs. The Group will opt for the so-called 'modified retrospective' adoption method and therefore shall only restate lease contracts active at 1 January 2019. In addition, it has decided to measure right-of-use assets by reference to the measurement of the lease liability on that date. Accordingly, there will be no transition impact on the Group's opening equity for the year 2019.

  The Group has set up a project team, supported by an external advisor, to draw an inventory of lease contracts differentiating those in scope of IFRS 16 restatement from those excluded under low-value and short-term contracts exemptions allowed by IFRS 16. The Group has completed the process of capturing the relevant data needed under the new standard, in order to analyze the impact of adopting IFRS 16. In accordance with these preliminary data, the lease obligation to be recognized as of 1 January 2019 amounts to €2.2 million.

Going concern

The Group is pursuing a strategy to develop therapies to treat unmet medical needs in oncology. Management has prepared detailed budgets and cash flow forecasts for the years 2019 and 2020. These forecasts reflect the strategy of the Group and include significant expenses and cash outflows in relation to the development of selected research programs and product candidates.

Based on its current scope of activities, the Group estimates that its treasury position [6] as of December 31, 2018 is sufficient to cover its cash requirements until mid-2020, therefore beyond the readouts of our clinical trials currently ongoing. After due consideration of the above, the Board of Directors determined that management has an appropriate basis to conclude on the business continuity over the next 12 months from balance sheet date, and hence it is appropriate to prepare the financial statements on a going concern basis.

NOTE 3: ACCOUNTING PRINCIPLES

Subsidiaries

Subsidiaries are all entities (including structured entities) over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date control ceases.

Inter-company transactions, balances and unrealized gains on transactions between group companies are eliminated. Unrealized losses are also eliminated. When necessary, amounts reported by subsidiaries have been adjusted to conform with the Group's accounting policies.

Business Combinations

The Group applies the acquisition method to account for business combinations.

The consideration transferred for the acquisition of a subsidiary is measured at the aggregate of the fair values of the assets transferred, the liabilities incurred or assumed and the equity interests issued by the Group at the date of the acquisition. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date.

Acquisition-related costs are expensed as incurred.

Any contingent consideration to be transferred by the Group is recognized at fair value at the acquisition date. Subsequent changes to the fair value of the contingent consideration that is deemed to be an asset or liability is recognized in profit or loss, in accordance with IFRS 9 if applicable. Contingent consideration that is classified as equity is not re-measured, and its subsequent settlement is accounted for within equity.

FOREIGN CURRENCY TRANSLATION

Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates ("the functional currency"). The consolidated financial statements are presented in Euros, which is the Group's presentation currency.

6 'Treasury position' is an alternative performance measure determined by adding Short-term investments and Cash and cash equivalents from the statement of financial position prepared in accordance with IFRS.

Transactions and balances

Foreign currency transactions (mainly USD) are translated into the functional currency using the applicable exchange rate on the transaction dates. Monetary assets and liabilities denominated in foreign currencies are retranslated at the functional currency spot rate of exchange ruling at the reporting date.

Foreign currency exchange gains and losses arising from settling foreign currency transactions and from the retranslation of monetary assets and liabilities denominated in foreign currencies at the reporting date are recognised in the income statement. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates as of the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined.

Group companies

The results and financial position of all group entities that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- Assets and liabilities for each balance sheet presented are translated at the closing rate at the date of that balance sheet;
- Income and expenses for each income statement are translated at average exchange rate (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the rate on the dates of the transactions); and
- All resulting translation differences are recognized in other comprehensive income.

REVENUE

So far, the main revenue generated by the Group relates to the sale of licenses.

Licensing revenue

Celyad enters into license and/or collaboration agreements with third-party biopharmaceutical partners. Revenue under these arrangements may include non-refundable upfront payments, product development milestone payments, commercial milestone payments and/or sales-based royalties payments.

Upfront payments

Licence fees representing non-refundable payments received at the time of signature of licence agreements are recognized as revenue upon signature of the licence agreements when the Company has no significant future performance obligations and collectibility of the fees is assured.

Milestone payments

Milestone payments represent amounts received from our customers or collaborators, the receipt of which is dependent upon the achievement of certain scientific, regulatory, or commercial milestones. Under IFRS 15, milestone payments generally represent a form of variable consideration as the payments are likely to be contingent on the occurrence of future events. Milestone payments are estimated and included in the transaction price based on either the expected value (probability-weighted estimate) or most likely amount approach. The most likely amount is likely to be most predictive for milestone payments with a binary outcome (i.e., the company receives all or none of the milestone payment). Variable consideration is only recognized as revenue when the related performance obligation is satisfied and the company determines that it is highly probable that there will not be a significant reversal of cumulative revenue recognized in future periods.

Royalty revenue

Royalty revenues arise from our contractual entitlement to receive a percentage of product sales achieved by co-contracting parties. As our co-contrating partners currently have no products based on a Celyad-technology approved for sale, we have not received any royalty revenue to date. Royalty revenues, if earned, will be recognized on an accrual basis in accordance with the terms of the contracts with our customers when sales occur and there is reasonable assurance that the receivables from outstanding royalties will be collected.

Sales of goods (medical devices)

Sales of medical devices are recognized when Celyad has transferred to the buyer the control of the promised goods (with control referring to the ability to direct the use of and obtain substantially all of the remaining benefits of the medical device). Sales of medical devices generated by the Group until 2017 are associated with C-Cath $_{EZ}$, its proprietary catheter.

GOVERNMENT GRANTS (OTHER OPERATING INCOME)

The Group's grant income reported under 'Other income' in the consolidated income statement is generated from: (i) recoverable cash advances (RCAs) granted by the Regional government of Wallonia; (ii) R&D tax credits granted by the Belgian federal government; and (iii) grants received from the European Commission under the Seventh Framework Program ("FP7").

Government grants are recognised at their fair value where there is reasonable assurance that the grant will be received and the Group will comply with all attached conditions. Once a government grant is recognized, any related contingent liability (or contingent asset) is treated in accordance with IAS 37.

Government grants relating to costs are deferred and recognised in the income statement over the period necessary to match them with the costs that they are intended to compensate.

Recoverable cash advances (RCAs)

The Group receives grants from the Walloon Region in the form of recoverable cash advances (RCAs).
RCAs are dedicated to support specific development programs. All RCA contracts, in essence, consist of three phases, i.e., the "research phase", the "decision phase" and the "exploitation phase". During the research phase, the Group receives funds from the Region based on statements of expenses. In accordance with IAS 20.10A and IFRS Interpretations Committee (IC)'s conclusion that contingently repayable cash received from a government to finance a research and development (R&D) project is a financial liability under IAS 32, 'Financial instruments; Presentation', the RCAs are initially recognised as a financial liability at fair value, determined as per IFRS 9/IAS 39.

The benefit (RCA grant component) consisting in the difference between the cash received (RCA proceeds) and the above-mentioned financial liability's fair value (RCA liability component) is treated as a government grant in accordance with IAS 20.

The RCA grant component is recognized in profit or loss on a systematic basis over the periods in which the entity recognizes the underlying R&D expenses subsidized by the RCA.

The RCAs liability component (RCA financial liability) is subsequently measured at amortized cost using the cumulative catch-up approach under which the carrying amount of the liability is adjusted to the present value of the future estimated cash flows, discounted at the liability's original effective interest rate. The resulting adjustment is recognized within profit or loss.

At the end of the research phase, the Group should within a period of six months decide whether or not to exploit the results of the research phase (decision phase). The exploitation phase may have a duration of up to 10 years.

In the event the Group decides to exploit the results under an RCA, the relevant RCA becomes contingently refundable, and the fair value of the RCA liability adjusted accordingly, if required.

When the Group does not exploit (or ceases to exploit) the results under an RCA, it has to notify the Region of this decision. This decision is of the sole responsibility of the Group. The related liability is then discharged by the transfer of such results to the Region. Also, when the Group decides to renounce to its rights to patents which may result from the research, title to such patents will be transferred to the Region. In that case, the RCA liability is extinguished.

R&D Tax credits

Since 2013, the Company applies for R&D tax credit, a tax incentive measure for European SME's set-up by the Belgian federal government. When capitalizing its R&D expenses under tax reporting framework, the Company may either i) get a reduction of its taxable income (at current income tax rate applicable) ; or ii) if no sufficient taxable income is available, apply for the refund of the unitilized tax credits, calculated on the R&D expenses amount for the year. Such settlement occurs at the earliest 5 financial years after the tax credit application filed by the Company.

Considering that R&D tax credits are ultimately paid by the public authorities, the related benefit is treated as a government grant under IAS 20 and booked into other income, in order to match the R&D expenses subsidized by the grant. See Note 24.

Other government grants

The Group has received and will continue to apply for grants from European (FP7) and Regional authorities. These grants are dedicated to partially finance early stage projects such as fundamental research, applied research, prototype design, etc.

To date, all grants received are not associated to any conditions. As per contract, grants are paid upon submission by the Group of statement of expenses. The Company incurs project expenses first and asks for partial refunding according to the terms of the contracts.

These government grants are recognized in profit or loss on a systematic basis over the periods in which the entity recognizes the underlying R&D expenses subsidized.

INTANGIBLE ASSETS

The following categories of intangible assets apply to the current Group operations

Separately acquired intangible assets

Intangible assets acquired from third parties are recognised at cost, if and only if it is probable that future economic benefits associated with the asset will flow to the Group, and that the cost can be measured reliably. Following initial recognition, intangible assets are carried at cost less any accumulated amortisation and accumulated impairment losses. The useful life of intangible assets is assessed as finite, except for Goodwill and IPRD assets (discussed below). They are amortised over the expected useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortisation period and the amortisation method for an intangible asset with a finite useful life are reviewed at least at each financial year end. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset is accounted for by changing the amortisation period or method, as appropriate, and are treated as changes in accounting estimates. The amortisation expense on intangible assets with finite lives is recognised in the income statement in the expense category consistent with the function of the intangible asset.

Patents, Licences and Trademarks

Licences for the use of intellectual property are granted for a period corresponding to the intellectual property of the assets licensed. Amortisation is calculated on a straight-line basis over this useful life.

Patents and licences are amortized over the period corresponding to the IP protection and are assessed for impairment whenever there is an indication these assets may be impaired. Indication of impairment is related to the value of the patent demonstrated by the pre-clinical and clinical results of the technology.

Software

Software only concerns acquired computer software licences. Software is capitalised on the basis of the costs incurred to acquire and bring to use the specific software. These costs are amortised over their estimated useful lives of three to five years on a straight-line basis.

Intangible assets acquired in a business combination

Goodwill

A goodwill is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised. Goodwill is measured as a residual at the acquisition date, as the excess of the fair value of the consideration transferred and the assets and liabilities recognised (in accordance with IFRS 3).

Goodwill has an indefinite useful life and is not amortized but tested for impairment at least annually or more frequently whenever events or changes in circumstances indicate that goodwill may be impaired, as set forth in IAS 36 (Impairment of Assets).

Goodwill arising from business combinations is allocated to cash generating units, which are expected to receive future economic benefits from synergies that are most likely to arise from the acquisition. These cash generating units form the basis of any future assessment of impairment of the carrying value of the acquired goodwill.

In process research and development costs

The In-process research and development costs ("IPRD") acquired as part of a business combination are capitalized as an indefinite-lived intangible asset until project has been completed or abandoned. In a business combination, IPRD is measured at fair value at the date of acquisition. Subsequent to initial recognition, it is reported at cost and is subject to annual impairment testing until the date the projects are available for use. At this moment, the IPRD will be amortized over its remaining useful economic life.

Subsequent R&D expenditure can be capitalized as part of the IPRD only to the extent that IPRD is in development stage, i.e. when such expenditure meets the recognition criteria of IAS 38. In line with biotech industry practice, Celyad determines that 'development stage' under IAS 38 is reached when the product candidate gets regulatory approval (upon Phase III completion). Therefore, any R&D expenditure incurred between the acquisition date and the development stage should be treated as part of research phase and expensed periodically in the income statement.

Internally generated intangible assets

Except qualifying development expenditure (discussed below), internally generated intangible assets are not capitalised. Expenditure is reflected in the income statement in the year in which the expenditure is incurred.

Research and development costs

Research costs are expensed as incurred. Development expenditures on an individual project are recognised as an intangible asset when the Group can demonstrate:

a) the technical feasibility of completing the intangible asset so that it will be available for use or sale.

b) its intention to complete the intangible asset and use or sell it.

c) its ability to use or sell the intangible asset.

d) how the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset.

e) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset.

f) its ability to measure reliably the expenditure attributable to the intangible asset during its development.

For the industry in which the Group operates, the life science industry, criteria a) and d) tend to be the most difficult to achieve. Experience shows that in the Biotechnology sector technical feasibility of completing the project is met when such project completes successfully Phase III of its development. For medical devices this is usually met at the moment of CE marking.

Following initial recognition of the development expenditure as an asset, the cost model is applied requiring the asset to be carried at cost less any accumulated amortisation and accumulated impairment losses.

Amortisation of the asset begins when development has been completed and the asset is available for use. It is amortised over the period of expected future benefit. Amortisation is recorded in Research & Development expenses. During the period of development, the asset is tested for impairment annually, or earlier when an impairment indicator occurs. As of balance sheet date, only the development costs of C-Cath $_{ez}$ have been capitalized and amortized over a period of 17 years which corresponds to the period over which the intellectual property is protected.

PROPERTY, PLANT AND EQUIPMENT

Plant and equipment is stated at cost, net of accumulated depreciation and/or accumulated impairment losses, if any. Repair and maintenance costs are recognised in the income statement as incurred.

Depreciation is calculated on a straight-line basis over the estimated useful life of the asset as follows:

- Land and buildings: 15 to 20 years
- Plant and equipment: 5 to 15 years
- Laboratory equipment: 3 to 5 years
- Office furniture: 3 to 10 years
- Leasehold improvements: 3 to 10 years (based on duration of office building lease)

An item of property, plant and equipment and any significant part initially recognised is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the income statement when the asset is derecognised.

The assets' residual values, useful lives and methods of depreciation are reviewed at each financial year end, and adjusted prospectively, if applicable.

LEASES

The determination of whether an arrangement is, or contains, a lease is based on the substance of the arrangement at inception date: whether fulfilment of the arrangement is dependent on the use of a specific asset or assets or the arrangement conveys a right to use the asset.

Finance leases, which transfer to the Group substantially all the risks and benefits incidental to ownership of the leased item, are capitalised at the commencement of the lease at the fair value of the leased property or, if lower, at the present value of the minimum lease payments. Lease payments are apportioned between finance charges and reduction of the lease liability so as to achieve a constant rate of interest on the remaining balance of the liability. Finance charges are recognised in the income statement.

Leased assets are depreciated over the useful life of the asset. However, if there is no reasonable certainty that the Group will obtain ownership by the end of the lease term, the asset is depreciated over the shorter of the estimated useful life of the asset and the lease term.

Operating lease payments are recognised as an expense in the income statement on a straight-line basis over the lease term.

From time to time, the Group may enter into sale and leaseback transactions. If the sale and leaseback transaction results in a finance lease, any excess of sales proceeds over the carrying amount is deferred and amortised over the lease term. If the transaction results in an operating lease and the transaction occurred at fair value, any profit or loss is recognised immediately.

IMPAIRMENT OF NON-FINANCIAL ASSETS

The Group assesses at each reporting date whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Group estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's or cash-generating units (CGU) fair value less costs to sell and its value in use and is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or group of assets. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs to sell, an appropriate valuation model is used based on the discounted cash-flow model. For intangible assets under development (like IPRD), only the fair value less costs to sell reference is allowed in the impairment testing process.

Where the carrying amount of an asset or CGU exceeds its recoverable amount, an impairment loss is immediately recognized as an expense and the asset carrying value is written down to its recoverable amount.

An assessment is made at each reporting date as to whether there is any indication that previously recognised impairment losses may no longer exist or may have decreased. If such indication exists, the Group estimates the asset's or cash-generating unit's recoverable amount. A previously recognised impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognised. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognised for the asset in prior years. Such reversal is recognised in the income statement unless the asset is carried at a revalued amount, in which case the reversal is treated as a revaluation increase. An impairment loss recognised on goodwill is however not reversed in a subsequent period.

As of balance sheet date, the Group has two cash-generating units which consist of the development and commercialization activities on:

- CYAD products candidate series based on CAR-T technology, for the immune-oncology segment; and
- C-Cathez commercialized medical device, for the cardiology segment.

Indicators of impairment used by the Group are the pre-clinical and clinical results obtained with the technology.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents in the statement of financial position comprise cash at banks and on hand and short-term deposits with an original maturity of one month or less. Cash and cash equivalents are carried in the balance sheet at nominal value.

FINANCIAL ASSETS

Classification

The Group classifies its financial assets in the following category: loans and receivables. The classification depends on the purpose for which the financial assets were acquired. Management determines the classification of its financial assets at initial recognition.

'Amortised cost' measurement category refers to loans and receivables which are non-derivative financial assets, with fixed or determinable payments that are not quoted in an active market. They are included in current assets, except for maturities greater than 12 months after the end of the reporting period which are classified as non-current assets. This measurement category comprises "cash and cash equivalents", "short-term investments", and relevant financial assets within "(non-) current trade and other receivables" and "other (non-) current assets".

Initial recognition and measurement

All financial assets are recognized initially at fair value plus or minus, in the case of a financial asset not at fair value through profit or loss, directly attributable transaction costs.

Subsequent measurement

After initial measurement, financial assets are subsequently measured at amortised cost using the effective interest rate method (EIR), less impairment. Amortised cost is calculated by taking into account any discount or premium on acquisition and fee or costs that are an integral part of the EIR. The EIR amortisation is included in finance income in the income statement. The losses arising from impairment are recognised in the income statement.

Impairment of financial assets

In relation to the impairment of financial assets, IFRS 9 requires an expected credit loss model as opposed to an incurred credit loss model under IAS 39. The expected credit loss model requires the Group to account for expected credit losses and changes in those expected credit losses at each reporting date to reflect changes in credit risk since initial recognition of the financial assets. In other words, it is no longer necessary for a credit event to have occurred before credit losses are recognised. Specifically, IFRS 9 requires the Group to recognise a loss allowance for expected credit losses on trade receivables and contract assets.

In particular, IFRS 9 requires the Group to measure the loss allowance for a financial instrument at an amount equal to the lifetime expected credit losses (ECL) if the credit risk on that financial instrument has increased significantly since initial recognition, or if the financial instrument is a purchased or originated credit-impaired

financial asset. However, if the credit risk on a financial instrument has not increased significantly since initial recognition (except for a purchased or originated credit-impaired financial asset), the Group is required to measure the loss allowance for that financial instrument at an amount equal to 12-months ECL. IFRS 9 also requires a simplified approach for measuring the loss allowance at an amount equal to lifetime ECL for trade receivables, contract assets and lease receivables in certain circumstances.

Given the current nature and size of operations of the Group, these requirements mainly apply to the financial assets reported under 'non-current trade receivables'. The carrying value of these receivables (resulting from Mesoblast license agreement commented further under the disclosure note 24) take into account a discount rate equal to our partner's incremental borrowing rate and, accordingly, is already credit risk-adjusted. We consider there is no significant additional credit risk related to this receivable, which would not have been captured by discounting effect, both at inception of the receivable and at the reporting date. As such, no additional ECL allowance per se has been recognized for this financial asset or any other financial asset.

Given the nature and size of operations of the Group at prior year-end, there was no difference between the ending provision for impairment in accordance with IAS 39 and the opening loss allowance determined in accordance with IFRS 9 for all of the Group's financial instruments.

Financial assets carried at amortised cost

For financial assets carried at amortised cost the Group first assesses individually whether objective evidence of impairment exists individually for financial assets that are individually significant, or collectively for financial assets that are not individually significant. If the Group determines that no objective evidence of impairment exists for an individually assessed financial asset, it includes the asset in a group of financial assets with similar credit risk characteristics and collectively assesses them for impairment. Assets that are individually assessed for impairment and for which an impairment loss is, or continues to be, recognised are not included in a collective assessment of impairment.

If there is objective evidence that an impairment loss has incurred, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows.

The present value of the estimated future cash flows is discounted at the financial assets' original effective interest rate. If a loan has a variable interest rate, the discount rate for measuring any impairment loss is the current effective interest rate.

The carrying amount of the asset is reduced through the use of an allowance account and the amount of the loss is recognised in the income statement. Interest income continues to be accrued on the reduced carrying amount and is accrued using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss. The interest income is recorded as part of finance income in the income statement. Loans together with the associated allowance are written off when there is no realistic prospect of future recovery. If, in a subsequent year, the amount of the estimated impairment loss increases or decreases because of an event occurring after the impairment was recognised, the previously recognised impairment loss is increased or reduced by adjusting the allowance account. If a future write-off is later recovered, the recovery is credited to the income statement.

FINANCIAL LIABILITIES

Classification

The Group's financial liabilities include "bank loans", "finance leases", "recoverable cash advances", "contingent consideration and other financial liabilities", "trade payables" and relevant financial liabilities within "Other (non-) current liabilities". The Group classifies and measures its financial liabilities at 'amortised cost' using the effective interest method, except "contingent consideration and other financial liabilities" which are claissified and measured at 'fair value through profit or loss'.

Initial recognition and measurement

All financial liabilities are recognized initially at fair value plus or minus, in the case of a financial liabilities not at fair value through profit or loss, directly attributable transaction costs

Subsequent measurement

The subsequent measurement of financial liabilities depends on their classification as above-explained. In particular:

Contingent consideration

The contingent consideration and other financial liabilities are recognized and measured at fair value at the acquisition date. After initial recognition, contingent consideration arrangements that are classified as liabilities are re-measured at fair value with changes in fair value recognized in profit or loss in accordance with IFRS 3 and IFRS 9. Therefore, contingent payments will not be eligible for capitalization but will simply reduce the contingent consideration liability.

Details regarding the valuation of the contingent consideration are disclosed in Note 22.

Recoverable Cash advances

Recoverable cash advances granted by the Walloon Region are subsequently measured at amortized cost using the cumulative catch-up approach, as described above.

Trade payables and other payables

After initial recognition, trade payables and other payables are measured at amortised cost using the effective interest method.

Loans and borrowings

After initial recognition, interest bearing loans and borrowings are subsequently measured at amortised cost using the effective interest rate method. Gains and losses are recognised in the income statement when the liabilities are derecognised.

Amortised cost is calculated by taking into account any discount or premium on acquisition and fee or costs that are an integral part of the EIR. The EIR amortisation is included in finance expense in the income statement.

Derecognition

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expires.

When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognised in the income statement.

PROVISIONS

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the

obligation and a reliable estimate can be made of the amount of the obligation. Where the Group expects some or all of a provision to be reimbursed, for example under an insurance contract, the reimbursement is recognised as a separate asset but only when the reimbursement is virtually certain. The expense relating to any provision is presented in the income statement net of any reimbursement. If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, where appropriate, the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost.

Employee benefits

Post-employment plan

The Group operates a pension plan which requires defined contributions (DC) to be funded by the Group externally at a third-party insurance company. Under Belgian law, an employer must guarantee a minimum rate of return on the company's contributions. Therefore, any pension plan (including DC plans) organized in Belgium is treated as defined benefit plans under IAS 19.

At balance sheet date, the minimum rates of return guaranteed by the Group are as follows, in accordance with the law of 18 December 2015:

- 1.75% for the employer's contributions paid as from 1 January 2016 (variable rate based on Governemental bond OLO rates, with a minimum of 1.75% and a maximum of 3.75%);
- 3.25% (fixed rate) for the employer's contributions paid until 31 December 2015

The cost of providing benefits is determined using the projected unit credit (PUC) method, with actuarial valuations being carried out at the end of each annual reporting period, with the assistance of an independent actuarial firm.

The liability recognized in the balance sheet in respect of the pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating to the terms of the related pension obligation.

The current service cost of the defined benefit plan, recognized in the income statement as part of the operating costs, reflects the increase in the defined benefit obligation resulting from employee service in the current year, benefit changes, curtailments and settlements.

Past-service costs are recognized immediately in the income statement.

The net interest cost is calculated by applying the discount rate to the net balance of the defined benefit obligation and the fair value of plan assets. This cost is included in the operating costs in the income statement.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to other comprehensive income in the period in which they arise.

Short-term benefits

Short-term employee benefits are those expected to be settled wholly before twelve months after the end of the annual reporting period during which employee services are rendered, but do not include termination benefits such as wages, salaries, profit-sharing and bonuses and non-monetary benefits paid to current employees.

The undiscounted amount of the benefits expected to be paid in respect of services rendered by employees in an accounting period is recognised in that period. The expected cost of short-term compensated absences is recognised as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absences occur, and includes any additional amounts the entity expects to pay as a result of unused entitlements at the end of the period.

Share-based payments

Certain employees, managers and members of the Board of Directors of the Group receive remuneration, as compensation for services rendered, in the form of share-based payments which are “equity-settled”.

Measurement

The cost of equity-settled share-based payments is measured by reference to the fair value at the date on which they are granted. The fair value is determined by using an appropriate pricing model, further details are given in note 16.

Recognition

The cost of equity-settled share-based payments is recorded as an expense, together with a corresponding increase in equity, over the period in which the service conditions are fulfilled. The cumulative expense recognised for equity-settled transactions at each reporting date until the vesting date reflects the extent to which the vesting period has expired and the Group’s best estimate of the number of equity instruments that will ultimately vest.

The estimate of warrants to vest is revised at each reporting date. The change in estimates will be recorded as an expense with a corresponding correction in equity.

The expense or credit for a period accounted for in the income statement represents the movement in cumulative expense recognised as of the beginning and end of that period.

Modification

Where the terms of an equity-settled transaction award are modified, the minimum expense recognised is the expense as if the terms had not been modified, if the original terms of the award were met. An additional expense is recognised for any modification that increases the total fair value of the share-based payment transaction, or is otherwise beneficial to the employee as measured at the date of modification.

The incremental fair value granted is the difference between the fair value of the modified equity instrument and the original equity instrument, both estimated as at the date of the modification. If the modification occurs during the vesting period, the incremental fair value granted is included in the measurement of the amount recognized for services received over the period from the modification date until the date when the modified equity instruments vest, in addition to the amount based on the grant date fair value of the original equity instruments, which is recognized over the remainder of the original vesting period. If the modification occurs after vesting date, the incremental fair value granted is recognized immediately, or over the vesting period if the employee is required to complete an additional period of service before becoming unconditionally entitled to those modified equity instruments.

Cancellation

An equity-settled award can be forfeited with the departure of a beneficiary before the end of the vesting period, or cancelled and replaced by a new equity settled award. When an equity-settled award is forfeited, the

previously recognised expense is offset and credited in the income statement. When an equity-settled award is cancelled, the previously recognised expense is offset and credited in the income statement. However, if a new award is substituted for the cancelled award, and designated as a replacement award on the date that it is granted, the cancelled and new awards are treated as if they were a modification of the original award, as described in the previous paragraph.

INCOME TAXES

Tax is recognised in the income statement, except to the extent that it relates to items recognised in other comprehensive income or directly in equity. In this case, the tax is also recognised in other comprehensive income or directly in equity, respectively.

Deferred tax

Deferred tax is provided using the liability method on temporary differences at the reporting date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes.

Deferred tax liabilities are recognised for all taxable temporary differences, except:

- Where the deferred tax liability arises from the initial recognition of goodwill or of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss;
- In respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, where the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognised for all deductible temporary differences, carry forward of unused tax credits and unused tax losses (except if the deferred tax asset arises from the initial recognition of an asset or liability in a transaction other than a business combination and that, at the time of the transaction affects neither accounting nor taxable profit or loss), to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilised.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is not probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised. Unrecognised deferred tax assets are reassessed at each reporting date and are recognised to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realised or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Deferred tax assets and deferred tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to income taxes levied by the same taxation authority or either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

EARNINGS (LOSS) PER SHARE

The basic net profit/(loss) per share is calculated based on the weighted average number of shares outstanding during the period.

The diluted net profit/(loss) per share is calculated based on the weighted average number of shares outstanding including the dilutive effect of potentially dilutive ordinary shares such as warrants and convertible debts. Potentially dilutive ordinary shares should be included in diluted earnings (loss) per share when and only when their conversion to ordinary shares would decrease the net profit per share (or increase net loss per share).

NOTE 4. RISK MANAGEMENT

Financial risk factors

Interest rate risk

The interest rate risk is very limited as the Group has only a limited amount of finance leases and outstanding bank loans. So far, because of the materiality of the exposure, the Group did not enter into any interest hedging arrangements.

Credit risk

Seen the limited amount of trade receivables due to the fact that sales to third parties are not significant, credit risk arises mainly from cash and cash equivalents and deposits with banks and financial institutions. The Group only works with international reputable commercial banks and financial institutions.

Foreign exchange risk

The Group is exposed to foreign exchange risk as certain collaborations or supply agreements of raw materials are denominated in USD. Moreover, the Group has also investments in foreign operations, whose net assets are exposed to foreign currency translation risk (USD). So far, the Group did not enter into any currency hedging arrangements.

At year-end, the foreign exchange risk exposure lied on the cash and short-term deposits denominated in USD.

EUR/USD foreign (loss)/gain exposure	+2%	+1%	-1%	-2%
31 December 2018	(€0.2 million)	(€0.1 million)	+€0.1 million	+€0.2 million
31 December 2017	(€0.7 million)	(€0.3 million)	+€0.3 million	+€0.7 million

A depreciation of 1% on the USD versus EUR would translate into an unrealized foreign exchange loss of €115k for the Group at 31 December 2018.

Liquidity risk

The Group monitors its risk to a shortage of funds using a recurring liquidity planning tool.

The Group's objective is to maintain a balance between continuity of funding and flexibility through the use of bank deposit and finance leases.

The Group is exposed to liabilities and contingent liabilities as a result of the RCAs it has received from the Walloon Government, as we are required to make exploitation decisions.

We refer to Note 20 for an analysis of the Group's non-derivative financial liabilities into relevant maturity groupings based on the remaining period at the balance sheet date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows.

Capital management

The Group's objectives when managing capital are to safeguard Celyad' ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an adequate structure to limit to costs of capital.

NOTE 5. CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

The preparation of the Group's financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the disclosure of contingent liabilities, at the end of the reporting period.

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods.

In the process of applying the Group's accounting policies, management has made judgments and has used estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

Going Concern

When assessing going concern, the company's Board of directors considers mainly the following factors:

- the treasury available at balance sheet date
- the cash burn projected in accordance with approved budget for next 12-month period as from the date of the balance sheet

Revenue

The recognition of revenue relating to license and collaboration agreements involves management estimates and requires judgement as to:

(i) classifying the license agreement (right-to-use or right-to-access license) in accordance with 'Licensing' Application Guidance set forth in IFRS 15;

(ii) identifying the performance obligations comprised in the contract;

(iii) estimating probability for (pre-)clinical development or commercial milestone achievement;

(iv) determining the agreed variable considerations to be included in the transaction price taking into account the constraining limit of the "highly probable" criteria;

(v) allocating the transaction price according to the stand-alone selling price of each of the performance obligations; and

(vi) estimating the finance component in the transaction price, based on the contract expected duration and discount rate.

The management makes its judgment taking into account all information available about clinical status of the underlying projects at the reporting date and the legal analysis of each applicable contracts. Further details are contained in Note 24.

Recoverable Cash Advances received from the Walloon Region

As explained in note 3, accounting for RCAs requires initial recognition of the fair value of the loan received to determine the benefit of the below-market rate of interest, which shall be measured as the difference between the initial carrying value of the loan and the proceeds received. Loans granted to entities in their early stages of operations, for which there is significant uncertainty about whether any income will ultimately be generated and

for which any income which will be generated will not arise until a number of years in the future, normally have high interest rates. Judgment is required to determine a rate which may apply to a loan granted on an open market basis.

In accordance with the RCA agreements, the following two components are assessed when calculating estimated future cash flows:

- 30% of the initial RCA, which is repayable when the company exploits the outcome of the research financed; and
- a remaining amount, which is repayable based on a royalty percentage of future sales milestones.

After initial recognition, RCA liabilities are measured at amortized cost using the cumulative catch up method requiring management to regularly revise its estimates of payments and to adjust the carrying amount of the financial liability to reflect actual and revised estimated cash flows.

Measurement and impairment of non-financial assets

With the exception of goodwill and certain intangible assets for which an annual impairment test is required, the Group is required to conduct impairment tests where there is an indication of impairment of an asset. Measuring the fair value of non-financial assets requires judgement and estimates by management. These estimates could change substantially over time as new facts emerge or new strategies are taken by the Group. Further details are contained in Note 7.

Business combinations

In respect of acquired businesses by the Group, significant judgement is made to determine whether these acquisitions are to be considered as an asset deal or as a business combination. Determining whether a particular set of assets and activities is a business should be based on whether the integrated set is capable of being conducted and managed as a business by a market participant. Moreover, managerial judgement is particularly involved in the recognition and fair value measurement of the acquired assets, liabilities, contingent liabilities and contingent consideration. In making this assessment management considers the underlying economic substance of the items concerned in addition to the contractual terms.

Contingent consideration provisions

The Group records a liability for the estimated fair value of contingent consideration arising from business combinations. The estimated amounts are the expected payments, determined by considering the possible scenarios of forecast sales and other performance criteria, the amount to be paid under each scenario, and the probability of each scenario, which is then discounted to a net present value. The estimates could change substantially over time as new facts emerge and each scenario develops.

Deferred Tax Assets

Deferred tax assets for unused tax losses are recognized to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Significant management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and level of future taxable profits together with future tax planning strategies. Further details are contained in Note 29.

Share-based payment transactions

The Group measures the cost of equity-settled transactions with employees by reference to the fair value of the equity instruments at the date at which they are granted. Estimating fair value for share-based payment

transactions requires determining the most appropriate valuation model, which is dependent on the terms and conditions of the grant. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life of the share option, volatility and dividend yield and making assumptions about them. The assumptions and models used for estimating fair value for share-based payment transactions are disclosed in Note 16.

NOTE 6. OPERATING SEGMENT INFORMATION

The chief operating decision-maker (CODM), who is responsible for making strategic decisions, allocating resources and assessing performance of the Group, has been identified as the Board of Directors.

Since the acquisition of the oncological platform in 2015, the management and the CODM have determined that there are two operating segments, being:

- the cardiology segment, regrouping the Cardiopoiesis platform, the Corquest Medical, Inc. (Corquest) platform and C-Cathez; and
- the immuno-oncology segment regrouping all assets developed based on the CAR-T cell platform.

Although the Group is currently active in Europe and in the US, no geographical financial information is currently available given the fact that the core operations are currently still in a study phase. No disaggregated information on product level or geographical level or any other level currently exists and hence also not considered by the Board of Directors for assessing performance or allocating resources.

CODM is not reviewing assets by segments, hence no segment information per assets is disclosed. At reporting date, all of the Group non-current assets are located in Belgium, except the leasehold improvements made in the offices of Celyad Inc located in Boston, USA.

€'000	For the year ended December 31, 2016			
	Cardiology	Immuno-oncology	Corporate	**Group Total**
Revenue	84	9,929		10,013
Cost of Sales	(53)	(1,489)		(1,542)
Gross Profit	**31**	**8,440**	**—**	**8,471**
Research & Development expenses	(12,704)	(14,971)		(27,675)
General & Administrative expenses	—	—	(9,744)	(9,744)
Other Income and expenses	1,540	1,800		3,340
Operating Profit (Loss)	**(11,133)**	**(4,731)**	**(9,744)**	**(25,609)**
Net Financial Charges	—	—	1,997	1,997
Profit (Loss) before taxes	**(11,133)**	**(4,731)**	**(7,747)**	**(23,612)**
Income Taxes	—	—	6	6
Profit (Loss) for the year 2016	**(11,133)**	**(4,731)**	**(7,742)**	**(23,606)**

In August 2016, the Group has received a non-refundable upfront payment as a result of the ONO agreement. This upfront payment has been fully recognised upon receipt as there are no performance obligations nor subsequent deliverables associated to the payment. The non-refundable upfront payment was rather received as a consideration for the sale of licence to ONO. In 2016, the total revenue generated through sales of C-Cath $_{ez}$ was € 0.1 million.

€'000	For the year ended December 31, 2017			
	Cardiology	Immuno-oncology	Corporate	**Group Total**
Revenues	35	3,505		3,540
Cost of Sales		(515)		(515)
Gross Profit	**35**	**2,990**	**—**	**3,025**
Research & Development expenses	(2,881)	(20,027)	—	(22,908)
General & Administrative expenses	—	—	(9,310)	(9,310)
Other Income and expenses	1,070	151	1,370	2,590
Non-recurring operating (expenses)/income	(1,932)	—	(24,341)	(26,273)
Operating Profit (Loss)	**(3,708)**	**(16,886)**	**(32,281)**	**(52,876)**
Net Financial Charges	—	—	(3,518)	(3,518)
Profit (Loss) before taxes	**(3,708)**	**(16,886)**	**(35,799)**	**(56,396)**
Income Taxes	—	—	1	1
Profit (Loss) for the year 2017	**(3,708)**	**(16,886)**	**(35,798)**	**(56,395)**

In 2017, there were some important one-time non-recurrent items impacting significantly the consolidated income statement. The Board decided to isolate these non-recurrent items in the presentation of the consolidated income statement.

€'000	For the year ended December 31, 2018			
	Cardiology	Immuno-oncology	Corporate	**Group Total**
Revenues	2,399	716	—	3,115
Cost of Sales	—	—	—	—
Gross Profit	**2,399**	**716**	**—**	**3,115**
Research & Development expenses	(375)	(23,202)	—	(23,577)
General & Administrative expenses	—	—	(10,387)	(10,387)
Other Income and expenses	(686)	(6,765)	130	(7,321)
Recurring operating profit (Loss) - REBIT	**1,338**	**(29,251)**	**(10,257)**	**(38,170)**
Non-recurring operating (expenses)/income	—	—	—	—
Operating Profit (Loss)	**1,338**	**(29,251)**	**(10,257)**	**(38,170)**
Net Financial Result	—	—	743	743
Profit (Loss) before taxes	**1,338**	**(29,251)**	**(9,515)**	**(37,427)**
Income Taxes	—	—	—	—
Profit (Loss) for the year 2018	**1,338**	**(29,251)**	**(9,515)**	**(37,427)**

In 2018, the Group entered into a license agreement with Mesoblast relating to the C-Cathez device, in the Cardiology segment, resulting in €2.4 million revenue recognized. See disclosure note 24.

NOTE 7: INTANGIBLE ASSETS

The change in intangible assets is broken down as follows, per class of assets:

(€'000)	Goodwill	In-process research and development	Development costs	Patents, licences, trademarks	Software	Total
Cost:						
At 1 January 2017	**1,040**	**39,655**	**1,084**	**13,337**	**202**	**55,318**
Additions	—	—	—	—	—	—
Currency translation adjustments	(126)	(4,801)	—	—	3	(4,924)
Divestiture	—	—	—	—	(93)	(93)
At 31 December 2017	**914**	**34,854**	**1,084**	**13,337**	**111**	**50,300**
Additions	—	—	—	877	55	932
Currency translation adjustments	(31)	(1,177)	—	—	—	(1,208)
Divestiture	—	—	—	—	(2)	(2)
At 31 December 2018	**883**	**33,677**	**1,084**	**14,214**	**164**	**50,022**
Accumulated amortisation						
At 1 January 2017	**—**	**—**	**(279)**	**(5,373)**	**(100)**	**(5,752)**
Amortisation charge	—	—	(66)	(7,964)	(7)	(8,038)
Divestiture	—	—	—	—	(3)	(3)
At 31 December 2017	**—**	**—**	**(345)**	**(13,337)**	**(110)**	**(13,792)**
Amortisation charge	—	—	(66)	(1)	(0)	(68)
Divestiture	—	—	—	—	2	2
Impairment (non-recurring loss)	—	—	—	—	—	—
At 31 December 2018	**—**	**—**	**(411)**	**(13,338)**	**(109)**	**(13,858)**
Net book value						
Cost	914	34,854	1,084	13,337	111	50,300
Accumulated amortisation	—	—	(345)	(13,337)	(110)	(13,792)
At 31 December 2017	**914**	**34,854**	**739**	**0**	**1**	**36,508**
Cost	883	33,677	1,084	14,214	164	50,022
Accumulated amortisation	—	—	(411)	(13,338)	(109)	(13,858)
At 31 December 2018	**883**	**33,677**	**673**	**876**	**55**	**36,163**

The capitalised development costs relate to the development of C-Cathez. Since May 2012 and the CE marking of C-Cathez, the development costs of C-Cathez are capitalized and amortized over the estimate residual intellectual property protection as of the CE marking (ie. until 2029). No other development costs have been capitalised up till now. All other programs (ao. C-Cure, CYAD-01, CYAD-02, CYAD-101…) related development costs have been assessed as not being eligible for capitalisation and have therefore been recognised in the income statement as research and development expenses. Software is amortized over a period of 3 to 5 years.

Goodwill, In-process R&DPatents, Licenses and Trademarks relate to the following items:

- Goodwill and In-process research and development resulted from the purchase price allocation exercise performed for the acquisition of Oncyte LLC in 2015. As of balance sheet date, Goodwill and In-Process Research and Development are not amortized but tested for impairment.
- A licence, granted in August 2007 by Mayo Clinic (for an amount of €9.5 million) upon the Group's inception and an extension to the licensed field of use, granted on 29 October 2010 for a total amount of €2.3 million. The licence and its extension were amortised straight line over a period of 20 years, in accordance with the license term. A €6.0 million impairment loss has been recognised on the remaining net book value in the year ended 31 December 2017.

- Patents acquired upon the acquisition of CorQuest LLC in November 2014. The fair value of these intellectual rights was then determined to be €1.5 million. These patents were amortised over 18 years, corresponding to the remaining intellectual property protection filed for the first patent application in 2012. A €1.2 million impairment loss has been recognised on the remaining net book value in the year ended 31 December 2017.
- Exclusive Agreement for Horizon Discovery's shRNA Platform to develop next-generation allogenic CAR-T Therapies acquired for $1.0 million end of December 2018. This patent is amortised over the remaining period of 10 years, corresponding to the remaining intellectual property protection of 20 years, filed for the first patent application in 2008.

Impairment testing

Impairment testing is detailed below.

OnCyte, LLC goodwill and IPRD impairment test

Goodwill and In-process research and development (IPRD) exclusively relate to the acquisition of the former entity Oncyte LLC (meanwhile liquidated into Celyad SA) which was acquired in 2015. Management performs an annual impairment test on goodwill and on 'indefinite lived assets' that are not amortized in accordance with the accounting policies stated in notes 3. The impairment test has been performed at the level the immuno-oncology segment corresponding to the CGU to which the goodwill and the IPRD belong. The recoverable amount has been calculated based on the fair value less costs to sell model, which requires the use of assumptions. The calculations use cash flow projections based on 12-year period business plan based on probability of success of CYAD-01 and CYAD-101 product candidates as well as extrapolations of projected cash flows resulting from the future expected sales associated with CYAD-01 and CYAD-101. CGU recoverable value, determined accordingly, exceeds its carrying amount. Accordingly, no impairment loss was recognized neither on goodwill nor on the IPRD intangible assets at balance sheet date.

Management's key assumptions about projected cash flows when determining fair value less costs to sell are as follows:

- Discount rate (WACC) — 13.9%, in line with industry standards for biotechnological companies and WACC used by Equity Research companies following the Group
- Sales revenue growth in the Terminal Value — a decline of 25% of the estimated product revenue has been considered in the Terminal Value (for infinite extrapolation purposes)
- Probabilities of Success (PoS) — based on Clinical Development Success Rates observed for the period 2006-2015 determined by independent business intelligence consulting companies for hematologic and solid oncological diseases. Probability of our product candidates getting on the market used were in line with prior year and as follows:

PoS	Phase I	Phase I to II	Phase II to III	Phase III to BLA	BLA to Approval	Cumulative PoS
CYAD-01 **CYAD-101**	100%	63%	26%	45%	84%	6.4%

The sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. The following table presents the sensitivity analyses of the recoverable amount of the CGU associated to the immuno-oncology operations:

Sensitivity analysis		Discount rate (WACC)		
Terminal Revenue Growth rate	**Impact on model value**	13.90%	14.65%	15.40%
-35%		-8%	-16%	-23%
-30%		-5%	-13%	-20%
-25%		Model Reference	-9%	-16%

Even at the lower terminal revenue growth and higher discount rate, the recoverable value of the CGU exceeded its carrying amount at balance sheet date.

C-Cure and Corquest impairment test

Pursuant to prior year's strategic decision to focus all the efforts of the Group on the development of the immuno-oncology platform and the lack of strategic business development opportunities identified for the C-Cure (Mayo Licenses) and HeartXs (Corquest patents) technologies, these assets had been fully impaired as of 31 December 2017. CGU's recoverable amounts being confirmed to be zero at current year-end, the 100% impairment allowance has been carried forward at balance sheet date.

NOTE 8: PROPERTY, PLANT AND EQUIPMENT

(€'000)	Equipment	Furnitures	Leasehold	Total
Cost:				
At 1 January 2017	**3,999**	**465**	**2,947**	**7,410**
Additions	823	—	129	952
Acquisition of BMS SA	—	—	—	—
Disposals	(281)	(9)	(9)	(299)
Currency translation adjustments	(3)	(11)	(8)	(23)
At 31 December 2017	**4,537**	**445**	**3,059**	**8,041**
Additions	564	10	260	833
Reclass BMS SA	(1,032)	24	1,007	(0)
Disposals	(123)	(154)	(140)	(417)
Currency translation adjustments	1	4	8	13
At 31 December 2018	**3,947**	**329**	**4,195**	**8,470**
Accumulated depreciation:				
At 1 January 2017	**(2,752)**	**(184)**	**(912)**	**(3,847)**
Depreciation charge (note 5.25)	(424)	(56)	(486)	(966)
Acquisition of BMS SA	—	—	—	—
Currency translation adjustments	1	1	0	2
Disposals	50	9	2	61
At 31 December 2017	**(3,126)**	**(229)**	**(1,395)**	**(4,750)**
Reclass BMS SA	786	(24)	(761)	(0)
Depreciation charge (note 5.25)	(529)	(49)	(469)	(1,048)
Disposals	117	93	133	343
Currency translation adjustments	0	(1)	(1)	(1)
At 31 December 2018	**(2,751)**	**(211)**	**(2,494)**	**(5,456)**
Net book value				
Cost	4,537	445	3,059	8,041
Accumulated depreciation	(3,126)	(229)	(1,395)	(4,750)
At 31 December 2017	**1,412**	**215**	**1,664**	**3,290**
Cost	3,947	328	4,195	8,470
Accumulated depreciation	(2,751)	(211)	(2,494)	(5,456)
At 31 December 2018	**1,196**	**117**	**1,701**	**3,013**

Property, Plant and Equipment is mainly composed of office furniture, leasehold improvements, and laboratory equipment.

The acquisition of BMS in 2016 was accounted for as an asset deal. The fair value of the assets acquired is concentrated in one identifiable asset, i.e. the GMP laboratories. A reclass of BMS equipments to Leashold has

been operated in 2018 without having any impact on the net book value. The difference between the purchase price and the net assets of BMS at the date of acquisition is then allocated entirely to the Property, Plant and Equipment.

Finance leases

Lease contracts considered as finance lease relate to some contracts with financial institutions and relate to laboratory and office equipment. All finance leases have a maturity of three years. A key common feature is that they include a bargain option to purchase the leased asset at the end of the three-year-lease term.

The total of future minimum lease payments at the end of the reporting period, and their present value reported on the balance sheet, are similar amounts.

NOTE 9: OTHER NON-CURRENT ASSETS

(€'000)	As at 31 December, 2018	2017
Non-current trade receivables Mesoblast licence agreement	**1,743**	0
Total	**1,743**	**0**

In May 2018, the Group has entered into an exclusive license agreement with Mesoblast. More details on the transaction and its revenue recognition pattern is set forth in disclosure note 24.

(€'000)	As at 31 December, 2018	2017
Deposits	**215**	273
R&D Tax credit receivable	**1,472**	1,161
Total	**1,687**	**1,434**

The non-current assets refer to security deposits paid to the lessors of the building leased by the Group and to the Social Security administration.

In 2017, the Company recognized for the first time a receivable on the amounts to collect from the federal government as R&D tax credit (€1.2 million), including a one-off catch-up effect. For the current year, a further R&D tax credit receivable has been recorded for the 2018 base increment (€0.3 million).

NOTE 10: INVENTORIES AND WORK IN PROGRESS

Not applicable

NOTE 11: TRADE, OTHER RECEIVABLES AND OTHER CURRENT ASSETS

(€'000)	As at 31 December, 2018	2017
Trade receivables	277	64
Advance deposits	90	152
Other trade receivables	0	17
Total Trade and Other receivables	**367**	**233**
Prepaid expenses	593	744
VAT receivable	255	391
Income and other tax receivables	737	1,120
Total Other current assets	**1,585**	**2,255**

Impairment of receivables is assessed on an individual basis at the end of each accounting year.

At balance sheet date, no receivable was overdue. There were no carrying amounts for trade and other receivables denominated in foreign currencies and no impairments were recorded. Trade receivables balance increase due to a non-clinical supply services agreement signed with Ono (€0.2 million receivable at year-end).

At 31 December 2017, income tax receivables include an open balance for two fiscal years (2017 and 2016), while only one (2018) at 31 December 2018. As of 31 December 2018, other trade receivables mainly decrease due to lower withholding tax to be received from our short-term deposits interests.

NOTE 12: SHORT-TERM INVESTMENTS

(€'000)	As at 31 December, 2018	2017
Short-term cash deposits	**8,559**	10,653
Investment in equity securities	**639**	—
Total	**9,197**	**10,653**

Amounts recorded as short-term investments correspond to short-term cash deposits with fixed interest rates. Short-term deposits are made for variable periods (from 1 to 12 months) depending on the short-term cash requirements of the Group. Interest is calculated at the respective short-term deposit rates.

Mesoblast equity shares received in settlement of the upfront payment for the C-CathEZ licensing agreement (see disclosure note 24) are measured at fair value through profit or loss. The fair value of these listed securities is based on public market prices. Accordingly, their carrying value has been marked-to-market value at 2018 year-end.

NOTE 13: CASH AND CASH EQUIVALENTS

(€'000)	As at 31 December, 2018	2017
Cash at bank and on hand	40,542	23,253
Total	**40,542**	**23,253**

Cash at banks earn interest at floating rates based on daily bank deposit rates.

The credit quality of cash and cash equivalents and short-term cash deposit balances may be categorised between A-1 and A+ based on Standard and Poor's rating at 31 December 2018.

NOTE 14: INVESTMENT IN SUBSIDIARIES

The consolidation scope of Celyad Group is as follows, for both current and comparative years presented in these year-end financial statements:

Name	Country of Incorporation and Place of Business	Nature of Business	Proportion of ordinary shares directly held by parent (%)	Proportion of ordinary shares held by the group (%)	Proportion of ordinary shares held by non-controlling interests (%)
Celyad Inc.	USA	Biopharma	100%	100%	0%
OnCyte, LLC	USA	Biopharma	100%	100%	0%
CorQuest Medical, Inc.	USA	Medical Device	100%	100%	0%
Biological Manufacturing Services SA	Belgium	GMP laboratories	100%	100%	0%

Biologicial Manufacturing Services SA (BMS) has been acquired in May 2016. BMS owns GMP laboratories. BMS rent its laboratories to Celyad SA since 2009 and until 30 April 2016. Until the acquisition, BMS had been treated as a related party to Celyad.

Cardio3 Inc was incorporated in 2011 to support clinical and regulatory activities of the Group in the US. Cardio3 Inc was renamed in Celyad Inc in 2015. The growth of the activities of Celyad Inc is associated to the development of the US clinical and regulatory activities of the Group in the US.

Corquest Inc has been acquired on 5 November 2014. Corquest Inc. is developing Heart XS, a new access route to the left atrium.

Oncyte LLC had been acquired on 21 January 2015. It has been liquidated in March 2018. Oncyte LLC was the company hosting the CAR T-Cell portfolio of clinical and pre-clinical stage immuno-oncology IP assets, as disclosed in our previous annual reports. In 2018, as a result of the liquidation, these IP assets have been transferred to Celyad SA, without any impact on the Group's operations.

NOTE 15: SHARE CAPITAL

The number of shares issued is expressed in units.

	As at 31 December,	
	2018	2017
Total number of issued and outstanding shares	11,942,344	9,867,844
Total share capital (€'000)	**41,552**	**34,337**

As of 31 December 2018, the share capital amounts to €41,552k represented by 11,942,344 fully authorized and subscribed and paid-up shares with a nominal value of €3.48 per share. This number does not include warrants issued by the Company and granted to certain directors, employees and non-employees of the Company.

History of the capital of the Company

The Company has been incorporated on July 24, 2007 with a share capital of €62,500 by the issuance of 409,375 class A shares. On August 31, 2007, the Company has issued 261,732 class A shares to Mayo Clinic by way of a contribution in kind of the upfront fee that was due upon execution of the Mayo Licence for a total amount of €9,500,000.

Round B Investors have participated in a capital increase of the Company by way of a contribution in kind of a convertible loan (€2,387,049) and a contribution in cash (€4,849,624 of which €1,949,624 uncalled) on December 23, 2008; 204,652 class B shares have been issued at the occasion of that capital increase. Since then, the capital is divided in 875,759 shares, of which 671,107 are class A shares and 204,652 are class B shares.

On October 29, 2010, the Company closed its third financing round resulting in a capital increase totalling €12,100,809. The capital increase can be detailed as follows:

- capital increase in cash by certain existing investors for a total amount of €2,609,320.48 by the issuance of 73,793 class B shares at a price of €35.36 per share;
- capital increase in cash by certain existing investors for a total amount of €471,240 by the issuance of 21,000 class B shares at a price of €22.44 per share;
- capital increase in cash by certain new investors for a total amount of €399,921.60 by the issuance of 9,048 class B shares at a price of €44.20 per share;

- exercise of 12,300 warrants ("Warrants A") granted to the Round C investors with total proceeds of €276,012 and issuance of 12,300 class B shares. The exercise price was €22.44 per Warrant A;
- contribution in kind by means of conversion of the loan C for a total amount of €3,255,524.48 (accrued interest included) by the issuance of 92,068 class B shares at a conversion price of €35.36 per share;
- contribution in kind by means of conversion of the loan D for a total amount of €2,018,879.20 (accrued interest included) by the issuance of 57,095 class B shares at a conversion price of €35.36 per share. The loan D is a convertible loan granted by certain investors to the Company on 14 October 2010 for a nominal amount of €2,010,000.
- contribution in kind of a payable towards Mayo Foundation for Medical Education and Research for a total amount of €3,069,911 by the issuance of 69,455 class B shares at a price of €44.20 per share. The payable towards Mayo Clinic was related to (i) research undertaken by Mayo Clinic in the years 2009 and 2010, (ii) delivery of certain materials, (iii) expansion of the Mayo Clinical Technology Licence Contract by way the Second Amendment dated October 18, 2010.

On May 5, 2011, pursuant the decision of the Extraordinary General Meeting, the capital was reduced by an amount of €18,925,474 equivalent to the outstanding net loss as of 31 December 2010.

On 31 May 2013, the Company closed its fourth financing round, the 'Round D financing'. The convertible loans E, F, G and H previously recorded as financial debt were converted in shares which led to an increase in equity for a total amount of €28,645k of which € 5,026k is accounted for as capital and € 6,988k as share premium. The remainder (€ 16,613k) is accounted for as other reserves. Furthermore, a contribution in cash by existing shareholders of the Company led to an increase in share capital and issue premium by an amount of €7,000k.

At the Extraordinary Shareholders Meeting of June 11, 2013 all existing classes of shares of the Company have been converted into ordinary shares. Preferred shares have been converted at a 1 for 1 ratio and subsequently.

On July 5, 2013, the Company completed its Initial Public Offering. The Company issued 1,381,500 new shares at €16.65 per shares, corresponding to a total of €23,002k.

On July 15, 2013, the over-allotment option was fully exercised for a total amount of €3,450k corresponding to 207,225 new shares. The total IPO proceeds amounted to €26,452k and the capital and the share premium of the Company increased accordingly. The costs relating to the capital increases performed in 2013 amounted to €2.8 million and are presented in deduction of share premium.

On June 11, 2013, the Extraordinary General Shareholders' Meeting of Celyad SA authorized the Board of Directors to increase the share capital of the Company, in one or several times, and under certain conditions set forth in extenso in the articles of association. This authorization is valid for a period of five years starting on July 26, 2013 and until July 26, 2018. The Board of Directors may increase the share capital of the Company within the framework of the authorized capital for an amount of up to €21,413k.

Over the course of 2014, the capital of the Company was increased in June 2014 by way of a capital increase of €25,000k represented by 568,180 new shares fully subscribed by Medisun International Limited.

In 2014, the capital of the Company was also increased by way of exercise of Company warrants. Over four different exercise periods, 139,415 warrants were exercised resulting in the issuance of 139,415 new shares. The capital and the share premium of the Company were therefore increased respectively by €488k and €500k.

In January 2015, the shares of OnCyte, LLC were contributed to the capital of the Company, resulting in a capital increase of €3,452k and the issuance of 93,087 new shares.

In 2015, the Company conducted two fund raisings. A private placement was closed in March resulting in a capital increase of €31,745k represented by 713,380 new shares. The Company also completed an IPO on Nasdaq in June, resulting in a capital increase of €87,965k represented by 1,460,000 new shares.

Also in 2015, the capital of the Company was also increased by way of exercise of Company warrants. Over three different exercise periods, 6,749 warrants were exercised resulting in the issuance of 6,749 new shares. The capital and the share premium of the Company were therefore increased respectively by €23k and €196k.

Over 2017 the capital of the Company was also increased by way of exercise of Company warrants. Over four different exercise periods, 225,966 warrants were exercised resulting in the issuance of 225,966 new shares. The capital of the Company was therefore increased by €625k.

In August 2017, pursuant to the amendment of the agreements with Celdara Medical LLC and Dartmouth College, the CAR-T technology inventors, the capital of the Company was increased by way of contribution in kind of a liability owed to Celdara Medical LLC. 328,275 new shares were issued at a price of €32.35 (being Celyad share's average market price for the 30 days preceding the transaction) and the capital and the share premium of the Company were therefore increased respectively by €1,141k and €9,479k without this had an impact on the cash and cash equivalents, explaining why such transaction is not disclosed in the consolidated statement of cashflows.

In May 2018 the Company completed a global offering of $54.4 million (€46.1 million), resulting in cash proceeds for an amount of €43.0 million net of bank fees and transaction costs.

As of 31 December 2018, all shares issued have been fully paid.

The following share issuances occurred since the incorporation of the Company:

Category	Transaction date	Description	# of shares	Par value (in €)
Class A shares	24 July 2007	Company incorporation	409,375	0.15
Class A shares	31 August 2007	Contribution in kind (upfront fee Mayo Licence)	261,732	36.30
Class B shares	23 December 2008	Capital increase (Round B)	137,150	35.36
Class B shares	23 December 2008	Contribution in kind (Loan B)	67,502	35.36
Class B shares	28 October 2010	Contribution in cash	21,000	22.44
Class B shares	28 October 2010	Contribution in kind (Loan C)	92,068	35.36
Class B shares	28 October 2010	Contribution in kind (Loan D)	57,095	35.36
Class B shares	28 October 2010	Contribution in cash	73,793	35.36
Class B shares	28 October 2010	Exercise of warrants	12,300	22.44
Class B shares	28 October 2010	Contribution in kind (Mayo receivable)	69,455	44.20
Class B shares	28 October 2010	Contribution in cash	9,048	44.20
Class B shares	31 May 2013	Contribution in kind (Loan E)	118,365	38.39
Class B shares	31 May 2013	Contribution in kind (Loan F)	56,936	38.39
Class B shares	31 May 2013	Contribution in kind (Loan G)	654,301	4.52
Class B shares	31 May 2013	Contribution in kind (Loan H)	75,755	30.71
Class B shares	31 May 2013	Contribution in cash	219,016	31.96
Class B shares	4 June 2013	Conversion of warrants	2,409,176	0.01
Ordinary shares	11 June 2013	Conversion of Class A and Class B shares in ordinary shares	4,744,067	—
Ordinary shares	5 July 2013	Initial Public Offering	1,381,500	16.65
Ordinary shares	15 July 2013	Exercise of over-allotment option	207,225	16.65
Ordinary shares	31 January 2014	Exercise of warrants issued in September 2008	5,966	22.44
Ordinary shares	31 January 2014	Exercise of warrants issued in May 2010	333	22.44

Category	Transaction date	Description	# of shares	Par value (in €)
Ordinary shares	31 January 2014	Exercise of warrants issued in January 2013	120,000	4.52
Ordinary shares	30 April 2014	Exercise of warrants issued in September 2008	2,366	22.44
Ordinary shares	16 June 2014	Capital increase	284,090	44.00
Ordinary shares	30 June 2014	Capital increase	284,090	44.00
Ordinary shares	4 August 2014	Exercise of warrants issued in September 2008	5,000	22.44
Ordinary shares	4 August 2014	Exercise of warrants issued in October 2010	750	35.36
Ordinary shares	3 November 2014	Exercise of warrants issued in September 2008	5,000	22.44
Ordinary shares	21 January 2015	Contribution in kind (Celdara Medical LLC)	93,087	37.08
Ordinary shares	7 February 2015	Exercice of warrant issued in May 2010	333	22.44
Ordinary shares	3 March 2015	Capital increase	713,380	44.50
Ordinary shares	11 May 2015	Exercice of warrant issued in May 2010	500	22.44
Ordinary shares	24 June 2015	Capital increase	1,460,000	60.25
Ordinary shares	4 August 2015	Exercice of warrant issued in May 2010	666	22.44
Ordinary shares	4 August 2015	Exercice of warrant issued in October 2010	5,250	35.36
Ordinary shares	1 february 2017	Exercice of warrant issued in May 2013	207,250	2.64
Ordinary shares	2 May 2017	Exercice of warrant issued in May 2013	4,900	2.64
Ordinary shares	1 August 2017	Exercice of warrant issued in May 2013	7,950	2.64
Ordinary shares	23 August 2017	Contribution in kind (Celdara Medical LLC)	328,275	32.35
Ordinary shares	9 November 2017	Exercice of warrant issued in May 2013	5,000	2.64
Ordinary shares	9 November 2017	Exercice of warrant issued in October 2010	866	35.36
Ordinary shares	7 February 2018	Exercice of warrant issued in May 2013	4,500	2.64
Ordinary shares	22 May 2018	Capital increase	2,070,000	22.29

(€000)

Date	Nature of the transactions	Share Capital	Share premium	Number of shares
	Balance as at January 1st, 2017	32,571	158,010	9,313,603
	Issue of shares related to exercise of warrants	625		225,966
	Capital increase resulting from Celdara and Dartmouth College agreements amendment	1,141	9,479	328,275
	Share-based payments		2,808	
	Balance as at December 31, 2017	34,337	170,297	9,867,844
	Issue of shares related to exercise of warrants	12	0	4,500
	Capital increase as a result of the global offering	7,204	35,796	2,070,000
	Share-based payments		56	
	Balance as at December 31, 2018	41,552	206,149	11,942,344

The total number of shares issued and outstanding as of 31 December 2018 totals 11,942,344 and are ordinary common shares.

NOTE 16: SHARE-BASED PAYMENTS

The Company operates an equity-based compensation plan, whereby warrants are granted to directors, management and selected employees and non-employees. The warrants are accounted for as equity-settled share-based payment plans since the Company has no legal or constructive obligation to repurchase or settle the warrants in cash.

Each warrant gives the beneficiaries the right to subscribe to one common share of the Company. The warrants are granted for free and have an exercise price equal to the lower of the average closing price of the Celyad share over the 30 days prior to the offer, and the last closing price before the day of the offer, as determined by the Board of Directors of the Company.

Changes in the number of warrants outstanding and their related weighted average exercise prices are as follows:

	2018		2017	
	Weighted average exercise price (in €)	Number of warrants	Weighted average exercise price (in €)	Number of warrants
Outstanding as at 1 January	**31.76**	674,962	**20.92**	**571,444**
Granted	23.09	111,600	30.37	367,100
Forfeited	28.79	50,833	28.50	31,817
Exercised	2.64	4,500	2.77	225,966
Expired	—	—	22.44	5,799
At 31 December	**30.71**	**731,229**	**31.76**	**674,962**

There were 4,500 warrants exercised in 2018, that were issued in May 2013.

Warrants outstanding at the end of the year have the following expiry date and exercise price:

Warrant plan issuance date	Vesting date	Expiry date	Number of warrants outstanding as at 31 December, 2018	Number of warrants outstanding as at 31 December, 2017	Exercise price per share
29 October 2010	29 October 2013	29 October 2020	766	766	35.36
06 May 2013	06 May 2016	06 May 2023	2,500	7,000	2.64
05 May 2014	05 May 2017	05 May 2024	60,697	60,697	36.69
05 November 2015	05 November 2018	05 November 2025	245,982	253,065	33.27
08 December 2016	08 December 2019	08 December 2021	42,500	45,000	22.46
29 June 2017	29 June 2020	29 June 2022	294,484	308,434	31.50
26 October 2018	26 October 2021	26 October 2023	84,300		21.16
			731,229	**674,962**	

Warrants issued on October 29, 2010

At the Extraordinary Shareholders Meeting of October 29, 2010, a plan of 79,500 warrants was approved. Warrants were offered to Company's employees, non-employees and directors. Out of the 79,500 warrants offered, 61,050 warrants were accepted by the beneficiaries and 766 warrants are outstanding on the date hereof.

The 61,050 warrants were vested in equal tranches over a period of three years. The warrants become 100% vested after the third anniversary the issuance. The warrants that are vested can only be exercised at the end of the third calendar year following the issuance date, thus starting on January 1 st , 2014. The exercise price amounts to €35.36. Warrants not exercised within 10 years after issue become null and void.

Warrants issued on May 6, 2013

At the Extraordinary Shareholders Meeting of 6 May 2013, a plan of 266,241 warrants was approved. Warrants were offered to Company's employees and management team. Out of the 266,241 warrants offered, 253,150 warrants were accepted by the beneficiaries and 2,500 warrants are outstanding on the date hereof.

The 253,150 warrants were vested in equal tranches over a period of three years. The warrants become 100% vested after the third anniversary the issuance. The warrants that are vested can only be exercised at the end of the third calendar year following the issuance date, thus starting on 1 January 2017. The exercise price amounts to €2.64. Warrants not exercised within 10 years after issue become null and void.

Warrants issued on May 5, 2014

At the Extraordinary Shareholders Meeting of 5 May 2014, a plan of 100,000 warrants was approved. Warrants were offered to Company's new comers (employees, non-employees and directors) in five different tranches. Out of the warrants offered, 94,400 warrants were accepted by the beneficiaries and 60,697 warrants are outstanding on the date hereof.

The 100,000 warrants were vested in equal tranches over a period of three years. The warrants become 100% vested after the third anniversary the issuance. The warrants that are vested can only be exercised at the end of the third calendar year following the issuance date, thus starting on 1 January 2018. The exercise price of the different tranches ranges from €33.49 to €45.05. Warrants not exercised within 10 years after issue become null and void.

Warrants issued on November 5, 2015

At the Extraordinary Shareholders Meeting of 5 November 2015, a plan of 466,000 warrants was approved. Warrants were offered to Company's new comers (employees, non-employees and directors) in five different tranches. Out of the warrants offered, 343,550 warrants were accepted by the beneficiaries and 245,982 warrants are outstanding on the date hereof.

Theses warrants vest in equal tranches over a period of three years. The warrants become 100% vested after the third anniversary of issuance. The warrants that are vested can only be exercised as from the end of the third calendar year following the issuance date, thus starting on 1 January 2019. The exercise price of the different tranches ranges from €15.90 to €34.65. Warrants not exercised within 10 years after issue become null and void.

Warrants issued on December 8, 2016

On 8 December 2016, the Board of Directors issued a new plan of 100,000 warrants. An equivalent number of warrants were cancelled from the remaining pool of warrants of the plan of 5 November 2015. Warrants were offered to Company's new comers (employees and non-employees) in two different tranches. Out of the warrants offered, 45,000 warrants were accepted by the beneficiaries and 42,500 warrants are outstanding on the date of the financial statements.

Theses warrants will vest in equal tranches over a period of three years. The warrants become 100% vested after the third anniversary of issuance. The warrants that are vested can only be exercised as from the end of the third calendar year following the issuance date, thus starting on 1 January 2020. The exercise price of the different tranches ranges from €17.60 to €36.81. Warrants not exercised within 5 years after issue become null and void.

Warrants issued on June 29, 2017

At the Extraordinary Shareholders Meeting of 29 June 2017, a plan of 520,000 warrants was approved. Warrants were offered in different tranches to beneficiaries (employees, non-employees and directors). Out of the warrants offered, 312,100 warrants were accepted by the beneficiaries and 294,484 warrants are outstanding on the date hereof.

Theses warrants will be vested in equal tranches over a period of three years. The warrants become 100% vested after the third anniversary of issuance. The warrants that are vested can only be exercised as from the end of the third calendar year following the issuance date, thus starting on 1 January 2021. The exercise price of the different tranches ranges from €31.34 to €47.22. Warrants not exercised within 5 years after issue become null and void.

The fair value of the warrants has been determined at grant date based on the Black-Scholes formula. The variables, used in this model, are:

	Warrants issued on							
	29 October 2010	31 January 2013	06 May 2013	05 May 2014	05 Nov. 2015	08 Dec. 2016	29 June 2017	26 October 2018
Number of warrants issued	79,500	140,000	266,241	100,000	466,000	100,000	520,000	700,000
Number of warrants granted	61,050	120,000	253,150	94,400	343,550	45,000	334,400	89,300
Number of warrants not fully vested as of 31 December 2018	0	0	0	0	25,167	42,500	294,484	84,300
Average exercise price (in €)	35.36	4.52	2.64	36.69	33.27	22.46	31.50	21.16
Expected share value volatility	35.60%	35.60%	39.55%	67.73%	60.53%	61.03%	60.61%	58.82%
Risk-free interest rate	3.21%	2.30%	2.06%	1.09%	0.26%	-0.40%	-0.23%	-0.06%
Average fair value (in €)	9.00	2.22	12.44	24.55	21.66	11.28	15.68	10.77
Weighted average remaining contractual life	1.82	4.08	4.34	5.34	6.84	2.94	3.49	4.82

The total net expense recognised in the income statement for the outstanding warrants totals €3.6 million for the year 2018 (€2.6 million for the prior year 2017).

NOTE 17: POST-EMPLOYMENT BENEFITS

(€'000)	As at 31 December, 2018	2017
Pension obligations	131	204
Total	**131**	**204**

The Group operates a pension plan which requires contributions to be made by the Group to an insurance company. The pension plan is a defined contribution plan. However, because of the Belgian legislation applicable to 2nd pillar pension plans (so-called "Law Vandenbroucke"), all Belgian defined contribution plans have to be accounted for under IFRS as defined benefit plans because of the minimum guaranteed returns on these plans.

At the end of each year, Celyad is measuring and accounting for the potential impact of defined benefit accounting for these pension plans with a minimum fixed guaranteed return.

The contributions to the plan are determined as a percentage of the yearly salary. There are no employee contributions. The benefit also includes a death in service benefit.

The amounts recognised in the balance sheet are determined as follows:

(€'000)	As at 31 December, 2018	2017
Present value of funded obligations	1,838	1,705
Fair value of plan assets	(1,706)	(1,500)
Deficit of funded plans	131	204
Total deficit of defined benefit pension plans	131	204
Liability in the balance sheet	**131**	**204**

The movement in the defined benefit liability over the year is as follows:

(€'000)	Present value of obligation	Fair value of plan assets	Total
As at 1 January 2017	**1,509**	**1,305**	**204**
Current service cost	201	—	201
Interest expense/(income)	32	26	6
	1,742	1,331	411
Remeasurements			
- Return on plan assets, excluding amounts included in interest expense/(income)	—	5	(5)
- Actuarial (Gain)/loss due to change in actuarial assumptions	—	—	—
- Actuarial (Gain)/Loss due to experience	5	—	5
	5	5	—
Employer contributions:		206	(206)
Benefits Paid	(30)	(30)	(1)
At 31 December 2017	**1,704**	**1,499**	**204**
As at 1 January 2018	**1,704**	**1,499**	**204**
Current service cost	190		190
Interest expense/(income)	36	31	5
	1,929	1,530	399
Remeasurements			
- Return on plan assets, excluding amounts included in interest expense/(income)		9	(9)
- Actuarial (Gain)/loss due to change in actuarial assumptions	(58)		(58)
- Actuarial (Gain)/Loss due to experience	(3)		(3)
	(61)	9.	(70)
Employer contributions:		198	(198)
Benefits Paid	(31)	(31)	—
At 31 December 2018	**1,838**	**1,707**	**131**

The income statement charge included in operating profit for post-employment benefits amount to:

(€'000)	2018	2017
Current service cost	190	201
Interest expense on DBO	36	32
Expected return on plan assets	(30)	(26)
Net periodic pension cost	**195**	**207**

The re-measurements included in other comprehensive loss amount to:

(€'000)	2018	2017
Effect of changes in actuarial assumptions	(58)	—
Effect of experience adjustments	(3)	5
(Gain)/Loss on assets for the year	(9)	(5)
Remeasurement of post-employment benefit obligations	(70)	—

Plan assets relate all to qualifying insurance policies. The significant actuarial assumptions as per 31 December 2018 were as follows:

Demographic assumptions (for both current and comparative years presented in these year-end financial statements):

- Mortality tables: mortality rates-5 year for the men and 5 year for the women
- Withdrawal rate: 5% each year
- Retirement age: 65 years

Economic assumptions:

- Yearly inflation rate: 1,8%
- Yearly salary raise: 1,5% (above inflation)
- Yearly discount rate: 2.2%

If the discount rate would decrease with 0,5% then, the defined benefit obligation would increase with 5,5%. Reversely if the discount rate would increase with 0,5% then the defined benefit obligation would decrease with 3,5%.

The above sensitivity analysis is based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the pension liability recognised within the statement of financial position.

Through its defined benefit pension plan, the Group is exposed to a number of risks, the most significant of which are detailed below:

- Changes in discount rate: a decrease in discount rate will increase plan liabilities;
- Inflation risk: the pension obligations are linked to inflation, and higher inflation will lead to higher liabilities. The majority of the plan's assets are either unaffected by or loosely correlated with inflation, meaning that an increase in inflation will also increase the deficit.

The investment positions are managed by the insurance company within an asset-liability matching framework that has been developed to achieve long-term investments that are in line with the obligations under the pension schemes.

Expected contributions to pension plans for next financial year amount to €0.2 million.

NOTE 18: OTHER RESERVES

(€'000)	Share based payment reserve	Convertible loan	Currency Translation Difference	Total
Balance as at 1st January 2017	**6,946**	**16,631**	**752**	**24,329**
Vested share-based payments	(239)			(239)
Currency Translation differences subsidiaries			(769)	(769)
Balance as at 31 December 2017	**6,707**	**16,631**	**(17)**	**23,321**
Vested share-based payments	3,539			3,539
Currency Translation differences subsidiaries			(1,194)	(1,194)
Balance as at 31 December 2018	**10,246**	**16,631**	**(1,211)**	**25,666**

NOTE 19: ADVANCES REPAYABLE

	As at December 31,	
(€'000)	**2018**	**2017**
Total Non-Current portion as at 1 st January	1,544	7,330
Total Non-Current portion as at 31 December	2,864	1,544
Total Current portion as at 1 st January	226	1,108
Total Current portion as at 31 December	276	226

The Group receives government support in the form of recoverable cash advances from the Walloon Region in order to compensate the research and development costs incurred by the Group.

At balance sheet date, the Company has been granted total recoverable cash advances amounting to €26.7 million. Out of this total amount : i) €23.7 million have been received to date ; ii) out of the active contracts, an amount of €1.4 million should be received in 2019 or later depending on the progress of the different programs partially funded by the Region ; and iii) an amount of €1.5 million refer to contracts for which the exploitation has been abandoned (and thus will not be received).

For further details, reference is made to the table below which shows (i) the year for which amounts under those agreements have been received and initially recognised on the balance sheet for the financial liability and deferred grant income components and (ii) a description of the specific characteristics of those recoverable cash advances including repayment schedule and information on other outstanding advances. In 2019, we will be required to make exploitation decisions on our remaining outstanding RCA related to the CAR-T platform.

(in €'000)			Amounts received for the years ended 31 December				Amounts to be received		As at 31 December 2018
Id	Project	Contractual amount	Prior years	2017	2018	Cumulated cashed in	2019 and beyond	Status	Amount reimbursed (cumulative)
5160	C-Cure	2,920	2,920	—		2,920	—	Abandoned	0
5731	C-Cure	3,400	3,400	—		3,400	—	Abandoned	0
5914	C-Cure	700	687	—		687	—	Abandoned	180
5915	C-Cathez	910	910	—		910	—	Exploitation	460
5951	Industrialization	1,470	866	—		866	—	Abandoned	245
6003	C-Cure	1,729	1715	—		1715	—	Abandoned	0
6230	C-Cure	1,084	1084	—		1084	—	Abandoned	0
6363	C-Cure	1,140	1126	—		1126	—	Abandoned	1,536
6548	Industrialization	660	541	—		541	—	Abandoned	0
6633	C-Cathez	1,020	1020	—		1020	—	Exploitation	204
6646	Proteins	1,200	450	—		450	—	Abandoned	450
7027	C-Cathez	2,500	2500	—		2500	—	Exploitation	250
7246	C-Cure	2,467	2220	247		2467	—	Abandoned	0
7502	CAR-T Cell	2,000	1800	200		2000	—	Exploitation	0
7685	THINK	3,496	—	873	1187	2060	1,436	Research	0
Total		**26,696**	**21,239**	**1,320**	**1,187**	**23,746**	**1,436**		**3,325**

Regarding active contracts (in exploitation status):

The contract 5915 has the following specific characteristics:

- funding by the Region covers 70% of the budgeted project costs;
- certain activities have to be performed within the Region;
- in case of an outlicensing agreement or a sale to a third party, Celyad will have to pay 10% of the price received (excl. of VAT) to the Region;
- sales-independent reimbursements, sales-dependent reimbursements, and amounts due in case of an outlicensing agreement or a sale to a third party, are, in the aggregate, capped at 100% of the principal amount paid out by the Region;
- sales-dependent reimbursements payable in any given year can be set-off against sales-independent reimbursements already paid out during that year;
- the amount of sales-independent reimbursement and sales-dependant reimbursement may possibly be adapted in case of an outlicensing agreement, a sale to a third party or industrial use of a prototype or pilot installation, when obtaining the consent of the Walloon Region to proceed thereto.

The other contracts have the following specific characteristics:

- funding by the Region covers from 45 to 70% of the budgeted project costs;
- certain activities have to be performed within the European Union;
- sales-independent reimbursements represent in the aggregate 30% of the principal amount;

- sales-dependent reimbursements range between 50% and 200% (including accrued interest) of the principal amount of the RCA depending on the actual outcome of the project compared to the outcome projected at the time of grant of the RCA (below or above projections);
- interests (at Euribor 1 year (as applicable on the first day of the month in which the decision to grant the relevant RCA was made + 100 basis points) accrue as of the 1st day of the exploitation phase;
- the amount of sales-independent reimbursement and sales-dependant reimbursement may possibly be adapted in case of an outlicensing agreement, a sale to a third party or industrial use of a prototype or pilot installation, when obtaining the consent of the Region to proceed thereto.
- sales-independent reimbursements and sales-dependent reimbursements are, in the aggregate (including the accrued interests), capped at 200% of the principal amount paid out by the Region;
- in case of bankruptcy, the research results obtained by the Company under those contracts are expressed to be assumed by the Region by operation of law.

The table below summarizes, in addition to the specific characteristics described above, certain terms and conditions for the recoverable cash advances:

Contract number (€'000)	Research phase	Percentage of total project costs	Turnover-dependent reimbursement	Turnover-independent reimbursement	Interest rate accrual	Amounts due in case of licensing (per year) resp. Sale
5160	01/05/05-30/04/08	70%	0.18%	Consolidated with 6363	N/A	N/A
5731	01/05/08-31/10/09	70%	0.18%	Consolidated with 6363	N/A	N/A
5914	01/09/08-30/06/11	70%	5.00%	€30k in 2012 and €70k each year after	N/A	10% with a minimum of 100/Y
5915	01/08/08-30/04/11	70%	5.00%	€40k in 2012 and €70k each year after	N/A	10% with a minimum of 100/Y
5951	01/09/08-31/12/14	70%	5.00%	€100k in 2014 and €150k each year after	N/A	10% with a minimum of 200/Y
6003	01/01/09-30/09/11	60%	0.18%	Consolidated with 6363	N/A	N/A
6230	01/01/10-31/03/12	60%	0.18%	Consolidated with 6363	N/A	N/A
6363	01/03/10-30/06/12	60%	0.18%	From €103k to €514k starting in 2013 until 30% of advance is reached	Starting on 01/01/13	N/A
6548	01/01/11-31/03/13	60%	0.01%	From €15k to €29k starting in 2014 until 30% of advance is reached	Starting on 01/10/13	N/A
6633	01/05/11-30/11/12	60%	0.27%	From €10k to €51k starting in 2013 until 30% of advance is reached	Starting on 01/06/13	N/A
6646	01/05/11-30/06/15	60%	0.01%	From €12k to €60k starting in 2015 until 30% of advance is reached	Starting on 01/01/16	N/A
7027	01/11/12-31/10/14	50%	0.33%	From €25k to €125k starting in 2015 until 30% of advance is reached	Starting on 01/01/15	N/A
7246	01/01/14-31/12/16	50%	0,05%	From €30k to €148k starting in 2017 until 30% of advance is reached.	Starting in 2017	N/A
7502	01/12/15-30/11/18	45%	0.19%	From €20k to €50k starting in 2019 until 30% is reached.	Starting 2019	N/A
7685	1/01/2017-31/12/2019	45%	0.33%	From €35k to €70k starting in 2019 until 30% is reached.	Starting 2020	N/A

NOTE 20: DUE DATES OF THE FINANCIAL LIABILITIES

The table below analyses the Group's non-derivative financial liabilities into relevant maturity groupings based on the remaining period at the balance sheet date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows, except for advances repayable which are presented at amortised cost.

Contingent consideration liability has not been disclosed in the table below, because as of balance sheet date, it does not meet the definition of a contractual obligation. Commitments relating to contingent consideration are detailed in the Note 30.

Financial liabilities reported as at 31 December 2018:

(€'000)	Total	Less than one year	One to three years	Three to five years	More than five years
As of December 31, 2018					
Finance leases	1,136	484	652	—	—
Bank loan	510	281	229	—	—
Operating leases	2,912	708	942	729	533
Pension obligations	131	—	—	—	131
Advances repayable (current and non-current)	3,140	276	717	560	1,587
Total - material contractual obligations	**7,829**	**1,749**	**2,540**	**1,290**	**2,250**

Financial liabilities reported as at 31 December 2017:

(€'000)	Total	Less than one year	One to three years	Three to five years	More than five years
As of December 31, 2017					
Finance leases	909	427	461	21	—
Bank loan	536	209	326	—	—
Operating leases	3,759	857	1,289	725	888
Pension obligations	204	—	—	—	204
Advances repayable (current and non-current)	1,770	226	412	248	884
Total - material contractual obligations	**7,178**	**1,719**	**2,488**	**994**	**1,976**

NOTE 21: TRADE PAYABLES AND OTHER CURRENT LIABILITIES

(€'000)	As at 31 December,	
	2018	2017
Total trade payables	**5,916**	**4,800**
Other current liabilities		
Social security	314	306
Payroll accruals and taxes	1,351	947
Other current liabilities	1,024	1,029
Total other current liabilities	**2,690**	**2,282**

Trade payables are non-interest-bearing liabilities and are normally settled on a 90-day terms. Their increase is mainly attributable to clinical operations acceleration in the fourth quarter of 2018.

The Other current liabilities include the short-term debts to employees and social welfare and tax agencies.

No discounting was performed to the extent that the amounts do not present payments terms longer than one year at the end of each financial year presented.

NOTE 22: FINANCIAL INSTRUMENTS ON BALANCE SHEET

Financial instruments not reported at fair value on balance sheet

The carrying and fair values of financial instruments that are not carried at fair value in the financial statements was as follows at December 31, for current and comparative year-ends:

(€'000)	As of December 31, 2018	
	Loans and receivables	Fair value
Financial Assets ('Amortised cost' category) within:		
Non-current Trade receivables	1,743	1,743
Other non-current assets	215	215
Trade receivables and other current assets	367	367
Short-term investments	9,197	9,197
Cash and cash equivalents	40,542	40,542
Total	**52,065**	**52,065**

For the above-mentioned financial assets, the carrying amount as per December 31, 2018 is a reasonable approximation of their fair value.

(€'000)	As of December 31, 2018	
	Financial liabilities at amortised cost	Fair value
Financial Liabilities ('Financial liabilities at amortized cost' category) within:		
Bank loans	510	510
Finance lease liabilities	1,136	1,136
RCA's liability	3,140	3,140
Trade payables and other current liabilities	5,916	5,916
Total	**10,702**	**10,702**

For the above-mentioned financial liabilities, the carrying amount as per December 31, 2018 is a reasonable approximation of their fair value.

	As of December 31, 2017	
(€'000)	Loans and receivables	Fair value
Assets as per balance sheet		
Deposits	273	273
Trade and other receivables	2,905	2,905
Other current assets	744	744
Short-term investments	10,653	10,653
Cash and cash equivalents	23,253	23,253
Total	**37,828**	**37,828**

For the above-mentioned financial assets, the carrying amount as per December 31, 2017 is a reasonable approximation of their fair value.

	As of December 31, 2017	
(€'000)	Financial liabilities at amortised cost	Fair value
Liabilities as per balance sheet		
Bank loans	536	**536**
Finance lease liabilities	909	**909**
RCAs liability	1,770	1,770
Trade payables and other current liabilities	7,083	**7,083**
Total	**10,298**	**10,298**

For the above-mentioned financial liabilities, the carrying amount as per December 31, 2017 is a reasonable approximation of their fair value.

Financial instruments reported at fair value on balance sheet

Contingent consideration and other financial liabilities are reported at fair value in the statement of financial position using Level 3 fair value measurements for which the Group developed unobservable inputs:

(€'000)	Level I	Level II	Level III	Total
Assets				
Investment in equity securities	639	—	—	639
Total Assets	639	—	—	**639**
Liabilities				
Contingent consideration and other financial liabilities	—	—	25,187	25,187
Total Liabilities	—	—	25,187	**25,187**

The change in their balances is detailed as follows:

CONTINGENT CONSIDERATION AND OTHER FINANCIAL LIABILITIES ROLL FORWARD

(€'000)	For the year ended 2018	2017
Opening balance Contingent consideration at 1 January	**15,549**	**28,179**
Milestone payment		(5,341)
Fair value adjustment	4,733	(4,225)
Currency Translation Adjustment		(3,064)
Closing balance Contingent consideration at 31 December	**20,282**	**15,549**
Opening balance Other financial liabilities at 1 January	**4,034**	**—**
Fair value adjustment	871	4,034
Closing balance Other financial liabilities at 31 December	**4,905**	**4,034**
Total—Contingent consideration and Other financial liabilities at 31 December	**25,187**	**19,583**

The decrease of the contingent consideration and other financial liabilities at balance sheet date is due to a milestone payment to Celdara Medical LLC and to the USD foreign exchange effect (USD depreciation against EUR compared to prior year-end). Note that as from 2017 this capture also includes an amount of € 4.0 million relating to development, non-sales and sales milestones to Dartmouth College.

The contingent consideration captures the commitments disclosed under Note 30. It does not include any amount for contingent consideration payable relating to any sub-licensing agreements entered into or to be entered into by Celyad for the reasons that:

- any contingent consideration payable would be due only when Celyad earns revenue from such sub-licensing agreements, and in an amount representing a fraction of that revenue; and
- the development of the underlying product candidates by the sub-licensees is not under Celyad's control, making a reliable estimate of any future liability impossible.

Contingent consideration sensitivity analysis

A sensitivity analysis has been performed on the key assumptions driving the fair value of the contingent consideration. The main drivers are i) the discount rate (WACC), ii) the sales long-term growth rate in the terminal value and iii) the probabilities of success for our product candidates to get commercialized.

	Discount rate (WACC)				
	9.90%	11.90%	13.90%	15.90%	17.90%
Cont. consideration (€ million)	33.1	28.7	25.2	22.1	19.6
Impact (%)	31%	14%	—	-12%	-22%

	Sales long-term growth rate in the terminal value				
	-40%	-32.50%	-25%	-17.50%	-10%
Cont. consideration (€ million)	23.9	24.4	25.2	26.3	28.2
Impact (%)	-5%	-3%	—	4%	12%

To determine the contingent consideration, we used the same probabilities of success than for impairment testing purposes (see Note 7):

PoS	Phase I	Phase I to II	Phase II to III	Phase III to BLA	BLA to Approval	Cumulative PoS
CYAD-01 CYAD-101	100%	63%	26%	45%	84%	6.4%

In order to assess the sensitivity to this driver, we apply here an incremental probability factor to the bottom-line cumulative PoS disclosed below:

	Probabilities of Success				
	-20%	-10%	PoS model	10%	20%
Cont. consideration (€ million)	20.2	22.7	25.2	27.7	30.2
Impact (%)	-20%	-10%	—	10%	20%

NOTE 23: CHANGES IN LIABILITIES ARISING FROM FINANCIAL ACTIVITIES

The change in bank loans balances is detailed as follows:

BANK LOANS FINANCIAL LIABILITY ROLL FORWARD

(€'000)	For the year ended 2018	2017
Opening balance at 1 January	**536**	**742**
New bank loans	220	—
Installments	(245)	(207)
Closing balance at 31 December	**510**	**536**

The change in finance lease liability balances is detailed as follows:

FINANCE LEASES FINANCIAL LIABILITY ROLL FORWARD

(€'000)	For the year ended 2018	2017
Opening balance at 1 January	**909**	**735**
New finance leases	730	543
Installments	(503)	(369)
Closing balance at 31 December	**1,136**	**909**

The change in recoverable cash advance liability balances is detailed as follows:

RECOVERABLE CASH ADVANCE LIABILITY ROLL FORWARD

(€'000)	For the year ended 2018	2017
Opening balance at 1 January	**1,770**	**8,438**
Repayments	(226)	(1,233)
Proceeds—Liability component	598	
Remeasurement	998	(80)
Derecognition of liability (non-recurring gain)		(5,356)
Closing balance at 31 December	**3,140**	**1,770**

The change in the recoverable cash advances liability at balance sheet date reflects both the further proceeds cashed in during the year as well as the remeasurement of the liability at amortized cost, based on our updated business plan and sales forecast for our CAR-T product candidates. See Note 22. The year-end balance also captures the repayments of contractual turnover independant lump sums to the Walloon Region (relating to C-CATHez agreements). As a consequence of Celyad's notification (in December 2017) to the Walloon Region not to exploit anymore C-Cure IP assets, RCA's repayments have decreased over 2018.

NOTE 24: REVENUES AND NET OTHER INCOME AND EXPENSES

(€'000)	For the year ended 31 December, 2018	2017	2016
Out-licensing revenue	2,399	3,505	9,929
C-CathEZ sales	—	35	83
Other revenue	716	—	—
Total	**3,115**	**3,540**	**10,012**

In May 2018, the Group has entered into an exclusive license agreement with Mesoblast, an Australian biotechnology company, to develop and commercialize Celyad's intellectual property rights relating to C-Cath $_{ez}$, an intra-myocardial injection catheter. We have applied the 5-step model foreseen by IFRS 15 to determine revenue recognition pattern applicable to this contract as of 31 December 2018. Key judgements made in accordance with IFRS 15 were that the license agreement:

- is a distinct component of the Mesoblast agreement;
- refers to a 'right-to-use' type of license, ie. the right to use Celyad's intellectual property as it exists at the point in time the license has been granted (May 2018). Revenue allocated to the transaction price is thus eligible for full revenue recognition for the year 2018 ;
- foresees a transaction price broken down between upfront (€0.8 million settled in shares) and contingent milestone payments (an additional amount of €2.2 million qualifying for recognition at 31 December 2018);
- features a financing component (€0.5 million deferred financial income to be deducted from the above), leading to a net out-licensing revenue reported of €2.4 million);
- further foresees variable consideration of up to $17.5 million related to future regulatory- and commercial-based milestones, which will not be recognized until it becomes highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur.

The related receivable is reported for its discounted value (€1.7 million) under 'Non-current trade receivables', see note 9. There are no corresponding contract liabilities reported at balance sheet date, as no performance obligation was outstanding. For the previous year, the Group received a non-refundable upfront payment as a result of the Company entering into a non-exclusive license agreement with Novartis. This upfront payment was fully recognized upon receipt as relating to a right-to-use license (no performance obligation associated with the payment, other than granting the right to use the underlying intellectual property as from contract signing date).

Other revenue refers to a non-clinical supply agreement concluded with ONO Pharmaceutical Co., Ltd (time & material type of contract). The revenue reported reflects the services delivered for the year, consisting in performing cell production and animal experiments requested by ONO. The related receivable open at year-end is reported under 'Trade receivables', see note 11. This agreement has been completed at year-end, without any performance obligation remaining outstanding.

Other expenses mainly refer to the change in fair value of the contingent consideration and other financial liabilities. See Note22 for more information.

(€'000)	For the year ended December 31, 2018	2017
Remeasurement of contingent consideration	5,604	—
Clinical Development milestone payment	1,372	—
Remeasurement of RCA's	998	—
Fair value adjustment on securities	182	—
Other	243	41
Total Other Expenses	**8,399**	**41**

(€'000)	For the year ended December 31, 2018	2017
Grant income (RCA's)	768	824
Grant income (Other)	—	56
Remeasurement of RCA's	—	396
Remeasurement of contingent consideration	—	193
R&D tax credit	310	1,161
Total Other Income	**1,078**	**2,630**

Other operating income are mainly related to government grants received. For the government grants received in the form of RCAs we refer to Note 19 for more information. In 2017, the Company recognized also for the first time a receivable on the amounts to collect from the federal government as R&D tax credit (€1.2 million). See Note 9.

NOTE 25: OPERATING EXPENSES

The operating expenses are made of the next three components:

- ***Research & development expenses***
- ***General and administrative expenses***
- ***Non-recurring operating income and expenses***

Research and development expenses

(€'000)	For the year ended 31 December, 2018	2017	2016
Salaries	7,902	7,007	8,160
Share-based payments	1,264	862	—
Travel and living	466	359	577
Pre-clinical studies	2,945	1,995	4,650
Clinical studies	3,656	3,023	4,468
Raw materials & consumables	2,770	1,825	—
Delivery systems	117	430	964
Consulting fees	1,663	1,522	791
External collaborations	110	885	—
IP filing and maintenance fees	397	513	799
Scale-up & automation	23	1,892	4,164
Rent and utilities	651	371	939
Depreciation and amortisation	848	1,488	1,345
Other costs	765	735	817
Total Research and Development expenses	**23,577**	**22,908**	**27,675**

R&D expenses show a net increase year-on-year, which reflects the organic growth of the Company's operations, for both pre-clinical and clinical activities. The underlying operational staff headcount increased by 15% compared to prior year.

Scale-up and automation budget has been carried forward to 2019.

The absence of amortisation expenses relating to C-Cure and Corquest assets (as a consequence of their full impairment recorded at year-end 2017) explains the lower level of depreciation & amortization expense compared to prior year.

General and administrative expenses

(€'000)	For the year ended 31 December, 2018	2017	2016
Employee expenses	3,312	2,630	2,486
Share-based payments	2,331	1,707	2,847
Rent	1,097	1,053	791
Communication & Marketing	676	761	728
Consulting fees	2,192	2,227	2,029
Travel & Living	253	211	450
Post employment benefits	(3)	—	(24)
Depreciation	267	229	173
Other	263	490	265
Total General and administration	**10,387**	**9,308**	**9,745**

Increase of G&A expenses by 11% mainly refers to the increase of the Share-based payments vesting cost (non-cash expenses), driven by the full year vesting impact of the warrants distribution occurred prior year (warrant grant of mid-2017). Employee expenses increase is driven by one-off costs incurred pursuant to changes in our Corporate organization chart.

Non-recurring operating income and expenses are defined as one-off items, not directly related to the operational activities of the Company. No operations qualify for such a presentation for the year 2018.

(€'000)	For the year ended December 31,		
	2018	2017	2016
Amendments of Celdara Medical and Dartmouth College agreements	**—**	**(24,341)**	**—**
C-Cure IP asset impairment expense	—	(6,045)	—
C-Cure RCA reversal income	—	5,356	—
Corquest IP asset impairment expenses	—	(1,244)	—
Write-off C-Cure and Corquest assets and derecognition of related liabilities	**—**	**(1,932)**	**—**

In 2017, the Group had recognized non-recurring expenses related to the amendment of the agreements with Celdara Medical LLC and Dartmouth College (totalling €24.3 million, out of which an amount of €10.6 million was settled in shares, and thus a non-cash expense). The Group had also proceeded with the write-off of the C-Cure and Corquest assets and derecognition of related liabilities (for net expense amounts of €0.7 million and €1.2 million respectively).

NOTE 26: EMPLOYEE BENEFIT EXPENSES

As of December 31, 2018, we employed 85 full-time employees, four part-time employees and 7 senior managers under management services agreements. We have never had a work stoppage, and none of our employees is represented by a labor organization or under any collective-bargaining arrangements. We consider our employee relations to be good.

A split of our employees and consultants by main department and geography for the years ended December 31, 2018, 2017 and 2016 was as follows:

	At December 31,		
	2018	2017	2016
By function:			
Clinical & Regulatory, IP, Marketing	19	16	15
Research & Development	30	29	29
Manufacturing /Quality	34	26	31
General Administration	13	16	13
Total	**96**	**87**	**88**
By Geography:			
Belgium	91	83	83
United States	5	4	5
Total	**96**	**87**	**88**

(€'000)	For the year ended 31 December, 2018	2017	2016
Salaries, wages and fees	6,439	5,461	5,994
Executive Management team compensation	3,235	2,563	2,900
Share-based payments	3,595	2,569	2,847
Social security	1,301	1,277	1,362
Post employment benefits	217	220	215
Hospitalisation insurance	118	118	151
Other benefit expense	2	—	—
Total Employee expenses	**14,906**	**12,207**	**13,469**

Salaries, wages and fees expenses show a net increase year-on-year, which reflects the organic growth of the Company's operations, for both pre-clinical and clinical activities. The underlying total staff headcount increased by 10% compared to prior year.

The increase in Share-based payments vesting cost (non-cash expenses) is driven by the full year vesting impact of the warrants distribution occurred prior year (warrant grant of mid-2017).

NOTE 27: FINANCIAL INCOME AND EXPENSES

In 2017, a significant loss on exchange differences had been incurred due to the depreciation of the USD against EUR. Such a loss did not occur in 2018, explaining the improvement in our net financial result.

(€'000)	**For the year ended 31 December, 2018**	**2017**	**2016**
Interest finance leases	18	18	19
Interest on overdrafts and other finance costs	29	36	37
Interest on RCA's	15	90	53
Foreign Exchange differences	—	4,309	98
Finance expenses	**62**	**4,453**	**207**
Interest income bank account	308	927	1,413
Foreign Exchange differences	387	—	791
Deferred income Mesoblast	109	6	—
Finance income	**804**	**933**	**2,204**
Net Financial result	**743**	**(3,520)**	**1,997**

NOTE 28: INCOME TAX

The Group reports income taxes in the income statement as detailed below:

(€'000)	**For the year ended December 31, 2018**	**2017**	**2016**
Current tax (expense) / income	0	1	6
Deferred tax (expense) / income	—	—	—
Total income tax (expense) / income in profit or loss	**0**	**1**	**6**

The Group has a history of losses, except for its tax entity Biological Manufacturing Services, which is eligible to a minor tax credit.

The following table shows the reconciliation between the effective and theoretical income tax at the nominal Belgian income tax rate of 29.58% for the year 2018 and 33.99% for the year 2017:

(€'000)	For the year ended 31 December		
	2018	**2017**	**2016**
Loss before tax	(37,427)	(56,396)	(23,612)
Permanent differences			
Tax disallowed expenses	269	221	—
Share-based payment	3,595	2,569	0
Nominal tax rate	**29.58%**	**33.99%**	**33.99%**
Tax income at nominal taxe rate	9,928	18,220	8,026
Deferred Tax assets not recognised	(9,928)	(18,219)	(8,020)
Effective tax expense	**0**	**1**	**6**
Effective tax rate	0%	0%	0

NOTE 29: DEFERRED TAXES

As having not yet reached the commercialization step, the Group accumulates tax losses that are carried forward indefinitely for offset against future taxable profits of the Group. Significant uncertainty exists however surrounding the Group's ability to realise taxable profits in a foreseeable future. Therefore, the Group has not recognised any deferred tax income in its income statement.

Unrecognized deferred tax assets and liabilities are detailed below by nature of temporary differences for the current year:

(€'000)	For the year ended **31 December 2018**		
	Assets	**Liabilities**	**Net**
Intangibles assets	49	—	49
Tangible assets	—	(154)	(154)
Recoverable cash advances liability	633	—	633
Contingent consideration liability	6,297	—	6,297
Employee Benefits liability	33	—	33
Other temporary difference	—	(436)	(436)
Tax-losses carried forward	46,858	—	46,858
	—	—	—
Unrecognised Gross Deferred Tax assets/(liabilities)	**53,869**	**(590)**	**53,279**
Netting by tax entity	**(437)**	**437**	**—**
Unrecognised Net Deferred Tax assets/(liabilities)	**53,432**	**(153)**	**53,279**

Unrecognized deferred tax assets and liabilities are detailed below by nature of temporary differences for the previous years:

(€'000)	For the year ended 31 December 2017 Assets	Liabilities	Net
Intangibles assets	—	(3,974)	(3,974)
Tangible assets	—	(215)	(215)
Recoverable cash advances liability	349	—	349
Contingent consideration liability	4,471	—	4,471
Employee Benefits liability	51	—	51
Other temporary difference	5	—	5
Tax-losses carried forward	48,152	—	48,152
Unrecognised Gross Deferred Tax assets/(liabilities)	**53,028**	**(4,189)**	**48,839**
Netting by tax entity	(3,974)	3,974	—
Unrecognised Net Deferred Tax assets/(liabilities)	**49,054**	**(215)**	**48,839**

EUR	31 December 2016 Assets	Liabilities	Net
Intangibles assets	14,704	—	14,704
Tangible assets	—	(379)	(379)
Recoverable cash advances liability	2,322	—	2,322
Contingent consideration liability	—	—	—
Employee Benefits liability	69	—	69
Other temporary difference	—	—	—
Tax-losses carried forward	22,654	—	22,654
Unrecognised Gross Deferred Tax assets/(liabilities)	**39,749**	**(379)**	**39,370**
Netting by tax entity	464	(464)	—
Unrecognised Net Deferred Tax assets/(liabilities)	**40,214**	**(844)**	**39,370**

The Group's main deductible tax base relates to tax losses carried forward, which have indefinite term under both BE and US tax regimes applicable to our subsidiaries. In addition, the Group can benefit from additional tax benefits (like notional interest deduction in Belgium) which can be carried-forward until the taxation year 2020.

The remaining temporary differences refer to differences between IFRS accounting policies and local tax reporting policies.

The Group has not recognised any deferred tax asset on its balance sheet, for the same reason as explained above (uncertainty relating to taxable profits in a foreseeable future).

The change in the Group's unrecognised deferred tax asset balance is detailed below:

UNRECOGNISED DEFERRED TAX ASSET BALANCE ROLL FORWARD

(€'000)	For the year ended		
	2018	2017	2016
Opening balance at 1 January	**48,839**	**39,370**	**39,286**
Temporary difference creation or reversal	5,734	(15,580)	(6,844)
Change in Tax-losses carried forward	(1,294)	44,011	6,775
Foreign exchange rate effect	—	(113)	154
Change in BE tax rate applicable (34% > 25%)	—	(14,896)	—
Change in US tax rate applicable (35% > 23%)	—	(3,953)	—
			—
Closing balance at 31 December	**53,279**	**48,839**	**39,370**

The net increase in the balance relates to : i) an increase linked to the reversal of a temporary difference relating to intangible assets valuation and ii) a decrease linked to some tax losses used during the year.

NOTE 30: COMMITMENTS

Obligations under the terms of ordinary rental agreements

The company has signed a few agreements concerning financial leases with ING and ES Finance concerning technical equipment. The breakdown per year is available in Note 20.

The company has signed a few operational leases for building, technical labs and cars with BMS, Rentys, KBC. The breakdown per maturity is available in Note 20.

Obligations under the Terms of Other Agreements

CorQuest Medical, Inc.:

Based on the terms of the Share Purchase Agreement dated 5 November 2014, former shareholders of Corquest Inc will be entitled to an earn-out payment based on the net revenues generated by the Company, which revenues should be generated from the selling or divesting, in all or in part, of Proprietary Intellectual Property Rights of the Company to a third party. As from the 5 November 2014 date until the tenth anniversary of the Agreement, former shareholders of Corquest Inc are entitled to:

- an Earn-Out royalty of 2% if Net Revenue are below or equal to 10 million euro
- or an Earn-Out royalty of 4% if Net Revenue are higher than 10 million euro

OnCyte LLC-Celdara Milestones :

Based on the terms of the Asset Purchase Agreement dated 21 January 2015, as amended on 3 August 2017, Celdara Medical LLC is entitled to development and regulatory milestones, sales milestones and royalties based on the net sales generated by the Company from products candidate, whose level depend on whether or not the licensed asset from which the product candidate is derived was in clinical or preclinical stage upon in-licensing from Celadara.

On the clinical assets (NKG2D), Celdara Medical will be entitled to the following development and regulatory milestones;

$5 million upon enrolment of the first patient of the second cohort of the Phase I trial [7]

$6 million upon dosing the first patient of a Phase II trial [8]

$9 million upon dosing the first patient of a Phase III trial

$11 million upon filing of the first regulatory approval of CAR-T NKG2D

$14 million upon CAR-T NKG2D approval for commercialization in the US

On the other preclinical assets (TIM, B7H6, NKP30):

$1.5 million upon an IND filing to the FDA [9]

$4 million upon dosing the first patient of a Phase II trial

$6 million upon dosing the first patient of a Phase III trial

$10 million upon filing of the first regulatory request for the product candidate

$15 million upon product candidate approval for commercialization in the US

Sales milestones will also be due to Celdara Medical and are dependent of cumulative net sales of products developed from licensed assets:

$15 million when first time cumulative worldwide net sales equal to or exceed $250 million

$25 million when first time cumulative worldwide net sales equal to or exceed $500 million

$40 million when first time cumulative worldwide net sales equal to or exceed $1 billion

Company will make annual royalty payments to Celdara Medical on net sales of each product sold by the Company, its affiliates and sublicensees at the applicable rate set forth below:

5% of the net sales if cumulative worldwide annual net sales are less or equal to $250 million

6% of the net sales if cumulative worldwide annual net sales are greater than $250 million and less or equal to $500 million

7% of the net sales if cumulative worldwide annual net sales are greater than $500 million and less or equal to $1 billion

8% of the net sales if cumulative worldwide annual net sales are greater than $1 billion

On all sublicensing revenues received, the Company will pay percentages ranging from 23% to 5% depending on the stage of development of the product sublicensed. On top of the amounts and percentages due to Celdara Medical LLC, the Company will owe to Dartmouth College an additional 2% royalties on its direct net sales.

In accordance with IFRS 3, these contingencies are recognized on balance sheet at year-end, on a risk-adjusted basis. See note 22.

7 Paid as of 31 December 2016
8 Paid as of 31 December 2017
9 Paid as of 31 December 2018, for TIM pre-clinical asset

NOTE 31: RELATIONSHIPS WITH THIRD-PARTIES

Remuneration of key management

Key management consists of the members of the Executive Management Team and the entities controlled by any of them.

	As at 31 December,		
	2018	2017	2016
Number of EMT members	**7**	**8**	**8**

(€'000)	For the year ended 31 December		
	2018	2017	2016
Short term employee benefits [1]	740	666	816
Post employee benefits	16	14	35
Share-based compensation	1,794	1,123	1,790
Other employment costs [2]	27	30	22
Management fees	2,457	1,950	2,055
Total benefits	**5,034**	**3,783**	**4,718**

[1] Include salaries, social security, bonuses, lunch vouchers
[2] Such as Company cars

	As at 31 December,		
	2018	2017	2016
Number of warrants granted	30,000	179,000	180,000
Number of warrants lapsed	—	(15,225)	(56,500)
Cumulative outstanding warrants	259,000	306,500	310,725
Exercised warrants	—	168,000	—
Outstanding payables (in '000€)	803	461	687

Transactions with non-executive directors

(€'000)	For the year ended 31 December,		
	2018	2017	2016
Share-based compensation	420	485	697
Management fees	357	387	363
Total benefits	**776**	**872**	**1,060**

	As at 31 December,		
	2018	2017	2016
Number of warrants granted	20,000	60,000	50,000
Number of warrants lapsed	—	(2,904)	—
Number of exercised warrants	—	—	—
Cumulative outstanding warrants	135,000	115,000	57,904
Outstanding payables (in '000€)	127	194	148
Shares owned	345,453	2,512,004	2,869,685

Decrease in shares owned by Company's Directors is due to the resignation of Tolefi SA as Board member as of 1 st August 2018.

Transactions with shareholders

(€'000)	For the year ended 31 December, 2018	2017	2016
Rent [1]	—	—	99
Other	—	—	—
Total	**—**	**—**	**99**

(€'000)	As at 31 December 2018	2017	2016
Outstanding payables	—	—	—

[1] Relate to lease paid to Biological Manufacturing Services, company controlled by Tolefi SA until April 30, 2016

NOTE 32: LOSS PER SHARE

The loss per share is calculated by dividing loss for the year by the weighted average number of ordinary shares outstanding during the period. As the Group is incurring net losses, outstanding warrants have an anti-dilutive effect. As such, there is no difference between the basic and the diluted earnings per share. In case the warrants would be included in the calculation of the loss per share, this would decrease the loss per share.

(€'000)	As at 31 December, 2018	2017	2016
Loss of the year attributable to Equity Holders	(37,427)	(56,395)	(23,606)
Weighted average number of shares outstanding	11,142,244	9,627,601	9,313,603
Earnings per share (non-fully diluted) in €	**(3.36)**	**(5.86)**	**(2.53)**
Outstanding warrants	731,229	674,962	571,444

NOTE 33: EVENTS AFTER THE CLOSE OF THE FISCAL YEAR

There were no subsequent events that occur between 2018 year-end and the date when the financial statements have been authorised by the Board for issue.

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EXHIBIT INDEX

Exhibit	Description	Incorporated by Reference			
		Schedule/ Form	File Number	Exhibit	File Date
1.1#	Articles of Association (English translation)				
2.1	Form of Deposit Agreement	F-1/A	333-204251	4.1	6-15-2015
2.2	Form of American Depositary Receipt	424(b)(3)	333-204724	N/A	10-15-2018
4.1	Non-Commercial Lease Agreement, dated October 31, 2007, between Immobilière Belin 12 SA and the registrant, as amended (English translation)	F-1	333-204251	10.1	5-18-2015
4.2†	Open-Ended Employment Contract, dated April 2, 2014, between the registrant and George Rawadi (English translation)	F-1	333-204251	10.4	5-18-2015
4.3†	Employment Contract, effective September 12, 2016 between the registrant and David Gilham	20-F	001-37452	4.4	4-4-2017
4.4†	Management Services Agreement, dated February 22, 2008, between the registrant and Christian Homsy	F-1	333-204251	10.6	5-18-2015
4.5†	Services Agreement, effective September 1, 2016 between the registrant and NandaDevi SPRL, represented by Philippe Dechamps	20-F	001-37452	4.7	4-4-2017
4.6†	Services Agreement, dated December 7, 2015 between the registrant and KNLC SPRL, represented by Jean-Pierre Latere Dwan'Isa	20-F	001-37452	4.8	4-4-2017
4.7†	Services Agreement, dated August 4, 2015 between the registrant and ImXense SPRL, represented by Frederic Lehmann	20-F	001-37452	4.9	4-4-2017
4.8	Exclusive License Agreement, dated April 30, 2010, between the Trustees of Dartmouth College and Celdara Medical, LLC, as amended	F-1	333-204251	10.9	5-18-2015
4.9	Exclusive License Agreement, dated June 27, 2014, between the Trustees of Dartmouth College and Celdara Medical, LLC, as amended	F-1	333-204251	10.10	5-18-2015
4.10**	Stock Purchase Agreement, by and among the registrant and Celdara Medical, LLC, dated as of January 5, 2015	F-1/A	333-204251	10.12	5-29-2015
4.11**	Asset Purchase Agreement, by and among OnCyte, LLC, Celdara Medical, LLC and the registrant, dated January 21, 2015	F-1/A	333-204251	10.13	5-29-2015
4.12**	Share Purchase Agreement, by and between the registrant and Didier de Canniere and Serge Elkiner, dated as of November 5, 2014	F-1	333-204251	10.14	5-18-2015
4.13	Agreement for the Provision of Services for Production of Cardiac Cells between Biological Manufacturing Services and the registrant, dated April 11, 2011 (English translation)	F-1	333-204251	10.15	5-18-2015

4.14	License and Collaboration Agreement between the registrant and ONO Pharmaceuticals Co., Ltd., dated July 11, 2016.	20-F	001-37452	4.17	4-4-2017
4.15†	Warrant Plans (English translation)	F-1	333-204251	10.16	5-18-2015
4.16†	Warrant Plan 2016 (English translation)	20-F	001-37452	4.19	4-4-2017
4.17##	First Amendment to Asset Purchase Agreement, dated as of August 3, 2017, by and among the registrant; Celdara Medical, LLC; and OnCyte, LLC	6-K	001-37452	10.1	8-31-2017
4.18	Subscription Agreement, dated as of August 3, 2017, by and between the registrant and Celdara Medical, LLC	6-K	001-37452	10.2	8-31-2017
4.20##	Fourth Amendment to Exclusive License Agreement, dated as of August 2, 2017, by and between OnCyte, LLC and Trustees of Dartmouth College	6-K	001-37452	10.3	8-31-2017
4.21†	Warrant Plan 2015 (English translation)	S-8	333-220737	99.2	9-29-2017
4.22†	Warrant Plan 2017 (English translation)	S-8	333-220737	99.3	9-29-2017
4.23†#	Employment Agreement, dated July 30, 2018, between Celyad Inc. and Filippo Petti.				
4.24#	Warrants Plan 2018 (English translation)				
8.1#	List of subsidiaries of the registrant				
12.1#	Certification by the Principal Executive Officer and Principal Financial Officer pursuant to Securities Exchange Act Rules 13a-14(a) and 15d-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				
13.1*	Certification by the Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				
15.1#	Consent of PricewaterhouseCoopers Réviseurs d'Entreprises sccrl				
15.2#	Consent of BDO Réviseurs d'Entreprises SCRL, independent registered public accounting firm				
16.1	Letter from PricewaterhouseCoopers Reviseurs d'Entreprises sccrl, dated August 30, 2017, regarding change in the registrant's certifying accountant	F-3	333-220285	16.1	8-31-2017

Filed herewith
* Furnished herewith
† Indicates a management contract or compensatory plan, contract or arrangement
** Certain exhibits and schedules to these agreements have been omitted from the registration statement pursuant to Item 601(b)(2) of Regulation S-K. The registrant will furnish copies of any of the exhibits and schedules to the Securities and Exchange Commission upon request.
Confidential treatment has been granted by the U.S. Securities and Exchange Commission as to certain portions of this exhibit omitted and filed separately.

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SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

Celyad S.A.

/s/ Filippo Petti

By: Filippo Petti

Title: Chief Executive Officer (Principal Executive Officer) and Chief Financial Officer (Principal Financial Officer)

Date: April 5, 2019

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Amalgamated Bylaws

of the société anonyme (a Belgian corporation) that has invited or is inviting investment by the public

"Celyad"

at 1435 Mont-Saint-Guibert, Rue Edouard Belin 2,
company number 0891.118.115—Brabant Wallon Registry of Legal Entities

following modification of the bylaws of May 22, 2018

HISTORY
(Pursuant to article 75, first subsection, 2 ° of the Companies Code)

ARTICLES OF ASSOCIATION

The Company was formed with the name "Cardio³ BioSciences" following a document received by Counselor Gérard Indekeu, a notary in Brussels, on July 24, 2007, published in the Appendices to the Moniteur Belge (the Belgian official gazette) on the following August 6, under number 07117087.

AMENDMENTS TO THE BYLAWS

The bylaws were modified following a memorandum drawn up by the aforementioned notary Indekeu on August 31, 2007, published in the appendices to the Moniteur Belge under number 20071003/0143533.

The bylaws were modified following a memorandum drawn up by the notary and partnership, Pierre Paulus de Châtelet, having resided in Rixensart, on September 26, 2008, Moniteur Belge number 2008-10-13 / 0162065.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Pierre Palus de Châtelet, on December 23, 2008, published in the appendices to the Moniteur Belge under number 20090120/09010290.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Pierre Palus de Châtelet, on May 5, 2010, published in the appendices to the Moniteur Belge under number 2010-06-03 / 0079698.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Pierre Palus de Châtelet, on October 29, 2010, published in the appendices to the Moniteur Belge under number 20101201-0174259.

The bylaws were corrected following a memorandum drawn up by the notary Françoise Montfort in Rixensart, on January 7, 2011, published in the appendices to the Moniteur Belge under number 20110131-0016668.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on May 5, 2011, published in the appendices to the Moniteur Belge under number 20110606-84155.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on May 6, 2013, published in the appendices to the Moniteur Belge under number 2013-06-05 / 0084810.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on May 31, 2013, published in the appendices to the Moniteur Belge under number 2013-06-20 / 0093935.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on June 4, 2013, published in the appendices to the Moniteur Belge under number 2013-06-24 / 0095581.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on July 9, 2013, published in the appendices to the Moniteur Belge under number 2013-07-26 / 0117431.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on July 17, 2013, published in the appendices to the Moniteur Belge under number 2013-08-16/0128300.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on September 26, 2013, published in the appendices to the Moniteur Belge under number 2013-10-14-0155339.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on January 31, 2014, published in the appendices to the Moniteur Belge under number 20140319-0063903.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on May 5, 2014, published in the appendices to the Moniteur Belge under number 2014-06-05 / 0112591.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on June 16, 2014, published in the appendices to the Moniteur Belge under number 20140709/0132868.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on June 30, 2014, published in the appendices to the Moniteur Belge under number 20140722/0141424.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on August 4, 2014, published in the appendices to the Moniteur Belge under number 20140825-0159432.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on November 3, 2014, published as an excerpt in the appendices to the following Moniteur Belge under number 20141128-0214987.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on January 31, 2014, published in the appendices to the Moniteur Belge under number 2015-02-13 / 0024685.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on February 7, 2015, published in the appendices to the Moniteur Belge under number 2015-02-26 / 0031768

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on March 3, 2015, published in the appendices to the Moniteur Belge under number 20150325-0044740.

The bylaws were modified with a company name change to “Celyad” following a memorandum drawn up by the aforementioned notary Françoise Montfort, on May 5, 2015, currently in the process of publication.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on May 11, 2015, published as an excerpt in the appendices to the following Moniteur Belge under number 20150602-077515.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on June 24, 2015, published as an excerpt in the appendices to the Moniteur Belge under number 20150715-0102184.

The bylaws were modified following a memorandum drawn up by the aforementioned notary Françoise Montfort, on August 4, 2015, published in the appendices to the Moniteur Belge on the following September 4 under number 15126625.

The bylaws were modified following a memorandum drawn up by Counselor Peter Van Melkebeke, a notary in Brussels, on February 1, 2017, published in the appendices to the Moniteur Belge on the following February 21 under number 17028104.

The bylaws were modified following a memorandum drawn up by Counselor Peter Van Melkebeke, a notary in Brussels, on May 2, 2017, published in the appendices to the Moniteur Belge on the following May 22 under number 17072065.

The bylaws were modified following a memorandum drawn up by Counselor Gaëtan Delvaux, a notary in Jodoigne, standing in for his colleague, Counselor Peter Van Melkebeke, a notary in partnership in Brussels, suffering a statutory impediment *ratione loci* , on June 29, 2017, published in the appendices to the Moniteur Belge on the following August 2, under number 17112698.

The bylaws were modified following a memorandum drawn up by Counselor Peter Van Melkebeke, a notary in Brussels, on August 1, 2017, published in the appendices to the Moniteur Belge on the following August 25 under number 1712334.

The bylaws were modified following a memorandum drawn up by Counselor Peter Van Melkebeke, a notary in Brussels, on August 23, 2017, published in the appendices to the Moniteur Belge on the following September 7 under number 17128258.

The bylaws were modified following a deed drawn up before Counselor Tim Carnewal, a notary in Brussels, on November 9, 2017, published in the appendices to the Moniteur Belge on the following December 4, under number 17169624.

The bylaws were modified following a deed drawn up by Counselor Tim Carnewal, a notary in Brussels, on February 7, 2018, published in the appendices to the Moniteur Belge on the following February 28, under number 18038617.

The bylaws were modified for the last time by a deed drawn up before counselor Peter Van Melkebeke, a notary in Brussels, on May 22, 2018, submitted for publication in the appendices to the Moniteur Belge.

CHANGE IN REGISTERED OFFICE :

The registered office was changed to the current address by decision of the board of directors dated March 16, 2016, published in the appendices to the Moniteur Belge of the following June 9, under number 16079203.

BYLAWS
AMALGAMATED AS OF May 22, 2018

ARTICLE 1 – FORM AND NAME

The company has the form of a société anonyme (a Belgian corporation) that has invited or is inviting investment by the public.

It is named: “Celyad”. This name shall always be preceded or followed by the words “société anonyme” or by the abbreviation “SA”.

ARTICLE 2 – REGISTERED OFFICE

The registered office is located at 1435 Mont-Saint-Guibert, rue Edouard Belin 2.

The board of directors may, without changing the bylaws, transfer the registered office to any other location in Belgian, by complying with current legislation respecting the use of language. The board of directors shall supervise the publication in the appendices to the Moniteur Belge of any transfer in registered office.

The board of directors is, furthermore, authorized to establish administrative offices, operations offices, branches and agencies, both in Belgium and abroad.

ARTICLE 3—PURPOSE

The purpose of the company, both in Belgium and abroad, in its own name or in the name of third parties, on its own behalf or on behalf of third parties, is the development of new medical technologies and particularly, but not exclusively, the research and development, manufacture and sale of elements and systems, including in this procedures, formulae, methods for development and manufacture, instruments and equipment, materials and products, prototypes, software and technical and research programs, designs, patents, and marks, all of which are directly or indirectly related to biotechnology and particularly, but not exclusively, cellular therapies and the various scientific, operational, legal, and financial matters directly or indirectly related thereto. The company may, if necessary, file, record all or part of its research (patents, inventions, marks) and proceed with any other operation directly or indirectly related to its corporate purpose if such operations prove necessary in the pursuit of its activities.

The company may perform, both in Belgium and abroad, any and all industrial, commercial, and financial operations, and those operations involving real and movable property which may expand or promote the company directly or indirectly.

It may acquire any and all real or movable assets, even if they have no direct or indirect connection with the company’s purpose.

It may grant any form of collateral as a guarantee of commitments of a related company, a partner, with whom a connection of participation exists, or with any third party in general.

It may, by any means whatsoever, acquire an interest in, cooperate, or merge with any and all associations, businesses, enterprises, or companies which have an identical, similar, or related corporate purpose or which are capable of promoting its enterprise or facilitating the sale of its products or services. It may acquire an interest, by means of contribution, assignment, merger, subscription, participation, financial intervention or otherwise, in any and all companies, enterprises, or operations having a similar or related purpose, or which are of a nature to promote the realization of its purpose.

ARTICLE 4—TERM

The company is formed for an unlimited term.

ARTICLE 5 – SHARE CAPITAL

The company’s share capital is set at forty-one million five hundred fifty-two thousand six hundred fourteen euros and fifty-seven eurocents (€41,552,614.57), represented by eleven million nine hundred forty-two thousand three hundred forty-four (11,942,344) shares which do not contain a face value, each representing one/eleven million nine hundred forty-two thousand three hundred forty-fourth(1/11,942,344 th) of the share capital.

ARTICLE 6 – CHANGES TO THE SHARE CAPITAL

The share capital may be increased or reduced by a decision of the general meeting deliberating as provided by the provisions established for modifying the bylaws.

Whenever there is an increase in share capital, the new shares to be subscribed in cash must be offered by preference to the shareholders in proportion to the part of the share capital represented by their shares for a period of at least 15 days starting from the first day of the subscription period. The general meeting determines the subscription price and the period during which the preferential right may be exercised. However, this preferential subscription right may be limited or eliminated by the general meeting ruling in the interest of the company and by modifying the bylaws. Where capital is raised with the creation of an issue premium, the amount of this premium must be fully paid-up upon subscription. The premium must be booked to an escrow account labeled "Issue premiums" which may only be reduced or eliminated by a decision of the general meeting deliberating pursuant to the provisions provided by the Companies Code for modifying the bylaws. The issue premium shall, just like the share capital, be considered a common surety benefiting third parties.

ARTICLE 7 – AUTHORIZED CAPITAL

7.1 The board of directors is authorized to increase the share capital on one or more occasions, up to the amount of thirty-three million one hundred seventeen thousand nine hundred seventy-six euros and sixty-three eurocents (€33,117,976.63) on the dates and pursuant to the procedures to be established by the board of directors, this being for a term of five years starting from the publication of the extraordinary general meeting held on June 29, 2017 in the appendices of the Moniteur Belge.

This authorization is renewable in such conditions as provided by law.

The board is authorized to increase the share capital as described above, both through cash contributions or, subject to legal limits and conditions, through in-kind contributions, and by incorporation of available or unavailable reserves or from the "issue premium" account. In the latter cases, the increase may occur with or without the issuance of new shares.

An increase in capital as regards authorized capital, may also occur through the issuance of convertible bonds or subscription rights – which may or may not be attached to another security – that may result in the creation of shares pursuant to applicable legal provisions.

The board of directors is authorized, when raising capital, issuing convertible bonds or subscription rights, to limit or eliminate, in the company's interest, the preferential right provided by current legal provisions, including those benefiting one or more given persons, whether or not they are members of the company's staff or of its subsidiaries.

7.2 When an increase in capital approved by the board of directors includes an issue premium, the amount thereof is, after deducting any costs, posted to an escrow account which shall constitute, with regard to the capital, surety for third parties and may only be reduced or eliminated by a decision of the general meeting ruling as a quorum and by a majority required for reducing capital, without prejudice to the board of directors' right to incorporate said account into the capital as provided above in 7.1.

7.3 Pursuant to a decision by the extraordinary general meeting of the shareholders held on June 29, 2017, the board of directors may also use the authorizations set forth above, following receipt by the company of a communication from the Financial Markets and Services Authority, within three years starting from the day of the aforementioned extraordinary general meeting, whereby the company is served notice of a public takeover bid targeting the company, through cash contributions by limiting or eliminating the shareholders' preferential right (including when benefiting one or more given persons who are not employees of the company or of its subsidiaries) or through in-kind contributions, with the issuance of shares, warrants, or convertible bonds, pursuant to the applicable legal provisions.

7.4 The board of directors is authorized, with the power of substitution, to amend the Bylaws whenever there is an increase in capital realized as part of the authorized capital, so as to adapt to the new situation with respect to the share capital and shares.

ARTICLE 8 – ACQUISITION, ACCEPTANCE AS COLLATERAL, AND DISPOSAL OF TREASURY SHARES

The company may acquire or accept as collateral its own shares in such conditions as provided by law. The board of directors is authorized to dispose of the company's shares through a stock market or outside of a stock market, when the shares have been acquired by the company, at conditions set by the board, without prior authorization from the general meeting, as provided by law.

The above-referenced authorizations extend to acquisitions and disposals of the company's shares made by its subsidiaries, as these subsidiaries are defined by the legal provisions pertaining to the acquisitions of shares of the parent company by subsidiaries, and are extendible in such conditions as provided by law.

ARTICLE 9 – CALL FOR FUNDS

The board of directors shall have sole authority to decide on the date and manner whereby calls for funds shall be made regarding shares that have not been fully paid-up.

If a shareholder has not made the called-for payments on his shares within the deadline set by the board of directors, the exercise of the voting rights associated with said shares shall be suspended automatically as long as such payments shall not have been made. Furthermore, the shareholder shall owe the company, as of right, a penalty interest equal to the legal interest rate augmented by two percent.

If the shareholder continues to default following notice sent by registered mail following the expiration of the deadline set by the board of directors, the latter may cause the shares in question to be sold on the stock market, by using an investment company or a lending institution, without prejudice to the company's right to demand that he pay the balance due, as well as any and all damages and interest.

A shareholder may not pay up his shares in advance without prior approval from the board of directors.

ARTICLE 10 – TYPE OF SHARES AND REGISTERED SHARE LEDGER

Shares are registered or dematerialized shares.

The registered share ledger is maintained electronically. The board of directors may decide to entrust the keeping and administration of the electronic ledger to a third party. All entries in this ledger, including transfers and conversions, can be made validly on the basis of documents or instructions which the securities assignor, assignee, or owner may send electronically or by any other means. The company may accept and record in this ledger any transfer that might be recorded through correspondence or other documents establishing the agreement between the assignor and assignee.

ARTICLE 11 – EXERCISE OF RIGHTS ASSOCIATED WITH SECURITIES

With regard to the company, the shares and the other securities issued by the company are indivisible. If one of these securities belongs to multiple people or if the rights associated with one of these securities are divided between multiple people, the rights associated there with shall be suspended as of right until only one person has been designated as owner of the security with regard to the company. The rights associated with shares that are subject to usufruct or a pledge or exercise respectively by the beneficial owner and by the title owner making the pledge, unless there is an agreement otherwise, signed by all interested parties, submitted to the company.

ARTICLE 12 – COMPOSITION OF THE BOARD OF DIRECTORS

For the purposes of this article, the following terms have the following meanings:

"Reference Shareholders" means PMV and Sofipôle.

"Offer" means the initial public offering of shares of the company made on July 9, 2013.

"PMV" means PMV-TINA Comm.VA, having its registered office at Oude Graanmarkt 63, 1000 Brussels and registered with Banque Carrefour des Entreprises [the Belgian corporate database] under 0835.081.809 (Brussels Registry of legal entities).

"Sofipôle" means Sofipôle SA, having its registered office at Avenue Maurice Destenay 13, 4000 Liège, registered with Banque Carrefour des Entreprises under number 0877.938.090 (Liège Registry of legal entities).

"S.R.I.W." means S.R.I.W. SA, having its registered office at Avenue Maurice Destenay 13, 4000 Liège, registered with Banque Carrefour des Entreprises under number 0219.919.487 (Liège Registry of legal entities).

The company is administered by a board of directors validly composed of at least three members, who may or may not be shareholders, individuals or legal entities.

Each Reference Shareholder separately possesses the right to nominate candidates to the director position, provided Reference Shareholder or one of its related companies, holds at least 75% of the total number of shares jointly held by this Reference Shareholder and its related companies at the time of the

making of the Offer, namely 661,172 shares jointly held by Sofipôle and S.R.I.W (company related to Sofipôle) and 570,571 shares held by PMV. Directors nominated by Reference Shareholders are not compensated.

Each Reference Shareholder must inform the board of directors of the identity of the candidates at least six weeks prior to the holding of the general meeting of the shareholders during which directors are to be appointed.

Each Reference Shareholder has the right to have the director nominated by it replaced by a person chosen on the basis of a list of at least two candidates proposed to the board of directors by this same Reference Shareholders (or by a member of its group, as designated by this Reference Shareholder), subject to the same conditions for notification of the board of directors as the identity of such candidates of at least six weeks before the holding of the general meeting of the shareholders during which the replacement director shall be appointed.

If a Reference Shareholder, having the right to nominate candidates for a term of director, does not present a list of candidates, the general meeting of the shareholders may either appoint, at its sole discretion, a director to fill the position for which no list of candidates has been proposed, such term shall continue until the Reference Shareholder in question has presented a list of candidates for this directorship position, or not to appoint a director.

If a legal entity is designated as a director of the company, it must designate, pursuant to the rules established by the Companies Code , a permanent representative, authorized to represent it in all of its relations with the company. The director may only revoke its permanent representative by simultaneously appointing his successor.

The term of a director may not exceed six years. Directors whose term of office has ended shall remain in office so long as the general meeting, for any reason whatsoever, does not proceed with their replacement.

Outgoing directors may be reelected.

Directors may, at any time, be removed by the general meeting.

ARTICLE 13 – VACANCY PRIOR TO EXPIRATION

Should there be a vacancy on the board of directors, the remaining directors are entitled to provisionally proceed with a replacement. A director thusly named shall complete the term of the director he is replacing.

A definitive election of the replacing director shall be placed on the agenda for the next holding of the general meeting.

ARTICLE 14 – CHAIRMANSHIP

The board of directors shall elect, from amongst its members, a chairman by simple majority. In the event in which the vote should be tied, the chairman shall cast the deciding vote.

ARTICLE 15 – MEETINGS OF THE BOARD OF DIRECTORS

The board shall be summoned for meeting by its chairman (or by any person to whom the chairman has delegated such power) or by two directors whenever the interest of the company so demands. A notice of meeting shall be made to validly in writing, by fax, by email, or by telephone.

The notice of meeting shall state the place, date, time, and agenda for the meeting. It shall be sent at least two business days prior to the meeting by letter, fax, email, or any other written means. Where there is a justifiable emergency, this period may be less than two business days. Should there be no chairman or in the event of his impediment, a director designated for this purpose by his colleagues shall preside over the meeting.

If all directors are present or validly represented, the validity of the notice of meeting cannot be contested. Except if and unless the board of directors decides otherwise, any person tasked with the daily management of the Company may attend and participate in the meetings of the board of directors, however, without a right to vote; so as to avoid any misunderstanding, it is stipulated that the above applies only in the case where the CEO is not a member of the board of directors.

ARTICLE 16 – DELIBERATIONS

At least a majority of the directors must be present (physically or by telephone or by video conference) or represented to form a quorum. In the case in which a majority of directors is not present at

a meeting of the board of directors, each director shall have the right to give notice of meeting for a second meeting of the board of directors with the same agenda, which shall be held within a reasonable time frame (which shall not be less than 15 days, unless the urgency of the decisions to be made requires proceeding otherwise, with a minimum of three days) starting from the written communications sent to all directors referencing this article. Without prejudice to the fifth paragraph of this article, this second meeting of the board of directors shall have the right to debate and make decisions based on the agenda, regardless of the number of directors present or represented.

The board of directors may validly debate points that are not mentioned on the agenda only if all of the directors are personally present and unanimously decide to debate these points.

Any director may give a power of attorney to one of his colleagues by letter, fax, email, or any other written means, to represent him at a meeting of the board of directors. A director may represent at most two of his colleagues.

Except as stated in the following paragraph, decisions by the board of directors are made according to a majority of votes placed. Blank or irregular ballots cannot be added to votes placed. If there is a tie in the vote, the vote by director presiding over the meeting shall be decisive, unless the board of directors is composed of two members.

If a director has, directly or indirectly, an interest related to his holdings that is in opposition to a decision or an operation within the purview of the board of directors, the rules and formalities provided by the Companies Code must be respected. If, during a meeting of the board of directors attended by the majority required to validly debate, one or more directors, present or represented, abstain from voting due to such an opposing interest, the decision or decisions in question shall be made validly according to the votes of the other directors, present or represented.

If there is an emergency, decisions by the board of directors may be made, insofar as the law so authorizes, by unanimous consent of the directors expressed in writing. However, this procedure may not be used to approve the annual financial statements and the use of authorized capital.

Unless stipulated otherwise, decisions made by unanimous consent expressed in writing are deemed to be made at the registered office and take effect as of the date of the last signature by a director. Directors may participate at a meeting of the board of directors by teleconference, video conference, or by any other means of communication that allows all directors to communicate between themselves.

They shall then be deemed to have been present at this meeting.

Unless stipulated otherwise, decisions shall be deemed to have been made at the registered office and to take effect as of the meeting date.

ARTICLE 17 – MINUTES

The debates by the board of directors shall be recorded in minutes signed by the directors present or their representatives. The powers of attorney are attached to the minutes.

Copies or excerpts, to be produced in a court of law or elsewhere, shall be signed by at least two directors or by a managing director. This power may be delegated to an agent.

ARTICLE 18 – POWERS OF THE BOARD OF DIRECTORS

The board of directors is vested with the broadest powers for the purpose of performing all acts useful or necessary for the realization of the corporate purpose.

It has the power to perform all acts that are not expressly reserved by law or by the bylaws to the general meeting.

The board of directors may, within the scope of its powers, delegate to a third party of its choosing, a portion of its powers for special and determined purposes. The board of directors shall create an audit committee pursuant to the Companies Code from within its ranks. The audit committee is tasked with providing permanent oversight of the tasks performed by the statutory auditor and performing any additional mission that might be entrusted to it by the board of directors. Should the formation of an audit committee from within the board of directors not be mandatory, the board of directors may decide that the duties attributed to the audit committee must then be performed by the board of directors as a whole.

The board of directors may create other committees, the powers of which it shall establish.

ARTICLE 19 – COMPENSATION

Directorships are performed free of charge, except as decided otherwise by the general meeting.

The company may be exempt from the provisions of article 520ter, subsections 1 and 2 of the Companies Code as regards any person falling within the scope of application of these provisions.

ARTICLE 20 – REPRESENTATION

The company shall be validly represented in all of its acts, including representation in a court of law, by two directors acting jointly or by a managing director, acting alone, and shall not be required to justify a prior decision by the board of directors with regard to third parties.

The company, furthermore, shall be validly represented by an agent within the limits of that person's mandate.

ARTICLE 21 – DAY-TO-DAY MANAGEMENT

The board of directors may delegate the company's day-to-day management to one or more persons, whether individuals or legal entities. If the person tasked with the day-to-day management is also a director, that person shall bear the title of managing director (or Chief Executive Officer, or CEO). Otherwise, the person shall bear the title of general manager.

The mandate as agent for day-to-day management shall be performed free of charge, except as decided otherwise by the board of directors.

It alone is competent to determine the conditions and limits of such delegation and to terminate it.

When multiple people are tasked with the day to day management, the company shall be validly represented in all of its acts of day-to-day management, including representation before a court of law, by one person tasked with the day-to-day management, who shall not be required to justify a prior decision of the board of directors with regard to third parties.

Any person tasked with the day-to-day management may, within the scope of his powers, delegate to a third party of his choosing, a portion of his powers for special and determined purposes.

ARTICLE 22 – AUDIT

The audit of the company shall be entrusted to one or more auditors, appointed for a renewable three-year term.

Auditors are appointed from amongst the company auditors, registered with the Public Registry of the Institut des Réviseurs d'Entreprises (the Institute of Company Auditors) or from amongst registered auditor offices.

The general meeting shall determine the number of auditors and establish their compensation.

ARTICLE 23 – AUDITORS TASKS

The auditors, collectively or individually, have an unlimited right to oversee and audit the financial condition, the annual financial statements, and the accuracy, in light of the prevailing legal provisions and the bylaws, of the operations to be recorded in the annual financial statements.

They may, without moving from the site, inspect the books, correspondence, reports, and generally all writings of the company.

Each semester, the board of directors shall provide them with a statement summarizing the company's assets and liabilities

The auditors shall write, for purposes of the general meeting, a detailed report specifically containing the information provided by law. The auditors may, in the performance of their duties and at their cost, be assisted by agents or other persons for whom they are responsible.

ARTICLE 24 – COMPOSITION AND POWERS OF THE GENERAL MEETING

The duly constituted general meeting represents all shareholders. Decisions made by the general meeting are binding on all shareholders, even those who are dissident or absent. It has the broadest powers to perform or ratify acts involving the company.

ARTICLE 25 – MEETINGS

The ordinary general meeting automatically shall be held on the fifth of May at nine in the morning. If this day falls on a Saturday, a Sunday, or a legal holiday, the general meeting shall be held on the following business day.

An extraordinary general meeting may be convened whenever the company's interest so requires and must be convened whenever shareholders representing one fifth of the share capital so request.

General meetings are held at the registered office or at any other location indicated in the meeting notices.

ARTICLE 26 – NOTICE OF MEETING

The general meeting shall meet following a notice of meeting sent by the board of directors or the auditors.

These meeting notices shall particularly contain the place, date, time and agenda for the general meeting, containing information about the subjects to be discussed as well as proposed decisions, and shall be made in the forms and within the deadlines prescribed by the Companies Code.

Each year, at least one ordinary general meeting shall be held, for which the agenda shall state at least: (i) as applicable, the discussion of the management report and the auditors' report, (ii) the discussion and approval of the annual financial statements and the allocation of any earnings, (iii) the release to be granted to the directors and, (iv) as applicable, to the commissioners, and, as applicable, (v) the appointment of directors and auditors.

ARTICLE 27 – ADMISSION

The right to participate in a general meeting and to exercise the voting right and it is subordinate to the recognition on the books of the shares in the shareholder's name on the fourteenth day that precedes the general meeting, at eight PM (Belgian time), or by their registration in the ledger of registered shares for the company, or by their registration in the books of an approved account holder or of a liquidation body, without a need to enumerate the number of shares held by the shareholder as of the day of the general meeting.

The shareholder shall inform the company, or the person it has designated for this purpose, of his desire to participate in the general meeting, no later than the sixth day preceding the meeting date.

Holders of dematerialized securities must make their intention to exercise their rights at the meeting known to one of the financial institutions shown in the notice of meeting or to any other institution specified in the notice of meeting, and must do so in accordance with the procedures stated in the notice of meeting no later than the sixth day preceding the meeting date. Holders of bonds, subscription rights, or warrants issued with the company's collaboration may attend the general meeting, but only with a consultative vote and provided that they comply with the conditions for admission provided for shareholders.

ARTICLE 28 – REPRESENTATION

Any shareholder may give a power of attorney to 1/3 party of his choosing by letter, fax, email, or any other written means, so that he may be represented at a general meeting.

The board of directors may establish the form of powers of attorney in the meeting notices. The powers of attorney must reach the company no later than the sixth day preceding the date of the general meeting.

ARTICLE 29 – OFFICE

Each general meeting shall be presided over by the chairman of the board of directors or failing that or in the event of that person's impediment, by a person designated for this purpose by the general meeting.

The meeting chairman may appoint a secretary, who does not necessarily need to be a shareholder or director.

If the number of shareholders present or represented so allows, the general meeting may select two vote counters. The directors present complete the executive committee.

ARTICLE 30 – POSTPONEMENT

The board of directors has the right to postpone, during a meeting, any general meeting whether ordinary or otherwise by three weeks.

This postponement shall not nullify the other decisions taken, unless the general meeting decides otherwise.

The formalities fulfilled to attend the first meeting, including any submissions of powers of attorney, shall remain valid for the second meeting.

The postponement may only occur once. The second general meeting shall be entitled to definitively establish the annual financial statements.

ARTICLE 31 – NUMBER OF VOTES – EXERCISE OF THE RIGHT TO VOTE

Each share gives the right to one vote.

ARTICLE 32 – DELIBERATIONS

Before entering into session, an attendance list showing the name of the shareholders and the number of shares they hold shall be signed by each of them or by their agent. The same applies for bearers of other securities issued by the company or in collaboration with it.

The general meeting may not deliberate points not shown on the agenda, except if all of the shareholders are present or represented at the general meeting and unanimously decide to deliberate these points.

Directors shall respond to questions put to them by the shareholders with regard to the points contained on the agenda. As applicable, the auditors shall respond to questions put to them by the shareholders with regard to their report.

Except as provided otherwise by law or in the bylaws, any decision made by the general meeting shall be made by a simple majority of votes, regardless of the number of shareholders present or represented. Blank or irregular ballots cannot be added to votes placed.

If, during a decision on an appointment, and none of the candidates obtains an absolute majority of votes, a new vote shall be conducted as between the two candidates who received the greatest number of votes. Should there be a tie in votes on the occasion of this new vote, the older candidate shall be elected.

Votes are cast by a raising of hands or calling by name unless the general meeting decides otherwise by simple majority of votes cast.

The shareholders may, unanimously, make in writing any and all decisions falling within the competence of the general meeting, except for those which must be made in an authenticated document. Unless stipulated otherwise, decisions made in writing are deemed to be made at the registered office and take effect as of the date of the last signature by a shareholder.

ARTICLE 33 – MINUTES

The minutes of the general meeting shall be signed by the members of the executive committee and by the shareholders who so request.

Except as otherwise provided by law, copies or excerpts, to be produced in a court of law or elsewhere, shall be signed by two directors (or by one managing director). This power may be delegated to an agent.

ARTICLE 34 – ANNUAL FINANCIAL STATEMENTS

Each fiscal year begins on January first and ends on December thirty-first of each year.

At the end of each fiscal year, the board of directors shall oversee the creation of an inventory as well as the annual financial statements. Insofar as is required by law, the board of directors shall further write a report in which it shall report on its management. This report shall contain a commentary about the annual financial statements for the purpose of presenting faithfully the evolution in business and the company's condition, as well as the other elements required by the Companies Code.

ARTICLE 35 – APPROVAL OF THE ANNUAL FINANCIAL STATEMENTS

The ordinary general meeting shall hear, as applicable, the management report and the auditors' report and shall vote on approval of the annual financial statements.

Following approval of the annual financial statements, the general meeting shall hold a special vote on releasing the directors and, as applicable, the auditors. This release shall only be valid if the annual financial statements contain no omissions, nor any false statement concealing the company's actual condition and, in so far as concerns acts performed in violation of the bylaws, only if they have been specifically stated in the notice of meeting.

Within thirty days of their approval by the general meeting, the board of directors shall oversee the submission of the annual financial statements and, as applicable, the management report, as well as the other documents mentioned in the Companies Code with Banque Nationale de Belgique (the National Bank of Belgium).

ARTICLE 36 – DISTRIBUTION

From the net profit shown in the annual financial statements, annually an amount of five percent (5%) shall be withheld for the formation of the legal reserve, this withholding shall no longer be mandatory when the reserve reaches one tenth of the share capital.

When proposed by the board of directors, annually the balance shall be made available to the general meeting, who shall have sole authority to determine the allocation thereof by a simple majority of votes cast, within the limits imposed by the Companies Code.

ARTICLE 37 – PAYMENT OF DIVIDENDS – INTERIM PAYMENTS

Dividends are paid at such times and in such locations as designated by the board of directors.

The board of directors may, within the limits established by the Companies Code, distribute one or more interim payments on the dividend which shall be distributed from the current fiscal year results.

ARTICLE 38 – EARLY DISSOLUTION

If, subsequent to a loss, the net assets are reduced to an amount below one half of the share capital, the board of directors must submit the issue of the company's dissolution and eventually propose other measures to the general meeting deliberated as provided by the rules set forth in the Companies Code.

The general meeting must be held within a period not to exceed two months starting from the time the loss was observed or should have been pursuant to the obligations of law or the bylaws.

If, subsequent to this loss, the net assets are reduced to an amount below one fourth of the share capital, dissolution may be pronounced by one fourth of votes cast at the general meeting.

When the net assets are reduced to an amount below the legal minimum for share capital, any interested party may request the company's dissolution in a court of law. The court may, as applicable, grant the company a delay so that the company may correct its situation.

ARTICLE 39 – LIQUIDATION

In the event of the company's dissolution, for any reason and at any time whatsoever, the liquidation shall proceed under the supervision of liquidators appointed by the general meeting or, failing such an appointment, under the supervision of the board of directors acting in a capacity as a board of liquidators. Unless decided otherwise, the liquidators shall act jointly. To this end, the liquidators shall possess the broadest powers pursuant to the applicable provisions of the Companies Code, barring restrictions imposed by the general meeting.

The liquidator position shall be performed free of charge, except as decided otherwise by the general meeting.

ARTICLE 40 – DISTRIBUTION

Following settlement of all debts, charges, and liquidation costs, the net assets shall firstly be applied to reimburse, whether in cash or in kind, the amount of shares that has been paid up and not yet reimbursed.

Any balance shall be distributed in equal proportion amongst all shares.

If the net proceeds do not allow the reimbursement of all shares, the liquidators shall make a priority reimbursement of paid-up shares in a greater proportion until they are on equal footing with the paid up shares in a lesser proportion or proceed with additional calls for funds made of the owners of the latter.

ARTICLE 41 – ELECTION OF DOMICILE

Any director, general manager, and liquidator domiciled or having his registered office abroad shall elected domicile, for the term of his mandate, at the registered office, where all notices and summons regarding the company's affairs and liability for his management may be validly made to him in his name, except for notices of meeting made in accordance with these bylaws.

Holders of registered shares or other registered securities issued by the company or with the company's collaboration are required to inform the company of any change in domicile or registered office. Failing this, they shall be considered to have elected domicile at their previous domicile or registered office.

ARTICLE 42 – ORDINARY LAW

For anything that is not provided by these bylaws, reference shall be made to the Companies Code.

Consequently, where no legal exemption has been made, the provisions of these laws shall be deemed to be incorporated into these bylaws and any clauses contrary to any mandatory provisions of these laws shall be deemed not to have been written.

A VERIFIED AMALGAMATED COPY

/s/ Malika BEN TAHAR

Malika BEN TAHAR
by power of attorney
Staff notary
"Berquin Notaires"

D. 2181744-1 / R. 2018/82953 / PVM 22.052018 / MBT / VV

Exhibit 4.23

EMPLOYMENT AGREEMENT

THIS AGREEMENT is made as of 30 July 2018, between Celyad Inc., a Delaware corporation (the "Corporation"), and Filippo Petti (the "Employee").

Introduction

The Corporation is engaged in research and development of biological pharmaceutical products or medical devices, solely or in combination (the "Business").

The Corporation is a wholly owned subsidiary of Celyad SA, a publicly listed company on Euronext Brussels, Euronext Paris and Nasdaq, with registered offices in Mont-Saint-Guibert, Rue Edouard Belin 2, Belgium ("Celyad");

Celyad and its subsidiaries and affiliates, including the Corporation, comprise the "Celyad Group";

The Corporation wishes to retain the services of Employee at its offices in Boston, Massachusetts (the "Corporate Office").

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Employment . As of the Employment Date, defined below, the Employee will be employed by the Corporation. The Corporation and the Employee acknowledge and accept the Employee's employment upon the terms and conditions hereinafter set forth. Notwithstanding anything in this Agreement to the contrary, nothing in this Agreement shall be construed to alter the at-will nature of the Employee's employment, nor shall anything in this Agreement or any benefit program be construed as providing the Employee with a definite term of employment.

2. Term . Unless otherwise agreed by the parties in writing, Employee's employment shall commence on 3 Sept 2018 (the "Employment Date").

3. Duties .

(a) Employee initially shall serve as Chief Financial Officer (CFO) for the Corporation reporting directly to the Chief Executive Officer (CEO) (the "Employee Supervisor"). The Employee's reporting relationship may be changed by the Corporation.

(b) The Employee shall be responsible for such duties as may be reasonably assigned from time to time by the Employee Supervisor or other authorized designee of the Corporation, inclusive of investor relations and business development (collectively, the "Services").

4. Compensation .

(a) In consideration for the Services, the Corporation shall pay Employee a salary at the annual rate of three hundred twenty thousand dollars ($320,000.00) ("Base Salary"). The Base Salary may be adjusted from time to time by the Corporation. Payments of Base Salary shall be made in accordance with the Corporation's payroll practices.

(b) The Corporation will pay a sign on bonus of one hundred thousand dollars ($100,000.00) to the Employee (the "Signing Bonus") on the Corporation's first payroll date applicable to the Employee's position

following the Employment Date, subject to the Employee's continued employment with the Corporation through the date the Signing Bonus is paid. If the Employee resigns (i) during the first four (4) months of employment (between 3rd Sep 2018 and 2nd Jan 2019), he will reimburse the Corporation for the full amount of the Signing Bonus; (ii) during the next four (4) months of employment (between 3rd Jan 2019 and 2nd May 2019), he will reimburse the Corporation for 50% of the amount of the Signing Bonus and (iii) during the following four (4) months of employment (between 3rd May 2019 and 2nd Sept 2019), he will reimburse the Corporation for 25% of the amount of the bonus (in any such case ((i), (ii), (iii)), the "Signing Bonus Repayment"). The Employee shall make the Signing Bonus Repayment within the 30-day period following the date of the Employee's termination of employment.

(c) Employee shall be eligible for a target annual bonus equal to 35% of the Base Salary if Employee achieves performance milestones defined at or reasonably promptly after the beginning of each year by the Corporation in good faith and in its sole discretion. Notwithstanding anything to the contrary in this Section 4(c), whether a bonus is awarded, the bonus target and the amount of any bonus shall be determined by the Corporation and/or Celyad in their sole discretion. To earn any bonus, Employee must be employed by the Corporation on the date the bonus is paid. For the avoidance of doubt, Employee shall not be eligible for any pro rata bonus in connection with the Employee's termination for any reason.

(d) Subject to the approval of the Boards of Directors of Celyad and/or the Corporation as applicable (the "Boards"), the Employee may be eligible to participate in Celyad's warrant plans (or similar long term incentives) in effect from time to time. For the avoidance of doubt, Employee understands that under Belgian law, stock warrant plans are proposed by the Celyad Board and approved by an Extraordinary General Meeting of Celyad's shareholders and the amount of warrants allocated to employees under an approved warrant plan is determined exclusively by the Remuneration and Compensation Committee of the Celyad Board. Subject to any applicable Board approval, a sign-up award of 20,000 (twenty thousand) warrants to Employee will be granted under the current plan, subject to vesting conditions and the other terms and conditions of the applicable plans and option agreement(s).

(e) All compensation paid to Employee shall be subject to taxes and other withholdings.

5. Expenses and Travel .

Employee shall be entitled to receive prompt reimbursement for all reasonable, documented expenses incurred by Employee in performing the Services hereunder, including all reasonable expenses of travel and living while away from home, provided that such expenses are incurred and accounted for in accordance with the policies and procedures established by the Corporation.

6. Medical, Vacation and Other Benefits .

Employee shall be entitled to receive certain benefits applicable to employees of Celyad Group, which currently include dental and health care plans, in each case in accordance with the terms of such plans. In the event that Employee elects not to receive medical benefits from the Corporation, Employee may be eligible to receive a monthly cash payment, as determined by the Corporation in its discretion, in an amount equal to the premium the Corporation would have contributed toward individual medical insurance coverage for Employee.

Employee shall receive twenty (20) days of vacation annually, in addition to all legal U.S. Federal holidays, both paid at the expense of the Corporation. Such vacation shall be subject to Corporation policy in all respects. In the absence of such policy, such vacation shall accrue ratably and shall not roll over from year to year.

Employee shall be eligible for the Corporation's 401(k) plan on the first day of the first month following Employee's first day of employment. Currently, on an annual basis, the Corporation pays, at no additional cost to the Employee, a contribution equivalent to five percent (5%) of the Employee's Base Salary, subject to Employee's employment with the Corporation on the date such contribution is made.

Notwithstanding this foregoing Section 6, any member of the Celyad Group may alter the terms and conditions of any employee benefit plan, program or agreement, or eliminate any such plan, program or agreement, at any time in such entity's discretion.

7. Performance of Services. During the term of this Agreement, Employee shall use Employee's best efforts to promote the interests of the Celyad Group and shall devote Employee's full time and efforts to its Business and affairs in an honest and ethical manner in compliance with this Agreement and all applicable laws, rules and regulations, promulgated from time to time, applicable to the Business, including the federal, state and municipal non-discrimination laws in the United States, rules and regulations. Except for vacation, sick time and other Company-approved leaves of absence subject to Company policies, the employee is expected to and shall work 40 hours per week at minimum. The Employee shall not engage in any other activity that could reasonably be expected to interfere with the performance of Employee's duties, responsibilities and services hereunder subject to Section 9 below.

8. Employee Representations. Employee represents and warrants to the Celyad Group that Employee is qualified to perform the services under this Agreement and that neither Employee's execution of the Agreement, nor Employee's performance of such services is limited or prohibited by, and will not cause a conflict of interest or breach of, any law, regulation, agreement, understanding, order, judgment, decree or other instrument, contract, or document to which Employee is a party or subject, including without limitation any confidentiality or restrictive covenant agreement with any prior employer.

9. Conflicts of Interest. Employee confirms that Employee has advised the Celyad Group in writing prior to the date of signing this Agreement of any current relationship with third parties, including competitors of Celyad Group. The Chief Executive Officer of Celyad and Employee will review each of those relationships and determine together which ones need to be terminated due to a conflict of interest, or prohibition of Employee carrying out the terms of this Agreement, or which would present a significant risk of disclosure of Confidential Information.

10. Exclusivity. For the duration of this Agreement, Employee shall provide services exclusively to Celyad Group and Employee shall not seek, accept or perform any consulting or other services (whether or not for compensation) without the specific and written approval of the Chief Executive Officer of Celyad, or its designee.

11. Restrictive Covenants .

(a) During the term of this Agreement and for a period of twelve (12) months after the date of termination of Employee's employment, regardless of the reason for such termination, Employee will not, directly or indirectly, whether as an officer, director, employee, consultant, contractor, equity owner or agent of, or otherwise advise or participate in the ownership or operation of (i) any cell therapy company developing CAR T therapies focused on NKG2D, B7H6 and NKp (such as NKp30, NKp40, NKp44), or (ii) any other business activity that competes with the business activity referred to above (in section 11. a (i)) of the Corporation or any subsidiary of the Corporation. Nothing in this Section 11(a) shall be deemed to prohibit Employee from investing in any company engaged in such business, the stock of which is available in a public securities market; provided, however, that Employee shall not own in excess of five percent (5%) of the total issued and outstanding stock of such company.

(b) During Employee's employment and for a period of one (1) year after the termination of such employment, regardless of the reason for such termination, Employee will not, directly or indirectly, solicit, recruit, endeavor to entice away, hire, attempt to hire, or otherwise materially interfere with the business relationship of any member of the Celyad Group, any person who is, or was within the twelve (12) month period immediately prior to the termination of Employee's employment with the Corporation, employed or engaged (whether as an employee, independent contractor or otherwise) by any member of the Celyad Group.

(c) During Employee's employment and for a period of one (1) year after the termination of such employment, regardless of the reason for such termination, Employee will not, directly or indirectly, solicit,

recruit endeavor to entice, do business with, or materially interfere with the business relationship of any member of the Celyad Group, any person or entity who is, or was within the twelve (12) month period immediately prior to such termination, a customer, client or supplier to or of the Celyad Group.

(d) During and after Employee's employment, Employee agrees not to make any disparaging statements concerning the Corporation or any of its affiliates, products, services or current or former officers, directors, shareholders, employees or agents, except in the context of performing Employee's legitimate duties to the Corporation during Employee's employment with the Corporation. During and after Employee's employment, Corporation agrees not to make any disparaging statements concerning the Employee.

12. Confidentiality of Information . Employee recognizes and acknowledges that the trade secrets of the Celyad Group and all other confidential and proprietary information of a business, financial, personal or other nature, including without limitation, scientific and technical information and improvements thereon, data from or results of clinical trials, patient information, lists of the Celyad Group's actual and prospective customers, financial information and business and marketing plans, as they exist from time to time (collectively, the "Confidential Information"), are a valuable and unique asset of the Celyad Group and therefore agrees that Employee will not, either during or after the term of Employee's employment, disclose any Confidential Information concerning any entity in the Celyad Group, to any person, firm, corporation, association or other entity, for any reason whatsoever, unless previously authorized in writing to do so by the Chief Executive Officer of Celyad. The term "Confidential Information" shall not include any information that (i) is or becomes publicly available through no direct or indirect action of the Employee; or (ii) is required to be disclosed by a court of competent jurisdiction or pursuant to any arbitration, *provided* that Employee first gives notice of such disclosure requirement to the Corporation. Employee shall not at any time, make any use whatsoever, directly or indirectly, of Confidential Information, except as required in connection with the performance of Services.

13. Injunctive Relief. The Employee acknowledges that a breach of any of the provisions contained in Sections 11 or 12 would result in irreparable injury to the Celyad Group for which there may be no adequate remedy at law and that, in the event of an actual or threatened breach by the Employee of the provisions of Sections 11 or 12, any member of the Celyad Group, shall be entitled to pursue and obtain injunctive relief from a court of competent jurisdiction restraining Employee from doing any act prohibited thereunder. Nothing contained herein shall be construed as prohibiting Celyad Group or the Corporation, as appropriate, from pursuing any other remedies available to it for such breach or threatened breach, including the recovery of any monetary damages to which it would be entitled under the law. In the event that any provision of Section 11 is held to be unenforceable as a result of it being too broad, including in terms of time or geographical extent, Employee agrees that the court can adapt and limit this Section so as to make the provisions hereof enforceable to the fullest extent permissible. The post-employment restricted periods in Section 11 shall be extended by each day that the Employee is in breach of any provision of Section 11.

14. Rights in Celyad Group Property; Inventions . The Employee hereby recognizes the Celyad Group's proprietary rights in the tangible and intangible property of the Celyad Group and acknowledges that the Employee will not obtain or acquire through such employment any personal property rights in any of the property of any member of the Celyad Group, including but not limited to, any writing, communications, manuals, documents, instruments, contracts, agreements, files, literature, data, technical information, know-how, secrets, formulas, products, methods, procedures, processes, devices, apparatuses, trademarks, trade names, trade styles, service marks, logos, copyrights, patents, or other matters which are the property of any member of the Celyad Group. The Employee agrees that during his employment by the Corporation, any and all discoveries, inventions, improvements and innovations (including all data and records pertaining thereto), whether or not patentable, copyrightable or reduced to writing, which the Employee may have conceived or made, or may conceive or make, either alone or in conjunction with others and whether or not during working hours or by the use of the facilities of the Corporation, which are related or in any way connected with the Business of the Corporation or any of its affiliates, are and shall be the sole and exclusive property of the Corporation. The Employee shall promptly disclose all inventions to the Corporation, shall execute at the request of the Corporation any assignments or other documents the Corporation may deem necessary to protect or perfect its rights therein, and shall assist the Corporation, at the Corporation's expense, in obtaining, defending and enforcing the

Corporation's rights therein. The Employee hereby assigns, sets over and transfers to the Corporation all of his right, title and interest in and to any inventions. The Employee hereby appoints the Corporation as his attorney-in-fact to execute on his behalf any assignments or other documents reasonably necessary by the Corporation to protect or perfect its rights to any inventions.

15. Protected Disclosures . Employee understands that nothing contained in this Agreement limits Employee's ability to communicate with any federal, state or local governmental agency or commission, including to provide documents or other information, without notice to the Corporation. Employee also understands that nothing in this Agreement limits Employee's ability to share compensation information concerning Employee or others, except that this does not permit Employee to disclose compensation information concerning others that Employee obtains because Employee's job responsibilities require or allow access to such information.

16. Defend Trade Secrets Act of 2016 . Employee understands that pursuant to the federal Defend Trade Secrets Act of 2016, Employee shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that (a) is made (i) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (b) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

17. Compensation Upon Termination of Employment for Any Reason . In connection with Employee's termination for any reason, the Corporation shall pay the Employee any (i) base salary; (ii) unused vacation; and (iii) unreimbursed expenses (subject to the Corporation's expense policy), in each case ((i) through (iii)) accrued through the date of the Employee's termination (the "Termination Date,") and the obligations described in (i) through (iii), (the "Accrued Obligations").

18. Termination by Corporation without Cause or by Employee with Good Reason .

(a) The Corporation shall have the right to terminate Employee's employment without Cause. The Corporation will endeavor to, but is not required to, provide the Employee with 30 days advance notice of such a termination. Notwithstanding any such 30-day notice period, the Corporation may subsequently accelerate the Employee's date of termination.

(b) If the Corporation terminates the Employee's employment without Cause, or if the Employee terminates Employee's employment with Good Reason, and subject to the Release Requirement, the Corporation shall pay the Employee six (6) months of Employee's final Base Salary rate in installments on the Corporation's regular payroll dates following the Termination Date if the Termination Date occurs after three (3) months after the Employment Date (the "Severance Pay"). To avoid doubt, if the Corporation terminates the Employee's employment without Cause or the Employee terminates his employment for Good Reason and the Termination Date occurs prior to the date that is three (3) months after the Employment Date, the Employee shall not be eligible for any severance pay. The Corporation shall not be required to begin paying any Severance Pay until its first payroll date after the Release Requirement has been fulfilled. The "Release Requirement" means the Employee's execution, return and nonrevocation, in each case with the time periods required by the Release but in no event later than 30 days after the Termination Date (or 60 days in the event of a group layoff under the Older Workers' Benefits Protection Act), of a separation agreement in a form provided by the Celyad Group containing, among other terms, a release of claims against the Celyad Group and related persons and entities (the "Release"). In no event will the Release include any additional post-employment noncompetition or nonsolicitation covenants that are not included in this Agreement.

(c) For purposes of this Agreement, "Good Reason" shall mean (i) a material reduction in Employee's Base Salary or target annual bonus other than a general reduction in Base Salary or target annual bonus that affects all similarly situated employees in substantially the same proportions; (ii) a relocation of Employee's principal place of employment by more than 60 miles; or (iii) a material, adverse change in Employee's title, authority, duties, Services required, or responsibilities (other than temporarily while Employee is physically or

mentally incapacitated or as required by applicable law). Before a termination by the Employee for Good Reason, the Employee must (i) reasonably determine in good faith that a "Good Reason" condition has occurred; (ii) notify the Company in writing of the first occurrence of the Good Reason condition within 60 days of the first occurrence of such condition; (iii) cooperate in good faith with the Company's efforts, for a period not less than 30 days following such notice (the "Cure Period"), to remedy the condition and notwithstanding such efforts, the Good Reason condition continues to exist; and (v) terminate his employment within 60 days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason shall be deemed not to have occurred.

19. Termination Upon Death and Disability .

(a) This Agreement may be terminated immediately due to Employee's death or Disability without any Severance Pay

(b) "Disability" shall mean a physical or mental impairment that substantially prevents Employee from performing Employee's duties hereunder and that has continued for either (i) one hundred eighty (180) consecutive days or (ii) any one hundred eighty (180) days within a consecutive three hundred sixty (360) day period. Any dispute as to whether or not Employee is disabled within the meaning of the preceding sentence shall be resolved by a physician reasonably satisfactory to the Corporation, and the determination of such physician shall be final and binding upon both Employee and the Corporation. Notwithstanding anything to the contrary in this Section, the inability of Employee to perform the Services, with or without a reasonable accommodation, upon completion of a medical leave of absence of one hundred eighty (180) consecutive days shall constitute Employee's Disability.

20. Termination by Corporation for Cause: Termination by Employee without Good Reason .

(a) Corporation shall have the right to terminate Employee's employment for Cause immediately upon written notice, with the Termination Date occurring as specified in such notice from the Corporation. For purposes of this Agreement, "Cause" shall mean (i) conviction, commission of or entering a plea of guilty or *nolo contendere* to any felony, or a crime involving dishonesty or moral turpitude; (ii) willfully engaging in conduct materially injurious, or reasonably likely to cause material injury, to any member of the Celyad Group; (iii) the material breach of this Agreement by Employee or the Employee's breach of any other restrictive covenant obligation Employee has to any member of the Celyad Group; (iv) Employee's gross negligence, or willful and deliberate failure to perform Employee's duties, or (v) Employee's failure to adhere to or comply with any material written policies or procedures of the Celyad Group, including but not limited to the code of conduct or those pertaining to expense reimbursement, harassment, discrimination or retaliation, conflict of interest, or the prohibition of insider trading. Before a termination for Cause under (iii) – (v) above, and if the Employee's breach or violation is curable, the Corporation shall provide Employee with written notice and thirty (30) days from the delivery of such notice to cure the conduct, breach or violation (the "Cure Period"), *provided* that Employee shall not be entitled to more than two Cure Periods in any twelve-month period.

(b) Employee shall have the right to terminate Employee's employment without Good Reason upon thirty days' written notice to the Corporation and Celyad. If Employee provides such notice, the Corporation may accelerate the date of Employee's termination without such acceleration itself constituting a termination by the Corporation under this Agreement.

(c) For the avoidance of doubt, in the event of termination of employment by Corporation for Cause, a termination due to death or Disability or a termination by Employee without Good Reason, Employee will be entitled only to the Accrued Obligations, and will not be entitled to any Severance Pay.

21. Enforceability; Severability . This Agreement shall be interpreted in such a manner as to be effective and valid under applicable law, but if any provision hereof shall be prohibited or invalid under any such law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating or nullifying the remainder of such provision or any other provisions of this Agreement. If any one or more of the provisions

contained in this Agreement shall for any reason be held to be excessively broad as to duration, geographical scope, activity or subject, such provisions shall be construed by limiting and reducing it or them so as to be enforceable to the maximum extent permitted by applicable law.

22. Governing Law; Jurisdiction. This Agreement shall be construed in accordance with and governed by the laws of the State of Delaware without giving effect to principles of conflicts of laws. To the extent permitted by Section 23 (Arbitration), including without limitation the enforcement by the Corporation of any of Employee's restrictive covenant obligations, the state and federal courts located in Boston, Massachusetts shall have exclusive jurisdiction and exclusive venue over any controversy or claim arising out of the Employee's employment or the termination of that employment.

23. Arbitration . Any controversy or claim arising out of or relating to this Agreement or the breach thereof or otherwise arising out of the Employee's employment or the termination of that employment (including, without limitation, any claims of unlawful employment discrimination whether based on age or otherwise) shall, to the fullest extent permitted by law, be settled by arbitration in any forum and form agreed upon by the parties or, in the absence of such an agreement, under the auspices of the American Arbitration Association ("AAA") in Boston, Massachusetts in accordance with the Employment Arbitration Rules of the AAA, including, but not limited to, the rules and procedures applicable to the selection of arbitrators. In the event that any person or entity other than the Employee or the Corporation may be a party with regard to any such controversy or claim, such controversy or claim shall be submitted to arbitration subject to such other person or entity's agreement. Judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. This Section shall be specifically enforceable. Notwithstanding the foregoing, this Section shall not preclude either party from pursuing a court action for the sole purpose of obtaining a temporary restraining order or a preliminary injunction in circumstances in which such relief is appropriate; provided that any other relief shall be pursued through an arbitration proceeding pursuant to this Section.

24. Section 409A . It is intended that the benefits provided under this Agreement shall comply with the provisions of Section 409A of the Internal Revenue Code ("Section 409A") or qualify for an exemption to Section 409A, and this Agreement shall be construed and interpreted in accordance with such intent. Any payments that qualify for the "short term deferral" exception or another exception under Section 409A shall be paid under the applicable exception. Each payment provided under this Agreement shall be treated as a separate payment for Section 409A purposes. No member of the Celyad Group (or its affiliates), the Board, or any employee, officer or director of the Celyad Group (or its affiliates) shall be held liable for any taxes, interest, penalties or other monetary amounts owed by the Employee as a result of this Agreement.

25. Notices . Any notice or other communication given pursuant to this Agreement shall be in writing and shall be personally delivered, sent by overnight courier or express mail, or mailed by first class certified or registered mail, postage prepaid, return receipt requested to the parties at their respective addresses set forth on the signature page hereof, or to such other address as the parties shall have designated by notice to the other parties.

26. Amendment; Waiver . No provision of this Agreement may be amended, modified, waived or discharged unless such amendment, modification, waiver or discharge is agreed to in writing and signed by the parties. No waiver by either party hereto at any time of any breach by the other party hereto of, or compliance with, any condition or provision of this Agreement to be performed by such other party shall be deemed a waiver of similar or dissimilar provisions or conditions at the same or at any prior or subsequent time.

27. Successors and Assigns . This Agreement shall inure to the benefit of and be binding upon the Corporation, its successors and assigns, and the Employee, Employee's heirs and legal representatives. Employee acknowledges that the Services are personal and that Employee may not assign this Agreement.

28. Entire Agreement . This Agreement and any other confidentiality or restrictive covenant obligations Employee has to any member of the Celyad Group constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes any and all prior agreements, arrangements and understandings, written or oral, relating to the same subjects covered by this Agreement.

29. Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same agreement. The facsimile or electronic signature of either party to this Agreement for purposes of execution or otherwise, is to be considered as an original signature, and the document transmitted is to be considered to have the same binding effect as an original signature on an original document.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

CELYAD INC.

/s/ Christian Homsy

By: Christian Homsy
Title: Chief Executive Officer
Address:
c/o Christian Homsy, M.D.
Celyad S.A.
Axisparc Business Center
Rue Edouard Belin, 2
B-1435 Mont-Saint-Guibert, Belgium

Employee

/s/ Filippo Petti 30/7/2018

Filippo Petti
Address:
3 Woodoak Drive
Westbury, NY 11590, USA

CELYAD SA

WARRANTS PLAN

26 October 2018

Incentive plan by way of grant of subscription rights (**Warrants**) established in accordance with the Companies Code and articles 41 to 47 of the Act of 26 March 1999 relating to the Belgian action plan for employment 1998 and having various provisions

PREAMBLE

This Warrant Plan of Celyad SA (the " **Plan** ") aims to motivate and inspire loyalty among the Beneficiaries. Well aware of the fact that their contribution is essential to the development of its activities and the growth of its results, the Company wishes to give the Beneficiaries the opportunity to become shareholder or to increase their participation, hoping to make a financial gain in the event of a positive evolution of the results and, consequently, the Company's value.

The Plan's principles have been determined by the Board of Directors and have been approved by the general shareholders' meeting in accordance with the principles of the Corporate Governance Code.

In addition, the list of beneficiaries, as well as the exercise price of the Warrants are determined by the Board of Directors prior to any offer.

The Plan is drawn up in accordance with the applicable provisions of the Belgian act of 26 March 1999 (and more precisely section VII hereof) governing the shares with a discount and stock-options (articles 41 to 47).

The conditions governing the exercise of the Warrants must also be read in the light of the provisions of the " *Dealing Code* " which is applicable within the Company and available on the Company's website (www.celyad.com).

1. DEFINITIONS

Share	:	A new share of the Company, granting the same rights and advantages as the existing shares of the Company.
Allocation	:	The allocation of Warrants following the acceptance of an Offer.
Bad Leaver	:	Has the meaning given in article 8.6 of the Plan.
Beneficiary	:	A current member of the staff, the Board of Directors or other beneficiaries of the Company to whom at least (1) Warrant has been allotted.
Conditions for Exercice	:	The conditions under which the Beneficiaries are entitled to exercise a Warrant during the Exercise Periods.
Board of Directors	:	The board of directors of the Company.
Offer Letter	:	The template attached hereto in Annex 1 – offer letter.
Reply Form	:	The template attached hereto in Annex 2 – Reply form.
Exercise Form	:	The template attached hereto in Annex 3 – Exercise form.
Good Leaver	:	Has the meaning given in article 8.6 of the Plan
Act relating to Stock Options	:	The Act of 26 March 1999 relating to the Belgian action plan for employment of 1998 and having various provisions.
Offer	:	The offer of at least one (1) Warrant to one or more Beneficiaries, in accordance with the provisions of the Plan.
Warrant	:	A subscription right issued by the Company, granting the Beneficiaries the right to subscribe, in accordance with the terms and conditions as set out in the Plan, during the Exercise periods, to a number of Shares determined by the Plan, against payment of the Price of Exercise.
Exercice Period	:	The period during which the Warrants may be exercised in accordance with the Plan.
Plan	:	This incentive plan.
Exercise Price	:	The amount payable for the exercise of a Warrant pursuant to the Plan.
Company	:	Celyad SA, a public limited liability company, registered with the register of legal entities kept at the Crossroads Bank for Enterprises under number 0891.118.115 (RLE Brabant Wallon) and of which its shares are listed on EURONEXT Brussels and EURONEXT Paris.
Affiliated Companies	:	Has the meaning given in article 11 of the Belgian Companies Code.

2 . GENERAL MECHANISME OF THE OFFER OF WARRANTS

Pursuant to the Plan, the Company allots to the Beneficiaries a certain number of Warrants. These Warrants are issued by decision of the general shareholders' meeting or by decision of the Board of Directors within the framework of the authorized capital. The Warrants are then allotted upon decision of the Board of Directors resolving on the recommendation of the Remuneration Committee.

Each Warrant gives its holder the right (but not the obligation) to subscribe, under the Exercise Conditions, during the Exercise Periods and against payment of the Exercise Price, to one Share.

3. BENEFICIARIES

The Warrants may be offered to any individual performing professional services, whether in principal or secondary, for the direct or indirect benefit of the Company or an affiliated Company, in his capacity of an employee or future employee, in his capacity of a current or future consultant or in his capacity of director.

The Warrants Offer does not create any right, on the part of the Beneficiaries, to receive (additional) Warrants in the future.

The Warrants Offer and the right to exercise these are not part of the employment agreement or service agreement concluded with the Company and therefore can not be considered as an acquired right. In addition, the Beneficiaries expressly accept that the decisions relating to the Warrants fall within the exclusive and discretionary competence of the Company. This grant shall not be taken into account in the calculation of any indemnity whatsoever which may be due to the Beneficiaries.

4. CLOSED PERIOD

The Beneficiaries shall have to comply, if need be, with the provisions of the Dealing of the Company. The Warrants cannot be exercised during the "closed periods".

5. WARRANTS

5.1 Number of Warrants per Beneficiary

The number of Warrants offered to each of the Beneficiaries is freely determined by the Board of Directors, acting upon the recommendation of the Remuneration Committee.

5.2 Nature of the Warrants

The Warrants are exclusively in registered form. As soon as they are offered and accepted, the Warrants will be numbered and recorded in a special register, which will be kept up to date as regards the amount of Warrants held by each Beneficiary.

5.3 Price of the Warrants

The Warrants are allotted free of charge to the Beneficiaries.

5.4 Term of the Warrants

Warrants are allotted for a limited term of maximum five years. This term is determined by the Board of Directors, in compliance with the provisions of the Corporate Governance Code and the Companies Code.

Any Warrant that has not been exercised on its date of maturity may no longer be exercised without the Beneficiary being able to invoke any right to compensation.

5.5 **Non-transferability and securities**

The Warrants are strictly personal and may not be transferred after the Offer, except in the event of death as provided in article 9 below.

Warrants may not be pledged or used as security, of any kind, as principal or accessory.

Warrants that may have been transferred, pledged or used as a security of any kind, whether as a principal or accessory, in violation of the provisions of this article 5.5, shall not be exercisable.

6. OFFER OF WARRANTS

6. 1 **Date of the Offer**

The Company sends each Beneficiary a personalized Offer Letter for a number of Warrants.

The Warrants are deemed to be offered to the Beneficiaries as from the date of dispatch of the Offer Letter.

6.2 **Acceptance or rejection of the Offer**

The Beneficiary is free to accept the Offer, either in whole or in part, or to reject it.

A Reply Form is sent to each Beneficiary together with the Offer Letter, by which the Beneficiary notifies his decision as regards the Offer: acceptance (either in whole or in part) or rejection.

The Reply Form is delivered, completed and signed, at the latest on the date mentioned on the Reply Form, at the address mentioned therein.

The Offer of Warrants will be considered as altogether rejected if the Beneficiary did not accept the Offer in writing within sixty (60) days as from the date of the Offer, without the Beneficiary being able to claim any right to indemnification.

In case of absence of a signature, or if the Reply Form is not returned or is returned belatedly, the Offer will be considered as rejected as a whole.

From a Belgian tax point of view, the Stock Option Law considers that the Warrants are deemed to have been allotted on the sixtieth (60th) day following the date of the Offer, provided that the Beneficiary has notified in writing his Acceptance of the Offer before expiry of this period. The acceptance of the Offer must be notified to the Company prior to the expiry of the sixty (60) day period referred to above, in accordance with this article 6.2, otherwise the Offer is deemed to be altogether rejected.

6.3 **Acceptance of the Plan**

Acceptance of the Offer by the Beneficiary entails the unconditional acceptance of the Plan.

7. ACQUISITION (VESTING) OF WARRANTS

Notwithstanding the Allocation of the Warrants to the Beneficiaries, the Warrants are acquired by the Beneficiaries, subject to compliance with the Conditions for Exercise provided for in article 8 and without prejudice to an eventual acceleration as provided under article 8.9, in accordance with the following terms:

- If the Beneficiary stops exercising his professional activities for the benefit of the Company before the first anniversary of the Offer, the Warrants awarded to him shall be qualified as void and they cannot be exercised anymore;
- If the Beneficiary stops exercising his professional activities for the benefit of the Company during the second year after the Offer, 33% of the Warrants awarded to him shall be considered as vested;

- If the Beneficiary stops exercising his professional activities for the benefit of the Company during the third year after the Offer, 66% of the Warrants awarded to him shall be considered as vested;
- If the Beneficiary still exercises his professional activities for the benefit of the Company after the third anniversary of the Offer, 100% of the Warrants awarded to him shall be considered as vested.

For the purposes of this article the Beneficiary shall no longer be deemed to be carrying on his professional activity for the benefit of the Company as from the date on which he issued or received a notice of termination of his employment or co-operation agreement.

8. THE EXERCICE OF WARRANTS

8.1 Conditions for Exercice

The exercise of Warrant is subject to Conditions for the Exercise provided for in the Plan.

8.2 Exercice Price

The Exercise Price is equal to the fair market value of the Company's shares at the time of the Offer. This value is determined by the Board of Directors and corresponds to:

- either the closing price of the Company's Share on the day before the date of the Offer;
- or the average of the thirty (30) calendar days preceding the date of the Offer of the closing price of the Company's Share.

Furthermore, regarding the Warrants allotted to beneficiaries who are no employees, the Exercise Price shall not be below the average of the thirty (30) calendar days preceding the date of issuance of the Warrants.

The exercise price of each Warrant is stipulated in the Letter of Offer to each Beneficiary.

8.3 Consequences of the Exercice

In the event of exercise of the Warrants, the Shares issued in consideration for the exercise will be in registered or dematerialized form according to the decision of the Beneficiaries. Such Shares shall have the same characteristics as the existing Shares of the Company.

8.4 Exercise Period

Without prejudice to article 8.9 of the Plan or a different decision of the Board of Directors to extend the Exercise Period, the Warrants will be exercisable between the first day of the fourth calendar year following the Offer and the last day of the fifth year following the Offer.

In order to streamline the exercise of the Warrants and to limit the costs associated with their exercise, the exercise of the Warrants and the corresponding capital increases may take place during the first month of each quarter during the Exercise Period.

Where relevant, the exercise of the Warrants will be recorded by notary deed within a maximum of 30 days following the closing of each exercise window.

8.5 Number of Shares per Warrant

One (1) Warrant gives right to subscribe to (1) Share.

8.6 **Attendance – Good Leaver and Bad Leaver**

8.6.1 In the event that the employment agreement or service agreement between the Company (or one of its Affiliated Companies) and a Beneficiary (or management company of a Beneficiary) comes to an end:

(a) as a result of death, incapacity, retirement, termination of the employment agreement or service agreement without any serious misconduct of the Beneficiary, resignation of the Beneficiary or unilateral breach by the Beneficiary of his employment agreement or service agreement, the Beneficiary shall be referred to as " **Good Leaver** ";

(b) as a result of termination of the employment agreement or service agreement for serious misconduct of the Beneficiary, the Beneficiary will be referred to as " **Bad Leaver** ".

The qualification as Good Leaver or Bad Leaver will take place on the date of the determination of the above situation, namely on the date on which the event is brought to the attention of the parties. In this regard, the Beneficiary is referred to as Good / Bad Leaver on the date of notification of termination of his contract, even if he must then provide a notice period.

With regards to the people enjoying the status of Beneficiary because they are Director or provide products or services to the Company as a self-employed but on a regular basis (or, when appropriate, via a management or services company), the words "dismissal or revocation" and "voluntary termination" refer to the various hypotheses in which a contract for the delivery of these products or services is being terminated permanently either by the Company or by the Beneficiary or the management or services company. The words "serious misconduct" refer to the hypothesis in which this termination is based on a serious breach by the Beneficiary or the management or services company of their contractual obligations. An interruption of more than six months in the delivery of the products or the services is considered as a permanent termination.

In case the labor contract is suspended for more than six months in total, the consequences of said suspension on the rights related to the Warrants granted by the Company will be determined individually by the Company.

8.6.2 Notwithstanding the realization of the vesting provided for in article 7 of the Plan, Warrants can no longer be exercised in the event that the Beneficiary is considered to be a Bad Leaver prior to the exercise of the Warrants.

8.6.3 Provided that the conditions of article 7 are met, the Beneficiary whose employment or service contract has ended, without being regarded as a Bad Leaver, can only exercise its Warrants during the first exercise window (as per article 8.4 of the Plan) of the Exercise Period following the termination date of its employment or service contract. If its Warrants are not exercised during this window, its Warrants can no longer be exercised.

8.7 **Terms of Exercise**

A Beneficiary willing to exercise its Warrants will specify, upon their exercise, the numbers of the Warrants that he intends to exercise. In situations where the Beneficiary does not specify the numbers, the Beneficiary will be deemed to have exercised its Warrants in the chronological order in which they were allocated, from the oldest to the most recent.

The Warrants can be exercised upon delivering an Exercise Form to the Company, for the attention of the Board of Directors. The Exercise Form can be (i) delivered in person with delivery receipt, (ii) sent by registered mail or (ii) faxed with immediate confirmation by registered mail.

The Exercise Form must be completed in full and signed by the Beneficiary, and must mention the number of Warrants that the Beneficiary intends to exercise.

8.8 **Terms of payment**

The payment shall be made by bank transfer of the Price of Exercise of all exercised

Warrants to the Company's account as indicated by the latter in the Exercise Form.

The Beneficiary shall have a period of ten (10) days as from the sending of the Exercise Form to proceed with the payment.

8.9 **Acceleration of the vesting and exercise of the Warrants**

Notwithstanding the delays and periods provided under articles 7 and 8.4 of the Plan, the Warrants can be immediately exercised by the Beneficiaries in the following situations:

(a) Event provided under article 501 second paragraph of the Company Code, being a share capital increase in cash without suspension of the preferential rights of the existing shareholders;

(b) Takeover bid on the Shares of the Company as of the announcement of the public offer by the FSMA;

(c) Change of control on the Company;

(d) Conclusion of a "Strategic Partnership" with an important industrial actor, active in the life-science sector, and if the "Strategic Partnership" is qualified as such by the Board of Directors.

As from the occurrence of one of these events, and regarding events (a) and (d) minimum ten (10) days before their occurrence, the Company shall notify the Beneficiaries in order to allow them to exercise their Warrants for a ten (10) days period. If the Warrants are not exercised during this ten (10) days period they will only be exercised under the conditions provided by articles 7 and 8.4 of the Plan.

The Shares issued further to the exercise of the Warrants under the present article 8.9 can be, upon decision of their holder, immediately dematerialised, listed and traded on the market.

The eventual tax consequences of the acceleration of the vesting and exercise will be borne by the concerned Beneficiaries.

9. **DEATH OF THE BENEFICIARY**

In the event of the death of the Beneficiary, its Warrants can be exercised by its legal successors. Successors and assigns are subject to the same rules than the Beneficiaries.

In the event of the death of the Beneficiary prior to the exercise of Warrants, the provisions of article 7 (vesting) will not be applicable. Legal heirs will therefore be able to exercise 100% of the Warrants that were allocated to the deceased Beneficiary.

The rules of succession will be followed. However, where they are several legal heirs or where bare property rights/usufruct have been separated, a sole representative of the succession will be appointed by the successors and assigns for the purpose of exercising the Warrants.

The Company reserves the right to suspend the right to exercise the Warrants as long as this appointment has not taken place and as long as it has not been duly notified.

10. **NATURE OF THE SHARES ISSUED UPON THE EXERCISE OF THE WARRANTS**

10.1 **Nature of the Shares**

The Shares are shares identical to the other shares issued by the Company.

10.2 **Rights attached to the Shares**

The Shares issued upon the exercise of the Warrants will benefit from the same rights and advantages (including voting rights) than the existing Shares of the Company.

10.3 **Transferability of the Shares**

The transfer of Shares is subject to the terms and conditions defined in the articles of association of the Company.

11. **OPERATIONS AUTHORISED**

By way of derogation from article 501 of the Company code, and without prejudice to the legally prescribed exceptions, the Company may pass all resolutions that it deems necessary in relation to its capital, its articles of association or its management. Such resolutions may include, amongst others, capital reduction, with or without reimbursement for the shareholders, a capital increase by way of incorporation of reserves whether or not with the issue of new shares, a capital increase in kind, a capital increase in cash with or without restriction or cancellation of the preferential subscription rights of the shareholders, the issuance of profit shares, convertible bonds, preferred shares, bonds cum warrants or conventional bonds or warrants, an amendment the provisions of the articles of associations with regards to the distribution of the profits or the (net) liquidation proceeds or other rights attached to the common shares, a splitting of shares, a payment of dividend in shares, the dissolution of the Company, a legal merger, a legal demerger or a contribution or transfer of a totality or a branch of activity whether or not combined with the exchange of shares. The Company may pass such resolutions even if these implied or may imply that the benefits for the Warrant Holder arising from the issuance and the Warrant exercise provisions or the law may be reduced unless such reduction is, in an obvious way, the sole objective of such a resolution.

However, in the event of a merger or demerger, the Board of Directors has an obligation of means to ensure that the Warrants outstanding at the date of these transactions are adjusted in accordance with the exchange ratio applied to the Company's existing shares.

Moreover, in case of a capital reduction or any similar transaction resulting into a decrease of the Company's equity as a result of a decision of the shareholders taken by the general assembly, the exercise price of the Warrants may be modified by decision of the Board of Directors notified to the Beneficiaries in order to compensate for the loss of value resulting from the equity decrease. The possible amendment will be applicable as soon as the Beneficiaries have been notified, without them having to formally accept it.

The number of shares corresponding to the Warrants will be adjusted to reflect and take into account any increase or decrease in the number of shares of the Company resulting from a demerger or regrouping, as the case may be.

12. **COSTS**

12.1 **The Company**

All costs associated with the issue of Warrants will be borne by the Company.

If the underlying Shares are delivered on a securities account, the subscribed Shares will be delivered free of charge insofar as the account is being held at a financial institution in Belgium.

12.2 **The Beneficiaries**

Nihil

13. INTERPRETATION OF THE PLAN

The Board of Directors is competent for making any decision deemed useful or necessary in order to interpret or implement the Plan in compliance with all applicable laws. Any decision having legal effect will be communicated in writing to the Beneficiaries concerned.

14. INFORMATION OF BENEFICIARIES

The Allocation of Warrants is not, on the part of the Company, an incentive or a recommendation to subscribe to the Warrants, nor to exercise them subsequently. The Beneficiaries are consequently invited to inform themselves and, as the case may be, to be advised to make decisions likely to have a significant effect on their assets.

The Company cannot be held liable for any damage or losses possibly incurred by the Beneficiaries on account of their participation to the Plan.

15. INVALIDITY OF A PROVISION

The invalidity or unenforceability of one of the provisions of the present Plan does not affect in any manner the validity or enforceability of the other provisions of the Plan. In such cases, the invalid or unenforceable provision will be replaced by another equivalent provision, valid and enforceable, with a similar economic effect for the parties concerned.

16. NOTIFICATIONS

Any notification to the holders of Warrants will be made to the address mentioned in the subscription rights register of the Company. Any notification to the Company or Board of Directors will be duly carried out to the address of the registered office of the Company.

Any changes of address must be notified in compliance with the present provision.

17. APPLICABLE LAW AND JURISDICTION

17.1 Applicable law

The Plan and the Warrants are governed by Belgian law.

17.2 Jurisdiction

Any dispute arising out of the interpretation, execution, application, validity or resolution of the Plan shall be subject exclusively to the court of the judicial district of the registered office of the Company.

Annex 1 – Offer Letter

[Date]

Re : Warrants Plan Celyad SA

Dear _____,

I am delighted to offer you to participate to Celyad's warrants plan up to _____warrants.

With this offer, the Board of Directors of Celyad wants to promote the long term commitment and motivation of his collaborators.

You will find in attachment:

- the terms and conditions of the offer (the « Conditions ») and
- an acceptance form.

Please read the Conditions carefully. Note also that Celyad cannot be hold responsible for any change in the tax treatment of the warrants, due for instance to a legislative change or a modification of your personal situation.

The exercise price of the warrants, fixed in accordance with the article 8.2 of the Conditions, is EUR XXX [for employees] / EUR XXX [for Directors and consultants] per warrant and the subscription period extends from XXXX until XXXX (60 days).

Please sign and complete the acceptance form with your name and address, and the number of warrants that you have decided to accept (by multiple of 50). Each warrant gives right to one Celyad share.

Please keep one copy for your record, and send the original copy to Philippe Dechamps, Chief Legal Officer.

If we do not receive your acceptance form by XXXX, you will be deemed to have refused the offer.

If you have any question regarding this offer, please contact the Chief Legal Officer.

Regards,

_____

Christian HOMSY
Chief Executive Officer

Annex 2 – Reply Form

Allocation

Celyad SA
To: Monsieur Philippe Dechamps, Chief Legal Officer
Rue Edouard Belin 2
1435 Mont-Saint-Guibert

Celyad SA – Warrant plan approved by EGM of October 26, 2018

I hereby,

_____

(name and address),

Have received the offer dated 26 October 2018 to participate to the issuance of warrants to the benefit of collaborators of Celyad SA (the " **Warrants** "). I accept the terms and conditions attached to the offer (the " **Conditions** "). I understand that the acceptation of the offer may constitute a taxable event and that I will be responsible for the payment of those taxes, as the case may be.

My decision is as follows :

☐ I accept a total of:

_____

Warrants

(I therefore refuse

_____

Warrants)

☐ I do not wish to participate tot his offer.

Made in two originals on _____2018

Name and Signature

Annex 3 – Exercise Form

INCENTIVE PLAN – CELYAD SA

The undersigned _____(***NAME***)

Domiciled in :

_____(***FULL ADDRESS***)

Hereby declares that he/she exercises the following Warrants, pursuant to the terms provided for in the incentive Plan dated _____(***DATE***):

_____(***NUMBER***) Warrants, allocated on _____(***DATE***) at a Price of Exercise of _____(***AMOUNT***) EUR = _____(***AMOUNT***) EUR

Total amount: _____EUR

This amount will be paid to the bank account N° [●] (***NUMBER***) with value dated at the latest on [●] (***DATE***).

I hereby acknowledge that if the above mentioned amount is overdue or is not paid in full on [●] (***DATE***), the exercise will not take place.

Done in _____on _____

Signature

Exhibit 8.1

Subsidiaires of Celyad SA

Name of Subsidiary	Jurisdiction of Incorporation or Organization
Celyad Inc.	United States
CorQuest Medical, Inc.	United States
Biological Manufacturing Services SA	Belgium

Exhibit 12.1

Certification by the Principal Executive Officer and Principal Financial Officer pursuant to Securities Exchange Act Rules 13a-14(a) and 15d-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Filippo Petti, certify that:

1. I have reviewed this annual report on Form 20-F of Celyad S.A.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the company's internal control over financial reporting that occurred during the company's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's Board of Directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: April 5, 2019

/s/ Filippo Petti

Name: Filippo Petti
Title: Chief Executive Officer *(Principal Executive Officer)* and Chief Financial Officer (*Principal Financial Officer*)

Exhibit 13.1

Certification by the Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the annual report of Celyad S.A. (the "Company") on Form 20-F for the fiscal year ended December 31, 2018 as filed with the U.S. Securities and Exchange Commission on the date hereof (the "Report"), I, Filippo Petti, Chief Executive Officer and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 5, 2019

/s/ Filippo Petti

Name: Filippo Petti
Title: Chief Executive Officer (*Principal Executive Officer*) and Chief Financial Officer (*Principal Financial Officer*)

Exhibit 15.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Forms F-3 (No. 333-220285) and S-8 (No. 333-220737) of Celyad S. A. of our report dated April 4, 2017 except for the change in the manner in which the company accounts for revenue from contracts with customers discussed in Note 2 to the consolidated financial statements, as to which the date is 5 April 2019 relating to the financial statements, which appears in this Form 20-F.

Liège, Belgium

April 5, 2019

PwC Reviseurs d'Entreprises scrl
Represented by

/s/ Patrick Mortroux
Patrick Mortroux

Exhibit 15.2

Consent of independent registered public accounting firm

Celyad SA
Mont-Saint-Guibert, Belgium

We hereby consent to the incorporation by reference in the Registration Statements on Form F-3 (No. 333-220285) and Form S-8 (No. 333-220737) of Celyad SA of our report dated April 5, 2019, relating to the consolidated financial statements which appears in this Annual Report on Form 20-F.

BDO Réviseurs d'Entreprises SCRL
On behalf of it,

Bert Kegels

/s/ Bert Kegels

Zaventem, Belgium
April 5, 2019