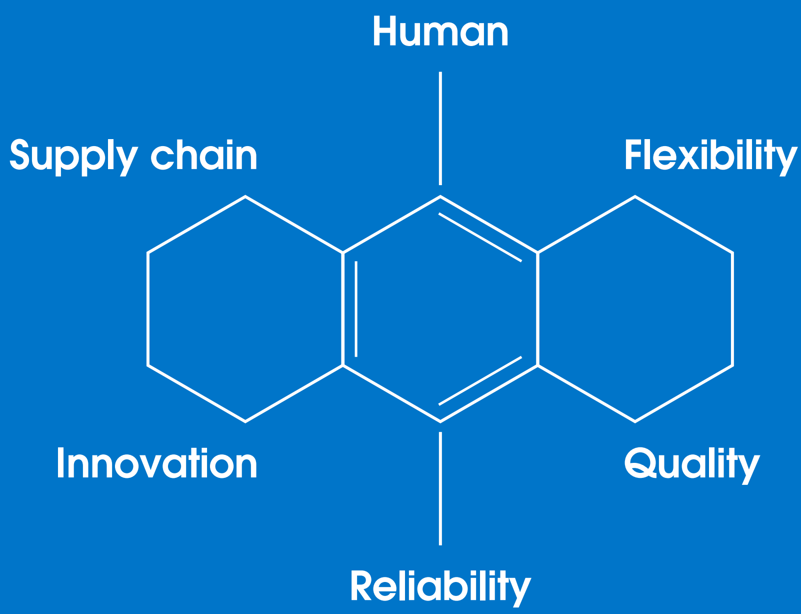
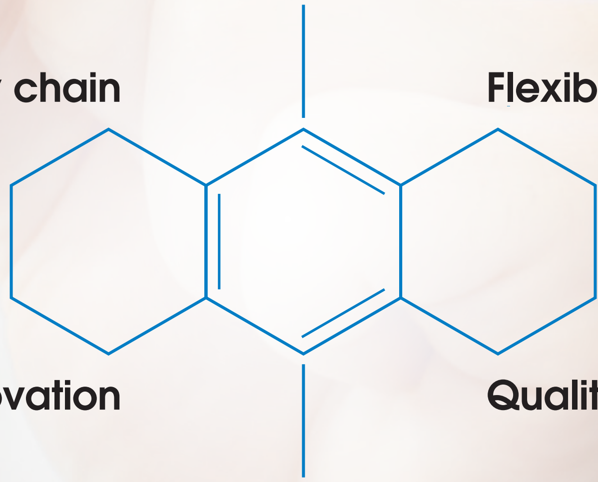
2019
ANNUAL REPORT

OUR COMPOUND FOR SUCCESS



H&R GmbH & Co. KGaA

OUR COMPOUND FOR SUCCESS



H&R GmbH & Co. KGaA
Company magazine 2019/2020 and non-financial report 2019

CONTENT

The focus of our second corporate magazine is on sustainability. We talk about the elements that contribute to sustainable success at H&R and combine this information with the content of our non-financial report.

Dear readers, dear friends of the company,

The market environment in which we operate is changing. This means that we need to become even more meticulous in how we prepare the entrepreneurial steps we want to take and harness fresh momentum. As a company steeped in the Hanseatic tradition, however, we seek to achieve long-term success as opposed to blindly following the latest trends.

But what is the recipe for success in this day and age? For us, as a family business, one thing is clear: Success is not something that can be measured in figures alone. It consists of a large number of different elements that need to be combined in order to have a positive effect.

One of these elements is product quality that will guarantee us a leading position in the market in the long run. Another is our ability to adapt to market conditions and customer requests. At our Hamburg refinery, for example, we are adapting our operating model to allow for even more market-driven and flexible production.

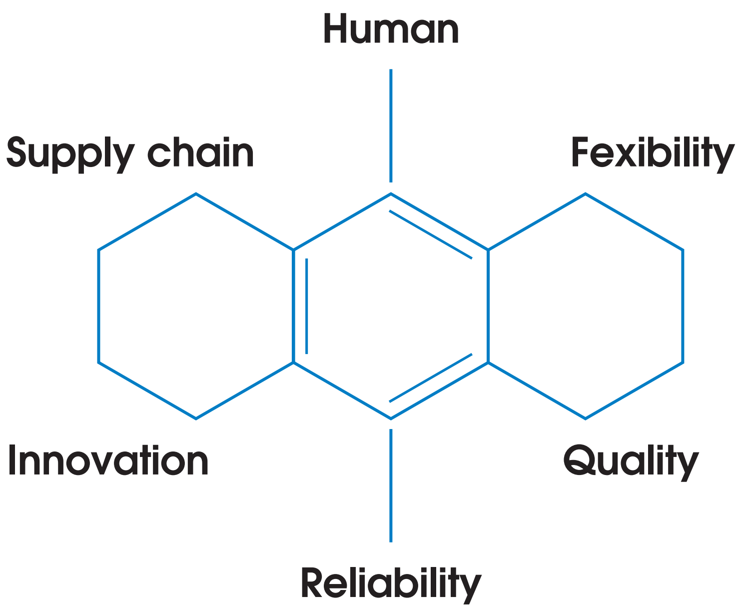
This success would be impossible without our more than 1,600 employees worldwide. They ensure the smooth operation of our facilities, day in, day out. In an inter-are eager to come to work even after years with the company. The interview provides a really interesting insight into their work.

On the following pages, you can read more about the elements that are still part of our recipe for success. I look forward to leading H&R successfully into the future with my employees, and hand-in-hand with you, our shareholders, partners and customers

Hamburg, March 2020

Niels H. Hansen
Managing Director

OUR COMPOUND FOR SUCCESS



Today, H&R can look back on more than 100 years of entrepreneurial success. This story of success was no coincidence, but rather the result of a systematic approach and our commitment to our values as a Hanseatic family-run business. This means that, from day one, we have focused our business activities on long-term and stable development.

The basis for this is our absolute and unfailing focus on quality. Today, our product variety in particular sets us apart significantly from our competitors on the market. At the same time, the market needs us to be flexible. Nowadays, more than ever before, we have to be able to respond to developments with a solution that is the perfect fit. Against this backdrop, we are diversifying our raw and input materials, opening up new production channels and expanding our product portfolio. Over the years, this approach has allowed us to establish H&R as an absolute specialist.

We do not envisage an end point to the path we are on; instead, we remain curious about what lies ahead. We are therefore convinced that we will remain successful in the future, too.

"We will remain successful in the future, too."

NIELS H. HANSEN
MANAGING DIRECTOR

THE MARKETS – CHANGE AS THE MOST IMPORTANT CONSTANT

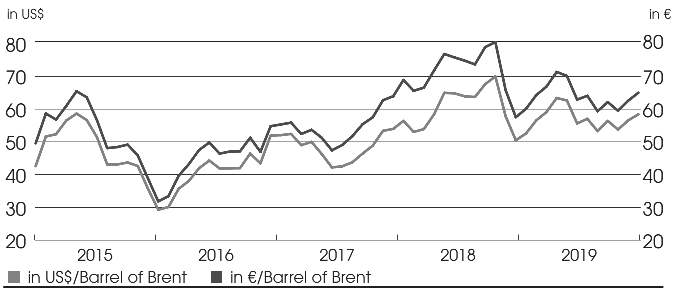
The market environment in which we operate is undergoing a process of far-reaching change. This transformation process is putting increased pressure on our company.

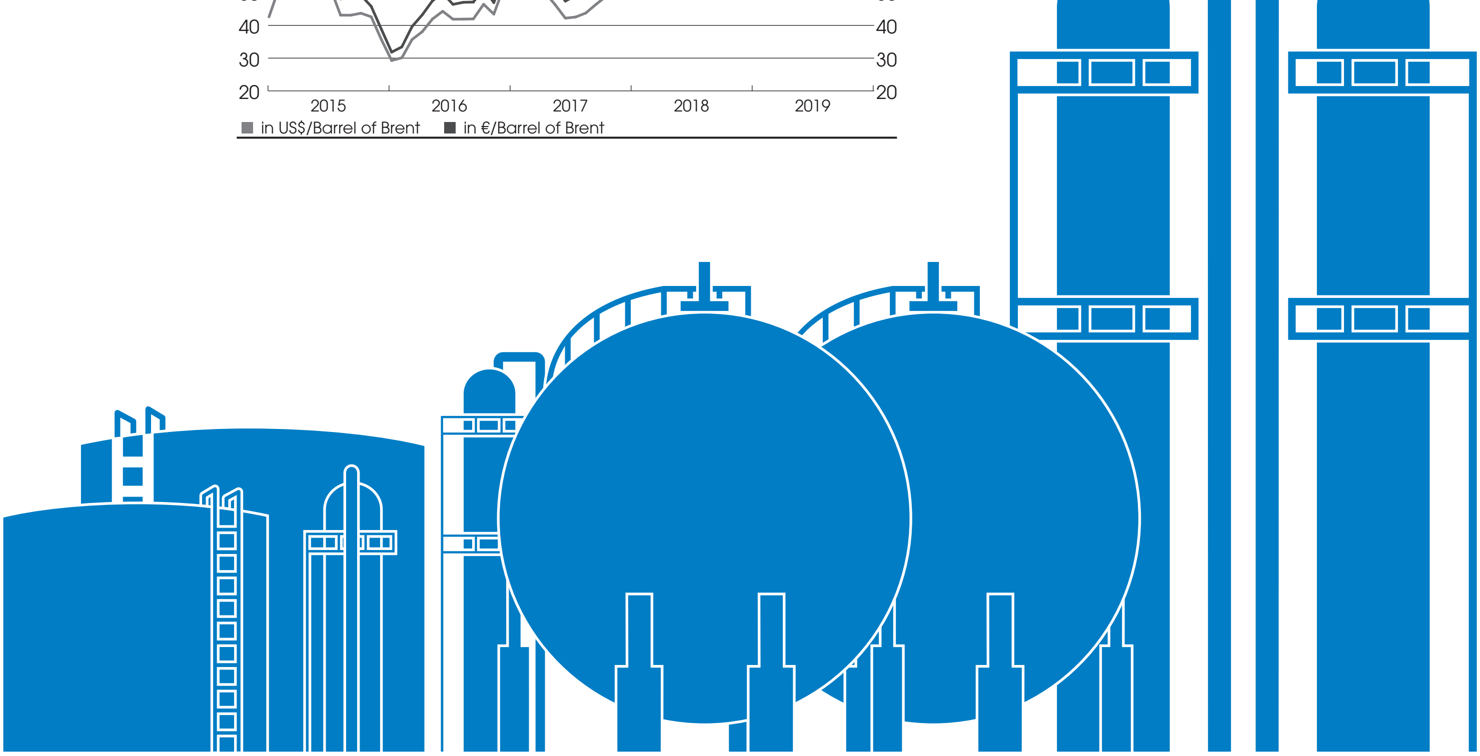
The simmering trade conflict between the United States and China is fueling considerable uncertainty in the global trade landscape. Measures such as punitive tariffs are already having a negative impact on a large number of sectors. As a result of these developments and due to expectations of lower sales volumes, the automotive industry – an important industry for the German economy – cut its purchases of lubricants and plastic components in 2019. The trade conflict also means that Chinese paraffin products, which were previously sold in the United States are now being sold on the European market. This is exacerbated by the fact that global base oil production is steadily on the increase. For us, this means that we are having to hold our own in a more aggressive competitive environment.

In addition, our business was also hit by the new IMO 2020 regulation published by the International Maritime Organization, especially toward the end of 2019. The regulation requires the shipping industry to use low-sulfur fuel only from January 1, 2020, onward. This makes it difficult for H&R to sell combustion products that are produced in our specialities production and do not meet these requirements. In addition, shipping companies are morphing into competitors, as they are increasingly purchasing low-sulfur raw materials that we too could use in our production processes.

OIL PRICES 2015–2019

(AVERAGE MONTHLY PRICES)

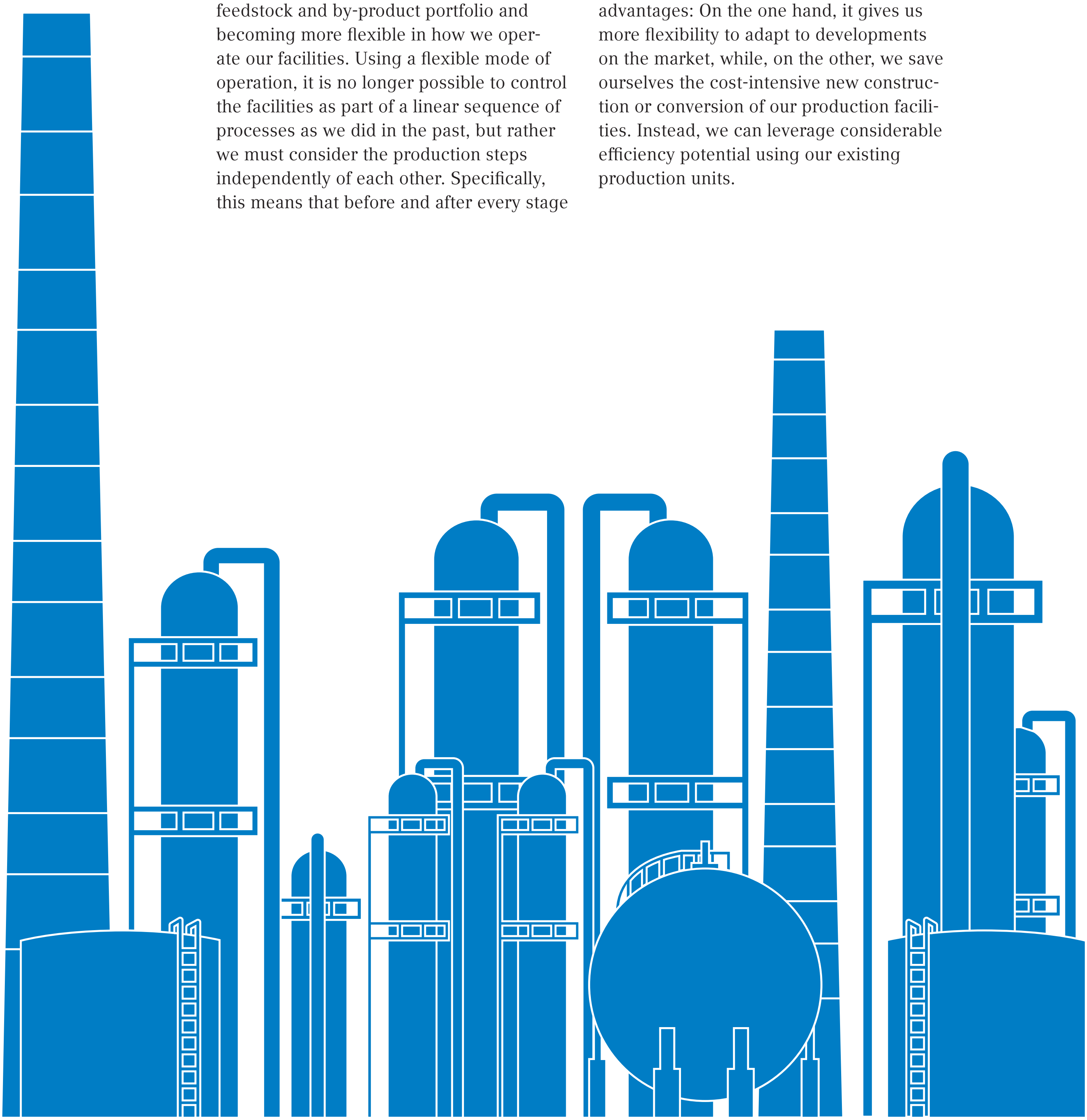




NEW APPROACHES TO TRIED AND TESTED METHODS

Our approach for the future remains the constant application of our successful recipe for producing specialty products – we are convinced that this is the right strategy.We aim to achieve this by strategically enhancing our production process. This involves relying on a diversified feedstock and by-product portfolio and becoming more flexible in how we operate our facilities. Using a flexible mode of operation, it is no longer possible to control the facilities as part of a linear sequence of processes as we did in the past, but rather we must consider the production steps independently of each other. Specifically, this means that before and after every stage of the production process we question the further procedure. This involves checking whether it is more cost-effective to produce a certain feedstock ourselves or whether it is better to buy it from an external supplier.

This approach offers us two fundamental advantages: On the one hand, it gives us more flexibility to adapt to developments on the market, while, on the other, we save ourselves the cost-intensive new construction or conversion of our production facilities. Instead, we can leverage considerable efficiency potential using our existing production units.



The extended operating model will allow us to steer safely into the future.

SOLID OPERATING MODEL FOR THE FUTURE

The advanced operating model describes a principle that we use to boost the efficiency of our processes, make us more flexible in the way we produce and strategically enhance the concept of our chemical-pharmaceutical production. This is our way of continuing to pursue the goal of achieving the greatest possible yield from the raw materials used – in keeping with our motto “Oil is far too valuable to burn!”

The competitive situation on the base oil market and the more challenging conditions for the sale of combustion products reinforce our commitment to focusing even more consistently on the production of specialty products. For us, this means that we want to produce a more diversified portfolio of high-quality core and by-products, and avoid unprofitable by-products and base oils to the greatest extent possible.

We can achieve this first and foremost through an approach that focuses less on the overall linear process and more on the individual strengths of the separate process units. The biggest change associated with this decision relates to our feedstock. We will considerably expand our raw materials portfolio for the new operating model, continuously adjusting the raw materials used. This will call for a faster and more flexible decision on which feedstock we use. Managing our feedstock in this manner will allow us to make further improvements in terms of controlling what quantity and quality of core and by-products we manufacture.

PROJECTED SHARE OF GROUP SALES IN 2020

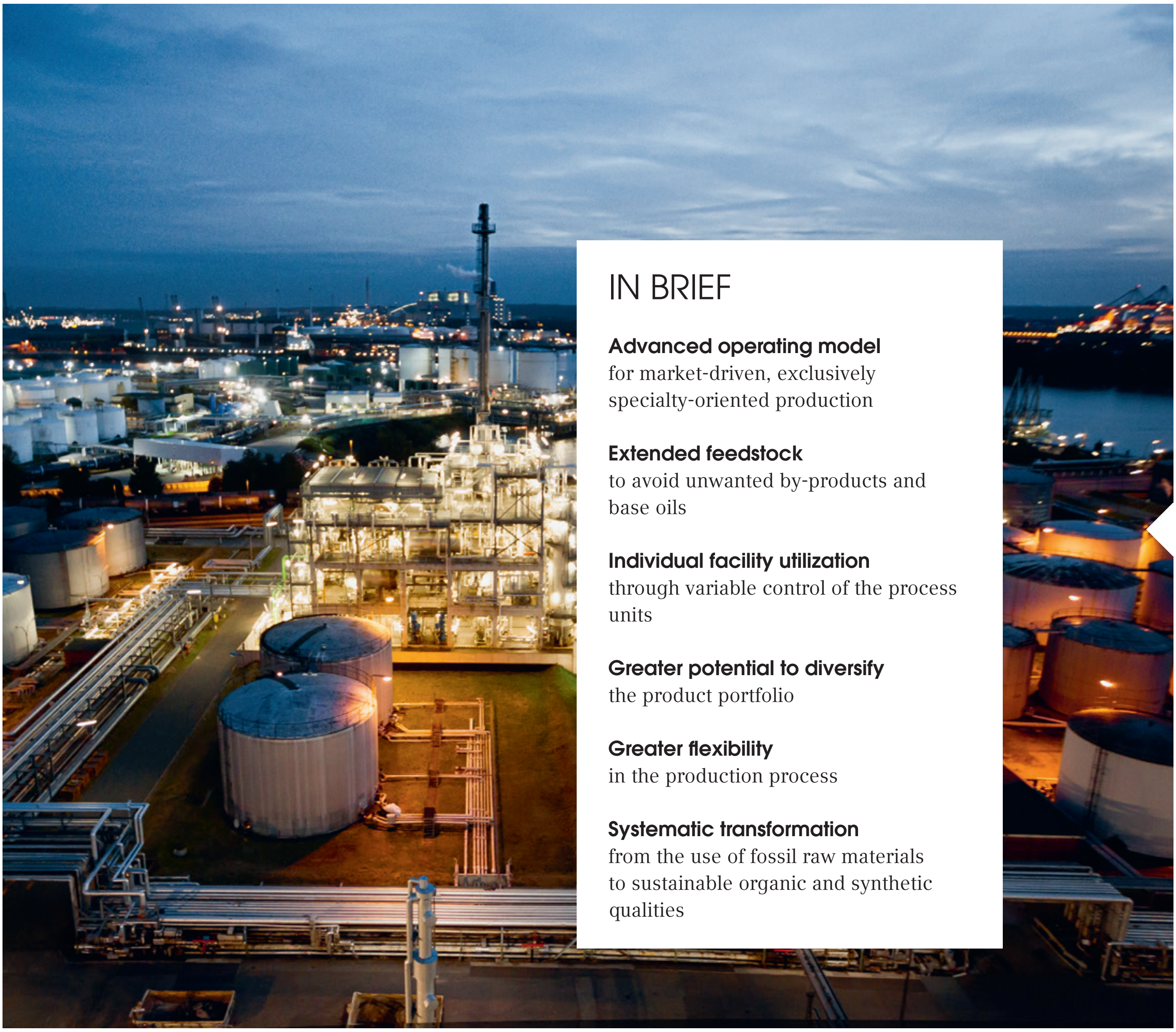
Refining	58%
Sales	37%
Plastics	5%

We expect that the switch to this approach at the Hamburg production site will already have a positive effect in the current year.

The advanced operating model will require us to adapt our procurement processes and structures in particular. This is something that we will now address on a step-by-step basis to bring our organizational structure into line with the new requirements.

Equipped with this strategic and operational focus, we are positive as we look ahead to the future and we are convinced that it will allow us to react even better to the demands of the market and our customers.

As a result, we expect similar to slightly increased consolidated sales in 2020 compared to 2019. The ChemPharm Refining segment will account for around 58% of total sales, while we expect the ChemPharm Sales segment to make a much larger sales contribution than in the previous year, at around 37%. The Plastics segment will contribute around 5%.



IN BRIEF

Advanced operating model
for market-driven, exclusively specialty-oriented production

Extended feedstock
to avoid unwanted by-products and base oils

Individual facility utilization
through variable control of the process units

Greater potential to diversify
the product portfolio

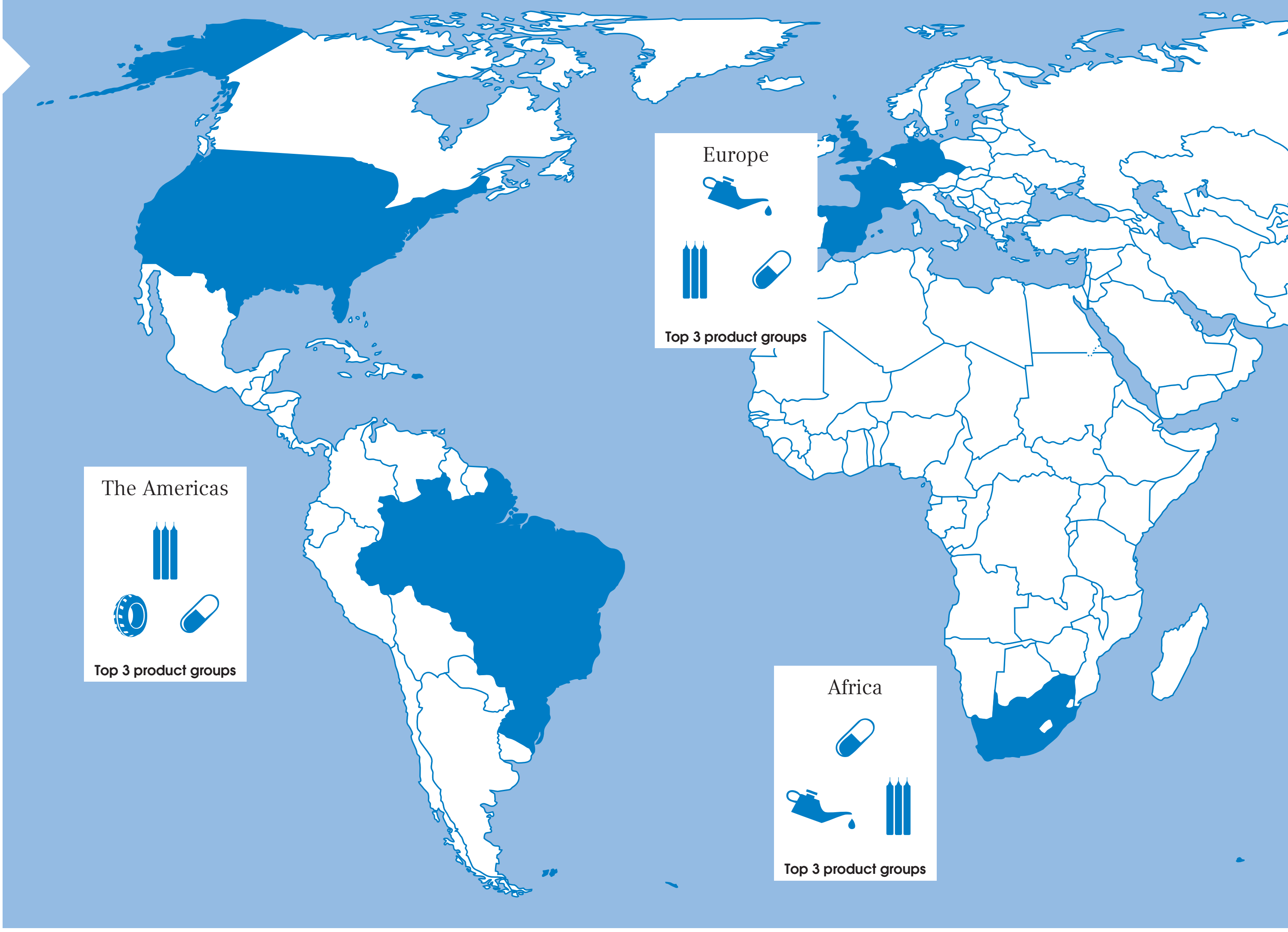
Greater flexibility
in the production process

Systematic transformation
from the use of fossil raw materials to sustainable organic and synthetic qualities

OPTIMUM USE

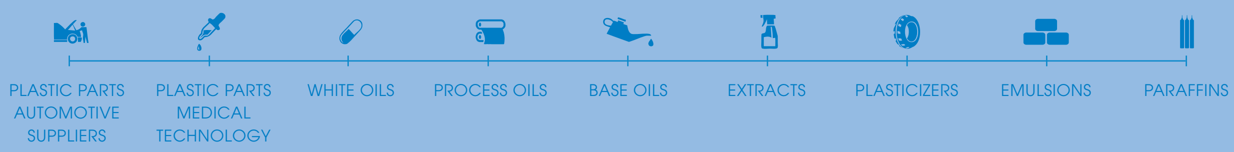
Quality management made by H&R: not all crude oil derivatives are designed equal. Depending on where we get our feedstock from, it has different properties, or “qualities”. We use every quality to produce the best possible output. This requires experience, intuition and the ability to look at the order list from a forward-looking perspective.

A SPECIALIST FOR THE WORLD



The products that other refineries eliminate after the first few steps in the value chain are processed further by us here at H&R. This means that the raw material that we use is a by-product that is created when crude oil is processed across the globe, but that not all refineries have the capabilities to process further or refine. We use this product as a raw material in H&R's production process.

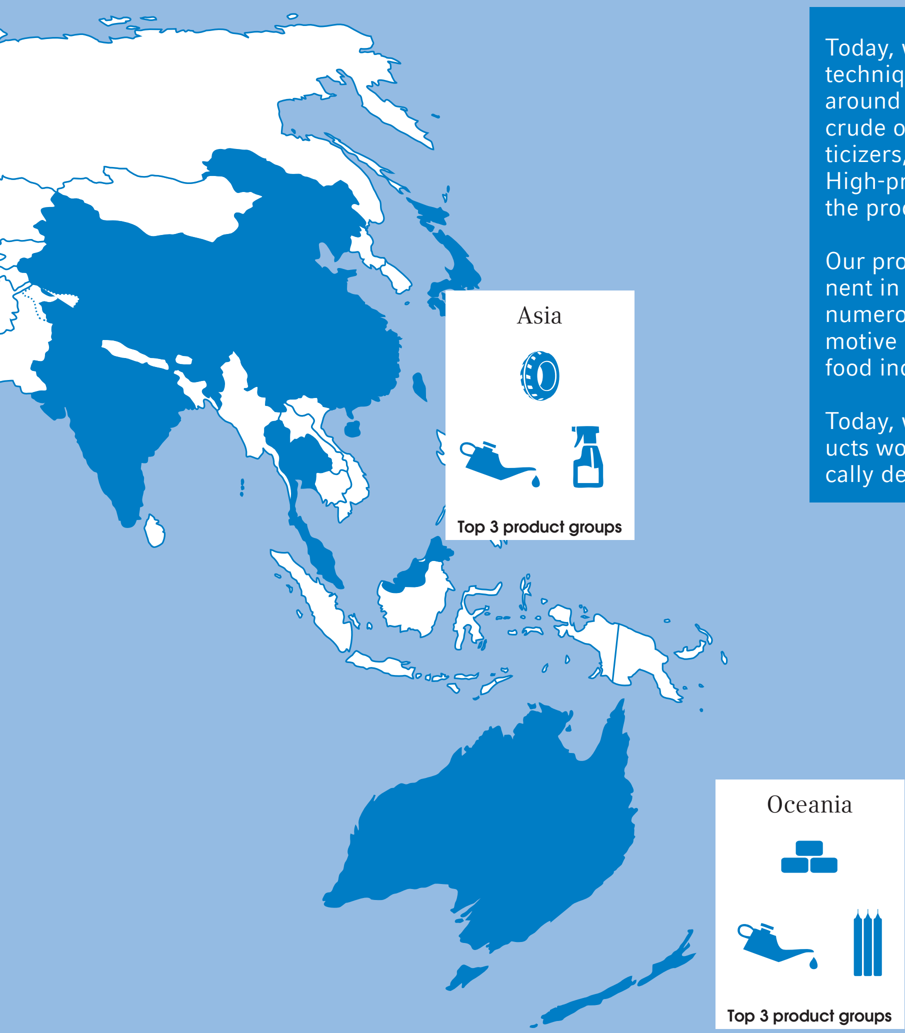
The market of available raw material qualities that we use to purchase our feedstock is, however, changing – it is becoming more differentiated and dynamic. There are two main factors at play here. First, more and more producers of specialities from which we have purchased feedstock in recent years are now processing the raw material themselves. Second, our feedstock can be used as low-sulfur fuel for ships, allowing shipping companies to meet the requirements set out in the new regulation on the use of marine fuel, known as bunker fuel, published by the International Maritime Organization (IMO 2020).



Today, we use modern production techniques and processes to create around 800 different products from crude oil derivatives, such as plasticizers, white oils and paraffins. High-precision plastic parts complete the product portfolio.

Our products are an important component in the processes and products of numerous industries – from the automotive industry to the cosmetics and food industries to medical technology.

Today, we market and sell our products worldwide through our organically developed network.



MORE DIVERSE RAW MATERIALS

In order to be able to continue to provide our customers with a reliable supply of the products they need, we are actively expanding our portfolio of raw materials and other feedstock products (semi-finished products). In order to achieve this, we are gradually moving away from conventional joint production, allowing for the even more targeted production of our high-quality chemical-pharmaceutical specialty products. We are also expanding our capabilities when it comes to processing raw materials with increasingly different properties. This will allow us to diversify our feedstock portfolio, which until now has mainly been petroleum-based, to ensure the highest possible security of supply for our customers.

BETTER SAFE THAN SORRY

The last step before a product is sent out to the customer is once again a very important one. One thing is certain: only products that meet our high quality standards can leave our H&R premises. Intermediate testing performed as part of the production process is also, however, a top priority for us. It is only when these tests have been passed that the journey to the customer can begin.

When a delivery arrives at our H&R premises, the feedstock is sent straight to the lab for analysis. Only analyzed feedstock can be fed into the facility and used in the production process. Another laboratory analysis is performed when the product leaves the facility. This is followed by the “final tank test” as soon as the product is filled into the tank. The final green light is given when the road tankers or tank wagons are loaded, just before the product leaves the refinery. A final sample is sent to the lab using a pneumatic dispatch system so that the end product can be tested yet again with regard to its purity, density and cleanliness. Once this test has been passed, it is time for the product to be delivered to the customer.

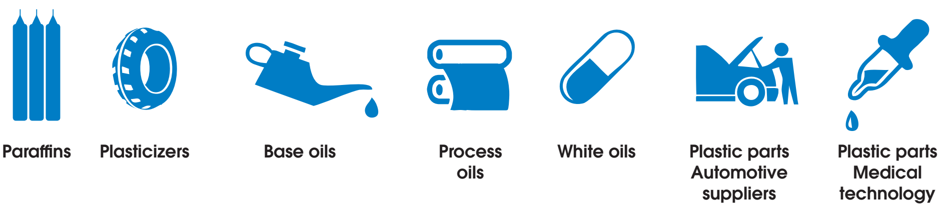
Our products only leave our production sites if they meet our high quality requirements.

A WIDE VARIETY OF QUALITIES

We get our feedstock from a whole range of sources around the world. Our suppliers generally process various crude oils, meaning that our feedstock always features a wide range of chemical raw material characteristics.

Aspects that are particularly important to us are the viscosity, sulfur content, the density and the chemical structure of the raw materials. These properties determine which raw materials we mix together and which product we end up processing them into. These smart mixing processes allow us to compensate for the differences between the varying qualities and make sure that they are the perfect fit for our current production requirements.

Laboratory analyses allow us to determine an ideal and profitable mix of raw materials for our products at an early stage.



DETAILED PLANNING FOR THE BEST POSSIBLE YIELD

Our aim to ensure consistently high product quality for our customers also applies to the operational and production planning process. We are also faced with the task of achieving the best possible utilization of our facilities in economic terms. This means that one key task of the raw materials purchasing team is to ensure that the necessary amount of the raw material is available in the right qualities for the Hamburg-Neuhof and Salzbergen sites. This requires detailed planning and coordination of the purchases, the entire logistics chain, and the tank allocation on site.

The raw materials purchasing, operational planning and raw materials product management teams at H&R work closely to ensure that production meets the applicable specifications and results in the best possible yield. At the beginning of the production process, we calculate the optimum use of raw materials for each product based on the order situation. This means that we already know at the purchasing stage which raw materials we will need to purchase for the best possible mix. We examine planned raw materials purchases in our laboratory before we purchase them to check their quality, the potential degree to which the feedstock can be processed and, as a result, ultimately also how profitable a product will be for us. We only purchase the raw material and incorporate it into our operational planning process if this analysis delivers what we consider to be a satisfactory result.

If, despite doing our very best to plan, we are unable to upgrade all of the components of a raw material to create high-quality specialty products in the production process, we process them to create sought-after by-products, for example, as bitumen in asphalt production or components for conversion plants in fuel production.

The increasing variety of raw materials and other feedstock processed by us, the dwindling availability and alternative uses for conventional raw materials, as well as mounting regulatory requirements for various mineral-oil-based components are placing more exacting demands on the planning process. We therefore monitor the availability of raw material qualities on the global market on an ongoing basis and work toward gaining access to new suppliers and qualities.

OUR PRODUCTION STEPS

1. Distilling
2. De-asphalting
3. Extraction
4. De-waxing
5. De-oiling
6. Hydrogenation

More than 800 chemical-pharmaceutical specialty products are produced in H&R's refineries.

REPORTING PROFILE AND ENVIRONMENT OF H&R

This non-financial report (NFR) of the H&R Group contains disclosures in accordance with Sections 289b-e of the German Commercial Code (HGB) in conjunction with 315b-c HGB on material, non-financial aspects of our business activities in areas involving environmental, employee and social concerns, respect for human rights and the fight against corruption. This year, it has been incorporated into the corporate magazine. All NFR content can be clearly identified by the use of a gray background.

The magazine, including the NFR, is also published at www.hur.com.

LEGAL REQUIREMENTS AND FRAMEWORK

No international framework has been applied in preparing the NFR, as the H&R Group's sustainability reporting process is still under development. We have, however, taken the Global Reporting Initiative (GRI) Standards as a basis.

H&R KGAA'S BUSINESS MODEL AND STRATEGY

With the help of modern refineries and smart processes, we use crude oil derivatives to produce more than 800 high-grade chemical-pharmaceutical specialty products, such as label-free process oils, white oils and paraffins. High-precision plastic parts complete our product portfolio. Our products are an important component in the processes and products of numerous industries, for example, in the automotive industry.

Today, we manufacture and sell our products worldwide through an organically developed network. We rely on our own facilities and sales/distribution units, as well as on production partnerships. We aim to use this strategy to boost the share in revenue attributable to ChemPharm Sales.

In the ChemPharm Refining segment, we are currently faced with the challenge of mounting competition in the base oil market and the effects of the simmering trade war between the United States and China. As a result, we implemented measures to enhance the operating model of the Hamburg refinery at the end of 2019. We aim to rise to the competition in the base oil segment, for example, by significantly reducing the proportion of base oils we produce and instead focusing on the production of high-quality specialty products (see page 02).

At the same time, we are focusing more heavily on the topic of sustainability with our three-pillar strategy. This strategy outlines our transformation from using predominantly petroleum-based raw materials, to increasingly using renewable components, to producing synthetic qualities from green hydrogen and green carbon.

As far as our production sites in Germany are concerned, we have set ourselves the logical long-term target of implementing the “Green Refinery” concept. This reflects our efforts to reduce the proportion of combustion products to an absolute minimum and to significantly expand the production of these synthesized specialty products over the next ten years.

Following the implementation of personnel restructuring measures at the Coburg headquarters at the end of 2019, we are aiming to achieve a sustainable improvement in our competitive standing in the Plastics Division, particularly in toolmaking. Within this context, we plan to establish H&R KGaA as a producer of durable plastic components in response to the growing trend toward e-mobility.

We refer to this overarching strategic approach as G.A.T.E., as in “Gateway to the Future”: in line with our objective of achieving further internationalization, we see ourselves as a company that thinks on a Global scale. At the same time, we are building regional connections and we operate at a local level. The most important driver of our economic activity is our proximity to the market, which enables us to always Act with a deep understanding of our customers' specifications and needs in a user-oriented manner. At the same time, we continue to be Technovative by ensuring that our sites are always on the cutting edge of technological development and searching for innovative process and product solutions. We successfully combine economy and ecology, acting in an economically prudent way, with full awareness of the resources we are using. Eco², i.e., “ecology x economy”, increases the potential in both areas exponentially while representing a key step toward sustainability.

SUPPLIER MANAGEMENT

The H&R production and processing sites can call upon a flexible network of suppliers to secure their raw material requirements. These tend to be other refineries, some of which are operated by renowned oil companies operating in the fuel refining sector.

We share an H&R-wide Code of Conduct with our suppliers, expecting them to respect and adhere to the principles set out in the Code. The Code is based on the recognized principles of sustainability: economic growth with a view to the long term, respect for the environment, the careful use of resources, employee protection and the quest to improve quality of life for present and future generations alike.

Compliance with this Code of Conduct is an integral part of the supplier selection and evaluation process within the H&R Group. We use supplier audits based on ISO 9001 to check compliance with the Code, meaning that no supplier is added to our system without an audit being conducted. If complaints or indications that the Code has been breached arise during the course of the contractual relationship, the audit is repeated. If we discover any material breaches of the Code of Conduct, H&R KGaA also considers this to constitute a breach of the contractual relationship as a whole. The first step in such cases involves asking the supplier to remedy the breach. If the supplier fails to meet our request to our satisfaction, we reserve the right to terminate the contractual relationship.

MAJOR RISKS

In order to comply with the CSR Directive Implementation Act (CSR-RUG), we have to report the material risks associated with our business activities if they are very likely to materialize and could have a serious negative impact on non-financial aspects and on the business model. As a success-oriented, responsible-minded company, we operate an integrated, Group-wide risk and opportunity management system. Our goal is to identify, assess, communicate and manage relevant risks at an early stage in order to prevent or limit damage to our company. We also want to identify relevant opportunities early on so that we can take maximum advantage of them.

Our risk management system is based on a structured process for identifying and managing risks. All relevant risks are classified uniformly throughout the Group. A risk is classified as low, medium or high based on the parameters "Probability of Occurrence" and "Potential Financial Impact". The resulting risk classification matrix is shown in the following table:

POTENTIAL FINANCIAL IMPACT[1]

	Likelihood of occurrence[2]		
	Unlikely	Possible	Likely
Existential threat	High risk	High risk	High risk
Significant	Medium risk	High risk	High risk
Moderate	Low risk	Medium risk	Medium risk

1) Moderate: some negative effects on business activity, financial position, results of operations and cash flows, for example, if EBITDA falls below €50.0 million in 2020.
Significant: substantial negative effects on business activity, financial position, results of operations and cash flows, for example, if EBITDA falls below €50.0 million over the next two years.
Existential threat: substantial negative effects on business activity, financial position, results of operations and cash flows owing to which the continued existence of the enterprise would be jeopardized, e.g., with an EBITDA permanently below €50.0 million.

2) 1–33%: unlikely; 34–66%: possible; 67–99%: likely

Low risk | Medium risk | High risk

Our own large-scale tank farm allows for the intermediate storage of our core and by-products.

In the risk process, a distinction is made between macroeconomic and industry risks, operating and corporate strategy risks, and financial risks. The system also covers technical production risks – which may include risks from operating the plants or accidents and may harm people and the environment – as well as risks arising from product liability and personnel risks. The aforementioned risks are already being managed by our Group-wide risk management system and shown in the table below. None of the corporate risks have been identified as having a high probability of occurrence or potentially serious consequences for our business or our business relationships. No other material risks resulting from our business activities that could potentially have serious consequences in those areas covered by the CSR-RUG were identified.

CORPORATE RISKS

	Likelihood of occurrence	Possible financial impact	Risk situation compared to previous year
Macroeconomic and Industry Risks			
Fluctuations in demand and margins	possible	significant	unchanged
Raw material supply risks	unlikely	significant	unchanged
Composition of raw materials	possible	significant	higher
Risks from the development of substitute products/ general competitive pressure	likely	significant	higher
Changes in the tax and legal environment	possible	moderate	unchanged
Brexit – composition of European Union	likely	moderate	higher
Operating and Corporate Strategy Risks			
Technical production risks	unlikely	significant	unchanged
Investment risks	unlikely	significant	unchanged
Risks associated with contractual relationship with Hansen & Rosenthal Group	unlikely	significant	unchanged
Product liability risks	unlikely	moderate	unchanged
Financial Risks			
Liquidity risks	unlikely	significant	unchanged
Risks from the breach of covenants	possible	significant	unchanged
Risks from future refinancing requirements	unlikely	significant	lower
Exchange rate risks	possible	moderate	unchanged
Interest rate risks	possible	moderate	lower
Risks from defaulting customers and banks	unlikely	moderate	unchanged

UNDERSTANDING OF SUSTAINABILITY AND MATERIAL TOPICS OH H&R

Corporate Responsibility

At H&R, as part of an owner-managed group of companies, we have always based our corporate policy on sustainability. We are convinced that the successes that come from quality management, safety, protection of the environment and human health, and compliance not only enhance our reputation, but also ensure our profitability and, as a result, our ability to sustainably increase our company's value and guarantee our future viability.

This conviction is expressed in our motto – "Oil is far too valuable to burn!" – which obliges us to strive for maximum resource conservation while systematically protecting the environment. At the same time, we take seriously our responsibility as an employer and place the highest priority on employee safety and development.

We combine these aspects with our goal of flawlessly controlling and continuously improving production processes and associated services. This is the only way in which we can ensure that the quality of our products will continue to be impeccable in the future and thus meet our quality objective to provide consumers with high-quality and safe products that are in no way harmful to human health.

To accomplish this, we rely on an integrated management system (IMS) that encompasses all corporate processes and their associated workflows. The IMS gives equal consideration to the aspects of occupational health and safety, environmental protection, and quality requirements based on requirements for internationally recognized certifications (such as ISO 9001, ISO 14001, and OHSAS 18001). The IMS is regularly audited for compliance with the requirements by an independent outside testing body.

Challenges

As a specialty chemicals company, we face a wide variety of challenges with our business model. One of the major challenges stems from our vertical integration. The degree of processing involved in our production of high-grade specialty products far exceeds that of other refineries, whose processes end with the generation of fuels and base oils. As a result, our process involves higher energy costs and greater consumption of resources.

We also consider demographic change to be a further challenge that requires us to retain our skilled employees over the long term. We can only succeed in doing so if we offer our employees good jobs and enhanced job security while positioning ourselves as a responsible employer.

Our customers' focus is changing, too. Today, they demand not just the same proven product quality, but also expect the H&R Group to be in a position to deliver environmentally friendly products which, wherever possible, are backed by the appropriate certifications.

Guidelines intended to guarantee ethical conduct are becoming more and more important and extend to all partners in addition to our own company. This also encompasses both upstream and downstream aspects of our own value chain.

Stakeholder Dialogue

A company like H&R has to show a certain sense of responsibility toward its shareholders, i.e., toward its majority shareholders and the shareholders that have a vested interest in the company's performance. But other stakeholders influence our activities, too: Without employees, our business would be impossible. Without reliable raw material suppliers, we would hardly be able to produce anything at all. And the customers who need our products are particularly indispensable when it comes to ensuring our commercial success. Then, there are our financing partners and analysts, as well as stakeholders from the world of politics and civil society, the media and the general public.

Today, all of these stakeholders operate within the same media network, influencing each other and voicing what they expect of our company. At the same time, the exchange of information and the speed at which we form our opinions have become much faster due to the transparency of the Internet. Our responsibility is to provide all of the relevant players with information that is tailored to the needs of the specific target group and to shape a process of active dialogue.

Our reporting system makes a key contribution to this process of communication. It provides an insight into how we design internal structures and processes, into the goals we set ourselves and the measures we take to build on our performance and systematically drive the company in its further development. We also engage in direct dialogue time and again – not only at major events such as the Annual Shareholders' Meeting – but also in a large number of one-on-one discussions with policymakers or representatives from the authorities.

Identification of Material Non-financial Topics

In 2017, we put together a list of the relevant non-financial issues internally and with the help of an external consultant for the first time, and coordinated them with the Executive Board. This included an examination of the value chain of the H&R Group and the topics discussed, up until 2017, in the "Non-financial Performance Indicators" section of the company's Annual Report. The key issues arise primarily from the challenges referred to above and how we deal with them, as well as from relevant industry and macroeconomic developments. In addition, the company maintains close contact with its relevant stakeholders throughout the year. This process, despite the fact that it is generally a bilateral one at departmental level, provides the Management Board with an overall picture of our position within the relevant competitive, market and, most importantly, social network across various reporting and decision-making levels. A materiality analysis involving internal and external stakeholders was not performed for this NFR.

For purposes of the CSR-RUG, the material topics we have identified from the challenges outlined above are as follows:

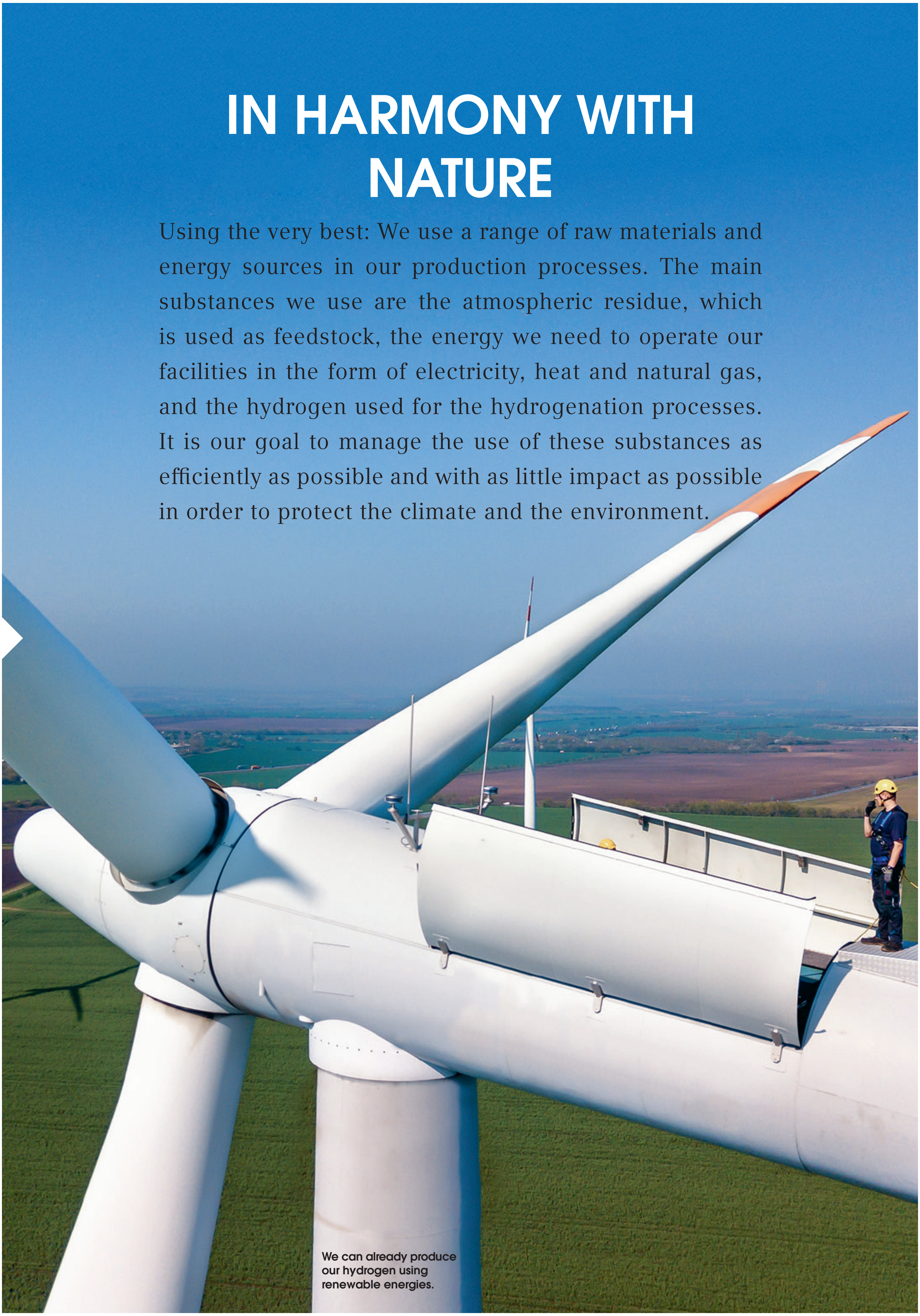
MATERIAL TOPICS FOR H&R GMBH & CO. KGAA

Energy consumption and carbon emissions	Environmental concerns
Waste	
Water and wastewater	
Employment	Employee concerns
Training and continuing education	
Occupational and process safety	
Product safety	Social concerns
Social commitment	
Human rights	Respect for human rights
Anti-corruption	Fight against corruption

For more information on the fight against corruption and the respect for human rights, please consult the Corporate Governance section (page 05), which is published on the webpage www.hur.com. For all other issues, our policies, due diligence processes, objectives and results are described below.

IN HARMONY WITH NATURE

Using the very best: We use a range of raw materials and energy sources in our production processes. The main substances we use are the atmospheric residue, which is used as feedstock, the energy we need to operate our facilities in the form of electricity, heat and natural gas, and the hydrogen used for the hydrogenation processes. It is our goal to manage the use of these substances as efficiently as possible and with as little impact as possible in order to protect the climate and the environment.



We can already produce our hydrogen using renewable energies.

THE LONG-TERM "GREEN REFINERY" VISION

We have been incorporating sustainability aspects into our core processes for a number of years now. We are now also observing an increased interest in environmental information among our customers, as well as an expectation that our products should meet sustainability requirements. We aim to meet these expectations as best we can and are organizing our business activities to bring them even closer into line with this aim.

One key aspect in this regard is our quest to keep the percentage of byproducts that are ultimately incinerated as low as possible and to achieve continuous improvements in the yield of high-quality core products.

Based on our corporate policy, it is a matter of course for us to continuously seek out optimization potential to help protect our environment and improve energy efficiency at all H&R sites. Once we have identified this sort of potential, we systematically implement measures to harness it. We constantly review the opportunities open to us in order to reduce the environmental impact of our processes, products and services. This means that, wherever possible, we design our production processes and processing facilities in accordance with the latest technology and in such a way as to conserve resources as much as possible. We give preference to energy-efficient alternatives in the procurement process, wherever this is feasible from a technical and financial perspective.

One good example is the flexible-control hydrogen electrolysis (PEM) system at our Hamburg-Neuhof refinery site, which went into operation in 2017. This system is currently the largest of its kind worldwide and means that we can now produce hydrogen from electricity from renewable sources, whereas in the past, we purchased the "gray hydrogen" derived from fossil energy sources externally. The fact that we can produce the hydrogen ourselves gives us an economic advantage and also allows us to avoid the carbon emissions associated with external production from fossil energy sources and the transportation of the hydrogen to our refinery.

In the long term, however, we aim to take this concept even further: Our vision involves decarbonizing our production process so that we can operate a "Green Refinery", which increasingly involves manufacturing synthetic products based on the raw materials hydrogen and carbon. With these innovative manufacturing solutions, we are not only able to make a valuable contribution to the energy revolution and sector coupling of green electricity in the raw materials industry, but can also avoid carbon emissions and ultimately use them as raw materials. Eventually, this will enable us to provide our customers with environmentally friendly products and make a significant contribution to their decarbonization.

SYSTEMATIC ACTION TO ACHIEVE GOALS

Energy consumption in Hamburg-Neuhof and Salzbergen is one of the biggest levers we can use to reduce our environmental impact. We set ourselves a clear target to reflect this back in 2014. Our goal is to reduce the company's energy consumption by 0.5% a year as against the 2014 base level. This will also enable us to significantly reduce our carbon emissions.

Energy consumption per year **-0.5%**
(base year 2014)

We monitor our progress in moving toward this goal on an ongoing basis, and have implemented a comprehensive monitoring system and defined KPIs to allow us to do so. This system allows us to precisely record and continuously monitor the energy consumption for each site. This allows us to intervene swiftly and take corrective action in the event of deviations.

PROTECTING THE ENVIRONMENT AND BOOSTING INCOME

Energy consumption is also an important economic factor for us. After all, the less energy we use for the same production volume, the better our energy efficiency and, as a direct consequence, the better our financial results. We are therefore constantly working on new projects to help improve our energy consumption. These projects include, for example, measures focusing on heat integration in our facilities, the optimization of the facility design with regard to energy efficiency when building new, or upgrading existing processing facilities, and measures to improve tank insulation. They also include small-scale projects that we can implement with relatively little effort, such as the move to switch our lighting over to LED technology and optimizing our warehouse temperatures.

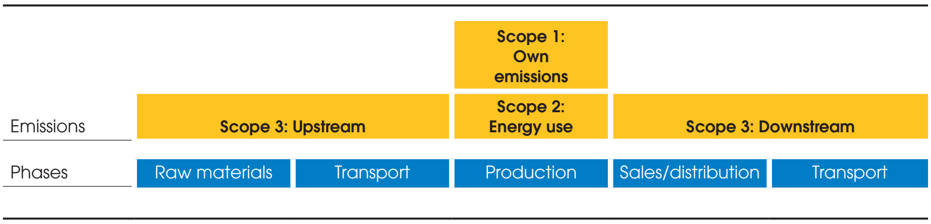
The results of our energy monitoring process show that our measures are bearing fruit. Since 2015, we have saved a total of 292,000MWh through energy projects in the refineries. Measured against total energy consumption, this represents 4.9%.

KEEPING A CONSTANT EYE ON PRODUCTION EMISSIONS

If we are successful in reducing our direct energy consumption, this has a positive impact on our greenhouse gas emissions. But as we also want to keep an eye on the indirect factors that influence our carbon footprint, we have developed a comprehensive carbon calculator. The calculator allows us to determine the direct and indirect emissions for each product spanning the entire value chain – from the extraction and processing of raw materials and upstream transport to production and sales/distribution.

The recording of detailed emissions data – coupled with the results of our energy monitoring system – enables us to pinpoint potential for optimization in how we use resources and in our production processes.

EMISSIONS RECORDED PER LIFE CYCLE PHASE



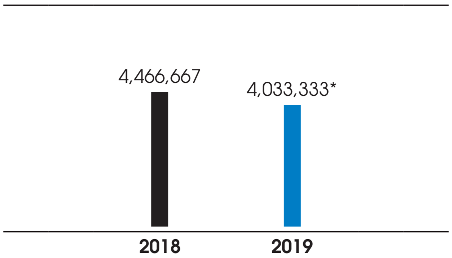
PEM – MAKING THE BEST POSSIBLE USE OF RENEWABLE ENERGY

For more than two years we have been producing green hydrogen via the PEM (polymer electrolyte membrane) system, which is then processed into white oil at a later stage. This innovative manufacturing solution has already proven itself.

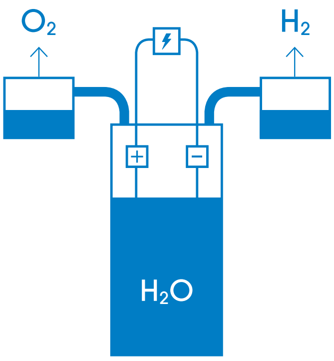
Hydrogen is used in our production processes primarily to manufacture medical-grade white oils. Any final impurities are removed in hydrogenation plants and replaced by hydrogen. This produces high-purity products that are used in medical or cosmetic end products later on.

HYDROGEN PRODUCED

in nm³



* Reduced purchase quantities for the downstream process unit due to project work.

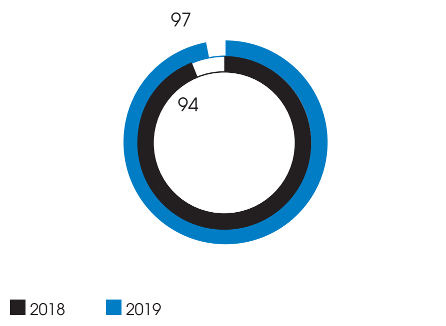


The PEM system only needs electricity and water to operate. Electrolysis splits water molecules into the gases oxygen and hydrogen and the high-purity hydrogen is fed into our hydrogenation.

The PEM system allows H&R to participate in the secondary balancing energy market and to help alleviate imbalances in the electricity grid. This means that when grid loads are high, we can start the system up and produce more hydrogen, while we can use periods of lower grid loads to use up reserves.

HYDROGEN PRODUCTION

as a % of total demand



We endeavor to keep our impact on the climate and the environment as low as possible.

CLIMATE PROTECTION AND RESOURCE CONSERVATION

Our aim to make responsible use of natural resources and to protect the climate and our environment is an established component of our corporate policy. We are always striving to reduce energy consumption and the amount of environmental pollutants caused by the production process. We also work to help our customers to protect the environment. This is something we can achieve, for example, by offering an alternative to products containing substances that are harmful to the environment or by offering products whose use makes a contribution to protecting the environment (see "Safety and Environmental Compatibility of Products", page 41).

In the long term, H&R is pursuing the objective of decarbonizing its production processes, aiming to achieve the target of the “Green Refinery”, i.e., fully synthesized specialty production based on renewable energies. We are sustainably reducing the use of fossil raw materials and use sustainable energy sources to operate our refineries.

In general, our German sites are certified in line with ISO standards 9001 (quality), 14001 (environment), 18001 (occupational health and safety) and 50001 (energy), which we use to monitor and control our energy, resource and carbon management. Since 2012, we have been reporting figures for our carbon emissions, wastewater and waste as the amount of emissions per ton of feedstock. This allows us to reflect the degree of value added and the size of our refinery sites to the greatest extent possible. As the degree of vertical integration increases and production efficiency improves, we aim to avoid exceeding the 2011 reference value and where possible to come in below that benchmark.

Our “Environmental Aspects and Impacts” database enables us to identify all activities that have an impact on the environment and to detect and assess risks during normal operations, during disruptions to operations, and in emergencies. This allows us to identify opportunities for improvement and develop appropriate measures.

ENERGY EFFICIENCY AND CARBON EMISSIONS

Our goal is to optimize our production processes so as to maximize the proportion of crude-oil-based specialty products and to minimize the proportion of barely usable components, or components that can only be used in a combustion process.

Our feedstock is a key element in this regard, because the better its quality and the more specifically it is tailored to suit the individual production units, the greater the yield of high-quality specialty products. But energy consumption is also important – the greater the degree of processing, the more energy has to be used to produce the products.

Our good position in the energy efficiency rankings for the refinery sector was confirmed in 2019 in an updated performance analysis conducted by HSB Solomon Associates LLC®. Both specialty refineries in Hamburg and Salzbergen achieved rankings in the second quartile when benchmarked against other refineries.

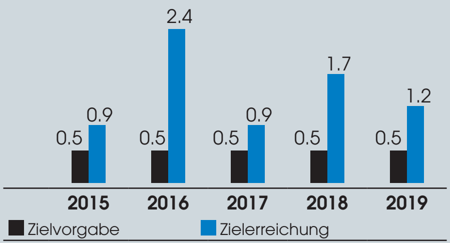
With two energy-intensive production plants in Germany, with energy costs that are also significantly in excess of the international average, our company has declared the goal of always keeping our energy consumption as low as possible and ensuring that it is as efficient as possible so that we can reduce our carbon emissions as much as possible. By doing so, we not only want to improve our own carbon footprint but also to help achieve the climate protection goals called for by the Federal Government and the Paris Climate Agreement. With this in mind, we have established an energy management system pursuant to the ISO 50001 standard at our refinery sites in Hamburg and Salzbergen. It defines company responsibilities and includes commitments to improve energy-related performance and compliance with all applicable statutory requirements relating to energy use. It also provides the framework for individual strategic and operating targets, along with measures for achieving them. All of this is incorporated into the company’s energy policy.

We record our energy consumption at our refinery sites on an ongoing basis and evaluate it once a week. This allows us to intervene quickly if need be and identify specific measures to save energy. These projects include, for example, projects focusing on heat integration in our facilities, measures to improve tank insulation or small-scale projects such as the move to switch our lighting over to LED technology.

The contributions to overall savings achieved as a result are anything but small, however. In the last four years alone, cumulative energy savings for both refinery sites amounted to 292,000 MWh.

We therefore significantly exceeded our self-imposed target for annual energy savings of 0.5%.

ENERGIEEINSPARUNGEN DURCH UMGESETZTE ENERGIESPARPROJEKTE IN DEN RAFFINERIEN
in %



We see to it that compliance with the requirements of the ISO 50001 standard is audited on a regular basis by an independent outside expert. If the requirements are not met, we adjust our measures and processes accordingly. The next independent audit, which will in all likelihood confirm our ongoing compliance with all of the ISO 50001 requirements, will take place at the beginning of 2020. We also conduct annual internal audits to verify and demonstrate that the requirements of the ISO standard are actually applied in practice within the organization. We avail ourselves of the option under the ISO 50001 standard not to make our energy policy available to the public.

One of the major effects of higher energy efficiency and lower energy consumption is lower emissions of carbon. The measures taken to reduce carbon emissions in our company are largely in line with those taken to reduce primary energy consumption, as outlined in our energy policy. Our flexible-control hydrogen electrolysis (PEM) system, for example, allows us to produce hydrogen from renewable energy sources at our refinery in Hamburg-Neuhof. This means that we can avoid the carbon emissions associated with external production of hydrogen from fossil energy sources and its transportation to our refinery.

In order to arrive at the best possible overview of our emissions, we have developed an emissions calculator spanning H&R's entire value chain, from the extraction and processing of raw materials to sales/distribution. This calculator allows us to determine the direct and indirect emissions for each product. We account for the depth of our value chain by calculating the sum of all individual plant throughputs in the course of production.

From a legal standpoint, the main pillars for determining our carbon emissions are, first and foremost, the provisions of the Greenhouse Gas Emissions Trading Act (Treibhausemissionshandelsgesetz/TEHG). In addition, the ISO 50001 standard also calls for the monitoring of relevant data by providing for energy reviews, binding energy efficiency indicators and the introduction of an energy life cycle statement for certain plants. Finally, industry standards and very specific information such as information on individual plant set-ups, processes and production methods used, and the composition of energy sources and other operating resources used, are also included when calculating our carbon emissions. In financial year 2019, our emissions per ton of feedstock totaled 382.3 kg. The figure for the past financial year was therefore 0.9% below the 2011 benchmark (385.6 kg).

We will no longer use 2011 as our reference year for future figures. In recent years we have significantly boosted added value at our refinery sites and

EMISSIONS OF H&R REFINERIES
(kg/t feedstock)

2019 **382.3**

CO_2

2011 385.6 (BENCHMARK)

We have boosted our added value significantly since 2011, generating more high-quality products. At the same time, we have decreased our absolute emissions despite the increase in our facilities' energy intensity.

increased our output of specialty products by favoring higher product quality. This involved increasing our facilities and their energy intensity. We also addressed the increased energy consumption and resulting additional emissions that this would entail by launching extensive energy-saving initiatives.

Emissions of 104,000 t CO_2 were therefore also avoided as a logical additional effect of the energy savings detailed on page 26.

* Due to a change in energy supply at the Salzbergen site in 2018/2019, the calculation basis for data collection had to be adjusted retroactively to ensure comparability for the past years.

WASTE

Because of the wide variety of types of waste, the quantity, the potential risk posed by certain types of waste, the complexity of disposal procedures and disposal costs, H&R KGaA places high priority on operational waste management and on optimizing costs.

For example, the plant site at the Hamburg-Neuhof refinery produces around 60 different types of waste in differing quantities and frequencies.

The approach we follow is to always reduce the amount of waste caused by our production process as much as possible. On the one hand, we accomplish this by achieving the best possible ratio of core products to by-products and through a high degree of vertical integration. Waste that we cannot currently avoid is disposed of professionally and in compliance with all legal requirements.

Goals and measures to reduce the amount of waste we generate are identified and implemented as part of our environmental management system, which is certified in accordance with the ISO 14001 standard and also includes specifications on waste management. This standard specifies environmental management requirements that organizations can implement to improve their environmental performance and to achieve environmental targets. It is based on the central elements of planning, implementation, control, and improvement.

Compliance with the requirements is verified and certified by an independent outside body. The most recent certification was carried out in 2018 and is valid until mid-2021. In addition, we ensure compliance with laws, provisions, audit obligations, and regulations and verify the performance of our environmental management system with the help of officer meetings, internal audits, and compliance audits.

The total amount of waste generated by H&R's refinery sites is at a gratifyingly low level. By way of comparison, in 2019 we managed to reduce the amount of waste we produce by a good 13.0% compared to the benchmark year of 2011 (3.09 kg/ton of feedstock). In financial year 2019, we generated 2.68 kg of waste per ton of feedstock.

We will no longer use 2011 as a reference year for the reasons detailed in the section on emissions above. Instead, we will use our current performance as a benchmark for all values, including for waste generation and wastewater volume.

The plant site at the Hamburg-Neuhof refinery produces around 60 different types of waste in differing quantities and frequencies.

WASTE GENERATED BY H&R REFINERIES (kg/t feedstock)

2019 **2.68**

2011 3.09 (benchmark)

WATER AND WASTEWATER

The prudent and conscious use of water resources is an issue that the H&R Group also classifies as material. Most of the water required for our refineries is used for cooling. This water does not come into contact with our products and can be returned directly to the environment. Only a small proportion of the water is used directly in our refinery processes. Once used, this water also contains hazardous components that pose a potential risk; consequently, wastewater management is also very important.

Basically, our goal is to consume as little water as possible and to generate as little wastewater as possible. The targets and measures for reducing our water consumption are identified, implemented and audited as part of our environmental management system, which is described in the section on waste. Our water sources are the local utility companies. The Salzbergen site also draws water from the Ems River and uses it, in processed form, as process and boiler feed water to provide steam. Water from the river is also used to compensate for evaporation losses in the cooling water circuit. In order to conserve water, we use our cooling water several times in the process in some cases. We are also working to create new ways to use service water in order to further increase the recycling rate.

Ideally, we use sophisticated, complex procedures to purify contaminated process wastewater right at the point of contamination so that it can be returned safely to the environment as wastewater. After deducting the amount of rain falling on sealed surfaces, we drained off a total of 610.7 liters of domestic or process wastewater per ton of feedstock in 2019. This amounted to around 29.0%, well below the 2011 benchmark (861.2 liters).

WASTEWATER GENERATED BY H&R REFINERIES(l/t feedstock)

2019 610.7

2011 861.2 (benchmark)

Most of the water required for our refineries is used for cooling. This water does not come into contact with our products and can be returned directly to the environment.

OUR LIFE'S WORK

Matthias Külper-Pauly and Sebastian Kuper work as operators at the Hamburg-Neuhof refinery. They ensure the smooth operation of the facility day in, day out, relying on almost 40 years of experience in the process. They tell us why they enjoy working at H&R and how knowledge about the refinery facilities is passed on.

Matthias Külper-Pauly

Sebastian Kuper

Mr. Külper-Pauly, Mr. Kuper, you work together on the same shift at the H&R refinery in Hamburg-Neuhof. How long have you been working for H&R and in what capacity?

MKP: I've been an H&R employee for almost 16 years now, but I've been working in the refinery, which has been managed by H&R since 2004, since back in 1990. I changed careers after my time in the navy, and have worked my way up over the years – from the container hall where the products are bottled and barreled to my current position as shift supervisor. As shift supervisor, my job is to plan the work that needs to be done during the day, coordinate employees and contractors, carry out patrols and discuss current projects with the shift team.

SK: I started my training as a chemical technician at H&R in 2014 and qualified in 2017. I have been working shifts as an operator ever since. This means that, with my colleagues, I am responsible for ensuring the smooth operation of the facilities.

What does a typical working day look like for you?

MKP: It varies depending on the shift we are working. Today we're on early shift, so we're taking over the reins from the night shift. Our colleagues tell us what went on during the night and what work has to be attended to during the day. We discuss this work with our colleagues, check the neces-

sary safety measures and give the green light for the tasks to be performed. During the shift, I supervise my colleagues while they work, coordinate with the plant manager and make sure that everything is running smoothly.

SK: As an operator, I tend to be out and about working on one of the facilities, usually with two of my colleagues. Two other colleagues sit in the control room and operate the facilities. When our shift begins, we start by doing a round and checking whether the facilities are running properly. We often hear if something is wrong before we see it. During our rounds, we also take samples from the facilities, which are then analyzed in the lab. If necessary, our colleagues in the control room can then tweak the product formulation in the facility.

"I like the fact that no two days are the same."

Sebastian Kuper

What is so special about working at the Hamburg refinery?

SK: I still enjoy coming to work after six years in the job. I like the fact that no two days are the same. At the start of my shift, I never know what to expect, whether it will be a quiet day or whether there might be an adjustment to a facility that will involve us being outside from 5 a.m. until 1 p.m. Working with my colleagues is also a lot of fun. We are also friends and we like to meet up in our free time or do something after work.

MKP: I have been with the company for 30 years now and I love my job. Because of the shift work, I can also end up spending Christmas Eve and New Year's Eve with my colleagues. We spend our weekends and public holidays together – that really welds us together. Once a year, for example, we all go on a shift team outing organized by one of our colleagues.

The job is also really varied, so it never gets boring. No two days are the same. Over the years, you develop a feel for how to deal with the variety, and this is something you pass on to your colleagues.

Operating the plants is a very complex matter and requires a great deal of experience. How do you ensure that the necessary knowledge is passed on?

SK: As a trainee, you do placements in all of the different departments to get an overall insight into the facilities. This structure helps you to learn the basics. It isn't until the end of your training that you specialize in a particular facility, which your final exam is then based on. And even once you've qualified, you don't stop learning. You have to get to know every single facility from scratch. To start with, you learn a lot out on the plant, *you gain experience and your work is checked by your shift supervisor and the plant manager on a regular basis. It takes one or two years to get your certificate for the first facility. The certificate serves as proof that you know how to operate the system. You are only allowed to work in the control room once you have learned how to handle all of the different facilities. We also undergo regular training on the facilities, for example, whenever they have been upgraded.*

MKP: In my shift, our colleagues train each other and that's an approach that works really well. Our young colleagues tag along and learn from the older ones among us. When they are ready, we go through the facility with them and ask them various questions. My manager then reviews the results before they are allowed to operate the facility. Everything is also documented in writing.

As someone who didn't originally train for this type of work, I know how important it is to pass on experience. I didn't know what I was doing when I started out either. An older colleague then took me under his wing for four weeks and gave me intensive training on one facility. Whenever I go to work on that facility today, it's always like coming home. I think that's something a bit special.

"Whenever I go to work on that facility today, it's always like coming home."

Matthias Külper-Pauly

SK: The really good thing is that you're never alone. There is always a colleague there that you can ask, and who is ready to help you, if need be. We have a great sense of teamwork. I am also attending night school to train as a foreman, and H&R is sponsoring me to complete the training. This will give me the opportunity to work my way up and one day become a production planner, for example, and work during the day, or a shift supervisor.

Thanks for such an interesting conversation!

EMPLOYEES

We use a wide range of measures in our quest to keep qualified employees at the company long-term.

Our company's success is heavily dependent on the skills, performance capabilities and commitment of our employees. Although it would appear that the situation on the market for skilled workers is starting to ease in general, finding staff in the specializations that H&R requires remains a challenge. Our human resources management is therefore especially important, because the success of the actions it takes contributes decisively to the future viability of our company.

H&R'S HUMAN RESOURCES STRATEGY

In order to meet its corporate objectives, the H&R Group needs qualified employees for both its production sites and refining locations; as a result, human resources work focuses on employee recruitment and retention. We train our own junior staff and offer attractive pay and personal training opportunities in order to retain skilled employees within the H&R Group over the long term. The particular conditions in local and regional labor markets pose a special challenge to the human resources management of the H&R Group, as they sometimes differ greatly, for example, in terms of demographics and educational level.

In addition, the H&R Group places the highest priority on safety and ensuring that employees remain able to work, something that we ensure by applying stringent occupational safety requirements and offering health promotion measures.

In our human resources work, we are guided not only by the local legislation, but also by our globally binding guidelines, such as the code of conduct, the corporate policy and our compliance manual.

HUMAN RESOURCES MANAGEMENT ORGANIZATION

The human resources management of the H&R Group is organized in such a way as to take into account site-specific and country-specific differences. Local human resources departments at the sites tailor their human resources management approaches to fit country-specific requirements. They are supported by the Human Resources department in Hamburg, which defines the general guidelines for our global human resources management.

EMPLOYEE STRUCTURE

At year-end 2019, the number of people employed by the H&R Group had decreased by 39 to 1,625 (December 31, 2018: 1,664). The following table shows a breakdown by division:

T. 05 **EMPLOYEES BY DIVISION**

	2019	2018	2017
Employees	1,625	1,664	1,692
of which ChemPharm	1,150	1,149	1,088
of which Plastics	447	488	575
Other	28	28	29
Personnel expenses in € million	88.5	87.1	86.0

Most of our employees work at the German refineries in Hamburg and Salzbergen (709 people (December 31, 2018: 716)) and at the GAUDLITZ GmbH site in Coburg (232 people (December 31, 2018: 284)). At the end of the reporting period, these locations had a workforce of exactly 941 (December 31, 2018: 1,000). The proportion of female employees increased from 20.25% to 21.6% (203 employees), which, according to our own estimates, was quite high for a production company with full-time shift operations. At our foreign sites belonging to the Chemical-Pharmaceutical Raw Materials division, we employed a total of 299 people during the same period, 129 of whom were female. This corresponds to a rate of more than 43.1%.

In the Plastics segment, we employed a total of 215 people abroad, 48.4% of whom were female.

The age structure of our domestic workforce has remained roughly the same in recent years. During the reporting period, the 41-to-50 age group was the largest. The age distribution of our employees is thus typical of industrial companies in Germany.

EMPLOYEE RECRUITMENT AND RETENTION

To recruit new employees, we rely primarily on traditional channels such as recruitment consultants, job portals, advertisements, and our own website. One of the main areas we focus on is recruiting young employees as apprentices training to become chemical technicians or laboratory technicians. Our performance-related remuneration models and flat hierarchies also make us an attractive employer for experienced professionals. At the German sites, most employment contracts are subject to the terms of collective bargaining agreements. In addition, we offer our employees flexible working hours (part-time arrangements, honor-system working hours), which – to the extent possible, given the processes and operating needs, such as shift work – they also take advantage of. Furthermore, we offer numerous individual, in-house opportunities for continuing education in order to retain our employees over the long term (see Training and Continuing Education, page 35).

Our employees are very committed to the H&R Group. This is demonstrated, in particular, by the high average length of service and the overall low staff turnover ratio at the sites in Germany. We calculate the turnover rate exclusively on the basis of voluntary resignations by employees. Employees entering retirement are not counted, as new employees are generally hired to replace them. In 2019, our turnover rate at the two German refinery sites was almost unchanged at around 5%, which was far below the two-digit turnover rate customary for employees covered by the German social security system. For the Coburg site, the fluctuation rate – not least due to the personnel restructuring – was around 15%.

TRAINING AND CONTINUING EDUCATION

As we can only compete internationally if we have superbly trained employees on board, we consider our spending on advanced training and professional development to be an investment in the future of our company.

When choosing advanced training courses, we follow an individual approach that promotes our employees' strengths and helps them to achieve their career goals. To that end, we want to create dependable future prospects for our employees and to support them in their professional and personal development. Here, we focus primarily on in-house continuing education programs, such as master craftsmen's training courses, but also on regular discussions and feedback sessions.

The increasing complexity of our plants and equipment also requires well-trained employees. For example, for the supervision of the processes in the refineries' measurement and control stations and the daily operation of our facilities, we deploy only experienced employees, who are ready and willing to regularly expand their knowledge base. In turn, they pass this knowledge and experience on to their young colleagues as part of their day-to-day work. In the course of their training and in the years that follow, our young colleagues learn about the special features and operation of each facility in detail. This allows us to ensure the smooth operation of our facilities – and keep important knowledge within the company.

We use our training management information system (SMIS database) to plan, coordinate and document all training activities within the company. If all of our employees worldwide complete the training programs and briefings planned for them, 23,304 training courses will be provided over the course of a financial year. In 2019, around 1,020 of our employees took part in continuing education courses, most of which are available online, reaching 94.4% of this target. In addition to covering the traditional jobs at our sites, the training also covers more general topics such as environmental protection, healthcare and social and cross-cultural skills. New content can be added to the training system, depending on the specific needs of the individual subsidiaries or departments.

OCCUPATIONAL AND PROCESS SAFETY

As an operator of refineries and production plants, the H&R Group places a high priority on occupational safety. In their daily work, many of our employees control, operate, and maintain machinery and plants; in addition, our refinery processes utilize various substances that must be handled with the utmost caution. Group-wide, we strive to have uniform safety standards that exceed statutory requirements. In doing so, we take the entire value chain into consideration, from the delivery of raw materials to the use of our components in our customers' products.

We comply with the German statutory requirements stipulated in Section 2 of German Social Accident Insurance Regulation 2 (Deutsche Gesetzliche Unfallversicherung Vorschrift 2/DGUV V2) and Section 5 of the Occupational Safety Act (Arbeitssicherheitsgesetz/ASiG) at both refinery sites by deploying specialists in occupational safety. In organizational terms, they report directly to the refinery management and are supported in their work by safety officers. At our international subsidiaries, the powers and responsibilities of occupational safety managers are based on the requirements promulgated by the Occupational Safety and Health Administration (OSHA) within the framework of each jurisdiction's particular legal provisions.

Occupational healthcare and safety specialists provide support by taking suitable measures to prevent accidents and illnesses. Our occupational health and safety regulations also promote this objective. Many of the occupational health and safety measures that we take are aimed at raising employees' awareness of potential dangers – to protect them as well as their coworkers. Therefore, a key safety issue at all of our sites is providing continuing education to our employees. We hold regular training sessions on topics relating to safety and require all our employees to visit our web-based safety instruction system on a regular basis. Both before starting to work and at regular intervals thereafter, employees are required to attend briefings and training courses at which they are informed about possible safety risks, potential dangers, and how to properly handle hazardous materials. In addition, regular safety inspections, detailed analyses of any loss events or claims, a special report on safety-related indicators, and the active involvement of the Executive Board ensure that our safety performance is constantly improving. Every H&R Group employee is required to diligently follow all safety rules in their own work area.

Contractors, suppliers and transport companies working in our factories are also included in the safety strategy. For example, anyone who has to drive on the refinery sites or move around the premises for the first time, or as a one-off, without being accompanied by an H&R employee undergoes video-based induction training in the languages most commonly used by contractors as soon as they enter the site. Completion of the induction training is recorded in a database.

In case of a relevant event, for example, involving bodily injury or physical loss or damage, or an event that is relevant to business operations, the direct managers and safety managers must immediately notify the company departments that are responsible for health, safety, and environmental protection.

Since the beginning of 2019, our accident statistics have no longer been based on the international CONCAWE standard (CONservation of Clean Air and Water in Europe), but rather have used the more stringent standards of the German Society for Petroleum and Coal Science and Technology (DGMK) as a point of reference. We report the indicators LWIF (lost workday injury frequency – number of work accidents with at least one day lost for every one million working hours) and LWIS (lost workday injury severity – number of days lost per work accident). Here, both our own employees and our contractors are taken into account. The standards we apply are therefore much stricter than those called for by the employers' liability insurance associations in Germany, for instance. During the past year, our safety efforts proved to be much more effective than in the past. The LWIF value for our refineries was 2.0 in 2019 (previous year: 7.2), at a satisfactory level for us again for the first time. By contrast, there was an increase in the severity of accidents based on the LWIS definition during the same period.

We are expanding our system of more extensive training measures, regular briefings and daily refinery rounds conducted by the individuals responsible for the site. Here, we will also be relying on our own well-trained employees to pass on to contractors their own practical knowledge of how to remain attentive and safe as they carry out their work at the respective sites.

OCCUPATIONAL SAFETY AT H&R'S REFINERIES

	2019	DGMK benchmark	2018	2017	2016
Number of occupational accidents with at least one day lost per million working hours (lost workday injury frequency; LWIF)	2.0	1.4	7.2	5.3	0.7
Number of occupational accidents with at least one day lost	4	--	11	16	4.0
Number of days lost due to accidents	244	--	177	263	73.0
Number of working days lost per occupational accident (lost workday injury severity; LWIS)	61.3	44.0	19.4	21.1	13.4
Number of fatal occupational accidents per million working hours	0.0	--	0.0	0.0	0.0

In addition to evaluating occupational safety, we also rate the production processes and workflows implemented at H&R, meaning that we systematically analyze all relevant production processes, up to and including an analysis of damages once any events have occurred. In other words, we investigate how error-prone our processes are and the extent to which they can reliably be performed error-free. Since the start of 2011, we have used the Process Safety Event (PSE) metric to measure our performance in the area of process safety; we calculate this by tracking incidents relating to the safety of our processes per one million working hours. We also ensure that our results are meaningful by comparing them with the DGMK benchmark, which came to 0.17 in 2019.

We achieved an average annual PSE of 0.10 at both refinery sites. Therefore, since beginning to record the PSE, we have always performed better than the CONCAWE (until 2018) and DGMK (as of 2019) benchmark standards.

READY FOR USE

Indispensable and in no way harmful to human health: Be it in medical products, cosmetics, food or car tires, H&R's products can be found in a whole range of industrial and everyday products. Especially where they come into contact with people, H&R's products must not be harmful to human health in any way over their entire life cycle. This is no problem for us.

H&R products are used in cosmetic and other products

SAFE FOR DIRECT CONTACT

H&R uses petroleum-based raw materials to produce around 800 specialty products that are used in products in a wide range of industries. Medical white oils rank among the particularly high-quality specialty products. White oils are as clear as water, colorless, odorless and tasteless and, despite being based on crude oil, free of mineral oils. We produce them in a multi-stage hydrogenation process using special catalysts at high temperatures and under high pressure. White oils are used, for example, in cosmetics products such as ointments and creams. They are what gives lipstick the perfect shine. In these applications, they not only come into direct contact with the human body, but also form part of a product used for deliberate personal care. So it goes without saying that they have to be 100% safe for human health and meet the very highest standards of tolerability and purity. This is why we filter any potentially harmful substances, such as sulfur and aromatic compounds, out of our white oils completely.

Our paraffins and specialty wax products are used in the food and packaging industry, among others. This means that they also come into contact with people, either directly or via the end product, for example, at mealtimes or during personal care. Due to their water repellent properties, paraffins and waxes can be used in a wide variety of applications.

So our mission is clear: The safety of these products for human health always has to be guaranteed in full.

CLEAR GUIDELINES FOR HIGH QUALITY

In order to achieve this goal, we not only comply with the legislation that applies in the countries in which our products are used, but also set ourselves very high internal standards. We use clearly defined processes to ensure that we comply with all requirements without exception.

The ISO 9001 quality management standard, for example, is a minimum standard that we apply consistently at all H&R production sites. Our laboratory is also accredited in line with the ISO 17025 standard for testing and calibration laboratories. This is testimony to our laboratory management expertise and also confirms the implementation of a quality management system in the laboratory. We also use the European Pharmacopoeia as a basis when manufacturing our products. It sets out clear requirements for production processes and medication quality.

A STEP-BY-STEP PROCESS LEADING UP TO APPROVAL

Our laboratory data information management system, international standards such as advanced product quality planning (APQP) and standardized internal approval processes serve as key instruments for implementing the safety requirements.

We have also mapped the entire research and product development process and defined all steps in the testing process that take place in the laboratory and in our systems in a standardized manner. Defining our procedures helps us to monitor the production process and the test parameters on an ongoing basis. This means that individual products must be approved before they can move on to the next stage in the process leading up to their completion, which can sometimes comprise a large number of different steps. This allows us to consistently ensure that our products meet the required high quality standards – even if processes or feedstocks change.

All products go through the strictest quality controls in our laboratory before they are further processed or delivered.

H&R products come into direct contact with human skin through the end product in which they are processed, e.g., in cosmetic products.

PRODUCT RESPONSIBILITY AND SOCIAL COMMITMENT

SAFETY AND ENVIRONMENTAL COMPATIBILITY OF PRODUCTS

The business area in which H&R operates, the production of crude-oil-based specialty products, is a very particular one. We manufacture fossil fuel-based products that are used in a wide range of industries. This makes it all the more important for us to live up to our responsibility toward the environment and our neighbors, as well as our business partners and employees, and to manufacture products that are safe to use and are also as environmentally friendly as possible. The conservation of natural resources and the use of environmentally friendly and safe production processes that save energy are an absolute must. This is why, throughout the H&R Group, it is the joint responsibility of all employees to constantly search for opportunities to reduce the environmental impact of our processes, products and services, as well as the environmental impact within their own working environment. Therefore, wherever it is feasible and appropriate to do so, we design our production processes and processing facilities in accordance with the latest technology and in such a way as to conserve resources.

Our products are used in a vast range of industries and in almost all areas of day-to-day life, for example, in the food and packaging industries, but also in the cosmetics and pharmaceutical sectors. In the food industry, for example, cheese rinds are coated with paraffin to prevent the cheese from drying out. The packaging industry has various uses for paraffins, including coating the inside of Tetra Pak containers. Medical white oils are used in cosmetic products such as creams and ointments.

Scientific findings have shown that crude-oil-based raw materials have less allergenic potential than other natural products. What is more, our cosmetic products only use highly refined mineral oils and microcrystalline waxes that meet the purity requirements that apply to medication. As a result, and based on the scientific knowledge currently available, the German Federal Institute for Risk Assessment (BfR) is of the view that mineral-oil-based cosmetic products do not pose any health-related risks to consumers.

Since our products also come into contact with people in the end products in which they are used, it is particularly important that they are harmless and non-hazardous to health over their entire life cycle. On the one hand, we guarantee this by modeling all product development and testing processes in our laboratory data information management system (LIMS). On the other hand, we apply international standards such as Advanced Product Quality Planning (APQP) and standardized internal approval processes. If a product does not comply with the technical or statutory requirements, or is not consistent with the customer's specifications, it is not approved. Products are only delivered to the customer once every single requirement has been met.

In recent years, we have also concentrated on developing products that meet the highest quality standards and, once incorporated into the end product, help to protect the environment. These products either offer an alternative to products containing environmental pollutants or, by virtue of their use, help to protect the environment. For example, the white oils produced in our refineries are used as components in pesticides to improve the yield of renewable raw materials. Products made of domestic timber varieties are weatherproofed using our paraffins. Their use renders intensive deforestation unnecessary. In the automotive industry, our innovative plastic products are increasingly being used to substitute metal parts. The resulting weight reduction helps to reduce vehicle fuel consumption even further. At the same time, the amount of energy used in their production is much lower than for comparable metal components.

"It is the task of all employees to work continuously on reducing the environmental impact of our processes."

ENVIRONMENTAL MANAGER AT H&R

Paraffins are used to protect food, such as cheese, from drying out.

Nevertheless, the production process at our production sites in Salzbergen and Hamburg generates residues. By using our propane deasphalting facilities, as part of a cost-effective and environmentally beneficial process we can convert these residues into crude-oil-based specialty products, such as paraffins and asphalt for use in the road-building industry. Some of this bitumen can also be reused as a raw material by other refinery operators. This approach reflects our efforts to use our R&D work to reduce the percentage of by-products and/or products that are ultimately incinerated to the greatest extent possible.

We apply the standards set forth in the European Union's Regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). At a local level, we also joined the REACH Hamburg skills and support network back in 2014. The network supports regional economic players in complying with their duties and obligations under REACH and, at the same time, serves to establish structures that strengthen the REACH-related skills of all parties involved, promoting the efficient implementation of the regulation in the process.

For 2019, we are not aware of violations of legal provisions, requirements or labeling obligations. However, we cannot fully rule out the risks inherent in operating industrial plants (including risks arising from our refineries and our products). For example, in order to ensure that both the sites and their neighbors are protected, we operate our own plant fire brigades and/or are in close contact with the local emergency teams. Regular drills ensure smooth cooperation.

SOCIAL COMMITMENT

At its production sites, the H&R Group is not only a company and employer, but also a neighbor. Suggestions and complaints from the public are investigated accordingly; the remedy is usually direct and unbureaucratic. In addition, H&R holds regular events at its sites such as “Open House” or, specifically in Hamburg, an event as part of the “Lange Nacht der Industrie” (long night of industry).

To date, H&R does not have an overriding, Group-wide policy regarding its social commitment. However, we take our social responsibility seriously. Our sites are responsible for their own social activities, which are adapted to the circumstances of the countries in question.

In Germany, for example, we support the Landmann Foundation, which provides funding for one or two students each year in our specialty areas (Chemistry/ Engineering Sciences).

The H&R Group also sponsors sporting events and youth programs and provides financial support for various institutions. The annual total is in the moderate five-digit range. We are especially proud of our many dedicated employees who voluntarily and on a good-will basis get involved in various religious, sociopolitical and neighborhood activities near our sites. Above all, they are making a difference in areas where what is needed is helping hands, not financial resources.

“Quality and clarity are our top priority.”

LABORATORY EMPLOYEE

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If you have further questions concerning our company or if you would like to sign up for the company mailing list, please contact our Investor Relations Team:

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IMPRINT

Published by

H&R GmbH & Co. KGaA
Neuenkirchener Straße 8
48499 Salzbergen

Concept/Design

Berichtsmanufaktur GmbH, Hamburg

Text

Berichtsmanufaktur GmbH, Hamburg

Translation

Berichtsmanufaktur GmbH, Hamburg

Print

Dräger+Wullenwever p+m Lübeck GmbH & Co. KG

Photographs

Achim Kraus, Munich (Portrait p. 01)
Yavuz Arslan, Bochum (Refinery photographs)
AdobeStock (p. 20)
unsplash.com (pp. 01, 03, 10, 11, 24, 41, 43, 38)

This company magazine and the non-financial report were published on April 8, 2020.

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2019

FINANCIAL REPORT

H&R GMBH & CO. KGAA

OUR
KEY FIGURES
2019

In the 2019 financial year, we had to hold our own in a challenging market environment with lower demand and a high level of supply at the same time. In light of the circumstances, we were only partly successful in these efforts. Our sales remained robust at €1.1 billion, while our operating income of €52.9 million fell short of our expectations. The Refining and Plastics segments were hit particularly hard by the general economic situation. In 2020, they will operate in a different set-up.

T. 01 **THE H&R GROUP IN FIGURES**

IN € MILLION	2019	2018	Change in absolute terms
Sales revenue	1,075.3	1,114.2	-38.9
of which Chemical and Pharmaceutical Raw Materials Refining	665.0	694.5	-29.5
of which Chemical and Pharmaceutical Raw Materials Sales	376.9	374.9	2.0
of which Plastics	43.2	55.0	-11.8
Reconciliation	-9.9	-10.2	0.3
Operating income (EBITDA)	52.9	74.7	-21.8
of which Chemical and Pharmaceutical Raw Materials Refining	29.2	46.0	-16.8
of which Chemical and Pharmaceutical Raw Materials Sales	30.7	30.1	0.6
of which Plastics	-4.9	3.0	-7.9
Reconciliation	-2.2	-4.4	2.2
EBIT	7.4	40.6	-33.2
Income before tax	-1.2	33.7	-34.9
Consolidated income (before non-controlling interests)	0.1	22.3	-22.2
Consolidated income (after minority interests)	-1.4	21.6	-23.1
Consolidated income per share (undiluted, in €)	-0.04	0.59	-0.63
Operating cash flow	95.9	23.3	72.6
Equity ratio (in %)	43.3	48.9	-5.7
Employees as of December 31 (absolute)	1,625	1,664	-39

T. 02 **NON-FINANCIAL PERFORMANCE INDICATORS OF H&R GROUP**

KG PER TON OF FEEDSTOCK	2019	2011 (Reference value)
CO_2 emissions (kg/t)	382.3	385.6
Waste (kg/t)	2.68	3.09
Wastewater (l/t)	610.7	861.2

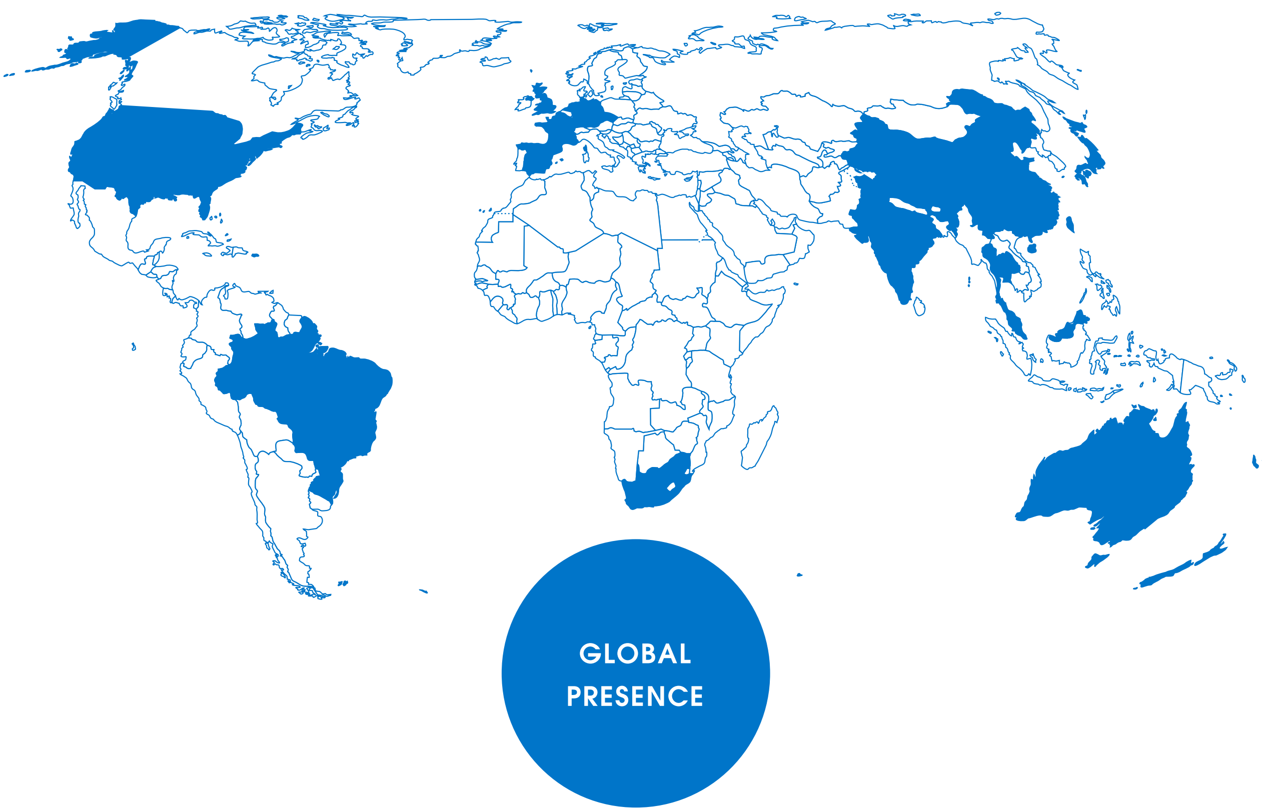
1,075
MILLION EUROS IN SALES 2019

52.9
MILLION EUROS EBITDA 2019

1,625
EMPLOYEES 2019

OUR
MISSION STATEMENT

As a refinery group with international operations, we focus on the manufacture of high-grade chemical-pharmaceutical specialty products. Our customers' needs are our top priority. They come from more than 100 different industries and benefit from 100 years of experience gleaned over time, comprehensive expertise and efficient production processes. We aim to successfully expand our global presence – and our business along with it – over the next few years.



OUR
PRODUCTS

OUR WORK STARTS WITH RAW MATERIALS THAT CONVENTIONAL REFINERIES HAVE NO FURTHER USE FOR: THESE CRUDE OIL DERIVATIVES, WHICH ARE BASICALLY BY-PRODUCTS OF CRUDE OIL DISTILLATION, OFFER US ALMOST INEXHAUSTIBLE POTENTIAL.

AROUND ONE HUNDRED THOUSAND TONS OF CRUDE OIL DERIVATIVE ARE PROCESSED IN OUR TWO MAIN FACILITIES EVERY MONTH. AND WE ALWAYS HAVE ALL OF THE INFORMATION WE NEED ON THE COMPOSITION OF THE FEEDSTOCK.

PETROLEUM JELLIES **& WHITE OILS**

Turning crude oil, first, into base oil, and ultimately into cosmetics, is a long road. In between these two extremes lies a highly complex chemical process which H&R is continuously improving and enhancing. We use this multi-stage hydrogenation process to produce white oils. They are as clear as water and are used, by way of example, in cosmetics.

COSMETIC & PHARMACEUTICAL **SPECIALTIES**

In recent years, this H&R specialty business has successfully developed emulsifiers and bases for the cold processing of ointments, creams and lotions, among other things. Tailor-made advice and recommended formulations give many pharmacies and pharmaceutical/cosmetic manufacturers security in formulating premium products.

WAXES **& EMULSIONS**

The H&R Group is focused on waxes. Based on our integrated raw material portfolio, we develop, produce and sell waxes and formulated waxes for specific industrial applications.

PROCESS **OILS**

More than a fifth of a car's fuel consumption stems from the rolling resistance of its tires. Reducing this figure is therefore nothing else than a practical example of climate protection. It has been scientifically proven that environmentally friendly plasticizers make a key contribution to improving the operating characteristics of state-of-the-art tires.

CABLE **FILLERS**

H&R is the world's leading provider of cable compounds for the energy and telecommunications sector. We offer unique application solutions for manufacturers, operators and installers of cables through an international network of manufacturing sites.

MINERAL-OIL TRADE **& INDUSTRY**

Modern, high-performance engines need top-quality motor oil in order to withstand the demands of daily use. H&R motor oils satisfy the requirements of the newest generation of engines and were manufactured for use by major manufacturers. They keep the engine clean, provide reliable protection against sludge build-up and reduce excessive wear and tear.

CONSTRUCTION **INDUSTRY**

Special water-based H&R waxes and oil emulsions made from natural waxes are used in industrial sectors such as paints and varnishes, paper and packaging, chemicals and blenders, construction industry and insulation materials, as well as in engineered woods.

PLASTICS

Full service – a claim we also live up to in the plastics product segment. Here, we precisely tailor the properties of the material to the level of stress the end product will be subjected to on a daily basis. This also applies to our lightweight precision gears, which are also used in dental drills.

NIELS H. HANSEN
Managing Director

DEAR SHAREHOLDERS,
DEAR READERS,
DEAR EMPLOYEES,

I would like to start this letter with a number:

2019

This number will not be unfamiliar to you, as it will have been with you throughout the past calendar year. Writing the date on a letter, for example, will have been a completely normal everyday activity for most of you.

My situation was a bit different. This is because 2019 was an anniversary for me – and also for the H&R Group. Since its establishment back in December 1919, the Hansen & Rosenthal Group has written 100 years of entrepreneurial and corporate history.

The critics among you might say "Growing older is just something that happens to you. It's not like you've achieved anything." While that may be true in principle, starting a business, driven by entrepreneurial spirit, so soon after the First World War and then, in the following decades, surviving a global economic crisis, another world war, various currency reforms, two major oil price crises and a banking crisis, as well as massive changes in the refinery market, certainly can be seen as an achievement.

None of us have experienced all of these phases in person. Nevertheless, these years are closely linked with the name of the Hansen family – through the people who have carried, and passed on, the baton from generation to generation.

Rest assured, this still applies to this day. As the majority shareholder of our family and entrepreneur-led group, this is something that we are very conscious of. And we are more than happy to bear the responsibility that comes along with it. We are doing everything in our power to guide H&R through current economic times that are far from easy.

After all, 2019 gave us little reason to celebrate in operational terms. On the contrary, the year was particularly challenging in some areas. We did not manage to escape the global political and economic challenges unscathed and we were forced to bow to the developments on the market and accept lower net income.

As the operator of two specialty refineries, the current environment hit us a good bit harder than was perhaps the case at other industrial companies. The trade dispute between the United States and China led to mounting import and price pressure for paraffins and waxes during the year. As far as base oils are concerned, sustained overcapacity emerged due to cheap qualities from Eastern Europe and measures to increase capacities for Group II base oils.

Worldwide, the current supply of base oils significantly outstrips the demand in major key industries, such as the ailing automotive industry, and is resulting in more intense competition for all qualities.

Leading our company into the next 100 years of corporate history will not be an easy task. First and foremost, it will require us to act more quickly. This will involve us taking resolute measures to enhance the operating model for our refineries.

Although we are putting everything under the microscope in general, we are not aiming for a 180° turnaround. As you will know from our previous reports, the composition of the raw material is just as decisive for the quantity, composition and quality of our end and by-products as plant configuration measures are.

As well as applying this principle, we are optimizing the mode of operation and capacity utilization of the individual production steps by replacing the linear and, as a result, relatively rigid coupling process with a way of controlling the process plants that is as flexible and selective as possible. This will allow us to better manage which product we want to produce, and in what volumes, in the future. At the same time, we will be able to avoid producing unwanted by-products and Group I base oils. This means that we can avoid competition in an area in which we cannot win anyway.

I would like to emphasize that our aim is not to remove facilities from the current production process, or to incorporate new process technologies into existing processes in the near future by making huge investments.

Whatever changes we make, our customers are always our top priority. We want to offer them components for their applications and formulations that meet the quality standards that they have become accustomed to. After all, our products will still be needed in the future, in a decarbonized world that focuses on sustainability instead of the use of fossil resources.

This opens up a huge opportunity for us, because we can already point to a “proof of concept” in the form of hydrogen electrolysis at our Hamburg site, which we intend to reinforce again by implementing projects for the production of green hydrogen and green CO_2 from 2020 onwards.

Does this mean that tough times lie ahead for us? Yes, it does! Are we at the mercy of the challenges facing us with no opportunity to master them? Certainly not! Quite the opposite. The current situation also presents us with opportunities provided that we can succeed in taking flexible action again and setting the course for the future.

Our special thanks go to you, our shareholders, for going the distance with us over the years. Your loyalty to our company means a lot to me.

I would also like to thank you, our customers and partners. Many of you have not only been by our side over the past year, but have been with us throughout the last few decades.

And I would like to thank you, our employees. You represent everything we have achieved. Aware of our responsibility for a company that is now a whole century old, we will rise to the challenges that lie ahead of us and work with passion to get the job done.

We are heading into the next century together.

I am delighted to have you aboard!

Best regards,

Executive Board of H&R GmbH & Co. KGaA

Niels H. Hansen
Managing Director

Salzbergen, March 2020

Company Representative Bodies

The representative bodies of H&R GmbH & Co. KGaA are comprised of people who combine entrepreneurial thinking with professional skills. They complement each other with their specific skills and diverse expertise, which they use to achieve our shared corporate objectives.

Executive Board

As the general partner with full personal liability, H&R Komplementär GmbH is responsible for managing H&R GmbH & Co. KGaA. It runs the business and manages the company. In the 2019 financial year, the Management Board comprised the following members:

Niels H. Hansen
Managing Director

Detlev Wösten
Member of the Executive Board (until July 31, 2019)

The Supervisory Board

The Supervisory Board of H&R KGaA is responsible for the supervision of the Executive Board. In financial year 2019, the Supervisory Board of H&R KGaA comprised the members listed below. The Chairman of the Supervisory Board of H&R KGaA is Dr. Joachim Girg.

Chairman of the Supervisory Board

Dr. Joachim Girg
Managing Director of H&R Beteiligung GmbH

Members of the Supervisory Board

Roland Chmiel
Certified Public/Chartered Accountant, Partner in the law and accounting firm of Weiss Walter Fischer-Zernin

Sven Hansen
Managing Partner of the H&R Group

Dr. Hartmut Schütter
Certified Engineer, Freelance Consultant

Dr. jur. Rolf Schwedhelm
Tax Attorney and Partner in the law firm of Streck Mack Schwedhelm

Dr.-Ing. Peter J. Seifried
(until May 24, 2019)
Chemical Engineer, Independent Consultant

Sabine U. Dietrich
(since May 24, 2019)
Chartered Engineer, Member of the Executive Board of Commerzbank AG

Reinhold Grothus
Group Works Council Chairman for the H&R GmbH & Co. KGaA, Works Council Chairman of H&R ChemPharm GmbH

Holger Hoff
Works Council Chairman of H&R Ölwerke Schindler GmbH

Harald Januszewski
Works Council Chairman of GAUDLITZ GmbH

The Advisory Board

The Advisory Board of H&R KGaA consists of experts who contribute their expertise in the areas of finance and economics, industrial management and refinery technology on an advisory basis.

Harald Baumgart
Managing Director of KG Deutsche Gasrußwerke GmbH & Co

Eckbert von Bohlen und Halbach
Managing Director of Bohlen Industrie GmbH

Sabine Dietrich
(since May 24, 2019)
Chartered Engineer, Member of the Executive Board of Commerzbank AG

Dr. Erwin Grandinger
Entrepreneur

Dr. Bernd Pfaffenbach
Secretary of State in the German Federal Ministry of Economics and Technology, retired

Mazdak Rafaty
Entrepreneur

Wilhelm Scholten
Managing Director of Ölfabrik Wilhelm Scholten GmbH

Dr.-Ing. Peter J. Seifried
(until May 24, 2019)
Chemical Engineer, Independent Consultant

Dr. Gertrud Rosa Traud
Chief Economist of Helaba Landesbank Hessen-Thüringen

DR. JOACHIM GIRG
Chairman of the Supervisory Board

Supervisory Board Report

Dear Shareholders, Dear Readers,

"After two successful years, the volatility of the refinery business caught up with us again in 2018." These were the opening words of the Supervisory Board Report in the 2018 Annual Report. This volatility continued in the 2019 financial year, and we were unable to absorb it to the necessary extent, despite considerable efforts being made by the company.

I. With EBITDA of €52.9 million, the company once again fell short of its earnings target by a wide margin in the past year. While the results in the first half of 2019 were still largely on target, the figures showed a marked deterioration from the summer onwards.

II. Extensive investments and measures taken at the Hamburg and Salzbergen refinery sites to enhance our flexibility, protect the environment and safeguard our facilities only made slight positive contributions to earnings in 2019 – whereas the costs incurred had an effect in full.

III. Bucking the general market trend, the international Sales segment once again proved to be a reliable source of income.

Only a good five years after the last crisis in the sector, European base oil refineries were once again confronted with challenging market conditions in the second half of 2019 at the latest. There are various reasons behind this trend. Due to large-scale investments in Group II and Group III refinery technology worldwide – to name but a few examples, the European sites in Rotterdam, Cartagena and Gdansk, as well as refineries in China – global base oil capacities have increased significantly, ultimately resulting in considerable overcapacities. Base oils, also known as solvates, account for a large part of the "conventional" Group I production of our two refineries in Hamburg and Salzbergen.

But statutory changes and economic policy conflicts did not make the operating conditions for companies any easier either. Quite the opposite. The new rules imposed by the International Maritime Organization (IMO 2020), which are aimed at reducing the sulfur content of marine fuels and came into force on January 1, 2020, led to a significant drop in by-product revenues in the course of the 2019 financial year. At the same time, there was a significant increase in the cost of low-sulfur (raw material) feedstock. The trade war waged between the U.S. and China led to mounting import and price pressure on paraffins and waxes, a product segment that H&R has focused on increasingly in recent years. We could certainly have imagined a better environment for our company's one hundredth anniversary.

Looking back over the century-old history of this group of companies, H&R has only been operating in its current structure for the last quarter or so of that time. Before then, the company focused primarily on the sales/distribution of white oils, paraffins and other specialty oils. The company's development was not always straightforward. During the Second World War, for example, the darkest phase of the last one hundred years, countless companies, including Hansen & Rosenthal, were forced to move into new or additional business areas in order to survive. After the refineries that were still operational ended up manufacturing products exclusively for military purposes and were later destroyed during the war in many cases, H&R started to include "catalog products", such as cutlery, crockery and other goods for daily use, in its range of products. In the post-war years, the range of products on offer included tools, bicycle parts, radios, used truck engines, corsetry and much more. The target market was virtually the entire world. In the 1950s, H&R had customers based in Chile, southern Africa and Asia.

This glance back at the company's past is not my way of preparing you, dear readers, for even more difficult times. Rather, I want to give you an example of what makes medium-sized companies successful even in times of crisis: entrepreneurial courage, flexibility, speed, a sense of responsibility and a willingness to take risks. And once a new business field or strategy has been approved and opened up, medium-sized entrepreneurs do not waste a lot of time talking and debating. They get the job done. I am certain that a lot of the characteristics I have referred to above can still be found within our company, which is why we would see the current situation as an opportunity.

Strategies and visions make up one part of an entrepreneur's work. The other is made up of the current facts and earnings figures. And, as we all know, the figures do not "lie". As a result, the macroeconomic situation in our immediate environment is a source of concern for us. After numerous key German industries have fallen behind on the global stage, or even disappeared completely, in recent decades – to name but a few examples: the manufacture of cameras and electronics products, the clothing and nuclear industries, the production of pharmaceutical and chemical products, the banking market and the public utilities industry – it would now appear to be in vogue in social and political circles to make the ailing German automotive industry out to be worse than it is. H&R is also reliant on developments in the automotive industry, both in the refinery business and in the Plastics division with its subsidiary GAUDLITZ. As the example of the United Kingdom in the 1990s shows, it is almost impossible to ensure a high standard of living through services alone. One of Germany's strengths has always been a close alliance between high-quality industrial production and a strong services sector. This combination is not an aspect of our economy that we should give up lightly. Economy and ecology are not mutually exclusive.

H&R GmbH & Co. KGaA is only a small cog in this wheel of conflict. This does not, however, make the task that lies ahead any less important: on the one hand, the company has to ensure that its core areas – essentially the two refinery sites in northern Germany – meet the very highest technological standards, allowing them to serve as a technological role model. At the same time, it is important to push ahead with the development of international sales. The "bottleneck factors" in this regard are mainly people to implement the projects and measures professionally. And, of course, the economic resources are another factor, because we all know that a euro can only be spent once.

In order to ensure that our voice is still heard by local, regional and nationwide authorities despite our size, H&R GmbH & Co. KGaA once again made extensive use of the network of the Supervisory Board and Advisory Board in the past year.

Despite falling well short of its earnings targets for 2019, H&R GmbH & Co. KGaA generated a distributable profit according to HGB regulations for separate financial statements of €14.1 million, which would, at first glance, appear to offer potential for distributing a dividend for the previous financial year. Following intensive discussions with the Executive Board, however, we concurred that it would once again be better not to propose a dividend payout for the past financial year, but to carry the full amount of the distributable profit forward. We believe that a cautious approach to budgeting aimed at maintaining the company's liquidity is necessary for the following reasons:

I. The volatility on the raw materials markets is continuing unabated.

II. The increased political and economic uncertainty that emerged last year has yet to be resolved. For example, our three Chinese production sites weathered the outbreak of the coronavirus crisis in Asia at the beginning of the year relatively well, without suffering any major earnings losses, at least for the time being. This does not, however, mean that the situation at our other sites across the globe will be the same.

III. Even though the moves to enhance our refinery operating model have not involved a need for any significant investments to expand or replace capital assets to date, we expect to have to make adjustments to tank and logistics capacities.

Key Focal Points of Supervisory Board Work

In the 2019 financial year, the work performed by the full Supervisory Board and its committees focused on five key topics:

The most important group of topics addressed in the Supervisory Board's work related to the **further development of the refinery operating model.** While the refinery site in Salzbergen has achieved a predictable and comparatively stable earnings structure with defined upper and lower limits as a result of the contract-production model that has been in place since 2013, the Neuhof site in the Port of Hamburg (OWS) has repeatedly been hit by unexpected volatility. At the same time, the overall economic, social and ecological environment in which refineries operate is changing at an ever-increasing pace. For this reason, we held discussions with the management throughout the year regarding the operation of our refineries. External experts and members of the Advisory Board of H&R GmbH & Co. KGaA were also involved in these meetings and talks. The results and improvements highlighted in the recent refinery comparative study published by Solomon underscore the need to continue with this approach. The Supervisory Board gives the management of our company its unconditional support in implementing the measures that have been adopted.

Extensive investment measures were implemented once again in the 2019 financial year with the close involvement of the Supervisory Board. The asset maintenance measures already initiated in the previous year, first and foremost the renewal of the flood protection wall at the site in the Port of Hamburg, were largely completed. Another project focused on the optimization and expansion of our hydrogenation capacities. After the earnings situation started to look significantly strained in the course of the year, investment projects were scaled back to the level that was absolutely necessary. In an ideal scenario, an investment project aimed at further increasing the flexibility of our refinery set-up takes two to three years from the initial idea to planning stage, the approval procedure and the financing phase, and finally to the tender process and the construction work itself. When the new facility is commissioned, this generally signals the start of a ten-year depreciation period. What is more, the depreciation period normally includes a major inspection conducted by the German Association for Technical Inspection (TÜV) in which the facility is completely dismantled. Particularly in times of more pronounced market volatility and other political or social uncertainties, it is all the more crucial to have perfect control over the planning and realization process. This means that a good investment not only helps to achieve greater flexibility or reduce the volume of by-products; it also has to generate a return from day one.

The extensive investment projects to safeguard and further increase the flexibility of our two refinery sites once again brought the issue of **safety** into the focus of the Supervisory Board's activities. Particularly at OWS in the Port of Hamburg, the number of external contractors significantly exceeded the headcount of H&R employees over large parts of the financial year. This gave rise to considerable challenges with regard to facility and process safety. The personal safety of our employees and partners, however, is even more important again. We were pleased to note that the safety record for both sites has improved and is now above average for the industry. Our main aim, however, is still to achieve "zero accidents" for all H&R Group sites.

As well as optimizing our national production sites, we have also not lost sight of the quest to further **expand our international business,** our most stable earnings driver over the last decade. Our medium-term objectives are to safeguard and, wherever possible, further step up our activities in our established locations, and to expand our sales activities in North and Latin America, Africa and India. We have opted to focus in particular on Indochina, and especially on Vietnam.

After two somewhat more encouraging financial years in 2017 and 2018, **GAUDLITZ GmbH,** which is involved in the manufacture of high-precision plastics, has again slipped into the red due to developments in the automotive industry. As a result, extensive restructuring measures were carried out at the company headquarters in

Coburg in the 2019 financial year. It remains to be seen whether this will mark the beginning of a new, positive trajectory at the former core company of WASAG Chemie AG, as it was called then.

In December 2019, the chairman of the Audit Committee, accompanied by the lead auditor, visited the **company's site in Durban, South Africa,** as part of the work on the annual financial statements. In addition to a site visit and a review of H&R's business activities in the country, plans for the further expansion of the company's African business over the next ten years were discussed with internal and external experts.

Over and above its general supervisory and control functions, another key task in the Supervisory Board's remit is to support the Executive Board in achieving the **five core company goals.** Target achievement for 2019 is as follows:

T. 03 **PERFORMANCE GOALS, TARGETS ACHIEVED IN 2019**

Performance Goals	Targets Achieved in 2019
i) Reducing low-margin and negative-margin by-products and converting these into high-grade specialty products	Continuous improvements were achieved through investments and product innovations, as well as cross-company cooperation initiatives. There were also project delays, however.
ii) Securing and improving our competitive position	The 2019 Solomon study shows a deterioration in values in some areas compared to previous years. The improvement potential identified has been, and will continue to be, implemented systematically.
iii) Improving performance of international sales/distribution	The share of revenue and earnings increased.
iv) Safety and environmental protection	The safety record has been improved, and the values are now better than the industry standard.
	Investments have been made in sustainability and environmental protection.
v) Generation of an EBITDA margin of >10%	With a margin of 4.9% the EBITDA target was missed by a long shot.

Objectives and Composition of the Supervisory Board

Following the change of legal form in 2016, the activities performed by the Supervisory Board of our company have focused primarily on control functions and an advisory role. In contrast to companies with the legal form of a limited partnership (AG), the Supervisory Board of a limited liability company (KGaA) has no statutory co-determination rights when it comes to, e.g., major investment projects or defining the company's strategy, and no human resources competencies regarding the managing directors (e.g., their appointment or dismissal, extending, altering or terminating contracts, and dealing with matters relating to their remuneration). At H&R GmbH & Co. KGaA, this function is performed by an Advisory Board of the company acting as the general partner, which has been composed of independent members of the Supervisory Board since it was set up as part of the change in legal form.

The objectives and composition of the Supervisory Board are reviewed by us at regular intervals and are adjusted, or elaborated, as and when required. Based on the current version, the following requirements apply to the composition of the committee and the individual members:

The Supervisory Board of H&R GmbH & Co. KGaA is to be composed so as to ensure the qualified monitoring of, and provision of advice to, the Executive Board. All in all, its members should have the knowledge, skills and professional experience required to enable them to perform the duties incumbent upon a Supervisory Board of a capital market-oriented group of companies with international operations in the refinery segment, and in the business with chemical-pharmaceutical specialty oils and plastics, in a due and proper manner. The special features that apply to structures in which the company acting as the general partner is a family-run business must be taken into account within this context.

Requirements Regarding the Composition of the Committee

Overall, the Supervisory Board should have the skills that are considered important given the activities pursued by H&R GmbH & Co. KGaA. These include, in particular, in-depth experience and knowledge in nine areas.

At least two-thirds of the Supervisory Board members must be independent within the meaning of Section 5.4.2 of the German Corporate Governance Code. In this respect, it is assumed that the fact that members represent the employees or have a contract of employment with the H&R Group does not call their independence into account. The Supervisory Board must not include more than two former members of the Executive Board of H&R GmbH & Co. KGaA.

As a general rule, the members of the Supervisory Board should not be aged over 70. Exceptions can be made from this rule in justified individual cases. In general, the length of service on the Supervisory Board should not exceed 15 years or three terms of office.

The Supervisory Board of H&R GmbH & Co. KGaA would like to promote and strengthen a culture of diversity as a forward-looking foundation for our business. To us, diversity is a way of thinking that is characterized by mutual respect and open-mindedness. The Supervisory Board places particular emphasis in this regard on promoting women to leadership positions. Taking into account the requirements set out in Section 111, paragraph 5 of the German Stock Corporation Act (AktG), the Supervisory Board should comprise at least 20% female members and at least 20% male members. The aim is to have achieved these objectives by the end of 2020 at the latest. As a matter of principle, the selection of Supervisory Board members should be based on professional criteria alone. An individual's skin color, religious affiliation, gender or sexual orientation are no reasons to exclude a particular candidate.

Supervisory Board members should have entrepreneurial/business experience in at least one of the areas listed in figure T.04, as well as general knowledge of the refinery segment or related areas. On the basis of their knowledge, skills and professional experience, they should be able to perform the duties incumbent upon a Supervisory Board member in a company with international operations and safeguard H&R Group's public image. At least one-third of the shareholder representatives should have long-standing international experience in the markets relevant to H&R. When proposing candidates to the Annual Shareholders' Meeting for election, attention should be paid, in particular, to an individual's personality, integrity, motivation, professionalism and independence. Supervisory Board members should comply with the limits recommended in Section 5.4.5 of the German Corporate Governance Code regarding the number of Supervisory Board mandates.

When selecting a Supervisory Board member, care must be taken to ensure that the individual can devote the amount of time that is expected to be necessary to ensure the due and proper performance of their Supervisory Board mandate. Within this context, it is important to bear in mind, in particular, that at least five ordinary Supervisory Board meetings are held every year, all of which have to be prepared for in an appropriate manner, that sufficient time must be set aside for the review of the annual and consolidated financial statements and that members who are also appointed to one or several Supervisory Board committees will require additional time to perform these tasks. Furthermore, extraordinary meetings of the Supervisory Board or a committee may have to be held to address special issues.

General Information About Supervisory Board Activities

The Supervisory Board diligently and conscientiously performed the supervisory and advisory duties required by law, the Articles of Association and internal rules of procedure. During financial year 2019, the Supervisory Board and the Executive Board had a good, intensive working relationship. The Executive Board kept the Supervisory Board Chairman informed about all important

T. 04 **PROFILE REQUIREMENTS WITHIN THE MEANING OF SECTION 5.4.1 PARAGRAPH 2 OF THE GERMAN CORPORATE GOVERNANCE CODE FOR THE SUPERVISORY BOARD**

Name		Dr. Joachim Girg	Roland Chmiel	Sabine U. Dietrich	Reinhold Grothus
Age		55	62	59	59
Function		Chairman of the Supervisory Board; representative of the majority shareholder	Deputy chairman; independent financial expert	Independent member of the Supervisory Board	Employee representative; Group works council chairman H&R GmbH & Co. KGaA; works council chairman H&R ChemPharm Group, Salzbergen
Occupation/Professional Background		MBA	MBA; Certified Public/Chartered Accountant	Chartered Engineer	Chemical Technician
Profile requirements	Family-run SME, capital market operator	x	x		
	Refinery business & petroleum specialty products; plastics			x	x
	Application research & product development				
	Production; marketing; sales/distribution; digitalization, sustainability			x	
	Internationality	x		x	
	Accounting & auditing	x	x		
	Controlling & risk management	x	x	x	
	Financing & capital market	x			
	Law & taxes		x		
Boards		Audit Committee; RTS; Nomination Committee	Audit Committee (Chairman)	Audit Committee; RTS	none
On the panel since/elected until		September 2011/Annual Shareholders' Meeting 2022	May 2011/Annual Shareholders' Meeting 2021	May 2019/Annual Shareholders' Meeting 2020 [1]	2001/Annual Shareholders' Meeting 2022
Panel activity (# meetings/participation)		Meetings 7/7 Boards 10/10	7/7 7/7	4/4 6/6	7/7
Additional board functions		none	Togal Werk AG, München: member of the supervisory board	COMMERZBANK AG, Frankfurt; Member of the Supervisory Board	none

[1] Member of the Supervisory Board since May 24, 2019
[2] Member of the Supervisory Board until May 24, 2019

	Sven Hansen	**Holger Hoff**	**Harald Januszewski**	**Dr. Hartmut Schütter**	**Dr. Rolf Schwedhelm**	**Dr. Peter Seifried**
	51	**62**	**57**	**75**	**64**	**70**
	Majority shareholder, entrepreneur	Employee representative; works council chairman H&R Ölwerke Schindler, Hamburg	Employee representative; works council chairman GAUDLITZ GmbH, Coburg	Independent member of the Supervisory Board	Independent member of the Supervisory Board	Independent member of the Supervisory Board
	Industrial Manager (degree in Business Administration)	Trained retail salesman	Plastics and Rubber Process Mechanic	Certified Engineer; Freelance consultant	Attorney; Specialist lawyer (tax law)	Chemical Engineer; Freelance consultant
	x				x	
	x	x	x	x		x
	x			x		
	x			x		x
	x					x
					x	
					x	
	RTS; Nomination Committee (Chairman)	none	none	RTS (chairman)	Audit Committee; Nomination Committee	RTS; Audit Committee
	August 2016/Annual Shareholders' Meeting 2022	September 2011/Annual Shareholders' Meeting 2012, May 2017/Annual Shareholders' Meeting 2022	May 2012/Annual Shareholders' Meeting 2022	May 2013/Annual Shareholders' Meeting 2023	May 2011/Annual Shareholders' Meeting 2021	May 2015/Annual Shareholders' Meeting 2019[2]
	7/7 6/6	7/7	6/7	7/7 5/5	7/7 8/8	3/3 5/5
	none	none	none	none	Deutsche Anwalt Akademie Gesellschaft für Aus- und Fortbildung sowie Serviceleistungen mbH, Berlin: chairman of the supervisory board	Verband der Schmierstoffindustrie e.V., Hamburg: chairman of the executive board Bundesverband mittelständischer Mineralölunternehmen e.V., Berlin; member of the executive board Stiftungs- und Verwaltungsrat Oest-Gruppe, Freudenstadt: member

issues on a regular basis and in a timely manner. In addition, the Supervisory Board Chairman took part in the meetings of the Executive Committee (formerly known as Executive Board meetings) at regular intervals. The Supervisory Board and the Executive Board also stayed in close contact outside meetings in order to ensure a constant flow of information and an exchange of opinions.

Topics Discussed by the Full Supervisory Board

During 2019, a total of seven Supervisory Board meetings were held. The high level of commitment of the committee members is reflected in an attendance rate of 98.4%. There was only one Supervisory Board meeting at which a member was absent due to illness. The attendance rate for the meetings of each of the three committees was 100%.

One meeting each was held at the two refinery sites in Salzbergen and the Port of Hamburg in the 2019 financial year, as in the previous year. In both cases, the Supervisory Board members were offered opportunities for refinery tours, visits to see the progress made by investment projects, discussions with employees and safety tours. The members showed a keen interest in these opportunities.

Following the meeting held in the run-up to the Annual Shareholders' Meeting on May 23, 2019, a training session on current developments in the work of the Supervisory Board and recent court decisions was held in conjunction with a renowned international law firm. All members, including Ms. Sabine U. Dietrich, participated in the event.

The 2019 series of meetings began on January 29. The first topic that was addressed related to the composition of the Supervisory Board, the profile requirements for a candidate and the issues of impartiality and diversity. Another item on the agenda looked at the upcoming investment projects, which were discussed in detail with the project managers. Due to a significant increase in the number of contractors working at both refinery sites, the issue of safety was also addressed as a matter of high priority. As is standard practice at the January meeting, an update was given on the status of work on the annual financial statements. Within this context, the Executive Board also provided the Supervisory Board with information on the audit of our company's 2017 annual financial statements by the German Financial Reporting Enforcement Panel (FREP) in Berlin. The special topic of digitalization and chemistry 4.0 rounded off the agenda. The impact of these topics on refinery operations and sustainable economic cycles was discussed in detail. Practical examples were also given regarding sales/distribution and this area's function as a customer interface.

The second Supervisory Board meeting, which was held on March 19, 2019, was used to discuss the annual financial statements for 2018. After the necessary supporting documents had first of all been discussed by the Audit Committee on March 8, 2019, in the presence of the auditor, the documents were then made available to all Supervisory Board members from this date. Following extensive editing, the audit reports were discussed and debated with the auditors at the meeting. At the recommendation of the Audit Committee, the Supervisory Board approved and ratified the annual financial statements of the company and the consolidated financial statements. Also at the recommendation of the Audit Committee, the Supervisory Board decided to propose that the Annual Shareholders' Meeting appoint Warth & Klein Grant Thornton AG Wirtschaftsprüfungsgesellschaft, Hamburg, as auditors of the financial statements and the consolidated financial statements for financial year 2019. Although H&R GmbH & Co. KGaA achieved a result, with distributable profit of €26.7 million based on the separate financial statements pursuant to the German Commercial Code (HGB), which would, at first glance, appear to offer potential for distributing a dividend, the Supervisory Board decided, following intensive discussions with the Executive Board, to propose to the Annual Shareholders' Meeting that the distributable profit for the 2018 financial year be carried forward in full to new account, and that no proposal be made regarding the payment of a dividend. In addition, the 2018 Supervisory Board Report and the recommendation made by the Nomination Committee to nominate Ms. Sabine U. Dietrich for election as a new Supervisory Board member at the Annual Shareholders' Meeting, was discussed and unanimously approved. The same applies to the agenda and other resolution proposals made by the Supervisory Board to the 2019 Annual Shareholders' Meeting. The meeting was rounded off with an overview of the start of the 2019 financial year and the results of the International Meeting held in Houston, Texas, in the previous month.

The third meeting of the Supervisory Board in 2019 was held at the company's headquarters in Hamburg on the day before the Annual Shareholders' Meeting, on May 23, 2019, and focused on three main topics. The first topic related to the business situation of GAUDLITZ GmbH in Coburg. Due to the slowdown in the automotive sector, the Executive Board described the measures already initiated at the Dačice site in the Czech Republic and in Wuxi, China, to improve the cost situation. In addition, planned measures for the production site at the company's headquarters in northern Bavaria were presented. The other two topics included an update on the status of our investment projects, particularly the flood protection wall, and new potential cooperation partners in Eastern Europe. The meeting was followed by the training workshop referred to above.

The economic situation of the Ölwerke Schindler (OWS) refinery site in the Port of Hamburg was the topic that dominated the fourth meeting of the Supervisory Board, which was held on site on July 19, 2019. The Advisory Board members Dr. Bernd Paffenbach and Dr. Erwin Grandinger also attended as guests for individual items on the agenda. Starting with a description of the situation at OWS, the Supervisory Board, guests and the Executive Board discussed the current situation facing industrial companies in general and refineries, in particular in Germany. Particular attention was also paid to the changes in the overall social data. Our company has been pursuing the entrepreneurial objective of realizing a "Green Refinery" for a decade now, guided by our motto "Oil is far too valuable to burn!" The meeting participants discussed ways and means of bringing this objective to the attention of social, ecological and political multipliers and decision-makers even more effectively, as well as the steps still to be taken to achieve our company goal. Ideas and models for cushioning the blow dealt by earnings volatility at the site were discussed in detail. The approach presented by the Executive Board for further reducing negative-margin by-products met with the participants' approval. Ultimately, an agreement was reached at the meeting to develop an alternative refinery operating model in a timely manner. It was also agreed at an additional meeting that the refinery site in Salzbergen, as well as GAUDLITZ GmbH, which is involved in the manufacture of high-precision plastics, should be put under the microscope in a similarly focused manner.

This additional meeting took place on August 22, 2019, at the company's headquarters in Hamburg. With regard to the refinery site in Salzbergen, the results and impact of the contract-production model were subjected to an intensive analysis, as were pending investment projects. An agreement was reached that, following the completion and trial operation of the alternative refinery operation at OWS, the results would be implemented promptly in Salzbergen as well. The second focal topic, the current situation at GAUDLITZ GmbH, started with a detailed analysis of the competitive landscape. Taking this as a basis, the Managing Board of our subsidiary presented its ideas for company restructuring and the measures already initiated, as well as the status of discussions with the employee representatives. The approach to be pursued by manufacturers of high-precision plastic parts in the future was discussed intensively in what was, at times, a controversial debate. Other items on the agenda of the fifth Supervisory Board meeting were the company's economic situation and short-term initiatives to improve earnings. The International Sales division gave a presentation on the Indochina region and, in particular, Vietnam. The Executive Board provided information on the current sales activities, which are managed by H&R Thailand from Bangkok, and presented its ideas regarding the establishment of the company's own site there. Finally, the Supervisory Board looked at the planned introduction of a carbon tax and discussed its possible impact on our company.

The venue for the sixth Supervisory Board meeting in the reporting year, held on October 29, 2019, was Salzbergen, Emsland. As at the August meeting, GAUDLITZ GmbH and development of an alternative refinery operation model were the focal points of this meeting. Regarding the latter topic, we were given information on the current project status and discussed the first few implementation measures shortly before they were put into action. As far as GAUDLITZ GmbH is concerned, the Executive Board presented an update on the status of the staff restructuring measures at the Coburg site. It assumes that the company will be able to continue with its local production in the long term with a reduced number of employees. The topics discussed also included the company's economic situation and an outlook for 2019 as a whole, as well as the plans for 2020. The agenda was rounded off with analyses of recently completed investment projects and the implementation of improvement measures recommended by the auditor as a result of the 2018 audit.

The 2019 series of meetings was concluded with the seventh session held on December 3, 2019. As in previous years, the meeting focused on a review of the current financial year, the 2020 budget, and the five-year mid-term plan. The investment projects, which had been scaled down significantly compared to previous years, were discussed at length. The further development of the refinery operating model was another major topic of discussion. The efficiency audit of the full Supervisory Board and update to the statement of compliance rounded off the topics discussed.

The Work of the Supervisory Board Committees

In 2019, a total of 10 committee meetings were held, including four meetings of the Audit Committee, two meetings of the Refinery Technology and Strategy Committee (RTS) and one meeting of the Nomination Committee. Three combined meetings of the RTS and the Audit Committee were also held. The latter looked at our refinery site in the Port of Hamburg in detail. Between the August and October meetings, on September 27 of this year Ms. Sabine U. Dietrich and the Chairman of the Supervisory Board, representing the full Supervisory Board, were provided with information by the project managers on the status of the work involved in, and the initial results of, the enhancement of the refinery operating model.

There were no absences at any of the committee meetings held in 2019, putting the attendance rate at 100%.

Audit Committee

The Audit Committee held a total of seven meetings in financial year 2019, three of which were held jointly with the Refinery Technology and Strategy Committee (RTS).

As is the case every year, one key area of the Committee's work was addressing the annual financial statements and the combined management report for H&R GmbH & Co. KGaA and the Group, the non-financial Group report, the subordinate status report and the proposal concerning the appropriation of net income. These documents relating to the 2018 financial year were discussed in detail with the auditor and the Executive Board. The Audit Committee then gave the Supervisory Board its recommendations regarding approval of the financial statements for financial year 2018 and the proposal to the Annual Shareholders' Meeting concerning the appropriation of net income and the election of the auditors for financial year 2019.

Other focal areas of the Audit Committee's work included issuing the audit engagement to the auditors elected for financial year 2019, defining the focal points of the audit and determining the auditing firm's fees. The course and results of the audit of the financial statements were also followed, discussed and evaluated in a timely manner. Regarding the monitoring of the auditors' impartiality and qualifications, the Audit Committee implemented appropriate measures to ensure that it is notified in a timely manner of intended letters of engagement to the auditors and/or to members of the auditing firm's network regarding non-audit services. After assessing the admissibility of such services and/or potential risks they might pose to the auditors' independence, the letters of engagement were approved in advance in each case, provided that they were found to be unobjectionable.

The Audit Committee also dealt, in particular, with individual aspects of the internal control system and the Group's compliance and risk management system, as well as with the activity reports of the Internal Audit department. It also kept itself informed of the progress made with the audit of the 2017 annual and consolidated financial statements by the German Financial Reporting Enforcement Panel (FREP) – which did not give rise to any findings – and the further implementation of the EU General Data Protection Regulation. Other topics of discussion included the development of the net assets, financial position and results of operations, as well as the liquidity situation, budget planning for the coming financial years, financial aspects of investment projects at the Hamburg refinery site and the planned changes to the refinery operating model, as well as the statement of compliance with the German Corporate Governance Code (GCGC). For the purposes of self-assessment of the Supervisory Board and its activities, the assessment procedure applied to date was discussed and the option of having external consultants support this internal solution was considered not to be advisable. At the same time, the questionnaire used for the self-assessment of the Supervisory Board's activities conducted in 2019 was fundamentally revised.

On top of the committee meetings, the Chairman of the Audit Committee, the Executive Board, the Head of Finance, and the Head of Internal Audit held regular discussions to exchange information and coordinate their work. The Chairman also provided close support with the preparation and audit of the annual financial statements of H&R GmbH & Co. KGaA and the consolidated financial statements, holding numerous discussions with the auditor in this regard. In addition, he visited the Group's site in South Africa in December 2019 and discussed the preparation and audit activities for the 2019 annual financial statements in detail with the local management team and the local auditor responsible, also discussing the business plan for the years from 2020 onwards.

Refinery Technology and Strategy

The Refinery Technology and Strategy Committee held two meetings during the reporting year. Recurring agenda items related to safety performance in the refineries, news on individual investment projects, current investment ideas and the status of the upgrading work on our flood protection project. In addition, the results of the most recent Solomon study were discussed in-depth with the Executive Board, as were potential cooperation partners on an international level. To underpin the measures to improve the company's safety record, the chairman of the Committee and the Chairman of the Supervisory Board once again conducted safety inspections at both sites in the past year.

Due to the urgent need for earnings optimization measures at OWS in the Port of Hamburg, **three combined meetings of the RTS and the Audit Committee** were also held from the middle of the year onwards, namely on May 23, August 21 and October 28. Representatives of the Advisory Board of H&R GmbH & Co. KGaA and external experts were invited to individual meetings. In addition to discussions on current social and political developments and their general impact on refinery operations, a wide variety of optimization measures in various forms were discussed. This involved evaluating the entire process chain and discussing make-or-buy decisions. The focus was on the objective of further reducing by-products and making the production of our core products more efficient. The sales side of the business was closely involved in all of the ideas discussed. The project results achieved to date were presented and discussed in October. The first few measures were included in the 2020 budget.

Nomination Committee

In 2018, the Nomination Committee commissioned the Chairman of the Supervisory Board to launch an intensive search for suitable female candidates for the Supervisory Board. Ms. Sabine U. Dietrich was selected from a short list as a suitable candidate. Ms. Dietrich is an engineering graduate and spent many years working for the BP Group, both nationally and internationally. Until recently she held a position on the Management Board of BP Europa SE in Bochum. Ms. Dietrich is member of the Supervisory Board of Commerzbank AG, Frankfurt am Main. She has also been a member of our company's Advisory Board since 2014.

In order to allow the company to achieve the diversity goals it has set itself, and in particular the ratio of women on the Supervisory Board, as soon as possible, Dr. Peter Seifried offered to resign from his mandate one year before the end of the five-year period for which he was elected.

After several preliminary discussions, the Nomination Committee met in Cologne on February 11, 2019. At this meeting, the Committee unanimously recommended to the full Supervisory Board that Ms. Sabine U. Dietrich be nominated for election by the Annual Shareholders' Meeting on the basis of her personality, integrity, impartiality and professional qualifications. The Supervisory Board approved this recommendation and thanked Dr. Peter Seifried for the step he had taken at the same time. As a member of the Advisory Board, he will continue to make his expertise available to our company.

Audit of the Annual and Consolidated Financial Statements, the Non-financial Group Report and the Subordinate Report

Warth & Klein Grant Thornton AG Wirtschaftsprüfungsgesellschaft, Hamburg, audited the annual and consolidated financial statements and the combined management report for H&R GmbH & Co. KGaA and the Group for financial year 2019 and issued an unqualified audit certificate for each.

The annual financial statements for H&R GmbH & Co. KGaA and the combined management report for H&R GmbH & Co. KGaA and the Group were prepared in accordance with the requirements of the German Commercial Code (HGB). The consolidated financial statements were prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union (EU) and the additional German requirements as set forth in Section 315(e), paragraph 1 HGB. The auditors carried out the audit in accordance with Section 317 HGB and the generally accepted auditing principles promulgated by the Institute of Public Auditors in Germany (IDW). The Executive Board distributed the aforementioned documents to the Supervisory Board in good time. The annual and consolidated financial statements, the combined management report and the non-financial report were examined in detail at the Audit Committee meeting on March 23, 2020.

The audit reports by Warth & Klein Grant Thornton were distributed to all Supervisory Board members and were reviewed thoroughly in the presence of the auditors at the Supervisory Board meeting on the financial statements held on April 7, 2020. The auditor reported on his audit approach, the focal points of the audit, key audit matters, the main results of his audit and on the accounting-related internal control and risk management system. The auditor also addressed significant business transactions and the economic situation of the company and the Group. At the plenary meeting, the Chairman of the Audit Committee gave an extensive report on the Audit Committee's review of the annual and consolidated financial statements.

Based on the recommendation by the Audit Committee and after its own audit of the annual and consolidated financial statements, the Supervisory Board approved the results of the audit conducted by the auditors and ratified both the annual and the consolidated financial statements including the combined management report and Group management report. Despite distributable profit being available, the Supervisory Board decided, following intensive discussions with the Executive Board, to propose to the Annual Shareholders' Meeting that the distributable profit for the 2019 financial year be carried forward in full to new account, and that no dividend be distributed. This means that the Supervisory Board approves the Executive Board's proposal regarding the appropriation of distributable profit.

The Executive Board has prepared a separate non-financial Group report for the 2019 financial year in accordance with the provisions set out in Sections 289b et seq. in conjunction with Sections 315b et seq. HGB, which is published on the company's website. The Audit Committee and the entire Supervisory Board duly examined this report with regard to the correctness and appropriateness of the reporting. This assessment did not give rise to any objections.

The report prepared by the Executive Board pursuant to Section 312 AktG on relationships with affiliated companies (subordinate report) was audited by the auditor. The auditors informed the Supervisory Board of the outcome of the audit and issued the following auditors' opinion:

"Having carried out the audit and assessment in accordance with our professional duties, we confirm that

1. the factual information provided in the report is correct,

2. the consideration paid by the company for the legal transactions listed in the report was not unreasonably high."

On the basis of the auditor's report, the Supervisory Board examined the subordinate report with particular regard to completeness. The Supervisory Board endorses the closing statement made by the auditor and closing statement of the Executive Board contained in the subordinate report and has no objections to raise.

There were two changes within the Supervisory Board and the Executive Board of H&R GmbH & Co. KGaA in the 2019 financial year. As described above, the Annual Shareholders' Meeting held on May 24, 2019, elected Ms. Sabine U. Dietrich as a new member of the Supervisory Board. Ms. Dietrich will be taking over from Dr. Peter Seifried, an independent engineering and industry expert who voluntarily stepped down one year before the end of his five-year term. On July 31, 2019, Mr. Detlev Wösten left the Executive Board of H&R Komplementär GmbH, which exercises management of H&R GmbH & Co. KGaA in accordance with the Articles of Association, when his contract as managing director expired. Since then, he has assumed another management position working on innovative strategies for the future within the H&R Group.

The Supervisory Board would like to thank the members of the Executive Board, all employees and the employee representatives for their hard work, their personal contributions and their constructive collaboration for the good of the company.

Signing for the Supervisory Board

Dr. Joachim Girg
Chairman

H&R in the Capital Market

Capital Markets and Share Price Performance

Capital Market Survives a Year of Crisis

Despite the ongoing economic policy risks and the global economic slowdown, 2019 was a good year for investors on the whole – albeit one that featured considerable fluctuations in some cases. Equities reaped the benefits of the interest rate policy pursued by the U.S. Federal Reserve and the ECB, both of which cut interest rates again: in the U.S., and recently also in the DAX, share prices soared to new highs. Nevertheless, the trade war between the U.S. and China was a source of uncertainty throughout the 2019 stock market year. As the situation moved back and forth unpredictably, appearing at times to ease before escalating again due to ever new threats and tariffs, the global capital markets were kept on tenterhooks. This translated into subdued global economic growth, in some cases characterized by a real "fear of recession".

In addition, the action taken by movements such as "Fridays for Future" fueled a social and political debate that is encouraging, and indeed demanding, changes in climate policy. This put the German industrial sector, in particular, under considerable pressure, especially in the automotive sector, which has traditionally been the engine driving the German economy.

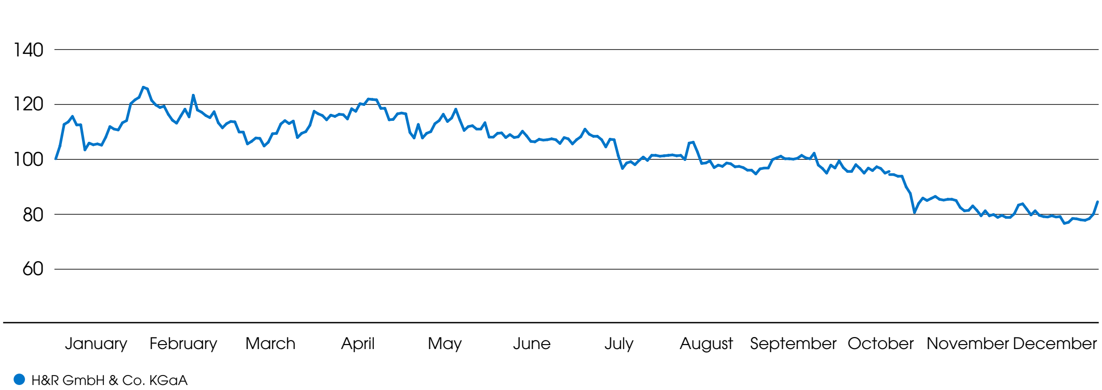
H&R Share Price Ends Year at All-Time Low

After closing the 2018 financial year at €6.09, H&R's shares initially started the financial year by making substantial gains. By the end of January 2019, the share price had climbed to €7.99. A price above the €7.00 mark was maintained until the end of May, even though neither the figures for the 2019 financial year nor the renewed suspension of dividend payments are likely to have come as welcome news for investors in the first half of the year. Nevertheless, our share price remained stable, bolstered by robust figures close to our original earnings expectations.

In the second half of the year, by contrast, our earnings figures delivered hardly any impetus to give the share price a lift. Shares in H&R slid, at times considerably so, on the back of the adjustments made to our guidance in August and then once again in the fall. In October, they slipped to below €6.00 before undercutting the €5.00 mark in response to the publication of the figures for the first nine months of the year.

G. 01 **PERFORMANCE OF THE H&R-SHARE**

(INDEX 2.1.2018=100)



T. 05 **BASIC DATA ON THE H&R SHARE**

ISIN/WKN	DE000A2E4T77/A2E4T7
Abbreviation	2HRA
Type	No-par bearer share
Listings	Official Market in Frankfurt (Prime Standard), Hamburg and Düsseldorf, freely traded in Stuttgart and Munich
Indices	Prime Standard All Share, Classic All Share, Prime Chemicals and Prime IG Chemicals Speciality, DAXPlus Family Index
Designated Sponsor	Oddo Seydler Bank AG

As a company in the Prime Standard segment, H&R KGaA meets exacting disclosure and transparency standards. The share price can be obtained from the trading systems and the financial press.

During the past year, interest in our shares was stable on the whole, with around 5.0 million shares being traded on the Frankfurt Stock Exchange and on Xetra. Another 1.4 million shares changed hands via Tradegate, Deutsche Börse's platform for private investors. In terms of daily volumes and closing prices, the total trading volume stood at around €41.0 million.

Number of Shares, Market Capitalization and Trading Volume

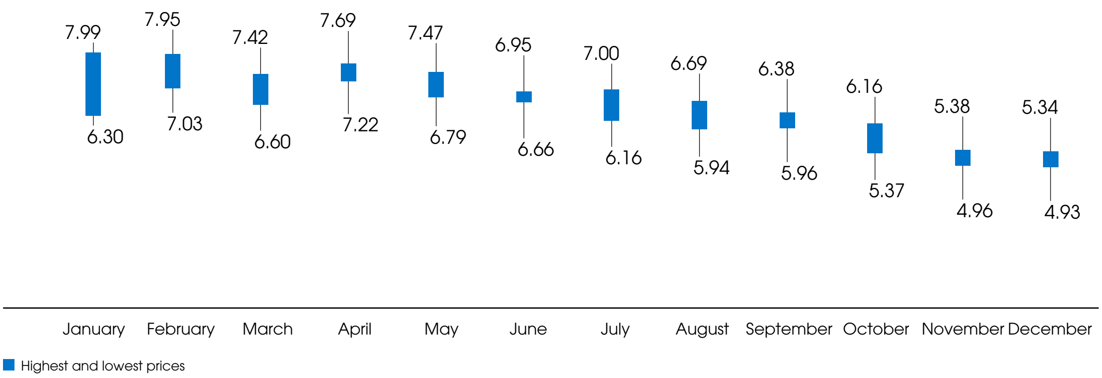
The number of company shares issued totaled 37,221,746 as of December 31, 2019.

T. 06 **KEY SHARE DATA**

	2019	2018	2017	2016	2015
Number of shares on December 31	37,221,746	37,221,746	36,536,553	35,820,154	35,820,154
Earnings per share	€-0.04	€0.59	€0.88	€1.06	€0.77
Highest price for the year	€7.99	€15.40	€15.91	€19.97	€9.70
Lowest price for the year	€4.93	€5.78	€11.49	€7.31	€5.86
Price on December 31	€5.22	€6.09	€14.60	€14.95	€9.24
Market capitalization on December 31	€194.3 million	€226.7 million	€ 553.4 million	€535.5 million	€ 330.9 million
Average daily trading volume	€162 thousand	€228 thousand	€436 thousand	€608 thousand	€269 thousand

G. 02 **HIGHEST AND LOWEST PRICES OF THE H&R SHARE, FULL YEAR 2019**

IN €



Shareholder Structure

We were not informed of any changes in the shareholdings of our majority shareholder in the financial year under review. Based on informal notifications, the share of the company's share capital that is attributable to Mr. Nils Hansen corresponds to a total of 61.42% of the voting rights.

According to an informal notification, Mr. Wilhelm Scholten's stake in the share capital on December 31, 2019, was unchanged at 6.06%, 5.45% of which was held via Wilhelm Scholten Beteiligungen GmbH and the remaining 0.61% of which was held via Ölfabrik Wilhelm Scholten GmbH and subsidiary.

The remaining 32.52% of H&R shares were in free float as of December 31, 2019. Of these, around 8.3% were in turn held by institutional investors.

Investor Relations

During the 2019 reporting year, numerous investors, analysts and private investors again took advantage of the opportunity to exchange information with the company by telephone and e-mail. Investors also visited us at our production sites in Hamburg and Salzbergen, where they toured our refineries and received information about current business developments directly from the company's Management Board.

In addition, members of the Management Board and employees of the IR department represented the company at roadshows and information events.

Management and the IR department fielded an especially large number of telephone calls from investors, who were quite keen to receive information about the company.

Finally, we routinely provided information to our target groups through the quarterly reports and company press releases.

In 2019, analysts from Kepler Chevreux, Commerzbank, DZ Bank and Baader Bank covered our shares.

T. 07 **RESEARCH COVERAGE OF THE H&R SHARE**

Kepler Cheuvreux
Baader Bank
DZ Bank
Commerzbank

We Would Like to Hear From You

Interested parties can download our company reports at any time from the Investor Relations section of our website, www.hur.com.

We would also be happy to send you a printed copy on request.

We also keep our target groups informed about current developments at our company through our e-mail newsletter. You can also register for these publications at the Investor Relations section of our website.

Should you have any questions or suggestions, please contact us as follows:

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E-mail: investor.relations@hur.com
Website: www.hur.com

COMBINED MANAGEMENT AND GROUP MANAGEMENT REPORT **OF H&R GMBH & CO. KGAA**

Group Fundamentals

Corporate Structure and Business Model

Sectors and Organizational Structure

The H&R Group organizes its operating activities into two business divisions: Chemical-Pharmaceutical Raw Materials and Plastics.

We also have three business segments: ChemPharm Refining, ChemPharm Sales and Plastics.

Our segment responsible for the highest sales, ChemPharm Refining, includes the two German specialty refinery sites in Hamburg and Salzbergen. We operate these sites with the aim of achieving as high a percentage as possible of output consisting of crude-oil-based specialty products such as label-free plasticizers, paraffins and white oils, and a considerably lower percentage of lubricants. During the course of our production processes, we create approximately 800 different products that are used in almost every area of life.

Our ChemPharm Sales segment is comprised of numerous plants for additional processing as well as our distribution sites worldwide.

Our Plastics segment primarily produces precision plastic parts. In addition to the main production site for the segment in Coburg, Germany, we also operate production sites in Eastern Europe and Asia. The customers buying our Plastics products include the automotive industry, the medical technology industry and other traditional industrial sectors.

Group's Legal Structure

As the Group's holding company, H&R GmbH & Co. KGaA (hereinafter referred to as H&R) is in charge of the management of our business operations. The holding company is responsible for Group financing activities and provides various management functions and services for our subsidiaries. It also defines the company's strategic focus.

At the end of the reporting period, there were 42 consolidated subsidiaries (December 31, 2018: 42). Our subsidiaries can be found in the list of shareholdings in the Notes to the Consolidated Financial Statements under "Scope of Consolidation and Holdings".

The ChemPharm Refining segment, which primarily consists of the specialty refineries in Germany, has a functional management structure. Managerial staff within this segment have cross-site responsibility for key functions such as raw materials purchasing, project management, accounting, and sales/distribution.

In the ChemPharm Sales segment, which does not possess any specialty refineries of its own, the responsibility for all functions is held by regional managing directors who report directly to the Group's Executive Board.

There are two management levels at the Plastics segment: managing directors at the international sites report to the divisional Executive Board, which is also responsible for managing the production plant in Coburg, Germany.

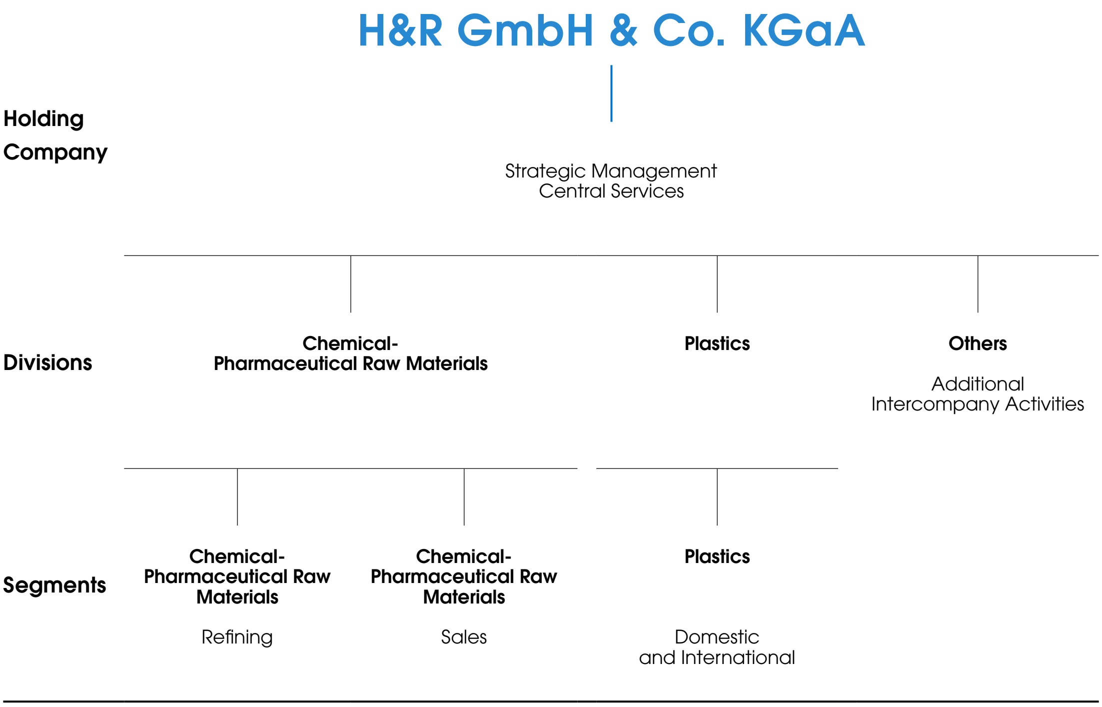
Locations

At year-end 2019, our Group employed 1,625 people worldwide (previous year: 1,664). The following overview shows our most important sites with more than 25 employees:

T. 08 **MAIN SITES IN THE H&R GROUP**

Continent	Country	City	Division	Employees
Africa	South Africa	Durban	ChemPharm	56
Asia	China	Wuxi	Plastics	110
		Ningbo/ Daixi	ChemPharm	118
		Fushun	ChemPharm	92
	Thailand	Bangkok/ Si Racha	ChemPharm	66
Europe	Germany	Hamburg	ChemPharm	309
		Salzbergen	ChemPharm	400
		Coburg	Plastics	232
	United Kingdom	Tipton	ChemPharm	44
	Czech Republic	Dačice	Plastics	99

G. 03 **OVERVIEW OF GROUP STRUCTURE**



Main Products, Services and Business Processes

In our domestic specialty refineries in the ChemPharm Refining segment, we use petroleum-based raw materials. This is used to produce a total of approximately 800 crude-oil-based specialty products. These primarily include process oils, technical and medical white oils, paraffins and specialty wax products. By-products and co-products produced as part of our processes are either processed to produce other high-quality crude-oil-based specialty products or are used in bitumen to build roads. Another part of it is sold on to other types of refineries as feedstock. At special filling facilities, we also mix lubricants based on well-known end customers' formulations.

We also refine crude-oil-based feedstock at the ChemPharm Sales segment's production plants. Production here focuses on environmentally friendly, label-free plasticizers and wax emulsions. Partnerships with local producers around the world allow us to avoid building our own refinery capacities.

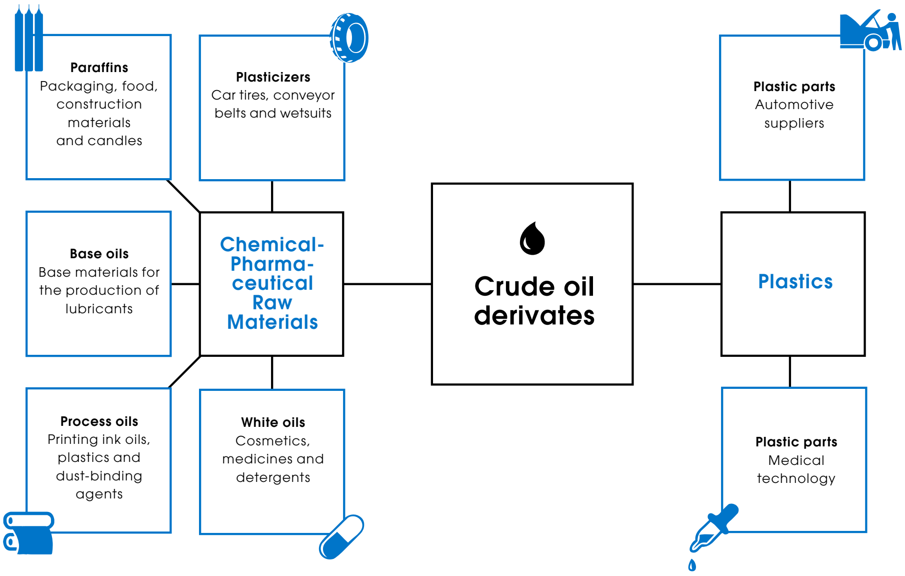
Our Plastics segment produces high-precision plastic parts. This division is particularly skillful at producing complex plastic parts while using different types of materials simultaneously.

Objectives and Strategy

Key Sales Markets and Competitive Position

By consistently focusing on customer needs for many decades, we have developed a solid market presence in the crude-oil-based specialty products business in our Chemical-Pharmaceutical Raw Materials division.

G. 04 CRUDE OIL SPECIALTIES



Our specialty products include, among others, environmentally friendly label-free plasticizers, which are used in rubber blends for almost all well-known car tire manufacturers as well as in additional rubber products. H&R's main competitors in this product area are the major oil companies.

Our paraffins are used for an especially wide variety of applications, as their water repellent characteristics, in particular, are ideal for applications in the food, packaging and construction industries.

With regard to white oils, we are sure that we are able to reliably meet high quality standards. Our technical white oils are used in industrial sectors. Our medical white oils are found, among other applications, as components in cosmetic products such as creams and ointments.

We sell the vast majority of our base oils to lubricant manufacturers as raw materials. Using additives, we further process a small quantity of these base oils into ready-made lubricants that are primarily used in agriculture.

The competitive situation for these specialty/core products in the past financial year can certainly be described "challenging". A comparative biennial study published by the renowned U.S. research organization HSB Solomon Associates LLC® (most recently in 2019), in which around 50% of the worldwide refinery capacity in the lubricants segment participated, recently rated H&R as being "well positioned competitively" with regard to the output structure of waxes and specialty products. At the same time, the study confirmed what we already suspected: namely that this competition has become much more intense over the past 12 to 18 months. The global economic slowdown, also driven by tension between the United States and Chinese economies, has resulted in much lower demand for lubricants. In particular, large customer industries such as the automotive industry or the mechanical engineering sector purchased lower volumes as their own outlook was revised downward. At the same time, global base oil production capacities have actually increased over the last 12 months. In general, however, these products will remain in demand.

Waxes and paraffins were traded on different goods channels than in the past due to the trade disputes between the United States and China. European producers, for example, were competing with low-cost Chinese products that were being sold in Europe instead of in the United States.

As far as our by-products and combustion products are concerned, the situation varied from product group to product group: in some cases, the production process at our production sites in Salzbergen and Hamburg generated residues which, by using our propane deasphalting plants, we can convert into environmentally friendly crude-oil-based specialty products and asphalt for use in the road-building industry. This bitumen is also used as a raw material by other refinery operators. Demand and prices for these "refined by-products" remained largely stable.

It was a different story for marine fuel, known as bunker fuel. The impending introduction of the IMO 2020 regulations and the associated reduction in the sulfur limits effective January 1, 2020, put considerable pressure on the prices of marine fuel with a sulfur content of 3.5%, particularly at the end of the year. At the beginning of the year, it was still difficult to assess how the sales opportunities for this product would develop, as, on the reporting date, only a small proportion of the world's merchant fleets had been converted to alternative drive systems, low-sulfur fuels, or exhaust gas purifiers to allow them to continue to use 3.5% bunker fuel, meaning that there is still a fundamental need for bunker fuel for the time being.

The customers of our Plastics division can be divided into three key customer groups: the automotive industry, the medical technology industry and other industrial customers. In the latter group, we primarily include products for customers in the electrical industry, the measurement and control technology industry, and the mechanical engineering industry. Our biggest customer group by far, however, is the automotive industry. Many experts believe that the decade that lies ahead will prove to be a difficult period for this group due to the market downturn and the large-scale investments in the accelerated technological shift from the internal combustion engine to e-mobility. Component manufacturers, such as the H&R subsidiary GAUDLITZ, will have to prepare for this process of change, but could also benefit from the situation. By way of example, manufacturers could opt for measures to further standardize their vehicle platforms and components on grounds of cost, resulting in positive changes in the demand for components; fewer different components in total, but higher quantities, translate into better capacity utilization and more competitive production costs. GAUDLITZ has close links to the customers of the German automotive industry through its headquarters in Coburg. The company also has additional production capacities with its sites in the Czech Republic and China, offering additional low-cost advantages while at the same time being close to its key sales markets.

Legal and Economic Factors

Economic Factors:

The main factor influencing our business and earnings trend is the overall economic and market trend. As a global company, H&R is exposed to the laws of supply and demand, pricing and margin pressure, as well as to global political developments. At the same time, however, this international structure also makes us less reliant on individual regional markets or products.

Prices of the crude oil derivatives used as the primary feedstock at our specialty refineries in Germany are closely correlated with the current price of crude oil. Price changes regularly result in so-called "windfall effects" on our results of operations. Such effects on earnings have nothing to do with the company's own operating performance, but instead are caused by short-term variations in market prices. At our company, we define windfall losses or profits as negative or positive changes in inventory prices (raw materials, work in progress and finished products) compared to the previous month. In contrast to just-in-time production, due to the length of our production processes, feedstocks are processed with a time lag.

This is closely related to currency translation effects. The price of crude oil worldwide is denominated in US dollars, meaning that H&R is directly affected by fluctuations in this reserve currency and the corresponding currency translation effects, due to its high requirements for raw materials and the fact that raw material supplies are sourced internationally. In the Plastics segment, too, we may see currency translation effects due to the multinational distribution of sites across Germany, China, the United States and the Czech Republic. These effects were of a completely insignificant magnitude in the 2019 financial year, however.

Legal Factors:
H&R complies with the European Union's Regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), and thus takes special responsibility for the risks associated with the substances it places on the market and their use. H&R is in close contact with its customers and suppliers to ensure that all players are meeting their obligations under REACH. H&R is also actively involved in REACH forums and European industry associations. Our activities aim to ensure the ongoing production and supply of our products in line with the REACH requirements.

Substances of very high concern are subject to an authorization requirement under REACH. This category includes some operating resources used in the refining process at H&R in its capacity as a downstream user. The H&R refineries were granted the authorizations for the use of these substances. The European Chemicals Agency (ECHA) also imposes similar regulations for various substances used in the production of plastics that GAUDLITZ has to adhere to in its capacity as a downstream processor.

Objectives

Across all of its divisions, H&R strives to achieve sustainable and commercially successful development in its earnings and income. As far as the Plastics segment is concerned, we are aiming to make a return, in the long run, to the positive trend that had emerged in previous years following the implementation of the personnel restructuring measures initiated in financial year 2019.

With regard to our segments in the Chemical-Pharmaceutical Raw Materials division, we are responding to the macroeconomic developments described above. We have set a "Green Refinery" target for our production sites in Germany. This reflects our efforts to reduce the proportion of combustion products in the product portfolio to an absolute minimum and to rise to the competition in the base oil product area by decisively reducing the proportion of these products.

At the same time, we are aiming to build on the operational strengths of our international business by establishing production partnerships on all continents. We also want to have a global presence through our own additional processing facilities and sales/distribution units.

Strategy

The umbrella term used to describe our strategic approach is G.A.T.E., referring to a "gateway to the future". In line with our goal of achieving further international expansion, we see ourselves as a company that thinks **g**lobally. At the same time, we are building regional connections and we operate at a local level. The most important driver of our economic activity is our proximity to the market, which enables us to always **a**ct with a deep understanding of our customers' specifications and needs in a user-oriented manner. We also remain "**t**echnovative" by ensuring that our sites are always at the cutting edge of technological development and by keeping a close eye on innovative process and product solutions. We successfully combine economy and ecology, acting in an economically prudent way, with full awareness of the resources we are using. **E**co², i.e., "ecology x economy", increases the potential in both areas exponentially while representing a key step toward sustainability.

As far as our chemical-pharmaceutical raw materials are concerned, we are still guided by the maxim that "Oil is far too valuable to burn!", which primarily means avoiding combustion products as marine fuel, but also includes the use of lubricants for mobility purposes. We aim to avoid the extremely intense competition to secure shares of sales volumes in the base oil market by also significantly reducing the production of these products. We will achieve this by strategically enhancing our refinery operating model to make it more flexible. Based on a revamped feedstock and by-product portfolio for the Hamburg refinery, we aim to facilitate market-oriented production focusing more heavily on specialty products. This means that, while we will continue to operate all of the production units in place so far, we will not necessarily be using them one after the other. Applying this principle will allow us to manage our production in a manner that is more target market-specific and customer-centric than in the past.

Company Control

Internal Management System

The Group is managed based on the comprehensive reporting of key performance indicators and ratios that look at profitability, liquidity, the capital structure and operating performance. In addition to this, we monitor both company-specific and macroeconomic early indicators. At the production level, this includes data relating to plant availability, reject rates and quality fluctuations. In sales and distribution, we examine sales volume statistics, general market data and leading macroeconomic early indicators.

The management system also consists of monthly reports from the divisions, the management of risks and opportunities and our functional management structure, whereby responsibility is assigned for more than one site in important areas such as raw materials purchasing, project management and sales/distribution.

Control Parameters

Over the past two years, we have shifted the focus of our control instruments to a more intensive examination of short-term performance parameters in response to constant changes in the overall global economic situation. We measure and control profitability, in particular through contributions to income. Manufacturing planning is based on optimizing contribution margins; the business segments are controlled using EBITDA and EBT figures.

H&R KGaA's presentation of EBITDA refers to earnings before net interest income, income taxes, other financial income and depreciation and amortization, and impairments of the H&R KGaA Group's intangible assets and property, plant and equipment.

Consolidated income
+/– Income taxes
+/– Net interest income
+/– Other financial income
\+ Depreciation, impairments and amortization of intangible assets and property, plant and equipment
= EBITDA

Although operating income/EBITDA is not an earnings figure defined by IFRS, but rather an alternative performance indicator, H&R KGaA's Executive Board considers EBITDA to be a major and, indeed, the most significant indicator of Group earnings. For the H&R KGaA Group, EBITDA is the relevant operating income figure that illustrates the income needed to cover the Group's ongoing (maintenance) capital expenditure. This is of critical importance for the company's capital-intensive business model.

T. 09 **RECONCILIATION OF EBITDA TO CONSOLIDATED INCOME AFTER TAXES (IFRS)**

IN € MILLION	2019	2018
Operating income (EBITDA) of H&R GmbH & Co. KGaA	52.9	74.7
Depreciation and amortization of intangible assets and property, plant and equipment	-45.5	-34.2
Reversals of fixed-asset impairments	0.04	–
Financing income	0.26	2.5
Financing expenses	-8.9	-9.3
Income taxes	-1.3	-11.4
Consolidated income	0.1	22.3

The long-term WACC (weighted average cost of capital) performance indicator, which consists of the weighted capital costs of our equity and borrowings, is used in medium and long-term planning, for example, for the evaluation of investments and calculation of the holdings' carrying amounts and impairment tests.

The ROCE (return on capital employed) profitability ratio, which compares earnings before interest and taxes to the average committed capital necessary for operations, is also used in medium and long-term planning.

Liquidity. Our free cash flow is essentially determined by operating income (EBITDA), the change in net working capital (total of inventories and trade receivables less trade payables) and capital expenditure. Because of our business model, our cash flow is generally quite volatile. This is attributable to changes in our net working capital, in particular when deliveries of raw materials for our specialty refineries occur around the same time as the reporting dates. By constantly monitoring our free cash flow, we can reliably detect any issues requiring action so that we can respond accordingly. This will allow us to ensure the financial stability of the H&R Group in the future, too.

T. 10 **CHANGE IN FREE CASH FLOW**

IN € MILLION	2019	2018	2017	2016	2015
Cash flow from operating activities	95.9	23.3	46.2	75.5	56.4
Cash flow from investing activities	-75.1	-69.7	-58.1	-38.8	-28.1
Free cash flow	20.8	-46.5	-11.9	36.7	28.4

The starting point for calculating and reporting cash flow from operating activities in 2019 was, first of all, the year-over-year decrease in consolidated income to €84 thousand (December 31, 2018: €22.3 million). With this as a basis, we generated a higher cash flow from operating activities of €95.9 million despite an increase in depreciation and amortization. This trend was supported primarily by considerable changes in net working capital. Despite a 7.7% increase in investing activity of €-75.1 million, H&R achieved free cash flow of €20.8 million (December 31, 2018: €-46.5 million).

Capital Structure. We aim to have a balanced capital structure that provides leeway for the strategic development of the Group while optimizing the cost of capital for our equity and borrowings. Our loan agreements require us to comply with two financial covenants. These relate to our equity base and net gearing in relation to operating income (EBITDA).

Another control parameter relating to our capital structure is net gearing, which is the ratio of our net financial debt to equity. With debt levels that increased in the course of 2019, also due to the inclusion of new lease liabilities to be carried as liabilities in accordance with IFRS16, and with equity remaining almost unchanged, this ratio changed from 28.9% to 37.4%.

T. 11 **CAPITAL STRUCTURE**

	2019	2018	2017	2016	2015
Net debt/EBITDA	2.42	1.38	0.55	0.41	1.00
Equity ratio in %	43.2	48.9	51.7	49.0	45.4
Net gearing in %	37.4	28.9	16.0	15.1	31.4

Operative Performance. We essentially measure our operating business based on sales and absolute earnings indicators such as EBITDA, EBIT, and EBT as well as by sales volumes for our chemical-pharmaceutical specialty products. The trend in the crude oil price, which is invoiced in US$, always has a direct impact on the cost of materials, which affects H&R KGaA's sales revenues for reasons related to the business model.

On its own, our revenue is therefore only of limited use as a performance indicator.

We calculate the sales and EBITDA figures both for the individual segments and for the Group as a whole. Together with the consolidated net debt, they constitute the main relevant control parameters used by our company.

T. 12 **INCOME AND VOLUME TREND**

IN € MILLION	2019	2018	2017	2016	2015
Sales volume of core products in kt[1]	815	836	832	849	762
EBITDA	52.9	74.7	97.9	101.4	85.4
EBIT	7.4	40.6	54.8	64.2	48.7
EBT	-1.2	33.7	46.2	54.2	34.2

[1] Chemical-Pharmaceutical Raw Materials division

Research and Development

Focus of Our R&D Activities

Our crude-oil-based specialty products and plastic parts are incorporated directly into our customers' products. This calls for close and direct dialogue with our customers.

One focal point of our research and development (R&D) activities is on boosting the efficiency of our production processes, thereby increasing the value we create. Research activities are managed at the divisional level.

Our Chemical-Pharmaceutical division operates R&D laboratories primarily at the production sites in Germany. We apply a similar concept in the Plastics division by combining our R&D work at the headquarters in Coburg.

Chemical-Pharmaceutical Raw Materials. Our products, which total around 800, are used as inputs in almost all areas of life. As a result, there is considerable potential for developing new, and improving existing, products. Our sales/distribution staff and partners are an important source of ideas for product innovation; thanks to the customer relationships they have developed over a long period of time, they have an excellent feel for clients' changing needs. In our research work, we place particular emphasis on the paraffin, plasticizer and white-oil product groups.

We are also researching processes that could increase the yield of crude-oil-based specialty products from our raw materials and further improve the level of added value at our specialty refineries. The results of this research work have influenced our investment planning.

The division's collaboration with the universities of Hamburg, Hanover, Magdeburg, Munich, Rostock (all in Germany), Bangkok (Thailand) and Enschede (the Netherlands) forms an important part of its research activities. These cooperative projects give us access to the universities' research infrastructure and enable us to establish contact with key players in the R&D field at an early stage.

Plastics. The use of increasingly sophisticated technologies in vehicles to reduce fuel consumption and CO_2 emissions is leading to a growing demand for lightweight and simultaneously complex plastic parts. We often develop such parts – which consist of several different materials – in cooperation with our clients, who are direct suppliers to automobile manufacturers. In light of the increasing trend toward e-mobility, we expect range optimization in this sector to lead to the further and accelerated substitution of metal with plastic parts. We also expanded our research and development work in the field of medical technology – an increasingly important market segment for the Plastics division.

R&D Expenses, Employees and Key Figures

The importance of our research and development activities has for years been reflected in our consistent spending in this area. All employees in the Research and Development department have outstanding professional qualifications, either in the form of technical training in a chemistry-related occupation or in some cases even the title of master craftsman. Other staff, such as engineering graduates, are as highly qualified as our employees who hold doctorates in chemistry.

At just over €2.8 million, R&D spending was once again up on the prior-year figure, rising by approximately 3.9%. Our R&D ratio, defined as R&D expense divided by sales revenues, was up slightly in a year-over-year comparison to 0.26% due to the drop in sales.

T. 13 **RESEARCH AND DEVELOPMENT COSTS**

IN € THOUSAND	2019	2018	2017	2016	2015
Research and development costs	2,801	2,695	2,423	2,054	1,955
of which ChemPharm	2,216	2,170	2,160	1,904	1,749
of which Plastics	585	525	263	150	206
as % of annual sales	0.26	0.24	0.24	0.22	0.20

Report on Economic Position

Trends in the Business Environment

Macroeconomic Conditions

For the final quarter of 2019, the German Council of Economic Experts pointed to a recent marked slowdown in the pace of growth for global economic output by 2.6%, which can be traced back to the slump in the industrial sector and the simultaneous drop in global trade volume. According to the experts, the risks associated with current, but also future, development include a renewed escalation of the trade conflicts.

Growth in gross domestic product (GDP) slowed in the euro area, too, with weaker development in investment and exports, in particular. At the end of the year, the German Council of Economic Experts predicted GDP growth rates of 1.2% in the euro area for 2019.

Germany has been hit by the global slowdown in economic growth, particularly in industry, whereas service sectors have remained robust. While the experts' most recent assessment did not predict a broad-based macroeconomic recession, they expected to see a GDP growth rate of only 0.5% in 2019.

The highest exchange rate seen in 2019 for the euro, which is the functional currency used to calculate the earnings trend at H&R KGaA, was around US$1.14 in January. Overall, the euro lost around 1.75% against the US dollar in the course of the year. It was trading at US$1.12 at the end of the year, meaning that it fell short of the US$1.20 applied for the purposes of the 2019 planning process in principle.

Crude oil prices (all data refer to the average price of a barrel of North Sea Brent) only showed moderate changes if we restrict our analysis to the prices that applied at the beginning and end of the year. Starting from a price of around US$55 at the beginning of the year, prices did, however, show marked fluctuations during the year. By the end of April, the price came to approximately US$75, compared to only US$56 at the start of August. The oil price came to US$67 at the end of the year. We had originally assumed a higher average annual price of US$75 per barrel of North Sea Brent for budget year 2019.

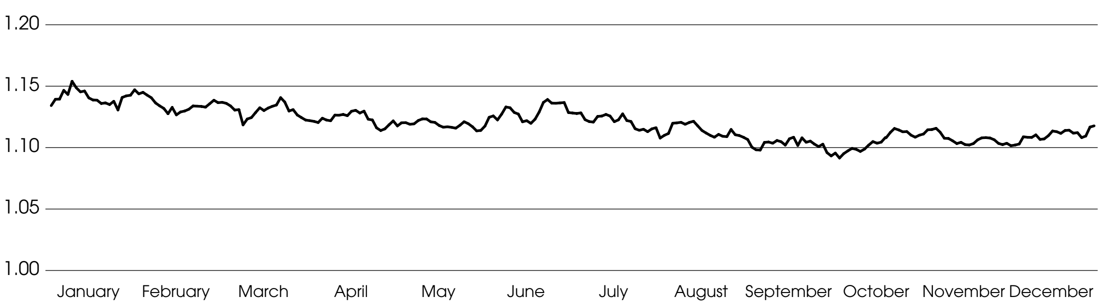
Industry-Specific Climate

2019 was a difficult year for the Chemical-Pharmaceutical Raw Materials division. According to the German Chemical Industry Association (VCI), sales in Germany's third-largest sector fell by 5% to €193 billion. The industry's foreign business, both overseas and in Europe, was hit by the global economic downturn and the trade disputes between China and the United States. At the same time, there was waning domestic demand in Germany for chemical products among industrial customers. Overall, production decreased significantly.

The main factor having a negative impact on our Plastics segment was the tense situation in

G. 05 **EXCHANGE RATES US$ PER € IN 2019**

(CLOSING RATE US$ PER €)



the automotive industry, as our activities in this segment relate largely to the production of high-quality plastic parts for the automotive supply industry. While the euro area still reported moderate growth in new car registrations, the figures on the key United States (-1.4%) and Chinese (-9.5%) markets lagged well behind the 2018 figures.

Overview of Business Development and Performance

In 2019, H&R sold a total of 815,254 tons of core products from its Chemical-Pharmaceutical Raw Materials division (2018: 836,140 tons) to outside buyers. Overall, it generated €1.08 billion in sales – less than in the previous year (2018: €1.11 billion). In general, this means that we sold fewer core products to our customers. This lower cost of materials as against the previous year also reflects this. All in all, the total operating income (EBITDA) generated by the Group amounted to €52.9 million (2018: €74.7 million).

Events With a Major Impact on Business Development and Performance

Overall, the Group's €1.08 billion of sales fell around 3.5% short of the prior-year level (2018: €1.11 billion). At the same time, global political factors such as U.S. customs policy and waning economic growth in China had a negative impact. Brexit was another issued that unsettled the markets.

Market participants in our customer industries felt considerably under pressure and adopted a more cautious approach. Given the considerable price pressure from eastern European base oils and Chinese wax and paraffin exports to Europe, we were only able to enforce some of the price adjustments that would actually have been necessary.

Comparison of Actual Business Development and Performance With the Forecast Made in the Previous Year

The expectations with which H&R KGaA started financial year 2019 were based on the assumption that developments would be more positive than they actually were. As a result, we predicted rising sales as against 2018 and operating income (EBITDA) ranging between €75.0 million and €90.0 million.

After a robust start to the year, it was not to be expected that H&R KGaA would fall short of the targeted operating income for the year as a whole to the extent that it ultimately did. Toward the middle of the year, however, it became clear that the political upsets referred to above would dampen the overall mood on the markets and result in our customers taking a more skeptical view of their own outlook. It was appearing unlikely that we would be able to meet our original objectives. At the same time, we were still optimistic enough at the time to set the lower threshold of the range at €75.0 million, i.e., on a par with the result for the previous year.

As a result of the significant discrepancies between the key figures in our forecast and the actual figures for the first half of 2019, we withdrew these expectations and set our income forecast at an attainable target EBITDA of up to €75.0 million. As the third quarter of 2019 brought hardly any recovery, and actually stepped up the pressure on many of our customer industries to a decisive degree, operating income of up to €55.0 million appeared to be in the realms of possibility when the figures for the first nine months were unveiled. Total sales revenues ultimately reached €1.08 billion. At €52.9 million, the EBITDA recognized in the consolidated income statement for the financial year was in line with our adjusted maximum expectations.

The consolidated income attributable to shareholders, which we did not, however, forecast, came to €-1.4 million for 2019 (2018: €21.6 million).

T. 14 **FORECAST FOR FINANCIAL YEAR 2019**

Forecast date	Publication of the 2018 Annual Report	Publication of Interim Statement for Q1/2019	Publication of the 2019 Half-Year Report	Publication of Interim Statement for Q3/2019	Actual value
Total sales	"€1,000.0 million to €1,200.0 million"	not defined	not defined	not defined	€1,075.3 million
Sales in ChemPharm Refining	"≥ €630.0 million"	not defined	not defined	not defined	€665.0 million
Sales in ChemPharm Sales	"≥ €320.0 million"	not defined	not defined	not defined	€376.9 million
Sales in Plastics	"≥ €50.0 million"	not defined	not defined	not defined	€43.2 million
EBITDA at Group level	"between €75.0 million and €90.0 million"	"between €75.0 million and €90.0 million"	"up to €75.0 million"	"up to €55.0 million"	€52.9 million

In the Chemical-Pharmaceutical Raw Materials division, sales fell year-over-year to €1.04 billion due to the prices of raw materials and volume-related factors (2018: €1.06 billion). In our reporting during the year, we drew attention to the trend toward declining sales in the Refining segment and the Plastics division. As the development in the Sales segment bucked the overall trend, however, we opted not to make any adjustments to our sales forecast. On the earnings side, we struggled with the difficult overall economic situation in both the Refining and Sales segments. Instead of the figure of at least €70.0 million expected at the start of the year, our ChemPharm business generated €60.0 million.

Performance in the Plastics division was down considerably. This segment reported lower sales revenues (€43.2 million) than in the previous year (2018: €55.0 million). The negative deviation was more pronounced in the case of EBITDA, which came to €-4.9 million, down significantly on the previous year (2018: EBITDA of €3.0 million), primarily as a result of the one-time effects of the personnel restructuring measures implemented at the Coburg site, which we estimated to total around €4.0 million as of Q3 2019 and which ultimately amounted to €3.2 million.

Economic Position of the H&R Group

Assessment of Economic Performance and Overall Statement by the Management Board

Overall, H&R's business performed much worse during the reporting period than the Management Board had expected at the beginning of 2019. This can be traced back primarily to global economic developments. The trade disputes between the United States and China, in particular, have put massive pressure on our business trend and have made it clear that, in a world with a truly globalized economy, bilateral tension is never limited to the individual countries concerned. The disputes resulted, for example, in weak sales volumes in the automotive industry affecting a long chain of suppliers and component manufacturers. They also, however, left their mark on tire manufacturers and lubricant producers. Some market participants, such as eastern European base oil refineries, were able to divert sales volumes to other markets at very low prices with the help of state support. In the paraffin production sector, Chinese producers took similar action. The U.S. tariffs meant that goods that were difficult to sell in the United States found their way to Western Europe thanks to considerable state incentives, undercutting domestic producers on the European markets, of which H&R is one.

At the same time, customers were once again much more skeptical about their own development throughout the year as a whole than they had been in the previous year. Although the market responded well to our approach of offering high-quality products produced in line with European standards at fair prices, our customer industries remained extremely price-conscious.

All of these developments are reflected in the figures: in addition to the slight dip in sales of 3.5%, our operating income was down by around 29% to €52.9 million as a result of the factors described above.

Note on Presentation of the Influence of Accounting Policies on the Economic Situation

The accounting is based on discretionary decisions and estimates which we have exercised as we consider appropriate, taking into account the company's current economic situation including our assessment of future development. Our net assets and financial position also reflect, inter alia, the steps we have taken to manage working capital (inventory management, advance payments for orders). For a full description of the assumptions and discretionary decisions made with respect to the measurement of assets and liabilities, please refer to the presentation in the notes to the consolidated financial statements.

Results of Operations

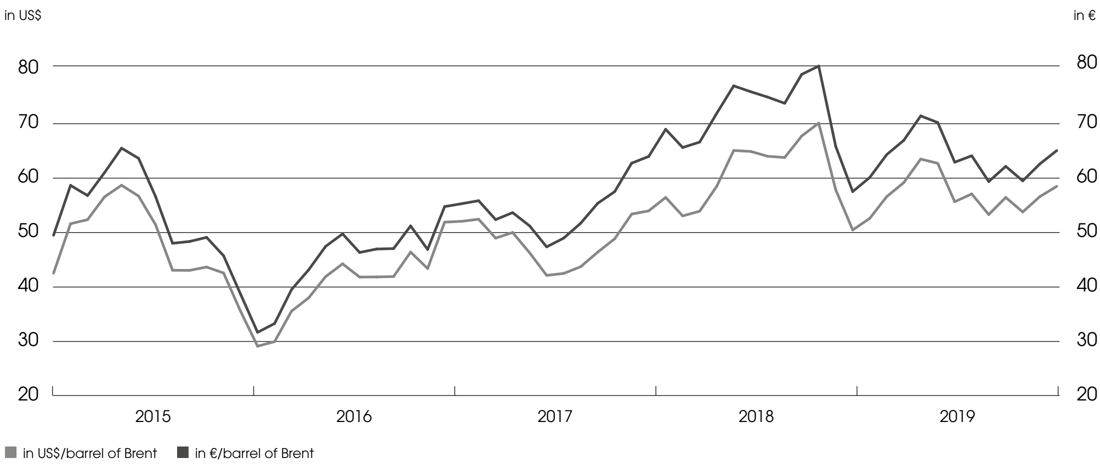
In financial year 2019, we generated sales of €1,075.3 million (previous year: €1,114.2 million), down on the previous year's level. The revenue share from the Chemical-Pharmaceutical business (sales contribution in 2019: 96.0%; previous year: 95.1%) was mixed, with losses of -4.3% in the Refining segment and an increase of 0.6% in the Sales segment. In the Plastics segment (sales contribution in 2019: 4.0%; previous year: 4.9%), the sales volume was -21.4% weaker than in 2018. As far as operating income (EBITDA) is concerned, all areas lagged behind the prior-year figures, with the exception of the Sales segment.

The regional focus of our business activities remains on Germany, where 56.7% of our sales were generated in financial year 2019 (2018: 56.7%). Europe-wide, H&R's direct sales from foreign customers stood at 11.1%. Sales from outside of Europe accounted for 32.2% of the total.

Financial year 2019 was characterized primarily by market-related factors for H&R. Due the mounting uncertainty regarding global trade (in particular the customs policy of the United States vis-à-vis China; the upheaval in the automotive industry), our customers remained cautious and took a more skeptical view of their own outlook.

G. 06 **OIL PRICES 2015–2019**

(AVERAGE MONTHLY PRICES)



This sort of environment made it difficult for us to enforce the price adjustments we urgently had to make, particularly due to the huge shift in trading flows. Russian refineries flooded the already saturated market for base oils and Chinese products put the domestic paraffin market under pressure.

All in all, the company has achieved income that is not entirely unexpected for such a difficult financial year; overall, consolidated operating income (EBITDA) totaled €52.9 million (previous year: €74.7 million). Driven by the lower income, there was a 1.8 percentage point change in the EBITDA margin to 4.9%, compared to 6.7% in 2018.

The other net income levels also showed the same development overall. For example, consolidated income before interest and taxes (EBIT) totaled €7.4 million in 2019 with a higher level of depreciation and amortization (previous year: €40.6 million). Income before tax (EBT) decreased from €33.7 million in 2018 to €-1.2 million in 2019. Consolidated income attributable to shareholders amounted to €-1.4 million (previous year: €21.6 million).

The company reported a loss per share of €-0.04 for 2019, as against earnings per share of €0.59 in the prior-year period.

T. 15 **CHANGES IN SALES AND INCOME**

IN € MILLION	2019	2018	2017	2016	2015
Sales revenue	1,075.3	1,114.2	1,025.1	942.7	982.9
EBITDA	52.9	74.7	97.9	101.4	85.4
EBIT	7.4	40.6	54.8	64.2	48.7
Income before tax	-1.2	33.7	46.2	54.2	34.2
Consolidated income attributable to shareholders	-1.4	21.6	32.1	38.4	26.9
Earnings per share	-0.04	0.59	0.89	1.07	0.75

Trend in Orders

New orders for products in our Chemical-Pharmaceutical business were at a slightly lower level throughout 2019. The volume of the core products sold fell slightly, by around 2.5%, in the financial year under review.

In the Plastics division, the pressure on automotive manufacturers had a direct impact on orders at GAUDLITZ, and we witnessed a significant decline in the plastic components requested at all three GAUDLITZ GmbH locations. These lower quantities made end-to-end toolmaking with design and tool production in Germany an unprofitable process. The parent company reacted accordingly by initiating a personnel restructuring concept and expects this to result in a cost structure that is commensurate with the order situation. In the future, only the design and engineering expertise will remain in Coburg, while the tools will be manufactured externally, as is already the case at the other two sites in the Plastics segment.

Trends in the Main Items on the Income Statement

During the reporting period, there was a €-1.7 million change in inventories of finished products and work in progress (previous year: €12.9 million).

Our cost of materials fell by 3.8% to €844.6 million in financial year 2019 (previous year: €877.5 million); this is a direct consequence of the lower sales volumes. The change in the material expense ratio to 78.7% (2018: 77.9%) is largely due to the development in sales volumes.

T. 16 TRENDS IN THE MAIN ITEMS ON THE INCOME STATEMENT

IN € MILLION	2019	2018	2017	2016	2015
Sales revenue	1,075.3	1,114.2	1,025.1	942.7	982.9
Changes in inventories	-1.7	12.9	9.8	9.2	-27.9
Other operating income	25.6	27.3	26.5	21.6	32.4
Cost of materials	-844.6	-877.5	-764.3	-671.8	-709.4
Personnel expenses	-88.5	-87.1	-86.0	-86.7	-79.9
Depreciation and amortization	-45.5	-34.2	-43.1	-37.2	-36.8
Other operating expenses	-113.8	-115.4	-113.7	-114.1	-113.1
Operating result	**6.9**	**40.2**	**54.3**	**63.7**	**48.3**
Financial income	-8.1	-6.4	-7.8	-9.5	-14.1
Consolidated income before taxes	**-1.2**	**33.7**	**46.2**	**54.2**	**34.2**
Consolidated income before minority interests	**0.1**	**22.3**	**29.5**	**39.3**	**26.8**
Consolidated income attributable to shareholders	**-1.4**	**21.6**	**32.1**	**38.4**	**26.9**

There was a slight 1.6% increase in personnel expenses to €88.5 million (previous year: €87.1 million) despite a lower total number of employees overall.

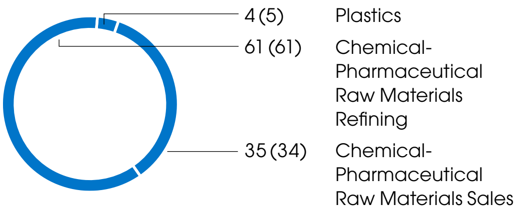
Depreciation and amortization, which stood at €34.2 million in the previous year, increased considerably to €45.5 million.

As was already the case in the previous year, impairment testing did not result in any impairment losses having to be recognized in 2019.

The financing costs dropped from €9.3 million to €8.9 million in 2019. Overall, financial income came to €-8.1 million and was thus lower than the previous year's value of €-6.4 million.

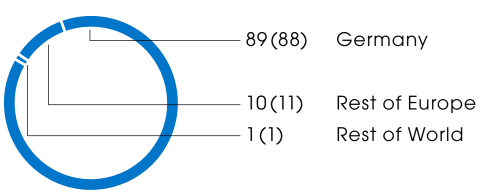
G. 07 **SALES BY SEGMENT IN 2019**

IN % (PREVIOUS YEAR'S FIGURES)



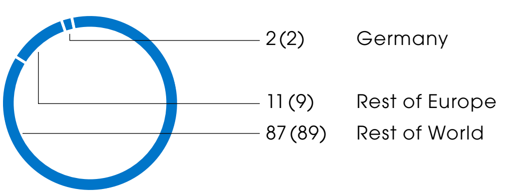
G. 08 **SALES BY REGION IN THE CHEMPHARM REFINING SEGMENT IN 2019**

IN % (PREVIOUS YEAR'S FIGURES)



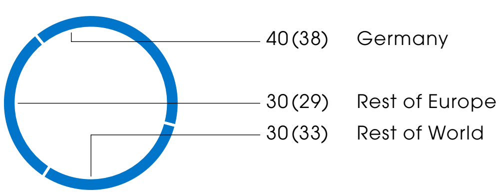
G. 09 **SALES BY REGION IN THE CHEMPHARM SALES SEGMENT IN 2019**

IN % (PREVIOUS YEAR'S FIGURES)



G. 10 **SALES BY REGION IN THE PLASTICS SEGMENT IN 2019**

IN % (PREVIOUS YEAR'S FIGURES)



Earnings Trend by Segment

ChemPharm Refining. Sales volumes of core products at our Group's largest segment decreased somewhat from around 459,236 tons in the previous year to around 440,749 tons in the reporting year.

Lower product prices, however, were also a key factor in the lower segment sales. All in all, sales amounted to €665.0 million (previous year: €694.5 million). However, at €29.2 million, operating income (EBITDA) for the segment was down considerably on the previous year (€46.0 million).

ChemPharm Sales. Sales in the international segment, on the other hand, increased by 0.5% to €376.9 million (previous year: €374.9 million). The sales volume, however, fell from around 391,309 tons in the previous year to 388,462 tons in 2019. As in previous years, the earnings trend of our subsidiaries was mixed, although income was up by around 2.1% in total in a year-over-year comparison; operating income (EBITDA) rose from €30.1 million in 2018 to €30.7 million in 2019.

Plastics. With €43.2 million in sales, our Plastics segment made much less of a contribution to total sales than in the previous year (2018: €55.0 million). After contributing €3.0 million to operating income (EBITDA) in the previous year, the segment reported EBITDA of €-4.9 million in the reporting period. Besides the poorer business trend, this is due primarily to one-time restructuring costs of just under €3.2 million.

T. 17 KEY FIGURES BY SEGMENT (IFRS)

IN € MILLION	2019	2018	2017	2016	2015
Sales revenue					
Refining	665.0	694.5	616.8	567.2	614.3
Sales	376.9	374.9	357.2	328.0	320.2
Plastics	43.2	55.0	59.6	56.5	60.1
Reconciliation	-9.9	-10.2	-8.5	-9.1	-11.6
Operating income (EBITDA)					
Refining	29.2	46.0	63.7	64.5	52.7
Sales	30.7	30.1	34.4	39.4	35.1
Plastics	-4.9	3.0	3.7	2.6	-0.8
Reconciliation	-2.2	-4.4	-3.8	-5.1	-1.5

Net Assets and Financial Position

Financial Management Principles and Objectives

We manage our finances centrally. The overriding objectives of this function are as follows:

- to provide the company with sufficient liquidity and to use it efficiently
- to finance working capital and capital expenditure
- to hedge against financial risks
- to ensure compliance with financing terms
- to optimize our capital structure

We cover our short-term financing needs using a widely syndicated, variable interest syndicated loan. The loan had an original volume of €200.0 million and we increased it to €240.0 million in 2019. We extended the original term, which was set to end in July 2023, to July 2024. In order to ensure that we remain solvent at all times and to make efficient use of the liquidity of our German subsidiaries, the latter are incorporated into the cash pool structures in place at H&R GmbH & Co. KGaA.

We currently cover our long-term financing needs primarily using fixed-interest redeemable loans (with interest between 1.5% and 3.6%) that are refinanced by the German development bank KfW. In 2019, we increased the amount borrowed by taking out a KfW-refinanced loan of €7.0 million to finance measures to prevent waste heat at the Salzbergen site.

T. 18 **MAIN FINANCING INSTRUMENTS OF THE H&R GROUP**

	Original loan amount in € million	Year issued	Current loan amount in € million	Maturity
Syndicated loan	up to 240.0	2018	72.0	7/25/2024
Redeemable loan	50.0	2011	6.2	9/30/2020
Redeemable loan	28.8	2015	16.5	9/30/2023
Redeemable loan	10.0	2017	8.9	6/30/2027
Redeemable loan	19.0	2017	18.4	9/30/2027
Redeemable loan	14.5	2017	14.0	9/30/2027
Redeemable loan	16.0	2018	16.0	6/30/2028
Redeemable loan	7.0	2019	7.0	12/30/2028

As of December 31, 2019, there were firmly agreed but unused credit lines in the amount of €142.3 million.

Analysis of the Cash Flow Statement

Based on the lower consolidated income figure of €84 thousand, cash flow from operating activities totaled €95.9 million in the year under review (previous year: €23.3 million). This amount included higher depreciation and amortization of €45.4 million (previous year: €34.2 million). The changes in net working capital, however, which amounted to €60.6 million (previous year: €-29.4 million), had a very significant impact.

Cash flow from investing activities increased to €-75.1 million (previous year: €-69.7 million). The main component of this item was the €-74.5 million spent on increased investments in property, plant and equipment in connection with projects realized in our specialty refineries and sites (2018: €-70.5 million).

Accordingly, free cash flow (total cash flow from investing and operating activities) improved to €20.8 million (previous year: €-46.4 million). Overall, financing activities resulted in a net cash inflow of €25.2 million (previous year: €33.2 million). Financial liabilities, which had already been steadily reduced in the past, were further reduced in 2019 (€-56.2 million; 2018: €-79.4 million). At the same time, the total new financial liabilities taken out also fell to €81.2 million (2018: €118.9 million). At the end of the reporting period, cash and cash equivalents amounted to €94.8 million, compared to €46.5 million a year earlier.

In the fourth quarter of 2019 alone, the company reported a significantly improved cash flow from operating activities of €24.7 million (Q4 2018: €14.0 million). The changes in the working capital requirement were also a key factor in this. Despite higher investing activities of €-28.5 million (2018: €-25.7 million), free cash flow for the fourth quarter of 2019 improved to €-3.8 million (Q4 2018: €-11.7 million).

The company was always able to fulfill its payment obligations in 2019.

The total amount of liabilities to banks maturing in 2020 was €112.4 million as of the reporting date.

T. 19 **FINANCIAL POSITION**

IN € MILLION	2019	2018	2017	2016	2015
Cash flow from operating activities	95.9	23.3	46.2	75.5	56.4
Cash flow from investing activities	-75.1	-69.7	-58.1	-38.8	-28.1
Free cash flow	20.6	-46.4	-11.9	36.7	28.4
Cash flow from financing activities	25.4	33.2	15.3	-58.9	-52.4
Cash and cash equivalents as of 31/12	94.8	46.5	59.0	58.0	79.3

Capital Expenditure

During the reporting period, our investments in property, plant and equipment of €82.8 million were down on the prior-year period (2018: €91.6 million). We invested a total of €81.1 million in the Chemical-Pharmaceutical Raw Materials division during the 2019 financial year (previous year: €88.5 million). A substantial portion of this amount (€75.3 million) was again invested in the ChemPharm Refining segment, where it was used to expand and replace capital assets at the specialty refineries in Hamburg and Salzbergen.

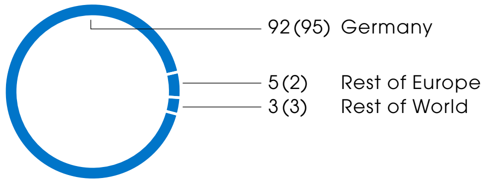
The division's remaining €5.8 million of capital expenditure was divided among our ChemPharm Sales segment's international locations.

In the Plastics segment, investments in property, plant and equipment came to €1.7 million due to the replacement of old machinery.

In total, order commitments for property, plant and equipment amounting to €10.2 million existed. Their financing was secured by existing resources and credit lines.

G. 11 **CAPITAL EXPENDITURE BY REGION IN 2019**

IN % (PREVIOUS YEAR'S FIGURES)



T. 20 **CAPITAL EXPENDITURE BY SEGMENT**

IN € MILLION	2019	2018	2017	2016	2015
Refining	75.3	84.5	54.2	34.0	23.6
Sales	5.8	4.0	3.9	4.5	6.7
Plastics	1.7	2.9	0.8	0.8	0.7
Reconciliation (other activities)	0.1	0.1	–	–	–
Group	**82.8**	**91.6**	**59.1**	**39.3**	**31.1**

Analysis of the Statement of Financial Position

As of year-end 2019, the balance sheet total stood at €838.6 million (December 31, 2018: €730.4 million).

On the assets side, cash and cash equivalents doubled from €46.5 million at the end of the previous year to €94.8 million. On the other hand, there was a marked 28.2% decrease in trade receivables to €86.9 million (December 31, 2018: €121.0 million).

Largely because of the trend in the price of crude oil over the course of the year, inventories – one of the main components of current assets – fell by 17.2% to €127.5 million (2018: €153.9 million). Overall, current assets dropped by -0.4% to €338.3 million as of December 31, 2019, compared with €339.7 million at the end of the previous year. They accounted for 40.3% of the balance sheet total.

During financial year 2019, non-current assets increased significantly (by 28.1%) from €390.7 million on December 31, 2018, to €500.3 million. Property, plant and equipment rose from €336.1 million to €433.0 million. Goodwill remained nearly unchanged, while other intangible assets dropped by 9.0% to €15.8 million (2018: €17.3 million). There was a marked increase in other financial assets, which rose from €2.1 million to €12.0 million. Deferred taxes also increased from €4.3 million to €11.1 million.

Overall, non-current assets comprised 59.7% of the balance sheet total.

On the liabilities side of the statement of financial position, current liabilities increased by 26.7% from €202.7 million to €257.0 million and their percentage of the balance sheet total increased to 30.6% (December 31, 2018: €27.8%). Liabilities to banks, which rose from €70.1 million to €112.4

million as a result of the valuation on the reporting date and new borrowings, and higher trade payables of €108.4 million (December 31, 2018: €100.4 million) were offset by lower income tax liabilities of €5.1 million (December 31, 2018: €6.4 million). Other provisions, on the other hand, rose from €9.7 million to €10.6 million.

Other financial liabilities were quoted at a considerably lower level (2019: €0.8 million), after coming in at €3.7 million in the previous year. Other liabilities fell from €8.7 million to €7.3 million.

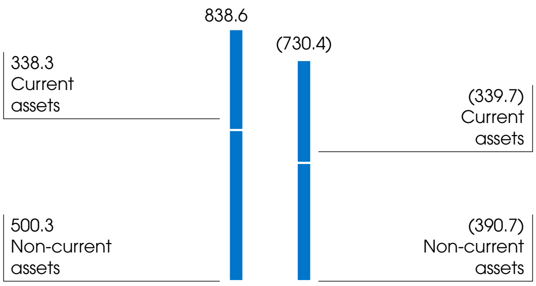
During the same period, non-current liabilities increased by 28.1% to €218.2 million (December 31, 2018: €170.3 million), changing their percentage of the balance sheet total from 23.3% to 26.0%. Non-current liabilities to banks fell from €79.4 million to €69.3 million. Pension provisions increased by around €10.0 million and other liabilities increased to €14.9 million. Other provisions increased marginally. Deferred tax liabilities decreased by 7.6% from €4.4 million to €4.1 million. At €39.6 million, the main component of the increase in non-current liabilities was the higher lease liabilities, which were recognized for the first time due to IFRS 16.

At the end of the reporting period, H&R KGaA's equity amounted to €363.4 million (December 31, 2018: €357.4 million), around 1.7% higher than in the previous year, due primarily to the significant increase in other reserves.

Due to the higher balance sheet total, the equity ratio came to 43.3% as of the reporting date (December 31, 2018: 48.9%). Net gearing (the ratio of net financial liabilities to equity) increased by 8.5 percentage points from 28.9% to 37.4%.

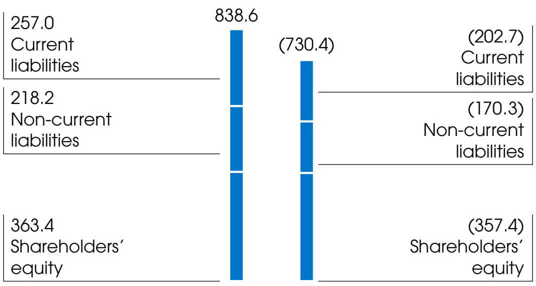
G. 12 **ASSETS 2019**

IN € MILLION (PREVIOUS YEAR'S FIGURES)



LIABILITIES AND SHAREHOLDERS' EQUITY 2019

IN € MILLION (PREVIOUS YEAR'S FIGURES)



Net Assets, Financial Position and Results of Operations of H&R KGaA

T. 21 **RESULTS OF OPERATIONS OF H&R GMBH & CO. KGAA UNDER HGB**

IN € THOUSAND	2019	2018	Change
Sales revenue	1,156	1,516	-360
Other operating income	4,588	2,275	2,313
Personnel expenses	-1,005	-590	-415
Depreciation and amortization of intangible assets and property, plant and equipment	-21	-22	1
Other operating expenses	-6,557	-7,657	1,100
Income from equity investments	–	740	-740
Income from profit transfer agreements	1,250	27,082	-25,832
Expenses from loss transfer agreements	-15,165	-1,173	-13,992
Income from lending financial assets	2,134	2,357	-223
Other interest and similar income	3,989	2,886	1,103
Interest and similar expenses	-4,597	-5,787	1,190
Income before tax	**-14,228**	**21,626**	**-35,854**
Income taxes	2,009	-1,417	3,426
Other taxes	-400	-7	-393
Net income/loss for the year	**-12,619**	**20,202**	**-32,821**
Profit or loss brought forward	26,694	21,106	5,588
Distribution of dividend	–	-14,615	14,615
Distributable profit/accumulated deficit	14,075	26,694	-12,619

We have prepared the annual financial statements of H&R GmbH & Co. KGaA (short form: H&R KGaA) in accordance with the German Commercial Code (HGB).

They are published in the Bundesanzeiger (Federal Gazette) and are permanently available for download from the Investor Relations Publications Overview section of our website (https://hur.com). For financial year 2019, we have combined the management reports of the H&R Group and of H&R KGaA.

H&R KGaA's sales revenues are generated solely by services rendered to companies in the Group. They totaled around €1.2 million, lower than in the previous year (2018: €1.5 million). Personnel expenses for the reporting period stood at just under €1.0 million, however, higher than the prior-year level (2018: €0.6 million).

Depreciation of property, plant and equipment fell only slightly from €22 thousand to €21 thousand. Other operating income came to €4.6 million in the reporting year, up considerably on the prior-year figure (2018: €2.3 million).

There was a moderate decrease in other operating expenses from €7.7 million to €6.6 million. As a result of the significantly less dynamic economic performance of our subsidiaries on the whole, income from profit and loss transfer agreements was only €1.3 million in 2019, compared to €27.1 million in the previous year.

Due to the difficult results of operations at the refinery sites and in the Plastics segment, expenses from loss transfer agreements increased significantly to €15.2 million (2018: €1.2 million).

The subsidiaries of H&R KGaA obtain funding for their financing needs from H&R KGaA's resources, which in turn are financed via credit lines and borrower's note loans. Due to slightly higher demand, other interest and similar income again increased slightly, from €2.9 million to €4.0 million. Financing costs, however, dropped in 2019; interest and similar expenses fell from €5.8 million to €4.6 million.

Overall, income before tax amounted to €-14.2 million (previous year: €21.6 million). Tax expense came to €1.4 million, as against €2.0 million in the prior-year period. Overall, H&R KGaA generated a net loss for the year of €-12.6 million (2018: €20.2 million).

T. 22 **NET ASSETS AND FINANCIAL POSITION OF H&R GMBH & CO. KGAA**

IN € THOUSAND	2019	2018	Change
Intangible assets	**–**	**9**	**-9**
Other equipment, operating and office equipment	32	42	-10
Property, plant and equipment	**32**	**42**	**-10**
Shares in affiliated companies	124,675	124,675	0
Loans to affiliated companies	87,070	94,045	-6,975
Holdings	1,050	1,050	0
Financial investments	**212,796**	**219,771**	**-6,975**
Receivables due from affiliated companies	157,702	148,273	9,429
Other assets	6,700	5,823	877
Receivables and other assets	**164,310**	**154,096**	**10,214**
Securities	**52**	**52**	**0**
Bank balances	31,663	19	31,644
Net current assets	**196,116**	**154,167**	**41,989**
Accruals and deferrals	**24**	**54**	**-30**
Active difference from offsetting of assets	4	446	-442
Assets	**408,972**	**374,489**	**34,483**
Subscribed capital	95,156	95,156	0
Capital reserve	60,340	60,340	0
Other retained earnings	29,866	29,866	0
Distributable profit/accumulated deficit	14,075	26,694	-12,619
Equity	**199,437**	**212,056**	**-12,619**
Provisions for pensions and similar commitments	1,848	2,010	-162
Tax provisions	468	2,302	-1,886
Other provisions	1,359	1,248	111
Provisions	**3,675**	**5,561**	**-1,886**
Liabilities to banks	159,198	119,085	40,113
Trade payables	226	158	68
Liabilities to affiliated companies	46,422	34,227	12,195
Other liabilities	14	3,402	-3,388
Liabilities	**205,860**	**156,872**	**48,988**
Liabilities and shareholders' equity	**408,972**	**374,489**	**34,483**

As of December 31, 2019, H&R KGaA's balance sheet total had increased by a good 9.2% to €409.0 million (December 31, 2018: €374.5 million). Loans to affiliated companies decreased to €87.1 million (previous year: €94.0 million), but once again related predominantly to payments of loans for projects in the reporting year. As a result, the company mainly invested in the maintenance and capacity of the existing process units and their added value at both refinery sites. Overall, at €212.8 million, financial assets remained below the previous year's value of €219.8 million.

Receivables due from affiliated companies increased from €148.3 million to €157.7 million in total. This was mainly due to increased receivables from cash pooling.

Bank balances increased significantly from €19 thousand to €31.7 million.

All in all, net current assets increased by 6.6%, from €154.2 million to €164.3 million.

On the liabilities side, subscribed capital changed (2019: €95.2 million), and the capital reserve (2019: €60.3 million) did not. At €29.9 million, other retained earnings were also comparable to the prior-year figure.

The net loss generated during the reporting period of €-12.6 million was posted to distributable profit, which then fell to €14.1 million. Equity followed suit and as of December 31, 2019, came to €199.4 million, compared to €212.1 million at the end of the previous year's reporting period. The equity ratio came to 48.8% (December 31, 2018: 56.6%).

Provisions for pension commitments decreased slightly once again. In contrast, there was hardly any difference in other provisions. Lower tax provisions additionally reduced the burden, however, causing total provisions to drop against the prior-year level to €3.6 million (December 31, 2018: €5.6 million).

Liabilities rose by 27.4% to €205.9 million (December 31, 2018: €156.9 million), due first and foremost to an increase in liabilities to banks to €159.2 million (previous year: €119.1 million), and also to an increase in liabilities to affiliated companies (€46.4 million; previous year: €34.2 million).

Other Legally Required Disclosures

Disclosures in Accordance With Section 289a, Paragraph 1 and Section 315a, Paragraph 1 of the German Commercial Code (HGB)

Item 1: Composition of Subscribed Capital

On the reporting date, subscribed capital totaled €95,155,882.68, divided into 37,221,746 ordinary no-par bearer shares. This corresponds to a notional value of around €2.56 per share. There are no different classes of shares; they are all ordinary shares. Each of these shares entitles the holder to one vote.

Item 2: Restrictions on Voting Rights or the Transfer of Shares

There is a voting rights restriction and pooling agreement between the limited liability shareholders of H&R Beteiligung GmbH and H&R Internationale Beteiligung GmbH. A portion of the shares and voting rights in the company held by H&R Beteiligung GmbH (9.70% of voting rights in the company) and all shares and voting rights in the company held by H&R Internationale Beteiligung GmbH (16.44% of voting rights in the company) are subject to the mutual voting rights restriction. A total of 26.14% of company voting rights are therefore subject to a voting rights restriction.

In addition, shares and voting rights held by members of the Supervisory Board and of the Executive Board of the general partner with full personal liability are subject to a voting rights restriction pursuant to Section 136 of the German Stock Corporation Act (AktG) regarding voting on the resolution by the Annual Shareholders' Meeting to approve their actions.

The company's Executive Board is not aware of any further restrictions affecting voting rights or the transfer of shares.

Item 3: Direct or Indirect Interests Exceeding Ten Percent of Voting Rights

In an informal voting rights notification dated December 31, 2019, Mr. Nils Hansen reported that his share of voting rights totaled 61.42% of the company's voting rights due to his own direct holdings and the attribution of voting rights held by or attributed to H&R Beteiligung GmbH, H&R Internationale Beteiligung GmbH, and H&R Holding GmbH. According to the aforementioned notification, (i) the share of voting rights of H&R Beteiligung GmbH totaled 59.74% of the company's voting rights due to direct holdings and the attribution of voting rights; (ii) the share of voting rights of H&R Internationale Beteiligung GmbH totaled 26.14% of the company's voting rights due to direct holdings and the attribution of voting rights; and (iii) the share of voting rights of H&R Holding GmbH totaled 59.74% of the company's voting rights due to the attribution of voting rights.

In accordance with an informal notification made at the end of 2019, Mr. Nils Hansen also holds 1.69% of the shares as privately owned shares, meaning that he holds shares corresponding to 61.42% of the share capital in total.

Item 4: Holders of Shares With Special Rights Granting Powers of Control

There are no shares with special rights granting powers of control.

Item 5: Control Over Voting Rights of Shares Held by Employees

The voting rights of employees who hold shares in the company's capital are not controlled.

Item 6: Statutory Regulations and Provisions of the Articles of Association on the Beginning and End of the Legal Position of the General Partner With Full Personal Liability and on Amendments to the Articles of Association

Since the company's legal form was changed to that of a partnership limited by shares on August 1, 2016, the company's management and representation have been the responsibility of its general partner with full personal liability, H&R Komplementär GmbH.

The general partner with full personal liability is defined in the company's Articles of Association; see Section 5, paragraph 1 of the Articles of Association. The general partner with full personal liability shall only leave the company in the cases governed by law or through an amendment to the Articles of Association. If the general partner with full personal liability leaves the company and a new general partner with full personal liability has not been admitted simultaneously, the company shall continue to operate with the limited liability shareholders alone for a transitional period. In this case, the Supervisory Board must immediately appoint an Emergency Representative, who shall represent the company until a new general partner with full personal liability has been admitted.

In this case, the Supervisory Board shall be entitled to adjust the Articles of Association to reflect the change in the general partner with full personal liability. Amendments to the Articles of Association must always be based on a resolution by the Annual Shareholders' Meeting, the adoption of which shall require a simple majority of the share capital represented during the voting, unless a bigger majority is required by law (compare Section 18, paragraph 2 of the Articles of Association and Sections 133 and 179 of the AktG). According to Section 285, paragraph 2 of the AktG, resolutions by the Annual Shareholders' Meeting regarding amendments to the Articles of Association also require the approval of the general partner with full personal liability. Pursuant to Section 24, the Supervisory Board may adopt amendments to the Articles of Association that only affect their wording without the approval of the Annual Shareholders' Meeting. In addition, under Section 4, paragraph 5, the Supervisory Board is authorized to revise the Articles of Association once an increase in share capital has been fully or partly completed in accordance with the respective utilization of the approved capital and once the authorization period has expired. Pursuant to Section 4, paragraph 6 of the Articles of Association, this also applies to respective utilizations of contingent capital in accordance with Section 4, paragraphs 1 and 6 of the Articles of Association. Finally, the Supervisory Board shall be entitled to adjust the Articles of Association to reflect the change in the general partner with full personal liability (see Section 5, paragraph 5 of the Articles of Association).

Item 7: Powers of the General Partner With Full Personal Liability, Particularly Regarding the Option of Issuing or Buying Back Shares

The general partner with full personal liability currently has an option for implementing corporate actions.

Under Section 4, paragraph 7, of the Articles of Association the general partner with full personal liability is authorized by way of a resolution passed by the Annual Shareholders' Meeting on May 24, 2018 – with the Supervisory Board's approval – to increase the company's share capital by May 23, 2023, by a maximum of €24,000,000.00 by issuing new, ordinary no-par bearer shares. The issue may be effected in one or more tranches in return for cash and/or contributions in kind (2018 Approved Capital). Within this context, the number of shares must increase in proportion to the share capital.

The shareholders generally have a subscription right to the new shares. The subscription right can also be granted indirectly using an arrangement in which the new shares are assumed by one or several credit institutions/companies with equivalent status to the latter in accordance with Section 186, paragraph 5, sentence 1 AktG that are then obliged to offer them to the shareholders for subscription (indirect subscription right).

The general partner with full personal liability is authorized, however, to exclude the shareholder subscription rights upon approval of the Supervisory Board,

a) to the extent necessary to exclude fractional share amounts from the subscription rights;

b) if the shares are being issued in exchange for contributions-in-kind, in particular for the purpose of acquisitions of companies, parts of companies, equity interests in companies, other assets or in the context of business combinations, or for the purpose of acquiring receivables or other rights;

c) if the company's shares are being issued in return for cash and the issue price for each share is not significantly lower than the quoted price for shares with what are, essentially, the same features that are already listed on the stock exchange at the time the issue price is set definitively. This authorization only applies, however, subject to the proviso that the new shares issued excluding shareholders' subscription rights in accordance with Section 203, paragraph 1, sentence 1 and paragraph 2, sentence 1 and Section 186, paragraph 3, sentence 4 AktG do not exceed 10% of the company's share capital in total, neither at the time when this authorization takes effect nor at the time when it is exercised if this value is lower. The following count toward this 10% threshold: (i) new shares issued, excluding shareholders' subscription rights, during the term of this authorization up until the time at which it is utilized on the basis of another authorization from approved capital in accordance with Section 203, paragraph 1, sentence 1 and paragraph 2, sentence 1 and Section 186, paragraph 3, sentence 4 AktG, (ii) those shares that were, or are to be, issued to satisfy conversion or option rights and/or conversion or option obligations and/or tender rights of the issuer under convertible bonds and/or bonds with warrants, profit participation rights and/or participating bonds (or combinations of these instruments) ("bonds"), insofar as the bonds were issued during the term of this authorization up until the time at which it is utilized pursuant to Section 221, paragraph 4, sentence 2 and Section 186, paragraph 3, sentence 4 AktG, excluding shareholders' subscription rights and (iii) treasury shares sold during the term of this authorization up until the time at which it is utilized pursuant to Section 71, paragraph 1, no. 8, sentence 5, 2nd half-sentence and Section 186, paragraph 3, sentence 4 AktG excluding shareholders' subscription rights. Any reduction is reversed to the extent that authorizations to issue new shares from approved capital, to issue bonds or to sell treasury shares in corresponding application of Section 186, paragraph 3, sentence 4 AktG are granted again by the Annual Shareholders' Meeting once the authorizations that resulted in the reduction have been exercised;

d) if the shares were issued to satisfy conversion or option rights or conversion or option obligations or tender rights of the issuer under bonds carrying conversion or option rights and/or conversion or option obligations and/or tender rights of the issuer to the company's shares;

e) insofar as is required to grant subscription rights to holders/creditors of bonds carrying conversion or option rights and/or conversion or option obligations and/or tender rights of the issuer to the company's shares to such an extent as such holders/creditors would be entitled to after having exercised their conversion or option rights and/or following the fulfillment of the conversion or option obligations and/or tendering of shares as a shareholder.

The total new shares issued from the 2018 Approved Capital, excluding shareholders' subscription rights, based on the authorizations set out above must not exceed 20% of the share capital, neither at the time when the authorization takes effect nor at the time when it is exercised if this value is lower. The following count toward this 20% threshold: (i) new shares issued, excluding shareholders' subscription rights, during the term of this authorization up until the time at which it is utilized on the basis of another authorization from approved capital, (ii) those shares that were, or are to be, issued to satisfy conversion or option rights and/or conversion or option obligations and/or tender rights of the issuer under bonds, insofar as the bonds were issued during the term of this authorization up until the time at which it is utilized, excluding shareholders' subscription rights and (iii) treasury shares sold during the term of this authorization up until the time at which it is utilized excluding shareholders' subscription rights. If and to the extent that, following the exercise of an authorization to exclude subscription rights that resulted in shares being counted toward the abovementioned 20% threshold, the Annual Shareholders' Meeting grants this authorization to exclude subscription rights again, the reduction is reversed.

The general partner with full personal liability is authorized, with the approval of the Supervisory Board, to define the content of the share rights, further details about the capital increase and the terms of issue, in particular the issue amount.

Item 8: Essential Agreements Subject to the Condition of a Change in Control Owing to a Takeover Bid

The banks involved in the syndicated loans and redeemable loans have the right to call in the loans in the event of a change of control.

Item 9: Compensation Agreements to be Concluded With the Members of the Executive Board or With Employees Covering the Eventuality of a Takeover Bid

No such arrangements exist at this time.

Subordinate Status Report

The company exercising direct control is H&R Beteiligung GmbH, a member of the Hansen & Rosenthal Group, with a 43.30% stake. The management and representation of H&R GmbH & Co. KGaA is the responsibility of H&R Komplementär GmbH. Mr. Nils Hansen holds the majority (51%) of the shares in H&R Komplementär GmbH and thereby is in a position to directly influence the management of the company.

As a result, we produce a subordinate status report in accordance with Section 312 AktG.

In the report for financial year 2019, the Executive Board came to the following conclusion:

“With regard to the transactions listed in the Report on Relationships with Affiliated Companies for the reporting period from January 1, 2019, to December 31, 2019, based on the circumstances that we were aware of at the time such transactions took place, our company received appropriate consideration for every transaction. No relevant measures were implemented or omitted during the reporting period.”

Non-Financial Report

The 2019 non-financial report will be published by April 30, 2020, and made available for download on the company’s website at www.hur.com.

Corporate Governance Statement

The Statement on Corporate Governance is made available by the company on its website at www.hur.com/en/investor-relations/corporate-governance/.

Remuneration Report

The following remuneration report is an integral part of the Management Report. It describes the remuneration system covering the Executive Board and the Supervisory Board of H&R KGaA.

Executive Board Remuneration

The Executive Board of H&R KGaA consists of up to three members. H&R Komplementär GmbH reviews and makes decisions about the remuneration system for the Executive Board and the total remuneration for the individual members of the Executive Board through its Advisory Board, within the meaning of both Section 87 of the AktG and the recommendations of the German Corporate Governance Code, applied mutatis mutandis. To evaluate appropriateness, the remuneration is compared to that of other listed companies in similar industries of a similar size and complexity as well as with the remuneration structure within the company itself. Moreover, it is also set at a level that ensures the company is in a position to compete for highly qualified top managers.

At listed companies such as H&R KGaA, the remuneration structure must also be geared toward sustainable company performance. Following these requirements, the total remuneration of the members of H&R KGaA's Executive Board consists of both non-performance-related and performance-related components.

The non-performance-related portions consist of a fixed salary and benefits, while the performance-related components consist of a two-step variable remuneration with a sustainability component and an annual special or recognition bonus determined at the discretion of the Advisory Board of H&R Komplementär GmbH as general partner with full personal liability that is limited to a maximum of €100,000.00.

The criteria for measurement of the remuneration for members of the Executive Board include the economic situation, the company's performance and its future prospects. In addition, individual remuneration is dependent on the different duties of the members of the Executive Board and on their individual performance.

Fixed Remuneration

The fixed remuneration consists of a non-performance-related basic remuneration – which is paid pro rata each month as a salary – plus various fringe benefits and non-monetary remuneration. At present, this primarily comprises insurance premiums for private life and disability insurance policies, contributions to pension, health and long-term care insurance policies corresponding to the amount payable by an employer if social insurance contributions were payable in full, and the private use of a company car. Members of the Executive Board pay tax on non-monetary remuneration based on the amounts reportable under tax guidelines.

The fixed salary is reviewed regularly (every two years).

Variable Remuneration

The maximum annual target bonus is limited to the amount of the fixed salary. One half consists of a component with a short-term incentive effect (referred to as the "earnings component") based on the annual Group operating income (EBITDA), adjusted by any extraordinary result within the meaning of Section 275, paragraph 2, no. 17 HGB (old version), with the other half being a component with a long-term incentive effect (referred to as the "sustainability component").

The earnings component can be up to 50% of the annual target bonus and depends on whether the EBITDA defined in the business plan is achieved. If EBITDA comes to 110% or more of the amount planned, the Executive Board member is entitled to 100% of the earnings component (50% of the annual target bonus), i.e., a maximum of 50% of the maximum possible bonus. The maximum entitlement to the earnings component is reduced on a straight-line basis by the percentage by which EBITDA is below plan.

The sustainability component provides for a variable bonus based on the average return on capital employed (ROCE) over a rolling three-year period. The return is calculated as the ratio of EBIT to average capital employed (equity plus net financial debt, pension provisions and other non-current provisions) at H&R KGaA.

A maximum of 50% of the annual target bonus is paid if the average annual ROCE reaches 15% or more. The maximum entitlement to the sustainability component is reduced pro rata to 0% for ROCE of up to 5%. By including this component, we satisfy the requirements of Section 87, paragraph 1, sentence 3 AktG, which stipulates that variable remuneration components must be calculated based on a time frame spanning several years.

In the case of Mr. Detlev Wösten, who left the Executive Board with effect from July 31, 2019, up to 20% of the variable remuneration was awarded on a project basis. The earnings and sustainability components were then reduced to 40% each.

Should the term of office of a member of the Executive Board end prematurely, any payments agreed for the departing member – including fringe benefits – should not exceed the value of twice the annual remuneration (severance pay cap) or the value of the remuneration that would be payable for the remaining term of the executive employment contract. This is stipulated in Recommendation number 4.2.3, paragraph 4 of the German Corporate Governance Code as amended on June 24, 2014. The company has followed this recommendation to the extent legally possible by including what are known as "coupling clauses" in the employment contracts of members of the Executive Board. These stipulate that, if the appointment is revoked, the member resigns with good cause or the board position is otherwise terminated by the company, the employment contracts of members of the Executive Board will terminate two years after the term of office ends, but no later than the end of the scheduled appointment period.

The executive employment contracts of all members of the Executive Board ensure that the variable remuneration is limited in case of extraordinary developments in the company that could not have been foreseen at the time the executive employment contract was signed or at the time that targets were defined and which are deemed to render unreasonable for the company adherence to the payment of the agreed variable remuneration or to the defined targets. This could also be dealt with by appropriate adjustment of the targets already defined for the payment of variable remuneration. The company does not use securities-based incentive systems such as stock option programs. No loans or advances have been extended to members of the Executive Board.

T. 23 **EXECUTIVE BOARD REMUNERATION (GRANTED)**

Members of the Executive Board	IN €	Benefits granted 2018	Benefits granted 2019
Niels H. Hansen Chairman of the Executive Board (until 7/31/2019) Sole member of the Executive Board (since 8/1/2019)	Fixed remuneration	751,666	654,583
	Fringe benefits[1]	17,902	10,597
	Total	**769,568**	**665,181**
	One-year variable remuneration	232,000	154,098
Detlev Wösten Member of the Executive Board (until 7/31/2019)	Multiple-year variable remuneration	221,234	57,865
	Total	**1,222,802**	**877,144**
	Pension expenses	–	–
	Total remuneration	**1,222,802**	**877,144**

[1] Inter alia, this item includes the use of a car and casualty insurance premiums

T. 24 **EXECUTIVE BOARD REMUNERATION (RECEIVED)**

Members of the Executive Board	IN €	Benefits received 2018	Benefits received 2019
Niels H. Hansen Chairman of the Executive Board (until 7/31/2019) Sole member of the Executive Board (since 8/1/2019)	Fixed remuneration	751,666	654,583
	Fringe benefits[1]	17,902	10,597
	Total	**769,568**	**665,181**
	One-year variable remuneration	319,725	232,000
Detlev Wösten Member of the Executive Board (until 7/31/2019)	Multiple-year variable remuneration	262,233	221,234
	Total	**1,351,526**	**1,118,415**
	Pension expenses		–
	Total remuneration	**1,351,526**	**1,118,415**

[1] Inter alia, this item includes the use of a car and casualty insurance premiums

Supervisory Board Remuneration

Since the change in legal form went into effect, Supervisory Board remuneration has been governed by Section 13 of our Articles of Association and primarily comprises the following elements:

Every member of the Supervisory Board receives a fixed annual payment of €30,000.00 in addition to the reimbursement of out-of-pocket expenses. The Chairman of the Supervisory Board receives three times and their deputy one and a half times this amount. Supervisory Board members who are also members of Supervisory Board committees receive an additional fixed remuneration of €10,000.00 per committee; if there is a Nomination Committee, its members receive fixed annual remuneration of €5,000.00. Supervisory Board members who chair one of the committees receive twice the remuneration payable for membership of the committee in question.

T. 25 **SUPERVISORY BOARD REMUNERATION**

	Fixed remuneration		Remuneration for committee work		Total	
IN €	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**
Dr. Joachim Girg (Chairman)	90,000	90,000	25,000	25,000	115,000	115,000
Roland Chmiel	45,000	45,000	20,000	20,000	65,000	65,000
Sven Hansen	30,000	30,000	20,000	20,000	50,000	50,000
Dr. Rolf Schwedhelm	30,000	30,000	15,000	15,000	45,000	45,000
Dr. Hartmut Schütter	30,000	30,000	20,000	20,000	50,000	50,000
Dr. Peter Seifried (until May 24, 2019)	30,000	11,835.36	20,000	7,889.76	50,000	19,725.12
Sabine Dietrich (since May 24, 2019)	–	18,164.64	–	12,110.24	–	30,274.88
Reinhold Grothus	30,000	30,000	–	–	30,000	30,000
Holger Hoff	30,000	30,000	–	–	30,000	30,000
Harald Januszewski	30,000	30,000	–	–	30,000	30,000
Total	**345,000**	**345,000**	**120,000**	**120,000**	**465,000**	**465,000**

Events After the Reporting date

Between December 31, 2019, and the date of this combined group management report, there were no events with a material impact on the net assets, financial position, or results of operations.

Report on Risks and Opportunities

Risk Report

Risk Policy

H&R KGaA's business policy is aimed at increasing the value of the company over the long term. In order to achieve this, we must seize market opportunities while carefully weighing the associated risks.

The goal of our risk policy is to optimize the relationship between risks and opportunities while avoiding risks that could jeopardize the company's continued existence as a going concern. Systematic risk management is the direct responsibility of the Executive Board. Risks are identified and communicated by the managing directors of the respective local operating units. As far as possible, risks are eliminated or otherwise addressed at a local level.

As a manufacturer of crude-oil-based specialty products and plastic parts, we have a particular responsibility to operate our specialty refineries, processing facilities and production sites for plastic parts in a way that protects both people and the environment. All our production sites therefore have officers who actively work to ensure the safety of our employees and our facilities while protecting the environment.

Risk Management System

The risks to which H&R KGaA and its subsidiaries are exposed are identified, assessed, quantified (to the extent possible), communicated, and limited, as appropriate, across the entire Group in a uniform manner. We use various methods to identify risks, such as monitoring industry-specific and macroeconomic risk indicators and analyzing purchasing and sales markets. The assessment is based primarily on estimates by in-house experts – such as the risk managers at the local units – which in turn are based on appropriate assumptions about the corresponding risk. All segments are included in the risk management process. Identifying risks is considered to be the responsibility of all employees. This is encouraged by flat hierarchies and a culture that encourages open discussion of potential risks, with local managing directors leading by example. H&R KGaA uses the COSO (Committee of Sponsoring Organizations of the Treadway Commission) model to assess risks; this method is one of the standards for internal controls recognized by the American Securities and Exchange Commission (SEC). The risk manager (generally the relevant operations manager) conducts on-site risk assessments on a quarterly basis using a risk checklist/inventory list and an integrated data entry form on which the calculation can be substantiated, if necessary.

Risks are classified according to certain criteria. They are then measured using an approach in which the nominal extent of a potential risk is multiplied by the probability of its occurrence. All risks measured for an individual company are entered in the risk inventory and reported quarterly to the Risk Control department of the parent company, H&R KGaA. The Risk Control department helps the risk managers to establish early warning indicators that make it possible to react quickly if a risk becomes more acute.

In general, all risks that a subsidiary classes as relevant are recorded. All other risks are not recorded nor regulated.

The early warning indicators are checked regularly to ensure that they are appropriate and up to date. Where possible and economically feasible, measures to reduce or avoid risks are also defined. Every quarter, the Risk Control department sends the Executive Board the consolidated risk inventory, including a detailed breakdown of the value-at-risk (VaR), which serves as the basis for controlling overall risk. If new risks arise at short notice or a loss event occurs, the Executive Board is notified directly and independently of normal communication channels.

In addition, a monthly performance report is prepared for all the main individual companies and the Group. This report compares sales and earnings figures with the relevant target figures. The Risk Control department analyzes any variances between target and actual figures. These analyses enable the Executive Board to identify undesirable trends at an early stage so that the necessary countermeasures can be implemented immediately.

The regular divisional meetings attended by local managing directors and the Executive Board of H&R KGaA are another tool used for early risk detection. The interface thus created between the operating and administrative levels ensures that operational risks are captured by and reflected in the accounting process (e.g., in the form of provisions) and communicated internally. At Supervisory Board meetings, changes in the risk inventory and the risk strategy are dealt with on a regular basis as part of the risk management reporting process. If the risk situation changes significantly, the Supervisory Board will also be informed promptly between meetings by the Executive Board.

The functionality and effectiveness of the risk early-warning system are reviewed not only by the Executive Board, but also on a regular basis as part of the audit of the financial statements. The results of these audits are taken into consideration as part of the ongoing refinement of our risk management system.

Description of the Main Features of the Internal Control and Risk Management System With Regard to the Group Accounting Process (Section 289, Paragraph 5 and Section 315, Paragraph 2, No. 5 of the German Commercial Code/HGB)

H&R KGaA's accounting guidelines specify uniform accounting and valuation principles for the companies included in the consolidated financial statements in accordance with International Financial Reporting Standards (IFRS).

New accounting regulations are reviewed immediately to determine whether they affect companies in the H&R Group and if necessary are incorporated into our accounting guidelines. The local managing directors are responsible for applying existing regulations at the level of the individual companies. Consolidated financial statements are prepared and drawn up by Group Accounting at H&R KGaA. The employees in this department also serve as contacts to answer questions on accounting matters from the subsidiaries.

To minimize the risk of incorrect accounting even in complex circumstances, H&R KGaA employees involved in the accounting process undergo continuous and extensive training. The relevant departments are adequately staffed, both in terms of numbers and competence. Advice on specific accounting matters is also obtained from external experts as necessary. The internal control system at the H&R Group consists of principles and processes that ensure the effectiveness (i.e., making sure the annual and consolidated financial statements, as well as the combined management report, comply with the relevant standards) and, where appropriate, the efficiency of the controls in the accounting process.

The H&R Group's internal control system consists of a management system and a monitoring system. Important aspects of the measures that have been integrated into our processes include both manual controls, such as the dual-review principle, and automated IT controls. After selecting professionally qualified employees, we provide them with regular training. This helps us to ensure that our monitoring system identifies risks promptly and thus ensures that our annual and consolidated financial statements conform to the relevant standards.

The Audit Committee of H&R KGaA's Supervisory Board is integrated into the H&R Group's internal monitoring system through its audit activities, which are independent of operating processes. In accordance with Section 107, paragraph 3 AktG, this body primarily focuses on monitoring the accounting process, the audit of the financial statements and the effectiveness of the internal control and risk management system.

Access management regulations for the relevant IT systems and a strict dual-review policy in the Accounting department – both at the individual companies and at the Group level – help ensure that the accounting processes are thorough, precise and secure.

The subsidiaries are obliged to report their figures to Group Finance every month in a standardized format in accordance with IFRS accounting regulations. This enables variances between target and actual figures to be identified at an early stage and gives us the opportunity to determine the reasons behind the variances and to take any necessary countermeasures.

The Risk Management System as it Relates to Derivative Financial Instruments

H&R KGaA has very strict rules governing the use of derivative financial instruments. We only use standard market instruments from selected banks with good ratings. As a rule, the transactions are carried out by the Group Treasury department after approval by the Executive Board of H&R Group Finance GmbH and are then monitored on an ongoing basis. They are used to hedge underlying transactions that either exist already or are highly likely to take place in the future (anticipatory hedging). In the 2019 financial year, we restricted ourselves to micro-hedging individual risk positions.

Derivative financial instruments are not used for speculative purposes. At the reporting date, no open interest rate positions were in existence. With regard to currencies, US$21.3 million, HKD 27.5 million and ZAR 52.5 million were hedged. Valuation units were not shown.

Specific Risks

All our relevant risks are classified uniformly throughout the Group. A risk is classified as low, medium or high based on the parameters "Probability of Occurrence" and "Potential Financial Impact". The resulting risk classification matrix is shown in the following table:

T. 26 **POTENTIAL FINANCIAL IMPACT**[1]

	Likelihood of occurrence[2]		
	Unlikely	**Possible**	**Likely**
Existential threat	High risk	High risk	High risk
Significant	Medium risk	High risk	High risk
Moderate	Low risk	Medium risk	Medium risk

1) Moderate: some negative effects on business activity, financial position, results of operations and cash flows if EBITDA falls below €50.0 million in 2020.
Significant: substantial negative effects on business activity, financial position, results of operations and cash flows if EBITDA falls below €50.0 million over the next two years.
Existential threat: substantial negative effects on business activity, financial position, results of operations and cash flows owing to which the continued existence of the enterprise would be jeopardized, e.g., with an EBITDA permanently below €50.0 million.
2) 1–33%: unlikely; 34–66%: possible; 67–99%: likely

Low risk   Medium risk   High risk

Depending on the degree of potential financial effect and the estimated likelihood of occurrence, risks are generally classified as being "high", "medium" or "low".

T. 27 **CORPORATE RISKS**

	Likelihood of occurrence	Possible financial impact	Risk situation compared to previous year
Macroeconomic and Industry Risks			
Fluctuations in demand and margins	possible	significant	unchanged
Raw material supply risks	unlikely	significant	unchanged
Composition of raw materials	possible	significant	higher
Risks from the development of substitute products/general competitive pressure	likely	significant	higher
Changes in the tax and legal environment	possible	moderate	unchanged
Brexit – composition of European Union	likely	moderate	higher
Operating and Corporate Strategy Risks			
Technical production risks	unlikely	significant	unchanged
Investment risks	unlikely	significant	unchanged
Risks associated with contractual relationship with Hansen & Rosenthal Group	unlikely	significant	unchanged
Product liability risks	unlikely	moderate	unchanged
Financial Risks			
Liquidity risks	unlikely	significant	unchanged
Risks from the breach of covenants	possible	significant	unchanged
Risks from future refinancing requirements	unlikely	significant	lower
Exchange rate risks	possible	moderate	unchanged
Interest rate risks	possible	moderate	lower
Risks from defaulting customers and banks	unlikely	moderate	unchanged

Unless stipulated otherwise below, the description of risks applies equally to the H&R Group and to H&R KGaA. This reflects the fact that, while certain risks may originate with the subsidiaries and not with H&R KGaA, H&R KGaA will have direct exposure as the parent company. Above all, this applies to risks involving operating processes and the immediate business activities of the subsidiaries.

By contrast, in its capacity as the parent company, H&R KGaA holds equity investments in Group companies at its own original risk. The carrying amounts of these investments are subject to the risk of an impairment in the event of negative changes in the economic situation of these Group companies. This may have a negative impact on H&R KGaA's annual results.

Macroeconomic and Industry Risks

Demand and Margin Fluctuations (Risk Class: High). External influences can cause demand for our products to decline. These external factors may include periods of economic weakness, temporary price dumping by existing competitors or the emergence of new suppliers in relevant markets.

As a company with global operations, we pick up on global economic factors and weak phases in key global industries. They can have a significant impact on changes in our sales and income.

Closely correlated with the risk of weaker demand is the risk of lower product margins. Due to the high complexity of the plants used in the chemical industry, lower margins are often tolerated at times of weaker demand in order to nevertheless maintain capacity-utilization rates. In general, H&R KGaA has countered this risk by taking targeted measures to expand the percentage of our business involving crude-oil-based specialty products that are less price sensitive. In 2019, our refinery sites also came under increased pressure in relation to previously high-margin products, such as paraffins. In addition, our joint production setup also resulted in the production of commodities such as base oils, which are repeatedly subject to very volatile margins due to the link between fluctuating raw materials prices and weak quoted prices. In addition, considerable production capacities and additional volumes of cheap base oils from Russia turned up the pressure on prices in 2019. The impending introduction of the IMO 2020 regulations and the associated reduction in the sulfur limits effective January 1, 2020, negatively affected the prices of marine fuel with a sulfur content of 3.5%.

In this respect, as far as the results of operations of H&R KGaA in the past financial year are concerned, the demand and margin risk has actually materialized.

As a strategically sensible response to this challenge, we are striving to accelerate the specialization of our production units, doing our very best to avoid producing combustion products and base oils. If we can manage to produce high-margin specialty products in a targeted manner as part of an enhanced refining process, this could translate into a significant improvement in our overall results of operations. As the price pressure on some of the core products described above shows, however, there is still a risk that the company considers to be "high" in general due to the probability of occurrence and the significant impact.

In the Plastics division, we are – like other component manufacturers for automotive suppliers – dependent on industry trends. This applies, in particular, to components called off on a just-in-time basis, which fluctuate depending on the production figures of the OEMs/automotive manufacturers themselves. In 2019, the number of vehicle registrations declined, in some cases considerably so, meaning that we sold fewer plastic parts than planned. We have taken action to mitigate the effects of fluctuations in demand with the personnel restructuring measures implemented and the moves to streamline our toolmaking operations. Nevertheless, with the economic environment as it is, the risks remain "high".

Risks Related to Raw Materials Procurement (Risk Class: Medium). At our specialty refineries in Hamburg and Salzbergen, we use raw materials from a range of sources as feedstock. At the same time, we diversify our sources of supply by taking deliveries from renowned oil companies in different parts of the world and buying another portion on the spot market. To enhance the refinery operating model, we also rely on an adjusted and more diversified raw materials portfolio.

In the International Chemical-Pharmaceutical division and the Plastics segment, our strategy for avoiding raw material supply shortages is based on always having several suppliers for important raw materials.

Risks Related to Raw Materials Composition (Risk Class: High). We are committed to optimizing the yield of our refineries and aim to achieve as large a proportion of core products as possible while minimizing by-products at the same time. In order to achieve this, we adapt the operating modes used in our production processes to suit the composition of the raw materials. Depending on the raw materials quality available, the product split that we can achieve can fluctuate, meaning that the proportion of the overall yield attributable to core products varies.

Risks from the Development of Substitute Products and General Competitive Pressure (Risk Class: High). One risk applicable to both divisions is the development of substitutes or alternative production methods for our products. We address these risks through intensive research and development activities in all the Group's operating divisions. The high degree of diversification in our product portfolio also reduces the effects individual substitutes would have on consolidated income.

A further risk could also lie in an ongoing technological shift among new refineries for lubricant production, meaning that total capacities will be increasingly dominated by plants using Group II technology or higher. The base oils produced in these plants are of a higher quality, but are not necessarily any more expensive than our products. We are addressing this mounting competition in the lubricants sector by focusing on the further development of our operating model, which focuses on avoiding Group I base oils by changing the use of raw materials.

Moreover, we believe there are a number of limitations in terms of quality, performance, compatibility with established manufacturing processes, availability, environmental impact, and price for potential chemical and renewable raw material substitutes.

Due to the many unknowns, the risk arising from market or competitive trends cannot be quantified.

Changes in the Tax and Legal Environment (Risk Class: Medium). As an operator of industrial plants, we run a business that is governed by laws and regulations. Our two production sites in Germany, in particular, are required to comply with the requirements of legislation on the environment, chemicals and energy. A potential tightening of these regulations entails the risk of financial burdens caused by higher operating costs and capital expenditure. We limit these risks by remaining involved as much as possible – either directly or through membership in various associations – in political decision-making processes, identifying and monitoring changing requirements through our compliance organization.

We are keeping a close eye on tax-related changes and changes in legislation resulting from the social debate on climate change, adapting our corporate strategy accordingly, and aim to make our contribution to a sustainable business model with our future process and product setup.

Despite the measures described above and improvements made in recent years, our specialty refinery operations do currently entail emissions and the use of chemicals, and are also energy-intensive. The trend in some areas toward tougher legal requirements for the manufacturing sector in Germany and Europe could lead to competitive disadvantages vis-à-vis international and non-European market players.

Changes in the Composition of the European Union – Brexit (Risk Class: Medium). The results of the general election held in the United Kingdom in December 2019 provided much greater transparency on the decisions and developments that lie ahead. Nevertheless, as the United Kingdom will leave the EU long before an agreement can be reached on a number of detailed issues, it is impossible to rule out a scenario in which, especially during the transition phase, component imports or the export of finished products could become complicated and delay the handling of business transactions.

Operating and Corporate Strategy Risks

Technical Production Risks (Risk Class: Medium). H&R KGaA's subsidiaries produce crude-oil-based specialty products and high-precision plastic parts. Operating the plants that produce such products entails both operating risks and the risk of accidents. Technical disruptions, flooding, fires or explosions can cause harm to people or the environment and result in production downtime.

We counter these risks with a comprehensive safety strategy. Extensive control and safety measures, coordinated by our IT-based measuring stations, enable us to identify many production risks at an early stage and to adopt suitable countermeasures. We also regularly invest in environmental protection and safety measures at our specialty refineries.

The certification of our production sites in both the Chemical-Pharmaceutical business and the Plastics division in accordance with strict ISO standards and IATF rules contributes significantly to ensuring that production processes are safe. If a loss event occurs despite these precautions, the financial consequences are largely covered by insurance, provided that the risk is insurable and such coverage makes sense from a financial and economic standpoint.

Risks Associated With the Sales/Distribution Relationship With the Hansen & Rosenthal Group (Risk Class: High). The sale and distribution of the ChemPharm Refining segment's products are handled predominantly by companies belonging to the Hansen & Rosenthal Group, which acts as sales/distribution partner under long-term contracts, reflecting many years of business ties. Hansen & Rosenthal is also a significant customer of H&R KGaA.

If this contractual relationship came to an end and Hansen & Rosenthal Group were no longer available as sales/distribution partner, this would have a considerable negative impact on H&R KGaA's net assets, results of operations and financial position. Among other things, the company would have to develop its own sales and distribution capacity for the ChemPharm Refining segment at short notice.

Even if it succeeded in doing so, it would still face the risk of either not being able to establish direct customer relationships at all or not being able to do so over the long term. In such a case, contract production for the Hansen & Rosenthal Group at the Salzbergen site could be terminated as well. In this case, H&R KGaA would have to raise new funds to cover the significantly increased net working capital requirements and pay for the procurement of raw materials at both sites. This could have a significant negative impact on net gearing.

H&R KGaA estimates the impact of such a risk, if it should occur, as "high"; however, it rates the probability that such a risk will materialize as "unlikely". H&R KGaA is part of the Hansen & Rosenthal Group, the main shareholder and managing director of which is also the majority shareholder of H&R Komplementär GmbH, H&R KGaA's general partner with full personal liability. The interdependencies are not just one-sided, as H&R KGaA is the current sales/distribution partner's biggest supplier. Consequently, a long-term continuation of the sales/distribution relationship is in the interest of both parties.

Investment Risks (Risk Class: Medium). In the years ahead, we intend to keep investing in measures to maintain the added value and competitiveness of our existing production sites. To mitigate the risks associated with the project implementation process, we deploy project teams with in-depth knowledge of our plants to professionally coordinate and strictly monitor such value maintenance measures. In principle, however, investment projects may entail cost overruns and delays in construction.

Product Liability Risks (Risk Class: Low). Our crude-oil-based specialty products and plastic parts are incorporated directly into our customers' products. Incorrect processes or failure to adhere to specifications can result in our customers incurring damage, giving rise to warranty claims. For this reason, all the products in both our Chemical-Pharmaceutical division and our Plastics division are subject to extensive quality controls. If we are faced with liability claims despite this, we are largely covered by insurance.

Financial Risks

Our subsidiaries receive the funds they use to execute business and production processes from H&R KGaA, which in turn ensures that such funds will be available. As a result, potential risks involving these financing instruments generally originate directly from H&R KGaA itself.

Financial Covenant Breach Risk (Risk Class: High). Compliance with the financial covenants will also be a crucial part of the financing agreements in 2019. If these covenants were to be breached, this could jeopardize the continued existence of the financing arrangements and therefore the Group's financial and economic situation. Due to the possibility of occurrence and the potentially significant financial consequences, this is – from an objective standpoint – fundamentally a "high-risk" issue. In general, we take a proactive approach to this risk by renegotiating financing terms with our financing partners early on. We acted accordingly in 2019 and negotiated greater leeway for H&R, particularly with regard to debt parameters. Although this means that we have reduced this risk, it is still classified as "high" due to the importance of this financing.

Liquidity Risks (Risk Class: Medium). Prices for the raw materials used in our Chemical-Pharmaceutical segments are closely correlated with the price of crude oil. Accordingly, the prices of our raw materials are subject to fluctuations. The prices of our finished products are similarly volatile.

In order to cover the net working capital (the sum of inventories and trade receivables less trade payables) required for our production activities, a large part of the line of credit under the syndicated loan we renewed in July 2019, which currently amounts to €240.0 million, has been earmarked as a risk cushion; at year-end, €83.8 million had been utilized for cash loans and €13.9 million for letters of credit and guarantees.

Our Group Treasury department monitors our liquidity status on a daily basis to avoid any cash flow difficulties. The credit lines granted by the banks in the lending consortium are subject to financial covenants relating to our equity base and the ratio of our net debt to operating income (EBITDA). If any of these covenants are breached, the banks are entitled to call in the loan. Looking ahead to 2020, increased financial covenants for net gearing have been agreed with our banking partners.

Risks of Future Need to Refinance (Risk Class: Medium). The short-term financing figure represents our existing refinancing risks, which primarily consist of draws from the syndicated loan, loans of our Chinese subsidiaries and maturities on KfW redeemable loans. The syndicated loan agreement for a maximum of €240.0 million and the existing cash and cash equivalents account for the bulk of current refinancing risks.

However, there is no guarantee that it will be possible to refinance under the same or more favorable terms and conditions in the future. In general, banks are interested in a further loan commitment to H&R KGaA. Since the lending banks' risk would be manageable even if the company's financial and economic situation were to deteriorate (inventories of raw materials and products can be sold at short notice), we assume that we will succeed in concluding any follow-up financing agreements required in the future. However, if ultimately we were unable to refinance, the company would have to use a higher percentage of its cash and cash equivalents to repay these amounts. This could have a significant impact on business activities, as well as on the company's net assets, financial position and results of operations.

Risks from Defaulting Customers and Banks (Risk Class: Low). Our indirect risks from delays in payment and/or defaults on the part of customers or service providers of our subsidiaries are limited by the broadly diversified customer base on the whole, but cannot be ruled out entirely. This is why we have taken out default insurance policies for major customers.

We counter the default risk of banks by only entering into financial transactions with top-rated banks and by spreading larger transactions among several banks.

Exchange Rate Risks (Risk Class: Medium). As an international group, we are exposed to various exchange rate risks, which for cost-benefit reasons we generally do not hedge. The depreciation of a foreign subsidiary's local currency can diminish the cash flow it generates in relation to the Group currency, the euro. Furthermore, revenues from the sale of products from within the euro area to a country outside the euro area will fall if the foreign currency in question depreciates against the euro.

Some of the most important foreign currencies for us are the US dollar, the Chinese renminbi, the British pound, the Thai baht, the Malaysian ringgit and the South African rand.

In principle, we weigh the costs for hedging foreign currency risks against the financial effects of a potential loss event.

The US dollar/euro exchange rate generally affects our raw material costs, as we purchase our main raw materials in US dollars. As a result, any depreciation or appreciation of the US dollar has an impact on our raw material costs.

Interest Rate Risks (Risk Class: Medium). Changes in market interest rates lead to a change in the fair value of fixed-interest financial instruments and to fluctuations in interest payments for variable-interest financial instruments. We take out fixed-interest loans to increase planning certainty for the net interest result.

There is additional exposure to falling interest rates in the form of the locally generated surplus cash of foreign equity investments in the respective currencies. There is currently a risk of increased interest expense from rising interest rates for our Chinese equity investments due to short-term fixed-interest loans denominated in Chinese renminbi that will have to be refinanced when they mature in 2020.

There are also company retirement liabilities in the form of pension commitments. The actual amount of these commitments is based, on the one hand, on an actuarial forecast and, on the other hand, is heavily dependent on conditions in the capital markets, in particular the interest rate. Lower interest rates cause pension liabilities to increase and result in a corresponding charge against H&R KGaA's equity.

General Statement on the Risk Situation

Assessment of the Risk Situation by Company Management

Our risk management system and the established planning and control systems are used to assess our risk situation. When all material individual risks are reviewed in aggregate, potential opportunities are not taken into account as offsets. We therefore believe that, based on currently available information, there are no risks that could jeopardize the continued existence of the H&R Group as a going concern.

Company Rating

The creditworthiness of H&R KGaA has not been evaluated by an independent rating agency. Our banking partners review the credit standing of H&R KGaA on an ongoing basis.

The Deutsche Bundesbank classified H&R KGaA as "eligible" in financial year 2019.

Report on Opportunities

Opportunities Management

At the H&R Group, the systematic management of opportunities is closely linked to the management of risks. We define opportunities as developments that are expected, but are not guaranteed, meaning that they cannot be quantified in monetary terms either, and could have a positive effect on our net assets, financial position and results of operations over the next 12 to 18 months. Managing strategic opportunities – such as acquisitions, joint ventures or major investments – is the responsibility of the Executive Board.

We use a variety of methods to make the best use of both operating and strategic opportunities. For example, we perform analyses of the market and our competitors that are as precise as possible. We develop scenarios for successful market entry, question the focus of our product portfolio, evaluate the cost drivers as well as the relevant success factors and from this information identify specific market opportunities that are then coordinated by the Executive Board in close collaboration with the local operations managers. At the same time, we try to identify future market trends in a targeted manner by holding discussions with customers. In the Chemical-Pharmaceutical segments, there is an active exchange of ideas on these issues between the production sites, our Research & Development department, and our sales and distribution partner Hansen & Rosenthal, who uses its close customer contacts to identify current and future customer needs and to provide ideas for new products.

Finally, using a system similar to our risk classes, we rate our opportunities by degree of potential financial impact and probability of occurrence.

Specific Opportunities

Opportunities Arising from Macroeconomic Trends (Opportunity Class: Medium). The focus of operators of big refineries on producing Group 2 lubricants means that H&R's specialty refineries in the Chemical-Pharmaceutical Raw Materials division could play a more significant role in supplying the market with specialty products such as paraffins, or process oils and white oils, particularly if, as part of the measures to enhance the refinery operating model, a) combustion products can be avoided and b) further improvements can be achieved with regard to the output structure – more specialty products, fewer base oils – in the near future.

If, at the same time, demand for crude-oil-based specialty products increases during this financial year, for example, due to changes in the competitive situation, our revenues and income could exceed our current expectations.

Over the past few years, we have laid the foundation for profitable business, particularly in the international business. At present, economic researchers from the German Council of Economic Experts expect the global economy to grow by 2.6% in 2020, a significantly better outlook than for the German market.

For the Plastics division, demographic developments will create attractive growth opportunities, especially in the field of medical technology. Further opportunities will be generated by the trend in the automotive industry toward replacing heavy metal parts with lighter plastic components to reduce vehicle weight. The increasingly dynamic electric mobility initiatives pursued by automotive manufacturers have the potential to offer additional impetus.

Strategic Opportunities for the Company (Opportunity Class: High). We believe that considerable opportunities lie in the decisive enhancement of our operating model, the aim being to build on our strengths. This includes our flexibility and active measures to manage our output structure. We are focusing on our diversified core products in this respect. We are aiming to avoid competition in base oils by producing less of them. The same applies, as a logical consequence, to combustion products. The right, diversified use of raw materials could have just as positive an effect on the quantity, composition and quality of our end products and by-products as plant configuration measures.

As a result, we are convinced that this area offers a great deal of potential, meaning that we will be pursuing a more differentiated approach here. Based on a revamped and expanded feedstock and by-product portfolio for the Hamburg refinery, we aim to strengthen market-oriented production that focuses exclusively on specialty products. As well as applying this principle, we are optimizing the operating modes and the utilization of the individual production steps, which will allow us to better manage which products we want to produce, and in what volumes, in the future. In particular, we will be able to avoid producing unwanted by-products and reduce the volume of Group 1 base oils, which will, in turn, strengthen the H&R specialty product business.

Internationally, we actively monitor market trends and align regional opportunities with our international expansion strategy. To do this, we can rely on our existing network of subsidiaries as important strategic bridgeheads that will enable us to quickly penetrate emerging markets in a carefully targeted manner.

Economic Performance Opportunities (Opportunity Class: Medium). Operating specialty refineries is very energy-intensive. By investing in cutting conventional CO_2 emissions and achieving lower energy consumption, H&R KGaA has already met important climate goals and conserved energy in the past. At the same time, we took advantage of the special compensation arrangements for energy-intensive businesses.

All in all, we see the debate on climate change and the efforts to forge ahead with the “energy revolution” not only as a challenge, but also as an opportunity. We believe that a commitment to increased production of green hydrogen and green CO_2, an approach that can now look forward to specific subsidies after it was singled out by the Federal Minister of Economic Affairs in the “Living Labs for the Energy Transition” ideas competition (Ideenwettbewerb Reallabore), offers significant potential. If the step from the conceptual stage to funding approval to implementation is successful in the near future, the Salzbergen site could soon supply CO_2 and hydrogen for industrial applications, providing an active link between the energy sector and industry.

There are also fundamental opportunities – in the form of higher margins – when the supply of our products becomes scarce, such as during shutdowns, closures or capacity reductions at our competitors' refineries.

In addition to the positive effects resulting from the change in the use of raw materials, especially the associated plans to reduce base oils and combustion products in our product portfolio, opportunities will also arise from the more intensive and targeted marketing of our lower-margin products. For example, while we aim to continue producing bitumen, which is primarily used in road building, as a by-product at our propane deasphalting facility, we no longer see this step in the production process as a necessary part of the linear coupling process. Rather, we aim to manage production in a manner that is commensurate with the volumes ultimately purchased by buying the required quantities of raw materials, allowing us to adapt to the market situation.

In the Plastics division, GAUDLITZ, with is headquarters in Coburg, is close to customers in the German automotive industry. The company also has additional production capacities with its sites in the Czech Republic and China, offering additional low-cost advantages while at the same time being close to its key sales markets. The decisive factor for this industry will be how successful it is in achieving the transformation from the internal combustion engine to electric mobility. If the industry can manage to provide attractive offerings to drive this process of transformation, individual vehicle use and, as a result, the total number of vehicles would remain unchanged in principle. Component manufacturers such as the H&R subsidiary GAUDLITZ will also have to adapt to a new type of mobility. They could, however, also benefit from the situation as further metal components could be replaced by plastics in order to optimize vehicle ranges. At the same time, manufacturers are likely to opt for measures to further standardize their vehicle platforms and components on grounds of cost; fewer different components in total, but higher quantities, translate into better capacity utilization and more competitive production costs.

Overall Statement on Opportunities

Assessment of Opportunities by the Management Board. Although the absolute number of reported risks is higher than the number of specific opportunities identified, H&R KGaA sees the opportunities referred to above as direct responses to many of the risks described and believes that the overall situation is balanced overall.

Forecast Report

Future Focus of the Group

Companies and Segments

Statements concerning short-term company performance from January 1 to December 31 of financial year 2020 assume that, based on our current knowledge, the structure of the Group will remain largely unchanged.

How to deal with the trade-off between raw material prices and market conditions continues to be a major challenge for our company.

H&R KGaA is positioned so that it can actively take advantage of its flexibility at three different levels of the value chain: as a refinery operator and producer, in further processing and in distribution. If, in addition to our in-house expertise, we also need external capacity, we can fall back on a network of tried and tested partnerships. Every one of our Group subsidiaries fits into this simple matrix.

In the period leading up to 2019, we prepared our ChemPharm Refining segment – which, as our core business, was the main driver of total sales and also made the biggest contribution to income during the reporting period – to tackle future challenges through numerous modernization and expansion efforts. In our view, performance at the production site in Hamburg is key to improving our results.

For the Salzbergen site, the continuation of the contract-production model has been adding stability and planning predictability to our sales and income forecasts since 2013.

In the ChemPharm Sales business segment, our strategy of forming production partnerships to supplement our own production sites has proven to be successful. In its current form, our international business is also already well positioned in the global markets for financial year 2020. In the current financial year, we plan to expand our Asian footprint by ramping up operations in Vietnam. All in all, we expect the segment to support H&R KGaA's overall performance as a stable driver of sales and income.

In the Plastics division, the personnel restructuring phase has finally been largely completed. The resulting reduction in personnel at the headquarters in Coburg should take some of the cost pressure off us and give the management leeway to tackle the issues that will shape our future, such as the sustainable expansion of our new customer business and simultaneous reduction in our reliance on individual customers or sectors.

Sales Markets

In the Chemical-Pharmaceutical business, Germany will continue to be the main driver of our sales. In view of the maturity of this market, our growth strategy in this region, featuring the enhancement of the refinery operating model, is based less on increasing volumes than on improving the efficiency of production processes and manufacturing higher-quality products. Internationally, we are focusing heavily on Asia. China, Singapore, Indonesia, Malaysia and Vietnam are key sales hubs and processing locations for our activities in the region, as is the Indian subcontinent.

Technologies and Processes

Constantly improving processes to increase efficiency and enhance the output structure is a core element of our corporate strategy. We combine long-standing expertise with the use of new technologies, carving out a role for ourselves less as a lubricant producer than as a manufacturer of high-quality crude-oil-based specialty products. In order to meet the challenges facing us at present and achieve a return to stronger results in the foreseeable future, we will continue to forge ahead with moves to enhance our refinery operating model. This will see us rely on a differentiated range of raw materials, which is just as decisive for the quantity, composition and quality of our end products and by-products as plant configuration measures are. Based on a revamped and expanded feedstock and by-product portfolio for the Hamburg refinery, we aim to strengthen market-oriented production focusing exclusively on specialty products. As well as applying this principle, we are optimizing the operating modes and the utilization of the individual production steps, which will allow us to better manage which products we want to produce, and in what volumes, in the future. At the same time, we will be able to avoid producing unwanted by-products and Group 1 base oils.

Products and Services

Despite the above-mentioned changes in the refinery operating model, our product portfolio will remain largely unchanged. In the Chemical-Pharmaceutical division, our sales partner, Hansen & Rosenthal KG, serves as an interface between our customers and our R&D departments. It will help us to ensure that the quality and performance of our products remain constant, even if the refineries' operating methods change, i.e., are enhanced. We are aiming to avoid combustion products completely for the reasons referred to above.

Following the implementation of the personnel restructuring measures at the Coburg headquarters, the Plastics division can now rise to the competitive challenge equipped with a strengthened cost structure. The decisive factor, however, will be how GAUDLITZ GmbH can manage to reposition itself with former customers/expand its customer base, especially in the medical technology and industrial sectors. We are, however, confident that we will be able to attract new customers and jointly tap into new markets with existing customers through a performance-oriented reorganization of sales/distribution and of operational production processes.

Expected Performance in Financial Year 2020

Macroeconomic Conditions

General Economic Environment

During the course of the last year, the growth forecasts for virtually all of the world's key economies were lowered due to the risks and challenges associated with global trade. As a consequence, the experts from the German Council of Economic Experts also expect to see less dynamic development in global economic output in 2020, with a growth rate of 2.6%, unchanged as against 2019. Germany is being hit particularly hard by the global slowdown in growth, especially in industry. The German Council of Economic Experts is predicting a GDP growth rate of 0.9% in 2020.

Our budget for financial year 2020 is based on a US dollar/euro exchange rate, which we set at 1.15 for the purposes of the planning process.

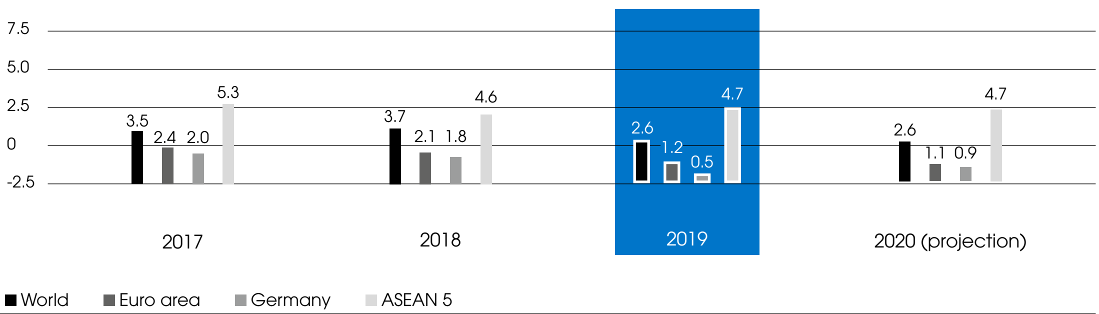
For crude oil prices, we rely on the estimates published by the economics departments of major banks. For budget year 2020, on the planning date we assumed a price of US$65 per barrel of North Sea Brent, which is slightly higher than the average annual price of US$64 seen in 2019.

Industry Environment

At things stand at the moment, the German Chemical Industry Association (VCI) does not expect business to pick up over the coming months. As a result, the Association is only predicting a slight increase in production of 0.5% overall in

G. 13 **GLOBAL ECONOMIC GROWTH FORECAST**

IN %, SOURCE: IMF, OECD



2020, which will also be driven to a considerable extent by growth in the pharmaceutical sector (+2.0%). In an environment of stagnating prices, total sales in the industry are tipped to increase by only 0.5% to around €194 billion, according to the VCI.

According to a survey conducted by the industry information service “Kunststoff Information”, the mood in the plastics industry is one of cautious optimism for 2020 in the wake of the significant downturn in the second half of 2019 – primarily due to the automotive crisis and the critical stance toward plastic taken by a large number of environmental associations – and despite the manifold challenges facing the industry.

Company Performance

Sales and Income

The following table compares the actual values of the main or key control figures used by the H&R KGaA Group for the past financial year with the original forecast and shows the outlook for financial year 2020:

T. 28 **COMPARISON OF ACTUAL VALUES WITH FORECAST**

Key figure	Original forecast FY 2019	Actual FY 2019	Outlook FY 2020
Consolidated sales	€1,000 million to €1,200 million	€1,075.3 million	€1,000 million to €1,200 million
of which Refining	63%	€665.0 million (approx. 61%)	58%
of which Sales	32%	€376.9 million (approx. 35%)	37%
of which Plastics	5%	€43.2 million (approx. 4%)	5%
Reconciliation with consolidated sales	n.a.	€-9.9 million	n.a.
Consolidated EBITDA	approx. €75 million to €90 million	€52.9 million	approx. €50 million to €65 million
of which Refining	64%	€29.2 million (approx. 43%)	46%
of which Sales	30%	€30.7 million (approx. 57%)	46%
of which Plastics	6%	€-4.9 million (-)	8%
Reconciliation with consolidated EBITDA	n.a.	€-2.2 million	n.a.

Sales. Our revenue is affected considerably by the cost of raw materials for our Chemical-Pharmaceutical division. If our planning assumptions for crude oil prices and the US dollar/euro exchange rate prove correct, we anticipate that prices for raw materials and products will remain constant overall. We expect to see greater momentum in the ChemPharm Sales segment, and also a return to an improved situation in the Plastics segment, in 2020. As far as the ChemPharm Refining segment is concerned, we are hoping to see an improved revenue situation at the Hamburg site, especially thanks to the measures to enhance the refinery operating model.

All in all, we expect consolidated sales in 2020 to be on a par with, or slightly higher than, 2019. The contribution from our ChemPharm Refining segment will account for around 58% of this amount. The ChemPharm Sales business will contribute approximately 37%, a much higher percentage than in the previous year. The Plastics division is expected to contribute around 5% to total sales.

Income. The past financial year was anything but satisfactory. Nevertheless, in view of the major challenges facing the market, the company has plotted the course for an improvement in earnings in the second half of 2019. The operating income of €52.9 million reported in 2019 was, however, stable at best and reflected the options open to us given the challenging conditions.

In the specialty business, we believe the key to improving the earnings trend again in 2020 lies in continuing with the contract-production model in Salzbergen and taking advantage of the potential at the Hamburg site. By enhancing the refinery operating model, we intend to switch the linear coupling process to a selective, modular mode of operation, in which we will be able to manage processes more in line with market requirements and in a matter that optimizes output. We are increasing our efficiency by expanding our raw materials portfolio, which will help us to further reduce lubricant production and completely avoid bunker oil to a large extent.

As we will neither be changing the plant setup nor completely replacing process units, we plan to offer the market a virtually unchanged product portfolio for our core products. The expansion to include various raw materials and by-products will, however, entail additional logistics costs. As a result, it would be premature to expect any significant effects from this measure, at least at the beginning of the year.

Nevertheless, we expect business in the ChemPharm Refining segment to be better than in 2019 looking at the year as a whole.

In the ChemPharm Sales segment, by focusing heavily on the high-margin international specialty products business, we expect to see stable EBITDA contributions, with a slight improvement year-over-year. As a result of the global impact of the United States–China trade disputes, we expect our subsidiaries with international operations to post mixed changes in sales and income in 2020.

The Plastics segment is also set to record an improved earnings trend. For one thing, no further restructuring measures – or their resulting negative one-time effects – are planned. We also expect the foreign sites to make a positive contribution, for example, by picking up new customer orders in the Czech Republic and China (once the coronavirus has been overcome).

All in all, we are expecting consolidated operating income (EBITDA) of between €50.0 million and €65.0 million in 2020, ideally higher than the EBITDA for this year.

In view of the imminent enhancement measures and the associated startup phase, we expect the contribution to earnings made by our activities in the ChemPharm Refining segment to fall to around 46%. International business will also account for an identical share of approximately 46%. The Plastics division should contribute around 8% to the Group's operating income (EBITDA).

For the forecast of our Group EBITDA and/or expectations regarding the segments' operating income, we have used the methodology of the reporting principles applied to the annual and consolidated financial statements.

No structural changes to the income statement are expected for 2020.

Liquidity

Following the adjustment to our financing in 2018 and the increase in 2019, we have more leeway available for complying with the covenants for net debt in 2020 compared with the previous year. We do not see any need for further structural changes in the current financial year. Due to the free credit lines of our syndicated loans, our liquidity position is secured on a sustainable basis until 2024, even in the event of higher crude oil prices and the associated increase in working capital requirements. Financing requirements for long-term capital expenditure are covered both by current operating cash flow and by long-term financing.

Capital Expenditure

Following considerable investment in maintenance and modernization measures, and efforts to boost added value at our facilities, our capital expenditure will be much more restrained in the current financial year. Around 62% of total capital expenditure will be in the ChemPharm Refining segment. Around 25% of capital expenditure will be in the Sales segment and approximately 12% will be focused on investments in the Plastics segment and on other items.

Financing Measures

While the Articles of Association of H&R KGaA provide for authorizations to increase the share capital in return for cash and/or contributions in kind, we are not planning any specific corporate action as things stand at the moment.

H&R KGaA has entered into various loan agreements with banks.

We cover our short-term financing needs using a widely syndicated loan with a volume that currently amounts to €240.0 million. In 2019, we extended the syndicated loan granted in July 2018 by one year until July 2024, also increasing the volume from €200.0 million to €240.0 million. In order to ensure that we remain solvent at all times and to make efficient use of the liquidity of our German subsidiaries, the latter are incorporated into the cash pool structures in place at H&R GmbH & Co. KGaA.

We currently cover our long-term financing needs primarily using redeemable loans that are refinanced by the German development bank KfW. In 2019, we took out a loan of €7.0 million under the KfW Energy Efficiency Program for waste heat to finance measures designed to improve our ability to avoid, and make use of, waste heat at the site in Salzbergen.

The KfW loans and the syndicated loan are subject to compliance with various financial covenants.

We are not currently planning any further financing/refinancing measures on the basis of the existing financing.

For more information on our main financing instruments, please refer to the section “Financial Management Principles and Objectives” in the notes to the consolidated financial statements.

Overall Statement by the Executive Board on Future Business Trends

H&R GmbH & Co. KGaA ended the year marking the 100th anniversary of the launch of the business by Mr. Hansen and Mr. Rosenthal, with EBITDA that was down in a year-over-year comparison. It also recognizes that the mix of market conditions in the refinery sector, societal and social changes, and geopolitical and global economic tensions comes hand-in-hand with new challenges. Some of these challenges are greater than the ones we faced back in 2013/14. The crisis among Europe’s lubricant refineries that H&R managed to master back then has now taken on far greater dimensions due to spillover effects. We think and act globally. We firmly believe that a trade policy focusing on nationalization and closing an economy off to the outside world can never be the solution. This naturally also applies to all other political interventions, such as price controls.

Nevertheless, these are the conditions that we are having to deal with as we consolidate our business and strive to make it more profitable again in the future. The basis for positive business performance is intact. We are particularly confident about our own strengths, be it our ability to push ahead with international expansion or our focus on the further enhancement of the operation of our highly specialized refineries. The advantages these refineries offer – such as an improved output of high-quality products – have to be expanded by systematically avoiding combustion products, improving their competitive standing compared to conventional lubricant refineries.

The path that lies ahead is not an easy one. But it is one that leads in a straight line, because we are not aiming for a 180° turnaround in our processes and products. We are aiming not to reinvent ourselves entirely, but rather to achieve further development. The process is one of evolution as opposed to revolution. We do not focus on the short term. One hundred successful years in business are not achieved by a hectic approach that involves doing things just for the sake of doing them, but by staying flexible and planning ahead.

It is therefore with self-confidence, but also a dose of realism, that we are drawing up our forecasts for 2020 and setting as our target an operating income (EBITDA) figure that should range between €50.0 million and €65.0 million.

CONSOLIDATED FINANCIAL STATEMENTS

Consolidated Statement of Financial Position of H&R GmbH & Co. KGaA

as of December 31, 2019

ASSETS

IN € THOUSAND	Notes	12/31/2019	12/31/2018*
Current assets			
Cash and cash equivalents	(6)	94,794	46,495
Trade receivables	(7)	86,881	120,952
Income tax refund claims		4,300	1,911
Inventories	(8)	127,469	153,945
Other financial assets	(9)	16,260	5,641
Other assets	(10)	8,586	10,766
Current assets		**338,290**	**339,710**
Non-current assets			
Property, plant and equipment	(11)	432,967	336,087
Goodwill	(12)	22,466	22,455
Other intangible assets	(12)	15,752	17,319
Shares in holdings valued at equity	(13)	4,682	4,350
Other financial assets	(9)	12,013	4,632
Other assets	(10)	1,328	1,583
Deferred tax assets	(34)	11,099	4,269
Non-current assets		**500,307**	**390,695**
Total assets		**838,597**	**730,405**

* Reporting adjusted. For details see Notes (9) and (10).

LIABILITIES AND SHAREHOLDERS' EQUITY

IN € THOUSAND	Notes	12/31/2019	12/31/2018
Current liabilities			
Liabilities to banks	(14)	112,384	70,088
Trade payables	(15)	108,424	100,376
Income tax liabilities		5,106	6,438
Contract liabilities	(16)	3,403	2,249
Other provisions	(17)	10,580	11,151
Other financial liabilities	(18)	9,740	3,710
Other liabilities	(19)	7,314	8,724
Current liabilities		**256,951**	**202,736**
Non-current liabilities			
Liabilities to banks	(14)	69,250	79,425
Pension provisions	(20)	86,684	76,720
Other provisions	(17)	3,528	3,419
Other financial liabilities	(18)	39,784	2
Other liabilities	(19)	14,874	6,318
Deferred tax liabilities	(34)	4,080	4,414
Non-current liabilities		**218,200**	**170,298**
Equity			
Subscribed capital	(21)	95,156	95,156
Capital reserve	(22)	46,867	46,867
Retained earnings	(23)	170,069	178,675
Other reserves	(24)	12,310	-639
Equity of H&R GmbH & Co. KGaA shareholders		**324.402**	**320.059**
Non-controlling interests	(25)	39,044	37,312
Equity		**363,446**	**357,371**
Total liabilities and shareholders' equity		**838,597**	**730,405**

Consolidated Income Statement of H&R GmbH & Co. KGaA

January 1, 2019, to December 31, 2019

IN € THOUSAND	Notes	1/1 –12/31/2019	1/1 –12/31/2018
Sales revenue	(27)	1,075,322	1,114,148
Changes in inventories of finished and unfinished goods		-1,721	12,873
Other operating income	(28)	25,608	27,283
Cost of materials	(29)	-844,563	-877,474
Personnel expenses	(30)	-88,522	-87,137
Depreciation, impairments and amortization of intangible assets and property, plant and equipment	(11,12)	-45,412	-34,16
Other operating expenses	(31)	-113,796	-115,359
Impairment loss from financial assets		-1,891	-115
Other		-111,905	-115,244
Operating result		**6,916**	**40,174**
Income from holdings valued at equity	(13)	530	376
Financing income	(32)	259	2,476
Financing expenses	(33)	-8,891	-9,299
Income before tax (EBT)		**-1,186**	**33,727**
Income taxes	(34)	1,270	-11,409
Consolidated income		**84**	**22,318**
of which attributable to non-controlling interests		1,452	727
of which attributable to shareholders of H&R GmbH & Co. KGaA		**-1,368**	**21,591**
Earnings per share (undiluted), €	(35)	-0.04	0.59
Earnings per share (diluted), €	(35)	-0.04	0.59

Consolidated Statement of Comprehensive Income of H&R GmbH & Co. KGaA

January 1, 2019, to December 31, 2019

IN € THOUSAND	Notes	1/1 – 12/31/2019	1/1 – 12/31/2018
Consolidated income		**84**	**22,318**
of which attributable to non-controlling interests		1,452	727
of which attributable to shareholders of H&R GmbH & Co. KGaA		-1,369	21,591
Positions that will not be reclassified into profit or loss			
Remeasurement of defined-benefit pension plans		-10,262	-678
Deferred taxes		3,024	224
Total remeasurement of defined-benefit pension plans		**-7,238**	**-454**
Equity instruments		6,631	-222
Deferred taxes		-97	58
Total equity instruments		**6,534**	**-164**
Positions that will not be reclassified into profit or loss		**-704**	**-618**
Positions that may subsequently be reclassified into profit or loss			
Changes in the currency translation adjustment item		6,695	123
Positions that may subsequently be reclassified into profit or loss		**6,695**	**123**
Other comprehensive income		**5,991**	**-495**
of which attributable to non-controlling interests		280	-406
of which attributable to shareholders of H&R GmbH & Co. KGaA		5,711	-89
Total comprehensive income		**6,075**	**21,823**
of which attributable to non-controlling interests		1,732	321
of which attributable to shareholders of H&R GmbH & Co. KGaA		4,343	21,502

Consolidated Statement of Changes in Group Equity of H&R GmbH & Co. KGaA

as of December 31, 2019

IN € THOUSAND	Subscribed capital (21)	Capital reserve (22)	Retained earnings (23)
1/1/2018	**93,404**	**41,364**	**171,989**
Capital increase	1,752	5,503	–
Dividend	–	–	-14,615
Reserve reclassification for market valuation	–	–	164
Consolidated income	–	–	21,591
Other comprehensive income	–	–	-454
Total comprehensive income	–	–	21,137
12/31/2018	**95,156**	**46,867**	**178,675**
Consolidated income	–	–	-1,368
Other comprehensive income	–	–	-7,238
Total comprehensive income	–	–	-8,606
12/31/2019	**95,156**	**46,867**	**170,069**

	Other reserves/cumulative other comprehensive income				
	Equity instruments (24)	Currency translation adjustment (24)	Equity share attributable to shareholders of H&R KGaA	Non-controlling interests (25)	Total
	164	**-1,168**	**305,753**	**36,991**	**342,744**
	–	–	7,255	–	7,255
	–	–	-14,615	–	-14,615
	–	–	164	–	164
	–	–	21,591	727	22,318
	-164	529	-89	-406	-495
	-164	529	21,502	321	21,823
	–	**-639**	**320,059**	**37,312**	**357,371**
	–	–	-1,368	1,452	84
	6,534	6,415	5,711	280	5,991
	6,534	6,415	4,343	1,732	6,075
	6,534	**5,776**	**324,402**	**39,044**	**363,446**

Consolidated Cash Flow Statement of H&R GmbH & Co. KGaA

January 1, 2019, to December 31, 2019

IN € THOUSAND			Notes	2019	2018
1.		Consolidated income		84	22,318
2.		Income taxes		-1,270	11,409
3.		Net interest income		8,464	8,960
4.	+/–	Depreciation and amortization/appreciation on fixed assets and intangible assets		45,412	34,160
5.	+/–	Increase/decrease in non-current provisions		-1,802	-2,942
6.	+	Interest received		259	339
7.	–	Interest paid		-4,267	-7,752
8.	+/–	Income tax received/paid		-6,606	-9,530
9.	+/–	Other non-cash expenses/income		-543	605
10.	+/–	Increase/decrease in current provisions		-741	-455
11.	–/+	Gain/loss from the disposal of intangible assets		366	-507
12.	–/+	Changes in net working capital		60,260	-29,385
13.	+/–	Changes in remaining net assets/other non-cash items		-4,121	-3,897
14.	**=**	**Cash flow from operating activities (sum of items 1 to 13)**	(37)	**95,855**	**23,323**
15.	–	Payments for the acquisition of shares of joint ventures		–	-364
16.	+	Proceeds from disposals of property, plant and equipment		84	1,454
17.	–	Payments for investments in property, plant and equipment		-74,523	-70,489
18.	–	Payments for investments in intangible assets		-639	-640
19.	+	Proceeds from disposals of financial assets		–	1,020
20.	–	Payments for investments in financial assets		–	-683
21.	**=**	**Cash flow from investing activities (sum of items 15 to 20)**	(37)	**-75,078**	**-69,702**
22.	**=**	**Free cash flow (sum of items 14 and 21)**		**20,777**	**-46,379**
23.		Dividend paid by H&R GmbH & Co. KGaA		–	-7,171
24.	+	Dividends received from holdings valued at equity		212	860
25.	–	Payments for settling financial liabilities		-56,241	-79,360
26.	+	Proceeds from taking up financial liabilities		81,246	118,876
27.	**=**	**Cash flow from financing activities (sum of items 23 to 26)**	(37)	**25,217**	**33,205**
28.	**+/–**	**Changes in cash and cash equivalents (sum of items 14, 21 and 27)**		**45,994**	**-13,174**
29.	+	Cash and cash equivalents at the beginning of the period		46,495	58,952
30.	+/–	Change in cash and cash equivalents due to changes in exchange rates		2,305	717
31.	**=**	**Cash and cash equivalents at the end of the period**		**94,794**	**46,495**

Notes to the Consolidated Financial Statements of H&R GmbH & Co. KGaA

as of December 31, 2019

(1) General Information

H&R GmbH & Co. KGaA (hereinafter referred to as "H&R KGaA"), a listed company headquartered at 48499 Salzbergen (Germany), Neuenkirchener Strasse 8, does business in various specialty chemical and plastics markets via its subsidiaries. The Group's businesses include the production of chemical-pharmaceutical raw materials as well as the manufacture of injection molded precision plastic parts. It is recorded in the Commercial Register at the Osnabrück Municipal Court under number HRB 210689. H&R KGaA is managed by the managing directors of H&R Komplementär GmbH. H&R KGaA's parent company is H&R Komplementär GmbH.

Pursuant to Section 315e of the German Commercial Code (HGB), H&R KGaA, as a listed Group parent company, is required to prepare consolidated financial statements in accordance with international accounting standards and rules. The consolidated financial statements of H&R KGaA were prepared based on the accounting rules of the International Accounting Standards Board (IASB), the application of which was mandatory under EU Regulation No. 1606/2002 as of the reporting date, and according to the additionally applicable requirements of Section 315e, paragraph 1 HGB. The requirements of the Standards (IFRS/IAS) and interpretations (IFRIC/SIC) whose application was mandatory as of the reporting date were met without exception.

The income statement is prepared in accordance with the total-cost method. The statement of financial position is broken down into current and non-current assets and liabilities. Under this approach, assets and liabilities are shown as current if they are held for trading purposes, are intended for sale within the normal course of the business cycle, or are expected to be sold within twelve months of the reporting date. Pension provisions and deferred tax claims and/or liabilities are in principle treated as being non-current.

The 2019 consolidated financial statements were prepared using the euro (€) as the functional currency. Unless stated otherwise, all amounts are shown in thousands of euros (in € thousand). Rounding can lead to the amounts mentioned in this report not adding up exactly to the sums stated, and to percentages not exactly matching the amounts reported.

The financial year of H&R KGaA and the subsidiaries included in the consolidated financial statements coincides with the calendar year.

The consolidated financial statements are published in the Bundesanzeiger (Federal Gazette).

(2) Effects of New Accounting Standards

Standards and Interpretations to be Applied for the First Time in the Current Financial Year. Application of changes to the following standards by the International Accounting Standards Board (IASB) became mandatory for the first time in the current financial year:

STANDARDS AND INTERPRETATIONS TO BE APPLIED FOR THE FIRST TIME

Standard/ interpretation	Title	IASB effective date	Date of EU endorsement	EU effective date	Material impact on H&R
IFRS 16:	Leases	1/1/2019	10/31/2017	1/1/2019	see explanation
Amendments to IFRS 9:	Prepayment Features with Negative Compensation	1/1/2019	3/22/2018	1/1/2019	none
IFRIC 23:	Uncertainty Over Income Tax Treatments	1/1/2019	10/23/2018	1/1/2019	none
Amendments to IAS 28:	Long-Term Interests in Associates and Joint Ventures	1/1/2019	2/8/2019	1/1/2019	none
	Annual Improvements to IFRSs 2015–2017 Cycle	1/1/2019	3/14/2019	1/1/2019	none
Amendments to IAS 19:	Plan Amendment, Curtailment or Settlement	1/1/2019	3/13/2019	1/1/2019	none

IFRS 16

IFRS 16 Leases, which was published in January 2016, replaces the previous leasing standard, IAS 17, with effect from January 1, 2019, for H&R KGaA. It provides a single lessee accounting model under which right-of-use assets and lease liabilities for outstanding lease payments are to be allocated for all leases. During the term of the lease, the lease liability is amortized using the effective-interest method, while the right-of-use asset is amortized using the straight-line method, which generally results in higher expenses at the beginning of the lease term than under IAS 17.

Using the transitional provisions as of January 1, 2019, right-of-use assets and lease liabilities in the amount of €42,651 thousand each were recognized as part of the first-time adoption of IFRS 16.

In accordance with the requirements, the transition to IFRS 16 was based on the modified retrospective method, meaning that no adjustments were made to the comparative information. Key application relief and transition options were exercised as follows:

- The transitional option has been applied of not reevaluating a lease at the time of transition. IFRS 16 is therefore only applied to leases that were previously classified as leases under IAS 17 and IFRIC 4. IFRS 16 is not applied to agreements that were previously classified as non-lease agreements by applying IAS 17 and IFRIC 4.
- Leases expiring in 2019 are treated as short-term leases and are not accounted for as leases. This does not include short-term leases in connection with tank capacities.
- Current findings were considered in the determination of the lease term for contracts with a renewal/termination option.
- For leases previously classified as operating leases, right-of-use assets were recognized at the amount of the corresponding lease liability at the date of first time application.
- The relief for low-value assets is applied at the time of transition, and recognition of a right-of-use asset and lease liability is not carried out.

The values in the opening statement of financial position were adjusted as follows due to the first time application of IFRS 16:

IFRS 16 CHANGES IN ACCOUNTING FOR THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS OF JANUARY 1, 2019

IN € THOUSAND	12/31/2018	Changes due to first time application of IFRS 16	1/1/2019
ASSETS			
Property, plant and equipment	336,087	42,651	378,738
LIABILITIES AND SHAREHOLDERS' EQUITY			
Current financial liabilities	3,710	7,537	11,247
Non-current financial liabilities	2	35,114	35,116

The lease liabilities were discounted using the incremental borrowing rate as of January 1, 2019. The weighted average interest rate came to 3.14% In the income statement, there was an increase in depreciation and amortization of €8.5 million and an interest expense of €1.3 million. The first-time application of IFRS 16 resulted in lower income attributable to the shareholders of H&R KGaA of approximately €1.0 million in the 2019 financial year, which corresponds to earnings per share of €-0.03. The increase in lease liabilities has resulted in a corresponding increase in net financial liabilities. The repayment of lease liabilities amounted to €8.8 million in the 2019 financial year and is reported under cash flow from financing activities. The operating cash flow was relieved by the same amount, where these payments were previously allocated.

Leases in the amount of €7.0 million that were previously recognized as finance leases under IAS 17 will be recognized under right-of-use assets at the transition date in the amount of the previous carrying amount of the assets. As a result of the full prepayment of these right-of-use assets, the recognition of a lease liability is no longer required, as was already the case under IAS 17.

The reconciliation of the operating lease obligations as of December 31, 2018, to the value of the lease liabilities recognized in the opening statement of financial position as of January 1, 2019, is as follows:

IFRS 16 RECONCILIATION AS OF JANUARY 1, 2019

IN € THOUSAND	
Operating lease obligations as of December 31, 2018	**41,812**
Correction according to IAS 8	11,731
Operating lease obligations as of December 31, 2018	**53,543**
Simplified application for short-term leases	-810
Simplified application for leases on assets of low value	-250
Changes in renewal/termination options	899
Miscellaneous	-121
Discounting	-10,610
Lease liabilities as of January 1, 2019	**42,651**

The correction of €11,731 thousand includes the correction of an error in the disclosures in the notes from the 2018 annual report. This is mainly due to the fact that increases in lease installments that had already been fixed as of December 31, 2018, were not taken into account. This correction has no effect on income or equity, nor on any statement of financial position items or items in the statement of comprehensive income.

Further information on leases can be found in chapters (3), (11.2), (18) and (33).

Published Standards and Interpretations That Are Not Yet Being Applied.
As of the reporting date, the following accounting standards had already been published by the International Accounting Standards Board (IASB) and the International Financial Reporting Interpretations Committee (IFRIC) but application of the standards was not yet mandatory.

PUBLISHED STANDARDS AND INTERPRETATIONS THAT ARE NOT YET BEING APPLIED

Standard/interpretation	Title	IASB effective date	Date of EU endorsement	EU effective date	Material impact on H&R KGaA
IFRS 17:	Insurance Contracts	1/1/2021	open	to be determined	none
Amendments to IAS 1:	Presentation of the Financial Statements	1/1/2022	to be determined	to be determined	none
	Amendments to References to the Conceptional Framework	1/1/2020	11/29/2019	1/1/2020	none
Amendments to IFRS 3:	Business Combinations	1/1/2020	Expected in Q1 2020	to be determined	none
Amendments to IAS 1 and IAS 8:	Definition of “Material”	1/1/2020	11/29/2019	1/1/2020	none
Amendments to IFRS 9, IAS 39 and IFRS 7:	Interest Rate Benchmark Reform	1/1/2020	1/15/2020	1/1/2020	none

H&R KGaA will not avail itself of the option for early application of the standards and interpretations that are not yet to be applied as a mandatory requirement.

(3) General Accounting and Measurement Methods

Principles of Consolidation
The statements included in the consolidated financial statements are prepared in accordance with uniform accounting and valuation methods. The reporting date is the closing date of the parent company.

Subsidiaries are companies or entities which, according to the criteria listed in IFRS 10, are controlled by H&R KGaA. Accordingly, H&R KGaA controls rights at these companies that give it the ability to direct the relevant activities of these companies in order to influence the companies' returns. Control further requires H&R KGaA to be exposed to variable returns from the subsidiaries and to have the ability to affect those variable returns through its decision-making power. If it loses control over a subsidiary, the subsidiary is no longer included in the scope of consolidation.

All business transactions within the Group and interim results as well as existing receivables and payables between consolidated companies are eliminated in the course of consolidation. Deferred income tax effects arising from the consolidation process are appropriately taken into account.

In accordance with IFRS 3, business combinations are recorded in the financial statements using the acquisition method. The acquirer is deemed to be the entity that obtains control over the acquired company or the acquired business operations in accordance with the rules set forth in IFRS 10. In the case of a company purchase, the pro rata equity of the acquired subsidiary is determined at the time of acquisition, taking into account the fair values of the identifiable assets, debts and contingent liabilities, deferred taxes and any goodwill at that time. If foreign companies are acquired, the acquisition costs are converted into euros at the respective exchange rate on the purchase date.

The acquisition costs correspond to the fair value of the transferred assets, the equity instruments issued and the debts arising/being assumed at the time of the transaction. In addition, they contain the fair values of any reported assets or liabilities resulting from a conditional consideration arrangement. Purchase-related ancillary costs are immediately recorded as a charge against income.

Acquisition costs are offset against the pro rata fair value of the net equity. Net equity is determined by recognizing the identifiable assets, debts, and contingent liabilities of the acquired company or the acquired business operations at their fair value at the time of acquisition. Any amount remaining on the asset side after setoff is treated as goodwill. Pursuant to IFRS 3, any negative amount resulting from an examination of the reassessment of net assets acquired is recognized directly through profit or loss.

Non-controlling interests in fully consolidated companies are valued at the pro rata fair value of the net assets. Transactions with non-controlling interests are treated like transactions with Group equity owners. The difference between the acquired pro rata equity of other shareholders and the purchase price is therefore directly netted against equity.

Shares in Holdings Valued at Equity
Interests in associates and in joint ventures are reported in accordance with the equity method. Joint ventures are companies that H&R KGaA manages jointly with a third party. H&R KGaA's interest in associates ranges from 20% to 50%. Under the equity method, the carrying amount of holdings valued at equity is increased or reduced by the change in equity corresponding to H&R KGaA's interest in the equity of these companies. The Group's interest in associated companies and in joint ventures includes the goodwill arising from the acquisition. The changes in the pro rata equity affecting the income statement are recognized under income from holdings valued at equity. For

companies whose financial statements are prepared in accordance with the equity method, an impairment must be recognized if the recoverable amount is below the carrying amount.

Currency Translation
The annual financial statements of the foreign subsidiaries are converted into euros in accordance with the functional currency principle. As the companies essentially manage their business independently from a financial, economic and organizational point of view, the respective functional currency as a rule is that of the country in which the company is headquartered.

In the separate financial statements of the Group companies, foreign currency transactions are translated into the functional currency at the exchange rates in effect at the time of the transaction. On the statement of financial position, receivables and payables in foreign currencies are valued at the exchange rate on the reporting date; the resulting exchange rate gains and losses are recognized through profit or loss.

In the consolidated financial statements, the assets and liabilities are converted into euros at the exchange rate on the respective reporting date. Any changes taking place during the year, as well as items on the income statement, are converted into euros at the average annual exchange rate. The equity is carried at historical exchange rates. The resulting variances are recognized in equity but are not reported on the income statement until the subsidiary is sold.

The exchange rates used for currency translation have changed as follows:

EXCHANGE RATES FOR THE MAIN CURRENCIES

	Closing rate 12/31/2019	Closing rate 12/31/2018	Average rate 2019	Average rate 2018
US dollar	1.1234	1.1450	1.1196	1.1815
British pound	0.85080	0.89453	0.87731	0.88475
Australian dollar	1.5995	1.6220	1.6106	1.5799
South African rand	15.7773	16.4594	16.1731	15.6134
Thai baht	33.415	37.052	34.765	38.163
Chinese renminbi	7.8205	7.8751	7.7339	7.8074
Czech crown	25.408	25.724	25.670	25.643
Malaysian ringgit	4.5953	4.7317	4.6372	4.7642

Cash and Cash Equivalents
Cash and cash equivalents comprise cash in hand, checks received, and bank balances and have a maximum term of three months at the time of acquisition or investment. Cash and cash equivalents are valued at cost.

Financial Instruments
A financial instrument is a contract that gives rise to a financial asset at one company, while at the same time creating a financial liability or equity instrument at another. Financial assets comprise cash and cash equivalents, loans and receivables issued, equity and debentures acquired, and derivatives with positive fair values. Financial liabilities include liabilities to banks, trade payables, and derivatives with negative fair values as well as other financial liabilities.

In line with IFRS 9, H&R KGaA assigns financial instruments to the categories “measured at amortized cost”, “measured at fair value through other comprehensive income” and “measured at fair value through profit or loss”. H&R KGaA did not make use of the options available for designating financial instruments as measured at fair value. Financial assets and financial liabilities are not offset, apart from the reimbursement right against BP (see Notes (9) and (20)), since no such offset agreements exist. In cases involving standard market purchases or sales, H&R selects the trading date as the date of addition/disposal for the purposes of the statement of financial position.

Financial Assets
Financial assets are measured at fair value less transaction costs upon their initial recognition. Subsequent measurement depends on the business model based on which the asset is held. At H&R KGaA, financial assets relate to the categories "at fair value through profit or loss", "at fair value through other comprehensive income" or "at amortized cost".

Financial assets are designated as belonging to these measurement categories upon initial recognition. Reclassifications are made to the extent that they are permissible and necessary.

Financial assets with a business model that aims to hold the assets until the contractual cash flows have been collected and which only trigger interest and principal repayments on specified dates are measured at amortized cost. This essentially includes all receivables and financial assets that are not held for sale.

If the business model for financial assets also provides for the sale of the asset over and above defined interest and principal repayments, H&R recognizes them at fair value through other comprehensive income to counter fluctuations in the profit or loss of these financial assets. The changes in value recognized in other comprehensive income are reclassified to the income statement upon disposal of the financial assets.

Provided that equity instruments are not acquired to be held for trading, they can optionally be allocated to the category "measured at fair value" through other comprehensive income. Changes in value are recognized in other comprehensive income, but are not reclassified to the income statement at any time. H&R KGaA has exercised this option for an equity instrument to offset fluctuations in income resulting from changes in the fair value of these assets.

At H&R KGaA, the group of financial assets measured at fair value through profit or loss includes financial assets held for trading. In addition to derivative financial instruments and securities, these include trade receivables intended for factoring.

Impairment of financial assets in the categories "measured at amortized cost", on the one hand, and "at fair value through other comprehensive income" with recycling of the changes in value recognized in other comprehensive income, on the other, are recognized in accordance with IFRS 9 using the expected credit loss model, which provides for three levels. For Level 1 financial assets, risk provisions are to be set up in the amount of the 12-month expected credit loss. This will comprise the present value of the expected defaults calculated from the default events within the first 12 months. If a financial asset shows a significant increase in credit risk since the initial recognition date, the impairment is calculated as the present value of the lifetime expected loss and the asset is classed a Level 2 asset. Financial assets showing evidence that an impairment has already occurred are assigned to Level 3. Such evidence includes, among other things, the high probability of insolvency proceedings, significant financial difficulties of a debtor or the disappearance of an active market for financial assets. At Level 3, impairments are recognized in the amount of the expected credit losses over the entire term of the financial asset.

Simplified provisions apply to certain financial assets which H&R KGaA applies to trade receivables. For these, blanket risk provisions are recorded in the amount of the losses expected over the residual term, which are determined on the basis of empirical values and are assigned to Level 2 of the impairment model upon initial recognition. In the event of a default, the receivable in question is moved to Level 3. If a financial asset is overdue by more than 90 days, this objectively indicates an impairment of its credit rating.

The credit and default risk from financial assets lies in the danger that a contracting party will fail to pay; it therefore does not exceed the amount of the claims against the respective counterparty for the recognized carrying amounts. H&R KGaA regularly carries out assessments to identify substantial increases in credit risk. In general, these mainly take into account default probabilities and past-due intelligence.

Financial assets are derecognized when there is no longer any contractual right to receive a payment or if this right has been transferred to third parties, meaning that the relevant risks have passed to the buyer of this right.

Financial Liabilities
When first reported, financial liabilities are always stated at their fair value and after deduction of transaction costs. In subsequent periods, they are measured at amortized cost using the effective-interest method. These mainly include liabilities to banks, trade payables and other liabilities.

Financial liabilities are derecognized when the contractual obligations are settled, reversed, or have expired.

Derivative Financial Instruments
Derivative financial instruments are used in order to reduce currency and interest rate risks, e.g., in the form of currency forward contracts and interest rate swaps.

Derivative financial instruments are carried on the statement of financial position at fair value and, depending on the market value, are shown as financial assets or liabilities. The fair value of the derivatives is calculated using standard market valuation methods, taking into account the market data available on the valuation date. With currency forward contracts, the valuation is carried out on a case-by-case basis at the pertinent forward exchange rate on the reporting date. The fair value of derivative financial instruments for interest rate hedging is determined by discounting future incoming and outgoing cash flows. Standard market interest rates which have been adjusted to reflect their own credit risk and which correspond to the respective time to maturity of the financial instruments are used for discounting. No derivatives were designated as hedges either in the financial year or in the previous period.

Inventories
According to IAS 2, inventories include those assets held for sale in the ordinary course of business (finished products and products for sale), assets in the process of production for sale (work in process), or materials and supplies that are consumed in the production of inventory or in the rendering of services (raw, auxiliary and production materials).

Raw, auxiliary, and production materials are stated at the lower of acquisition or manufacturing cost and the net realizable value, as determined on the basis of the weighted-average-cost method, i.e., at the sales price that can be obtained in the normal course of business less the estimated manufacturing and marketing costs. Finished products and work in process are measured at acquisition or manufacturing costs, provided that these are lower than the net realizable value. Manufacturing costs comprise the material and production costs directly allocable to the manufacturing process, directly allocable portions of the material and manufacturing overhead costs and production-oriented general and administrative overhead costs. Raw, auxiliary and production materials are not depreciated if the end products can be sold at a profit.

By-products from the production process (joint production) are measured at their selling prices and the remaining manufacturing costs are allocated to the primary products. Financing costs are not taken into account.

Property, Plant and Equipment
Property, plant and equipment are valued at acquisition or manufacturing costs less cumulative depreciation and impairment losses plus reversals of impairments.

Acquisition costs consist of the price of the acquisition, the ancillary acquisition costs, and subsequent acquisition costs less acquisition price reductions obtained. Borrowing costs that are directly attributable to the construction, acquisition or production of a qualifying asset are capitalized. Expenses for the ongoing repair and maintenance of property, plant and equipment are included in profit or loss. Expenses for renewal and maintenance are capitalized as subsequent manufacturing costs only if they result in a substantial extension of the useful life, a significant improvement, or a meaningful change in the use of the respective property, plant or equipment.

Expenses related to scheduled downtime at large facilities are stated separately at the amount of the costs of the shutdown, as part of the facility in question, and are depreciated on a straight-line basis over the period until the next scheduled downtime. To the extent that depreciable fixed assets consist of essential identifiable components with individually different useful lives, such components are carried separately and depreciated over their respective useful lives. Investment subsidies are deferred and recognized as income over the average useful lives of the subsidized assets.

Depreciable fixed assets are subject to straight-line depreciation over their respective useful lives; residual amounts are taken into account. These economic lives are reviewed on each reporting date and adjusted, if necessary. Upon sale or retirement, the acquisition or manufacturing costs and the relevant accumulated depreciation of the facilities are derecognized; the resulting gains or losses are recognized in profit or loss. The useful lives used can be summarized as follows:

ASSETS

	Economic life
Buildings	10 to 36 years
Land use rights	45 to 50 years
Tank farms	25 years
Technical equipment and machinery	10 to 20 years
Other facilities	3 to 6 years
Operating and office equipment	3 to 13 years

Leases
A lease is an agreement whereby the lessor, in return for a payment or series of payments, conveys to the lessee the right to use an asset for a specific period of time.

Up until December 31, 2018, lease transactions were treated in accordance with IAS 17 and classified as either finance leases or operating leases. If H&R KGaA, as the lessee in lease transactions, bore all essential risks and opportunities related to ownership, then such transactions were treated as finance leases. In that case, the Group capitalized the leased property at the lower of the fair value and the present value of the minimum lease payments and thereafter depreciated the leased property over the estimated useful life or the lease term, whichever was shorter. At the same time – unless fully prepaid – a matching financial liability was recognized at the lower of the fair value of the leased property and the present value of the minimum lease payments; interest and principal payments were subsequently made, and the liability was adjusted accordingly, using the effective interest method. All remaining lease agreements in which the Group was the lessee were treated as operating leases. In this case, lease payments made were recorded under expenses and lease payments received were recorded as income.

Since January 1, 2019, H&R KGaA has generally accounted for leases in accordance with IFRS 16, which requires the recognition of a right to use the leased assets, and a liability for the payment obligations entered into, for each lease in the statement of financial position.

The lease liability is essentially based on the contractually agreed fixed payments, which are discounted at the interest rate on which the lease is based, insofar as it can be determined. Alternatively, discounting is based on the incremental borrowing rate. Lease liabilities measured at amortized cost are reported under other financial liabilities. The right-of-use assets are recognized at cost, which mainly comprises the lease liabilities and any lease payments made before the leased asset was made available. Subsequent measurement is then at amortized cost, with the right-of-use assets being amortized on a straight-line basis over the term of the lease.

H&R KGaA makes use of the simplified application for short-term leases and leases of low-value assets and recognizes the payments as an expense in the income statement. This does not include lease agreements relating to tank capacities, which are recognized in accordance with IFRS 16 even with a term of up to one year. In cases involving contracts that include non-lease components in addition to lease components, the option of not separating them, and instead accounting for both components as one lease component, is applied.

Some leases include renewal and termination options that give H&R KGaA greater operational flexibility. When determining the term of the contract, all facts and circumstances that create an economic incentive to exercise an extension option, or not to exercise a termination option, are taken into account. Changes in the term due to such options being exercised or not are only taken into account if they are sufficiently probable.

Goodwill

The first time it is reported, the goodwill resulting from a merger is stated at acquisition cost, which is measured as the surplus of the value of the consideration transferred over the value of the identifiable assets acquired and liabilities assumed. After the initial recognition, goodwill is measured at acquisition cost less accumulated impairment losses.

Goodwill is not subject to amortization, but, rather, is subjected to an impairment test every year. If any events or changed circumstances are identified that indicate a potential impairment loss, the impairment test is also carried out more frequently. In the event of the need to recognize a goodwill impairment loss, it is immediately recognized under depreciation and amortization on the income statement. Reversal of an impairment loss for goodwill in later periods does not take place. Details on the annual impairment tests are provided in the section on impairment.

Other Intangible Assets

Other intangible assets are capitalized at their acquisition or manufacturing costs. Insofar as they have determinable useful lives, they are subject to depreciation on a straight-line basis over their respective useful lives. Impairment is recognized based on the principles set out in the section on impairment. The following useful lives were assumed in determining depreciation:

ASSETS

	Useful life
Software	3 to 5 years
Licenses	3 to 5 years
Concessions and patents	3 to 10 years
Customer relationships	15 years
(Production) technologies	10 years

H&R KGaA has received carbon emission rights free of charge in connection with the introduction of emissions trading in the European Union; they are valued at a zero acquisition cost. Additional carbon emission rights acquired are stated at amortized cost.

Impairment

As of each reporting date, the carrying amounts of goodwill, other intangible assets, and property, plant and equipment are checked for any indications of impairment. If such indications arise, impairment tests are performed at the level of the cash-generating units. In the case of goodwill, impairment tests are performed on an annual basis.

Impairment tests are performed at the level of the cash-generating units that are relevant for the purposes of the test. H&R KGaA essentially considers both strategic business units under standard management with comparable product portfolios and, occasionally, also individual, legally autonomous companies to be cash-generating units.

The impairment test is performed by comparing the carrying amount of the cash-generating unit with its recoverable amount. The recoverable amount is the higher of fair value less costs of disposal and the value in use. The recoverable amount here is the value in use determined using the discounted cash flow method. If the carrying amount exceeds the division's recoverable amount, an impairment equal to the difference must be recognized through profit or loss. The first step involves writing goodwill off in full. Any remaining impairment is, as a rule, allocated to the remaining non-current assets of the cash-generating unit in proportion to their carrying amounts.

In the event the reasons for impairment no longer apply, the appropriate reversals are effected to the extent that the amortized cost is not exceeded. The reasons for an impairment are reviewed on each reporting date. Goodwill is not subject to reversals of impairment.

The expected cash flows of the cash-generating units are derived from the H&R Group's current five-year plan. As in the previous year, the cash flow for subsequent periods was extrapolated using an expected growth rate of 1% p.a. Average costs of capital were used for the discounted cash flow; these weighted capital costs are calculated based on market values. Differences in the individual cash-generating units' cost of capital result in particular from various assumptions and estimates concerning country risk, credit risk, and price inflation in the country in which the cash-generating unit is headquartered.

The plan is based, in particular, on assumptions concerning the trend in sales revenue, the material usage ratio and investments already initiated as well as on empirical values and market expectations. Pursuant to IAS 36, investments to expand capacity for which to date no cash outflows have occurred are not included. In addition, a stable margin was assumed for a number of products for all five plan years.

Research and Development Costs
Research expenses are recognized as expenses in the period in which they are incurred. Development expenses are capitalized only if the requirements of IAS 38 have been satisfied. According to this standard, capitalization is always required when there is reasonable certainty that the development activity will lead to future cash flows that will also cover the relevant development costs. As internal developments are subject to various uncertainties, the conditions for capitalizing costs incurred in bringing a product to market generally are not met.

Other Receivables and Payables
Accruals and deferrals and other non-financial assets and liabilities are initially recognized at cost. Reversal takes place on a straight-line basis or using the percentage of completion method.

Government grants for assets are shown on the statement of financial position as deferrals in the other liabilities section and are reversed and recognized in profit or loss over the average useful life of the subsidized assets. Private subsidies are recognized as other liabilities under both current and non-current liabilities and are reversed over their expected useful lives.

Contract Liabilities
Contract liabilities are commitments of H&R KGaA to transfer goods and services, for which H&R KGaA has already received a consideration, to a customer. At H&R KGaA, contract liabilities comprise advance payments received on customer contracts.

Pensions and Similar Obligations
Company pensions of H&R KGaA are designed based on the legal, tax, and economic circumstances in the respective countries and include both defined-contribution and defined-benefit

plans. Under defined-contribution plans, the Group makes contributions to public or private pension insurance plans based on a statutory or contractual obligation, or even voluntarily. The Group has no further payment liabilities beyond payment of the contributions. Contributions are recognized under personnel expenses when due.

The present value of the pension commitments under defined-benefit pension plans (defined-benefit obligations, DBOs) and of the associated past service expense is calculated using the projected unit credit method. Under this method, the valuation is based on actuarial calculations for which specific assumptions must be made concerning salary and pension payment trends, turnover rates, death and interest rates. Due to changing conditions, the actual future expenses and liabilities can differ significantly from the estimates in the actuarial reports.

Under defined-benefit pension plan accounting rules, interest expense is recognized under net interest result on the income statement. Past service expenses are recorded as personnel expenses. Effects from the remeasurement of defined-benefit pension plans are recognized directly in equity and on the statement of comprehensive income, where deferred taxes are taken into account. The fair value of the plan assets is deducted from the present value of the pension commitments recorded on the statement of financial position. The plan asset consists of a reinsurance policy for the pension commitment to a former member of the Executive Board that is measured at fair value. If the plan asset exceeds the corresponding pension commitment, the excess amount is shown under other receivables, subject to the upper limit stipulated in IAS 19.

Other Provisions

Other provisions are established in accordance with IAS 37 if, on the basis of a past event, a current, legal or factual obligation exists, settlement is likely to result in an outflow of resources with economic benefits, or a reliable estimate of the amount of the liability is possible. The amount set up as a provision represents the best estimate of the amount required to settle the current obligation as of the reporting date. In the event of a significant interest rate effect, the present value of the expected expenses is used.

The anniversary provisions are valued according to the projected unit credit method pursuant to IAS 19. Contractual obligations under lease agreements (e.g., demolition, renovation, or eviction) are recognized on the statement of financial position as provisions, insofar as the expected utilization of resources with an economic benefit is likely. Provisions for impending losses resulting from unfavorable contracts are set up when the expected economic benefit resulting from the contract is lower than the costs that are unavoidable in order to satisfy the contractual obligations.

The annual obligations to return emission rights based on the actual carbon emissions of the production site are at first covered by the emission certificates received free of charge and are valued at their acquisition cost, which is equal to zero. In the event that the emissions rights assigned free of charge should not suffice, provisions for the additional emissions rights that will have to be acquired will be set up at (expected) acquisition cost.

Recognition of Revenue

The proceeds from products sold and services rendered as part of the company's usual business activities are recognized as sales revenues. Other operating earnings are shown as other operating income.

Sales revenue is realized when control over distinct goods or services passes to the customer and the customer is able to direct the use of the transferred goods or services and obtain the remaining benefit from the goods or services. The preconditions are that a contract with enforceable rights and duties is in existence and that receipt of a consideration is probable. Sales revenues are equal to the transaction price. If a contract contains several definable goods and services, the actual base is split on basis of the relative stand-alone selling price and the performance obligation. Contracts containing a significant financing component are not used by H&R KGaA. Contracts with a variable consideration are of minor importance for H&R KGaA and have no significant impact on transaction prices. In general, contracts are payable once the customer has power of disposition on them; this usually means that contracts are payable within 30 days. In general principle, revenue from products and services is only recognized at a particular point in time. Frequently they are current payables. Due to the nature of these payables, revenue recognition leaves very little room for discretionary decisions or estimation uncertainties.

Income Taxes

Income taxes comprise both the taxes levied in the individual countries on taxable profits and changes in deferred taxes that have an effect on profit or loss. The current tax expense is based on the taxable income for the year determined in accordance with the tax regulations of the respective country, taking into account the applicable tax rate in that jurisdiction. Pursuant to IAS 12, deferred taxes reflect temporary differences between assets and liabilities reported in the consolidated financial statements under accounting rules and the amounts reported under tax rules governing the determination of taxable income. Current and deferred taxes are essentially recognized in profit or loss, unless they are related to circumstances recognized in other comprehensive income or directly in equity. In that case, the current and deferred taxes are also recognized in other comprehensive income or directly in equity.

Deferred tax assets pertaining to deductible temporary differences and loss carryforwards are recognized to the extent it is probable that either sufficient taxable profit or deferred tax liabilities will be available against which the temporary differences and still unused loss carryforwards can be utilized. The amount of deferred tax assets recognized for temporary differences and tax-loss carryforwards is determined on the basis of future taxable income over a five-year forecast period. In Germany, the unlimited carryforward option for domestic losses is limited by the minimum taxation level. For foreign loss carryforwards, there are often country-specific time limitations on the carryforward option and restrictions on the use of profits from operating activities.

Deferred tax liabilities arising from temporary differences relating to holdings in subsidiaries and joint ventures are recognized unless the date of the reversal of the temporary differences can be determined by the Group and it is probable that the temporary differences will not be reversed within a foreseeable period of time due to this influence.

When determining the deferred taxes, the expected tax rates in the respective countries at the time of the expected realization are assumed.

Actual and deferred tax receivables and payables are netted if the tax receivables and payables refer to income taxes levied by the same tax authority for either the same taxpayer or for different taxpayers intending to effect settlement on a net basis.

Contingent Liabilities

Contingent liabilities are potential obligations toward third parties or current commitments in which a cash outflow is unlikely and/or its amount cannot be determined in a reliable manner. In principle, contingent liabilities are not reported on the statement of financial position. The liability amounts stated in the notes under contingent liabilities match the scope of liability in effect on the reporting date.

(4) Discretionary Decisions and Estimates

In preparing the consolidated financial statements, a certain amount of assumptions and estimates must be made that will affect the amount and presentation of the assets and liabilities, income and expenses, and contingent liabilities recognized in the reporting period. Estimates are based on empirical values and other assumptions that are deemed to be appropriate given the circumstances, and are based on currently available information. In addition, the trends in the economic environment in the industries and regions in which the Group does business, which are currently assumed to be realistic, were also taken into account in regard to expected future business developments. The actual amounts may differ from the estimates and discretionary decisions; changes may have a material impact on the consolidated financial statements. The following significant matters are affected by such estimates and discretionary decisions:

Impairment Tests/Impairment
Testing intangible assets and property, plant and equipment for impairment, and identifying signs of an impairment, requires estimates in order to determine the recoverable amount of a cash-generating unit. In particular, assumptions must be made with regard to future net cash inflows, the underlying interest rates and the expected useful lives and residual amounts. For sensitivity analyses, a possible fluctuation range of 10% is assumed. Additional information can be found in Note (12).

Pensions and Other Provisions
The calculation of pension provisions and similar commitments and the related pension expenses is based on actuarial models. These models are based on various actuarial assumptions, such as the discount rate, the underlying mortality tables, turnover, etc. Sensitivities are used to determine the possible financial impacts of deviations in the key factors. Details on sensitivity analyses and the bases for estimates in the area of pension provisions can be found in Note (20).

In the case of other provisions, estimates relating to future expenses are necessary in addition to the discount rate. This also applies to the possibility of a cash outflow due to dismantling obligations, which is described in greater detail in Note (40).

Property, Plant and Equipment/Leases
In accounting for property, plant and equipment, discretionary decisions and estimates, which are based on estimates by management, are required in determining economic lives uniformly throughout the Group. The accounting of leases requires discretionary decisions with regard to the determination of interest rates and the lease term. To determine the incremental borrowing rate, reference interest rates are derived from risk-free interest rates with appropriate maturities, increased by credit risk premiums and adjusted by a liquidity and country risk premium.

Income Taxes
In order to calculate deferred tax assets, future taxable income and the dates on which the deferred tax assets can be realized must be estimated. This is based on the planned income from the respective units.

Inventories
In valuing inventories, discretionary decisions and estimates must be made, in particular when determining overhead surcharges.

(5) Scope of Consolidation and Holdings

The consolidated financial statements of H&R KGaA include all material domestic and foreign companies that H&R KGaA controls according to the criteria stipulated in IFRS 10 and for which H&R KGaA controls existing rights that give it the ability to direct the relevant activities of these companies.

The table below shows the changes to H&R KGaA's consolidated group during the financial year:

CHANGE IN THE NUMBER OF CONSOLIDATED COMPANIES

H&R KGaA and consolidated companies	Germany	Abroad	Total
1/1/2018	**19**	**19**	**38**
Additions	1	3	4
Disposals	–	–	–
12/31/2018	**20**	**22**	**42**
Additions	–	–	–
Disposals	–	–	–
12/31/2019	**20**	**22**	**42**

In addition, as in the previous year, four domestic joint ventures are included in the consolidated financial statements of H&R KGaA using the equity method.

H&R KGaA holds shares in some companies via trust companies. These indirect shares are also fully consolidated whenever H&R GmbH & Co. KGaA exercises control. The holdings are shown in the list of shareholdings. Although controlled by H&R KGaA, two companies were not included in the scope of consolidation, as they have no material significance for the net assets, financial position and results of operations of H&R KGaA.

The following table provides an overview of the companies included in the consolidated financial statements of H&R KGaA. The holdings are unchanged compared to the previous year.

FULLY CONSOLIDATED SUBSIDIARIES

Company name	Company headquarters	Segment	Interest held by H&R KGaA in %
H&R Chemisch-Pharmazeutische Spezialitäten GmbH	Salzbergen, Germany	a	100
H&R Lube Blending GmbH	Salzbergen, Germany	a	100
H&R ChemPharm GmbH	Salzbergen, Germany	a	100
H&R LubeTrading GmbH	Salzbergen, Germany	a	100
H&R International GmbH	Hamburg, Germany	b	100
H&R Ölwerke Schindler GmbH	Hamburg, Germany	a	100
H&R OWS Chemie GmbH & Co. KG	Hamburg, Germany	a	100
H&R OWS Beteiligungsgesellschaft mbH	Hamburg, Germany	a	100
H&R InfoTech GmbH	Hamburg, Germany	d	100
H&R Benelux B.V.	Nuth, The Netherlands	b	100
H&R ChemPharm (UK) Ltd.	Tipton, UK	b	100
H&R ANZ Pty Ltd.	Victoria, Australia	b	100
H&R Singapore Pte. Ltd.	Singapore, Singapore	b	100
H&R Global Special Products Co. Ltd.	Bangkok, Thailand	b	100[1)]
H&R Malaysia Sdn. Bhd.	Port Klang, Malaysia	b	100[1)]
H&R ChemPharm (Thailand) Limited	Bangkok, Thailand	b	100
H&R Wax Malaysia Sdn. Bhd.	Batu Caves, Malaysia	b	100
H&R Japan K.K.	Tokyo, Japan	b	100
PT HUR Sales Indonesia	Jakarta, Indonesia	b	100
H&R India Sales Private Limited	Mumbai, India	b	100
Dunrose Investments 148 (Proprietary) Limited	Sandton, South Africa	b	100
H&R Africa Holdings (Pty) Limited	Durban, South Africa	b	100
H&R South Africa (Pty) Limited	Durban, South Africa	b	100
H&R South Africa GmbH	Hamburg, Germany	b	100
H&R South Africa Sales (Pty) Limited	Durban, South Africa	b	100
H&R China Holding GmbH	Hamburg, Germany	b	51
H&R China (Hong Kong) Co., Ltd.	Hong Kong	b	51
H&R China (Ningbo) Co., Ltd.	Ningbo, China	b	51
H&R China (Fushun) Co., Ltd.	Fushun, China	b	51
H&R China (Daxie) Co., Ltd.	Ningbo Daxie, China	b	51
H&R Grundstücksverwaltungs GmbH	Salzbergen, Germany	a	98.68
H&R Grundstücksverwaltungs-Beteiligungsgesellschaft mbH	Salzbergen, Germany	a	74.04
GAUDLITZ GmbH	Coburg, Germany	c	100
GAUDLITZ Precision Technology (Wuxi) Co. Ltd.	Wuxi, China	c	100
GAUDLITZ Precision s.r.o.	Dačice, Czech Republic	c	100
GAUDLITZ Grundstücksverwaltungs-Beteiligungsgesellschaft mbH	Coburg, Germany	c	100
GAUDLITZ Management GmbH	Coburg, Germany	c	100
GAUDLITZ INC	Delaware, United States	c	100
H&R Group Finance GmbH	Hamburg, Germany	d	100
SYTHENGRUND Wasagchemie Grundstücksverwertungsges. Haltern mbH	Haltern, Germany	d	100
B.-H. Beteiligungs- und Handelsges. mbH	Salzbergen, Germany	d	100

OTHER INTERESTS

Company name	Company headquarters	Segment	Interest held by H&R KGaA in %	Income after tax (in € thousand)	Equity (in € thousand)
Joint ventures					
Westfalen Chemie GmbH & Co. KG	Salzbergen, Germany	a	50	276	26
Westfalen Chemie Verwaltungs-gesellschaft mbH	Salzbergen, Germany	a	50	2	68
HRI IT–Service GmbH	Berlin, Germany	d	50	784	1,560
HRI IT-Consulting GmbH	Münster, Germany	d	50	434	707
Unconsolidated subsidiaries					
WAFA Kunststofftechnik GmbH & Co. KG, i. K.	Augsburg, Germany	c	100	–[2]	–[2]
WAFA Kunststofftechnik Verwaltungs GmbH, i. K.	Augsburg, Germany	c	100	–[2]	–[2]
Other interests					
SRS EcoTherm GmbH	Salzbergen, Germany	a	10	2,891	12,052

Segment: a) ChemPharm Refining; b) ChemPharm Sales; c) Plastics; d) Other activities

[1] Including holdings held in trust: The holdings in the following companies are only indirectly held via trust companies: H&R KGaA holds 49% of the shares in H&R Global Special Products Co. Ltd., Bangkok, Thailand, via subsidiaries; 51% of the shares are managed for the Group by trust companies. H&R Global Special Products Co. Ltd. in turn holds 60.98% in H&R ChemPharm (Thailand) Limited, Bangkok, Thailand. A further 38.98% are held by a subsidiary whose shares are wholly owned by H&R KGaA. The remaining 0.04% are managed on behalf of the Group by trustees. The Group directly holds 30% of the shares in H&R Malaysia Sdn. Bhd., Port Klang, Malaysia. The remaining 70% are held on behalf of the Group by trustees.

[2] No financial statements are available for these companies.

Notes to the Consolidated Statement of Financial Position

(6) Cash and Cash Equivalents

IN € THOUSAND	12/31/2019	12/31/2018
Cash in hand	23	23
Bank balances	94,771	46,472
Total	**94,794**	**46,495**

As of December 31, 2019, €1.0 million (previous year: €0.0 million) was recognized as cash and cash equivalents, which was deposited in pledged accounts as part of a factoring program and therefore subject to access restrictions.

(7) Trade Receivables

IN € THOUSAND	12/31/2019	12/31/2018
Trade receivables (gross)	89,015	121,536
Impairment	-2,134	-584
Total	**86,881**	**120,952**

No trade receivables were pledged as credit guarantees (previous year: €0 thousand). Receivables from related parties are listed under Note (42).

Within the scope of real factoring agreements with a term until March 31, 2020, H&R KGaA sells short-term receivables from services and payments to banks. H&R KGaA is free to decide whether or not, and to what extent, receivables are sold within certain limits. All material opportunities and risks were transferred to the buyer, meaning that the receivables sold were fully derecognized and no continuing involvement was recognized in the statement of financial position. The carrying amount of the receivables transferred came to €21 million as of December 31, 2019. Overall, H&R KGaA had factoring lines of €30 million at its disposal. As of December 31, 2019, there are receivables that qualify for factoring, which are to be allocated to the category at fair value through profit or loss in the amount of €1,393 thousand. No factoring was used in the previous year.

In the Group, risk provisions for trade receivables based on impairments can be summarized as follows:

CHANGES IN IMPAIRMENTS OF TRADE RECEIVABLES

IN € THOUSAND	2019	2018
As of 1/1	**584**	**598**
Additions	1,891	115
Utilization	–	-106
Reversals	-370	-27
Currency translation differences	29	4
As of 12/31	**2,134**	**584**

The increase in impairment losses mainly relates to the risk provision for a receivable from the recycling of catalysts in the amount of €1.3 million. This impairment loss is part of the risk provision at Level 3. The risk provision had to be made as there are considerable doubts as to the recoverability of the receivable.

(8) Inventories

IN € THOUSAND	12/31/2019	12/31/2018
Raw, auxiliary and production materials	39,703	67,273
Work in process	20,756	20,988
Finished products and products for sale	62,256	63,277
Advance payments on inventories	4,754	2,407
Total	**127,469**	**153,945**

Individual downward valuation adjustments were taken in all cases where the proceeds that could foreseeably be realized from selling the inventories were lower than their carrying amount (lower of cost or market principle). The foreseeable sales proceeds less any costs still incurred up to the time of sale were recognized as the net realizable value.

The carrying amount of inventories recognized at the lower net realizable value amounted to €11,884 thousand in the reporting year (previous year: €7,996 thousand).

Impairment of net realizable values in the amount of €1,559 thousand (previous year: €795 thousand) were recognized as an expense in the reporting period in accordance with IAS 2.34. These affected the ChemPharm Refining and Plastics segments. For more information on expenditures relating to inventories, please consult Note (29).

No inventories were pledged as collateral for liabilities (previous year: €0 thousand).

(9) Other Financial Assets

IN € THOUSAND	12/31/2019 Total	12/31/2019 of which non-current	12/31/2018* Total	12/31/2018* of which non-current
Bills receivable	10,263	–	4,407	–
Subsidies	7,522	2,564	2,487	2,487
Other interests	7,681	7,681	1,052	1,052
Receivables due from BP	1,661	1,661	987	987
Other financial assets	1,147	107	1,340	106
Total	**28,273**	**12,013**	**10,273**	**4,632**

* Reporting adjusted. For details see explanatory notes.

Bills receivable refer to receivable claims in China secured by bills of exchange. The subsidies relate to support provided for investment projects at the refinery sites. The subsidy of €2,487 thousand reported in the previous year relates to the Hamburg refinery site and was reclassified retrospectively from other assets to financial assets in 2019 (see Note (10)).

During the course of the takeover of the BP special business in 2004, mutual release agreements were made in regard to those retirees who were allocated either economically or contractually to one of the contractual partners, but who, for purposes of employment law, remained with the other partner. According to the overall contractual arrangements with BP, which included all release claims and liabilities, and taking into account the contractual parties' goal of achieving a total set-off of all payables and receivables, the liabilities and claims based on the same legal grounds because of the economic and legal substance of the business transaction were combined and shown as a single balance (€1,661 thousand; previous year: €987 thousand) pursuant to IAS 1.32.

The claims to compensation were as shown in the following table:

IN € THOUSAND	2019	2018
As of 1/1	**10,541**	**11,155**
Interest income	205	223
Reassessment of compensation claims	1,447	-231
Claims paid	-621	-606
As of 12/31	**11,572**	**10,541**

The holding relates to shares in SRS EcoTherm GmbH, Salzbergen. The increase in fair value is based on a significantly more optimistic assessment of the company's future business development.

Other financial assets include loans and receivables as well as current securities. Of the other financial assets, as of December 31, 2019, €6 thousand (previous year: €6 thousand) had specific valuation allowances.

(10) Other Assets

IN € THOUSAND	12/31/2019 Total	12/31/2019 of which non-current	12/31/2018* Total	12/31/2018* of which non-current
Reinsurance contracts	1,318	1,318	1,337	1,337
Other tax receivables	6,354	–	5,278	–
Receivables from subsidies	–	–	–	–
Accruals and deferrals	1,570	10	1,267	11
Other assets	673	–	4,467	235
Total	**9,915**	**1,328**	**12,349**	**1,583**

* Reporting adjusted. For details see explanatory notes.

The current accruals and deferrals comprise prepaid amounts for which the pertinent expense is to be allocated to the following year. In the financial year under review, this item mainly includes insurance premiums paid, advance rent payments and accrued IT maintenance fees. Other tax receivables mainly refer to VAT receivables.

The subsidy of €2,487 thousand reported in the previous year relates to the Hamburg refinery site and was reclassified retrospectively to financial assets in 2019 (see Note (9)).

(11) Property, Plant and Equipment

(11.1) Property, Plant and Equipment Including Right-of-Use Assets

CHANGES IN 2019

IN € THOUSAND	Land and buildings	Technical equipment/machinery	Other facilities/ Operating and office equipment	Advance payments and construction in progress	Total
Acquisition and production costs					
As of 12/31/2018	**92,237**	**497,558**	**25,736**	**49,638**	**665,169**
Additions	44,262	54,486	4,867	35,340	138,955
Disposals	-1,078	-9,277	-505	-164	-11,024
Currency translation	863	1,638	126	48	2,675
Reclassifications	10,063	17,459	548	-28,610	-540
As of 12/31/2019	**146,347**	**561,864**	**30,772**	**56,252**	**795,235**
Cumulative depreciation/amortization					
As of 12/31/2018	**39,712**	**271,002**	**18,365**	**3**	**329,082**
Depreciation and amortization	6,223	33,109	3,288	–	42,620
Disposals	-882	-9,105	-477	–	-10,464
Currency translation	169	781	81	–	1,031
As of 12/31/2019	**45,222**	**295,787**	**21,257**	**3**	362,269
Carrying amounts					
As of 12/31/2019	**101,125**	**266,077**	**9,515**	**56,249**	**432,966**
As of 12/31/2018	52,525	226,556	7,371	49,635	336,087

CHANGES IN 2018

IN € THOUSAND	Land and buildings	Technical equipment/machinery	Other facilities/ Operating and office equipment	Advance payments and construction in progress	Total
Acquisition and production costs					
As of 12/31/2017	**91,420**	**463,921**	**22,993**	**28,732**	**607,066**
Additions – business combinations	504	15,544	8	203	16,259
Additions	1,485	35,174	2,395	36,440	75,494
Disposals	-1,376	-30,945	-242	-202	-32,765
Currency translation	-588	-217	-34	-26	-865
Reclassifications	792	14,081	616	-15,509	-20
As of 12/31/2018	**92,237**	**497,558**	**25,736**	**49,638**	**665,169**
Cumulative depreciation/amortization					
As of 12/31/2017	**37,246**	**260,570**	**16,616**	**3**	**314,435**
Depreciation and amortization	3,018	26,388	2,017	–	31,423
Disposals	-440	-15,697	-237	–	-16,374
Currency translation	-112	-259	-31	–	-402
As of 12/31/2018	**39,712**	**271,002**	**18,365**	**3**	**329,082**
Carrying amounts					
As of 12/31/2018	**52,525**	**226,556**	**7,371**	**49,635**	**336,087**
As of 12/31/2017	54,174	203,351	6,377	28,729	292,631

In addition to investments in the two production sites in Hamburg and Salzbergen, the first time application of IFRS 16 also contributed to the increase in property, plant and equipment. Additional information can be found in section (11.2).

The items advance payments and construction in progress include expenses incurred before the completion of the corresponding property, plant and equipment in the amount of €55,520 thousand (previous year: €48,216 thousand).

(11.2) Leases – Right-of-Use Assets

The property, plant and equipment presented under (11.1) includes right-of-use assets under leases as follows:

Land and buildings are essentially the Group companies' production sites and the technical equipment and machinery are production facilities.

Borrowing costs of €192 thousand were capitalized in financial year 2019 (previous year: €131 thousand). This figure was calculated using a financing cost rate of 1.8% (previous year: 1.8%).

CHANGES IN 2019

IN € THOUSAND	Land and buildings	Technical equipment/machinery	Other facilities/ Operating and office equipment	Advance payments and construction in progress	Total
Acquisition and production costs					
As of 12/31/2018					
Additions 1/1/2019 - operating lease	25,540	15,492	1,619	–	42,651
Additions 1/1/2019 - finance lease	7,853	–	–	–	7,853
Additions	1,210	10,508	1,741	–	13,459
Disposals	-11	-408	0	–	-419
Currency translation	72	55	8	–	135
Reclassifications	-49	49	–	–	0
As of 12/31/2019	**34,615**	**25,696**	**3,368**	**–**	**63,679**
Cumulative depreciation/amortization					
As of 12/31/2018	**–**	**–**	**–**	**–**	**–**
Additions 1/1/2019 - finance lease	886	–	–	–	886
Depreciation and amortization	2,480	5,194	1,003	–	8,677
Disposals	–	-365	0	–	-365
Currency translation	13	23	3	–	39
As of 12/31/2019	**3,379**	**4,852**	**1,006**	**–**	**9,237**
Carrying amounts					
As of 12/31/2019	**31,236**	**20,844**	**2,362**	**–**	**54,442**
As of 12/31/2018	–	–	–	–	–

The right-of-use assets recognized in the balance sheet relate, in particular, to leases for land and for the rental of tank capacities and tank wagons.

The additions to finance leases as of January 1, 2019, relate to land use rights which were previously recognized as finance leases in accordance with IAS 17 and are now treated in accordance with IFRS 16. The amortization of right-of-use assets is included in the item "Depreciation and amortization" in the income statement. Further information on leases can be found in Notes (2), (3), (18) and (33).

(12) Goodwill and Other Intangible Assets

The table below shows changes in intangible assets during financial year 2019:

CHANGES IN 2019

		Other intangible assets						
IN € THOUSAND	Goodwill	Distribution and similar rights	Software	Licenses/ product rights	Patents/ (production) technology	Other rights	Subtotal	Total
Acquisition and production costs								
As of 12/31/2018	**54,865**	**17,914**	**13,442**	**3,997**	**13,254**	**189**	**48,796**	**103,661**
Currency translation	73	116	5	20	89	0	231	305
Additions	0	0	465	11	0	108	584	584
Disposals	0	0	-1,390	0	0	0	-1,390	-1,390
Reclassifications	0	0	706	7	0	-173	540	540
As of 12/31/2019	**54,938**	**18,030**	**13,229**	**4,035**	**13,343**	**124**	**48,761**	**103,700**
Cumulative depreciation/amortization								
As of 12/31/2018	**32,410**	**9,825**	**12,485**	**2,666**	**6,501**	**–**	**31,477**	**63,887**
Currency translation	62	51	4	7	31	–	93	155
Depreciation/amortization	–	763	711	160	1,195	–	2,289	2,289
Impairment	–	–	–	–	–	–	–	–
Disposals	–	–	-1,390	–	–	–	-1,390	-1,390
Reclassifications	–	–	–	–	–	–	–	–
As of 12/31/2019	**32,472**	**10,639**	**11,810**	**2,833**	**7,727**	**–**	**33,009**	**65,481**
Carrying amounts								
As of 12/31/2019	**22,466**	**7,391**	**1,419**	**1,202**	**5,616**	**124**	**15,752**	**38,220**
As of 12/31/2018	22,455	8,089	957	1,331	6,753	189	17,319	39,774

CHANGES IN 2018

		Other intangible assets						
IN € THOUSAND	Goodwill	Distribution and similar rights	Software	Licenses/ product rights	Patents/ (production) technology	Other rights	Subtotal	Total
Acquisition and production costs								
As of 12/31/2017	**54,946**	**18,064**	**12,929**	**3,910**	**13,372**	**63**	**48,338**	**103,284**
Currency translation	-81	-150	-6	17	-118	–	-257	-338
Additions	–	–	479	58	–	159	696	696
Disposals	–	–	–	–	–	–	–	–
Reclassifications	–	–	40	12	–	-33	19	19
As of 12/31/2018	**54,865**	**17,914**	**13,442**	**3,997**	**13,254**	**189**	**48,796**	**103,661**
Cumulative depreciation/amortization								
As of 12/31/2017	**32,500**	**9,145**	**11,865**	**2,487**	**5,374**	**–**	**28,871**	**61,371**
Currency translation	-90	-76	-4	6	-57	–	-131	-221
Depreciation/amortization	–	756	624	173	1,184	–	2,737	2,737
Impairment	–	–	–	–	–	–	–	–
Disposals	–	–	–	–	–	–	–	–
Reclassifications	–	–	–	–	–	–	–	–
As of 12/31/2018	**32,410**	**9,825**	**12,485**	**2,666**	**6,501**	**–**	**31,477**	**63,887**
Carrying amounts								
As of 12/31/2018	**22,455**	**8,089**	**957**	**1,331**	**6,753**	**189**	**17,319**	**39,774**
As of 12/31/2017	22,446	8,919	1,064	1,423	7,998	63	19,467	41,913

Goodwill
The Executive Board has to make future-oriented valuation assumptions when testing the CGUs for impairment, taking both internal company experience and external economic data into account. Basically, these valuation assumptions, which are made in the face of uncertainty, may differ from values measured later, which can cause the recoverable amount to drop below the respective carrying amount of the CGU, thereby triggering recognition of an impairment loss. The CGUs' recoverable amounts are equal to their values in use.

The following table provides an overview of the carrying amounts and the interest rates applied to impairment tests:

Reporting segment	Cash generating unit (CGU)	Carrying amounts in € thousand		Discount rate after tax in %		Discount rate before tax in %	
		12/31/2019	12/31/2018	2019	2018	2019	2018
ChemPharm Refining	CGU Salzbergen	16,738	16,738	5.9	5.9	8.3	8.5
ChemPharm Sales	CGU H&R ChemPharm (UK)	282	282	6.8	6.8	8.0	8.1
ChemPharm Sales	CGU Asia	382	371	7.6	7.6	9.6	9.4
ChemPharm Sales	CGU South Africa	5,064	5,064	11.4	11.1	15.1	14.9
Total		**22,466**	**22,455**				

The impairment tests carried out during the reporting period did not result in any goodwill impairments.

In the sensitivity analyses performed on the cash-generating units to which goodwill has been allocated, the effects of reducing future cash flows by 10% and increasing the weighted cost of capital by 10% were analyzed. In the case of the Asia CGU, a 0.2% increase in the cost of capital or a 2.4% reduction in cash flow would cause the recoverable amount to be equal to the carrying value. For the other CGUs, these sensitivities would have no impact. In the previous year, the sensitivity analyses showed no effects.

Other Intangible Assets
The other intangible assets mainly consist of customer relationships with a residual carrying amount of €7.4 million (previous year: €8.1 million) and (production) technologies with a residual carrying amount of €5.6 million (previous year: €6.8 million). The additions in financial year 2019 primarily refer to the acquisition of new software licenses.

(13) Shares in Holdings Valued at Equity

Disclosures on holdings valued at equity consolidated into the H&R Group are based on the Group's uniform accounting and measurement principles. The financial year of the joint ventures is the calendar year, as is the case with H&R KGaA. The following table shows the aggregate financial information of these joint ventures that are classified as immaterial under IFRS 12:

IN € THOUSAND	Joint ventures	
	12/31/2019	12/31/2018
Assets		
Non-current assets	2,297	1,444
Current assets	3,853	2,748
Liabilities		
Non-current liabilities	1,000	272
Current liabilities	2,346	2,354
Cumulative equity	**2,637**	**1,566**
Income	15,777	16,390
Expenses	-14,281	-15,373
Earnings after income taxes	**1,496**	**1,017**
Other comprehensive income	–	–
Total consolidated income	**1,496**	**1,017**

The following table shows the changes in the carrying amounts of holdings valued at equity:

IN € THOUSAND	2019	2018
Carrying amounts as of 1/1	**4,350**	**4,469**
Addition	14	364
Proportionate share in income	530	376
Distribution	-212	-859
Carrying amounts as of 12/31	**4,682**	**4,350**

(14) Liabilities to Banks

Liabilities to banks include the following items:

IN € THOUSAND	Carrying amount as of 12/31/2019	Residual term up to one year	Residual term 2021 to 2024	As of 2025
Loans under KfW programs	86,202	16,305	45,072	24,825
Syndicated loan	72,034	72,681	-647	–
Other loans	23,398	23,398	–	–
Total	**181,634**	**112,384**	**44,425**	**24,825**
of which secured	306			

IN € THOUSAND	Carrying amount as of 12/31/2018	Residual term up to one year	Residual term 2020 to 2023	As of 2024
Loans under KfW programs	92,143	12,484	51,224	28,435
Syndicated loan	27,033	27,628	-595	–
Other loans	30,337	29,976	361	–
Total	**149,513**	**70,088**	**50,990**	**28,435**
of which secured	702			

Loans Under Kfw Programs. The KfW funds arranged by various banks were, or will be, used for capital expenditures that qualify for subsidies under various KfW programs. The KfW funds were provided in the form of fixed-interest loans with interest rates of between 1.5% and 3.6%. The lenders may terminate the loans depending on covenants (net gearing and the equity ratio) or in the event of a change in control.

Syndicated Loan. The syndicated loan was taken out on July 25, 2018, with a maximum volume of €200 million and an initial term of 5 years, including two options to extend the loan by one year in each case. The first extension option was exercised in 2019. The loan volume was increased to €240 million. The syndicated loan serves to secure the Group's financing based on attractive conditions, also, for example, in the event of an increase in working capital requirements triggered by rising oil prices. The syndicated loan is utilized by H&R KGaA and by Group companies via branch lines.

The availability and conditions are linked to certain ratios (financial covenants). In the event of a breach of covenant, the syndicate banks are entitled to terminate the syndicated loan. The syndicated loan is subject to a variable interest rate (EURIBOR + margin). The margin percentage is dependent on certain financial covenants (net debt/EBITDA) and is adjusted after the filing of the quarterly and/or annual reports.

Other Loans. Other loans mainly include a loan redeemable through scheduled installments at fixed interest rates, as well as subsidiaries' variable-rate working capital loans, including drawdowns under branch lines of the syndicated loan secured by credit requests and guarantees.

Collateral. As in the previous year, collateral assignments have been provided for a redeemable loan in South Africa originally totaling the equivalent of €2 million. No collateral has been pledged for the KfW loans or the syndicated loan agreement.

(15) Trade Payables

Trade payables have a term of up to one year and are collateralized by the customary retention of title.

(16) Contract Liabilities

The contract liabilities amounted to €3,403 thousand as of December 31, 2019. The carrying amount as of December 31, 2018, was €2,249 thousand. This amount included €2,249 thousand that was recognized as revenue in the reporting period.

(17) Other Provisions

Changes in other provisions in 2019 were as follows:

IN € THOUSAND	HR Provisions (17.1)	Restructuring (17.2)	Environmental protection (17.3)	Trade-related commitments (17.4)	Miscellaneous provisions (17.5)	Total
As of 1/1/2018	**11,371**	**–**	**395**	**1,419**	**1,385**	**14,570**
of which non-current	3,419	–	–	–	–	3,419
Utilization	-7,034	–	-395	-888	-1,099	-9,416
Reversal	-887	–	–	-91	-283	-1,261
Additions	7,509	1,772	–	276	449	10,006
Compounding/ discounting	39	–	–	–	–	39
Currency translation differences	148	–	–	4	18	170
As of 12/31/2019	**11,146**	**1,772**	**–**	**720**	**470**	**14,108**
of which non-current	3,528	–	–	–	–	3,528

The following cash outflows are expected in connection with the provisions shown on the statement of financial position for 2019:

EXPECTED CASH OUTFLOWS FOR OTHER PROVISIONS

IN € THOUSAND	HR provisions	Restructuring	Environmental Protection	Trade-related commitments	Miscellaneous provisions	Total
2020	7,618	1,772	–	720	470	10,580
2021	408	–	–	–	–	408
2022–2024	602	–	–	–	–	602
2025–2029	1,285	–	–	–	–	1,285
2030 and later	1,233	–	–	–	–	1,233
Total	**11,146**	**1,772**	**–**	**720**	**470**	**14,108**

(17.1) HR Provisions

The short-term HR provisions primarily concern directors' fees, profit sharing, performance bonuses, deferred leave, flex-time credits and professional association contributions.

The long-term HR provisions consist of early retirement pensions and service anniversaries.

(17.2) Restructuring

The provision for restructuring relates to personnel restructuring measures in the Plastics segment in Coburg.

(17.3) Environmental Protection

The provision related to a plot of land, which has since been sold, belonging to SYTHENGRUND GmbH that had in the past been used by third parties to produce explosive materials. The purchase agreement also includes a final agreement on the transfer of liability for contamination resulting from the production of explosive materials on the plot of land to the buyer, meaning that there are no further risks regarding the contamination of the land.

(17.4) Trade-Related Commitments

Provisions for trade-related commitments primarily include provisions for complaints and warranties.

(17.5) Miscellaneous Provisions

Miscellaneous provisions primarily include provisions for waste disposal and other obligations.

(18) Other Financial Liabilities

IN € THOUSAND	12/31/2019 Total	12/31/2019 of which non-current	12/31/2018 Total	12/31/2018 of which non-current
Lease liabilities	48,600	39,648	–	–
Liabilities arising from derivatives	379	–	3	–
Liabilities from company acquisitions	–	–	3,231	–
Miscellaneous financial liabilities	545	136	478	2
Total	**49,524**	**39,784**	**3,712**	**2**

Liabilities from company acquisitions in the previous year related to existing liabilities from the acquisition of the Chinese activities in 2014. The lease liabilities were recognized for the first time in financial year 2019 as part of the first-time adoption of IFRS 16, and made a significant contribution to the increase in other financial liabilities. Lease liabilities amounting to €8,826 thousand were repaid in the financial year under review. Interest expense for lease liabilities in financial year 2019 amounted to €1,287 thousand. Expenses for short-term leases came to €943 thousand in financial year 2019, with expenses of €252 thousand for low-value leases. Further explanatory notes on leases can be found in Notes (2), (3), (11.2) and (33).

(19) Other Liabilities

IN € THOUSAND	12/31/2019 Total	12/31/2019 of which non-current	12/31/2018 Total	12/31/2018 of which non-current
Tax liabilities	1,724	–	5,126	–
Accruals and deferrals	19,598	14,874	8,493	6,318
Other liabilities	866	–	1,423	–
Total	**22,188**	**14,874**	**15,042**	**6,318**

Tax liabilities primarily concern the current VAT and payroll tax liabilities as well as import VAT still due.

Accruals and deferrals mainly include public and private subsidies for investments in H&R KGAa. A substantial amount of these relate to public subsidies for the construction of a flood protection wall and the construction of a proton exchange membrane (PEM) at the refinery site in Hamburg in the amount of €9,143 thousand. The subsidy is financed by ERDF funds and is subject to conditions that H&R KGaA has so far fully complied with and will continue to comply with in the future. A further subsidy was granted for an investment in a production facility at the Salzbergen refinery site in 2019.

(20) Pension Provisions

The Group has both defined-contribution and defined-benefit company retirement plans.

In the case of the defined contribution plans, the Group pays contributions to state or private pension schemes on the basis of legal or contractual provisions or on a voluntary basis. Once it has made the contributions, the Group has no further obligations in this area. Defined contribution pension plans exist mainly in the international companies of the Chemical-Pharmaceutical Division.

All other retirement plans are defined-benefit plans and are the result of various takeovers of business areas and activities. These benefits apply exclusively to companies based in Germany. All of the H&R Group's pension plans are closed or frozen, meaning that H&R KGaA is only exposed to risks arising from pension and salary trends and from demographic changes, based on already existing commitments. With the exception of a reinsurance policy for the pension of a former member of the Executive Board, there are no plan assets, so there is currently no strategy for offsetting risks arising from either assets or liabilities.

H&R KGaA was formed from the merger of Schmierstoffraffinerie Salzbergen GmbH (SRS GmbH) and H&R KGaA in 2001. Due to the works agreement dated October 7, 1986, all employees transferred over from Wintershall by SRS GmbH have a right to company retirement benefits in accordance with the Wintershall pension agreement dated January 1, 1987. The works agreement dated March 9, 1994, terminated the works agreement of October 7, 1986, effective June 30, 1994, thereby closing the pension scheme to newly hired employees. The level of benefits promised mainly depends on the length of service and the last salary drawn. After the termination of the works agreement of October 7, 1986, the entitlements earned were frozen. The pension entitlements of some pensioners are based on the older Wintershall pension charter.

All employees at H&R KGaA have a right to company pension benefits in accordance with the version of the pension agreement dated January 1, 1986, last amended by the works agreement of June 4, 1998. For those drawing pensions, their rights in some cases are based on earlier versions of the pension agreement. The amount of the pension depends on the number of pensionable years of service and the pensionable salary in the last year before leaving the company. Individual employees receive contract pensions based on individual contractual commitments. The benefit requirements and calculations differ in individual agreements.

Pursuant to the December 18, 1978, version of GAUDLITZ GmbH's pension agreement, all employees who joined the company up to June 10, 1978, and whose employment agreements have not been terminated, have the right to a company pension. The amount of the pension depends on the number of pensionable years of service and the pensionable salary in 1978. For those drawing pensions, in some cases their rights are based on earlier versions of the pension agreement.

At SYTHENGRUND Wasagchemie Grundstücksverwertungsgesellschaft Haltern mbH, there is a pension agreement dating from January 1, 1986, in the June 4, 1998, version of Chemie Sythen GmbH's works agreement. The pension amounts depend on the number of pensionable years of service and on the pensionable salary. The pension scheme was closed in 1992 to people joining the company after July 31, 1991.

Pension obligations for a total of 183 employees were transferred to H&R Ölwerke Schindler GmbH effective January 2, 2004, with the takeover of BP's specialty product businesses. Due to various mergers and takeovers, there are a total of 13 different sets of rules and addenda that may apply to these 183 employees. The basic principles are set forth in the following pension agreements, charters, pension schemes, retirement plans, etc.:

- Pension agreement for employees of Aral AG on non-union rates dated June 24, 1991
- Pension scheme for employees of Aral AG on union rates dated October 15, 1985
- Aral AG 1999 pension agreement
- Pension charter dated January 1, 1980, pursuant to the central works agreement dated November 30, 1979
- Additional pension for shift work in accordance with letter f of the pension charter of January 1, 1980, pursuant to the central works agreement dated November 30, 1979
- 1988 pension charter based on the central works agreement dated December 2, 1987

– Pension charter dated January 1, 1988, Section 13 (Sections 40–46), pension for shift work on the basis of the central works agreement dated December 2, 1987
– Retirement plan of Burmah Oil (Deutschland) GmbH dated January 1, 1992
– Salary conversion in accordance with the 1999 Model ARAL pension agreement
– Raab Karcher transitional pension scheme dated March 1, 1989
– Central works agreement dated February 1, 1993 (1975 pension plan)
– Central works agreement dated January 1, 1993 (1986 pension plan)
– Central works agreement dated February 1, 1993 (1990 pension plan)

The pension amount in the aforementioned plans is determined based on the pensionable years of service and on the pensionable monthly remuneration, taking into account the minimum number of years of eligible service.

From BP, H&R Ölwerke Schindler has not only assumed pension commitments for eligible employees of the company (Group 1), but has also agreed an indemnity obligation for some former employees of BP Lubes Services GmbH (pensioners and employees who left the company, Group 3). The company is entitled to reimbursement from BP of the sum posted for the commitments to the aforementioned categories of qualified individuals (see also Note (9)).

H&R Ölwerke Schindler GmbH's obligations to the individual groups as of December 31, 2019, are shown in the following table:

IN € THOUSAND	12/31/2019	12/31/2018
Group 1	46,439	40,210
Group 3	11,572	10,541

Another category (Group 2) comprises employees of BP who were not taken on by H&R Ölwerke Schindler. For the people in Group 2, H&R Ölwerke Schindler has agreed to reimburse BP for the relevant pension obligations which remain with BP, in the amount of €9,911 thousand (previous year: €9,554 thousand). Pursuant to IAS 1.32, these commitments were netted against a receivable from BP arising from a reimbursement claim for pension commitments assumed amounting to €11,572 thousand (previous year: €10,541 thousand), which also arose as part of the takeover of the specialty business (see Note (9)). The net receivable of €1,661 thousand (previous year: €987 thousand) is shown in receivables from BP under other non-current assets. The amount of the obligation may vary due to changes in actuarial assumptions.

The change in the liability under defined-benefit plans is shown below:

IN € THOUSAND	2019	2018
As of 1/1	**78,461**	**79,292**
Current service cost	752	803
Interest expense	1,536	1,553
Reassessments	11,018	57
of which due to changes in financial assumptions	11,564	–
of which due to empirical adjustments	-546	-704
of which due to changes in demographic assumptions	–	761
Payments made	-3,298	-3,244
As of 12/31	**88,469**	**78,461**

The plan assets of H&R KGaA consist of a reinsurance policy for the pension commitment to a former member of the Executive Board that has already been paid up in full and is measured at fair value. The plan assets are not listed on any active market. H&R KGaA does not have any specific risk exposure from these plan assets beyond the normal risk.

The following table shows the changes in the fair value of plan assets:

IN € THOUSAND	2019	2018
As of 1/1	**1,741**	**1,694**
Interest income	35	33
Reassessments	9	14
Contributions to plan	–	–
As of 12/31	**1,785**	**1,741**

The following table shows changes in the carrying amount of the net debt related to defined-benefit retirement plans:

IN € THOUSAND	2019	2018
As of 1/1	**76,720**	**77,598**
Current service cost	752	803
Interest expense	1,501	1,520
Payments made	-3,298	-3,244
Employer contribution to the plan	–	–
Reassessments	11,009	43
of which return on plan assets	-9	-14
of which due to changes in financial assumptions	11,564	–
of which due to empirical adjustments	-546	-704
of which due to changes in demographic assumptions	–	761
As of 12/31	**86,684**	**76,720**

The following valuation parameters were used to determine the pension obligations:

	12/31/2019	12/31/2018
Interest rate	1.1%	2.0%
Salary trend	0.6%–4.0%	4.0%
Pension trend	1.0%–2.0%	2.0%
Retirement age	60/61/63/65	60/61/63/65

The likelihood of leaving is based on the 2018G Heubeck guideline tables. An age-dependent staff turnover probability has been built into the pension provision for employees of H&R Ölwerke Schindler GmbH; it was calculated by the independent expert using tables drawn up by internal experts. For employees at other sites, to simplify matters, by ignoring the likelihood of turnover, the assumption is made that no employee will leave the company before the vesting periods have been met and that thereafter the vested claim will be exactly financed by the existing provision in each case.

There were no plan changes, curtailments or settlements in financial year 2019.

Payments totaling €3,428 thousand are expected for the next financial year (previous year: €3,277 thousand). The average duration of the benefit obligations is 16.22 years.

If the indicators in the table below change as shown, this would cause the following changes in the pension commitment:

CHANGE IN BENEFIT OBLIGATION

	Change in parameter by	12/31/2019 Change in obligation if increased in € thousand	12/31/2019 Change in obligation if decreased in € thousand	12/31/2018 Change in obligation if increased in € thousand	12/31/2018 Change in obligation if decreased in € thousand
Change in discount rate	0.50%	-6,726	7,645	-5,584	6,418
Change in expected salary trend	0.50%	1,151	-1,092	1,044	-990
Change in expected pension trend	0.50%	1,311	-1,202	1,113	-1,028
Change in expected mortality	1 year	-4,016	4,025	756	-781

The above sensitivity analyses are based on the assumption of a change in one parameter while all other parameters remain constant. These are individual scenarios from a broad spectrum of possibilities, so the actual pension commitment trend will most certainly deviate from these forecasts. In addition, it is unlikely that only one parameter will change; in reality, several indicators can be expected to change and affect one another simultaneously. The same method used to calculate the benefit obligations reported on the statement of financial position was used in this sensitivity analysis. It is the same method as used last year.

All pension plans within the H&R Group are closed; no new employees are admitted. There are active employees with a pension claim at the Hamburg and Salzbergen refinery sites and at Gaudlitz GmbH.

(21) Subscribed Capital

As of the reporting date, the subscribed capital totaled €95,156 thousand as in the previous year, divided into 37,221,746 ordinary no-par bearer shares. This corresponds to a notional value of €2.56 per share (previous year: €2.56). There are no different classes of shares; all shares are ordinary shares. The subscribed capital was fully paid in. Each share conveys one voting right.

In the previous period, the subscribed capital increased due to the distribution of a dividend, with shareholders being given the option of receiving the dividend either in cash or in the form of new shares. 72.8% of shareholders made use of the option to receive new shares, leading to a distribution of 685,193 new shares with a dividend entitlement effective January 1, 2018, at a price of €10.864 per share. This increased the subscribed capital by €1,752 thousand to €95,156 thousand.

Approved Capital

The general partner with full personal liability is authorized – with the Supervisory Board's approval – to increase the company's share capital by May 23, 2023, by a maximum of €24 million by issuing new ordinary no-par bearer shares. The issue may be effected in one or more tranches in return for cash and/or contributions in kind (2018 Approved Capital). Within this context, the number of shares must increase in proportion to the share capital. In principle, shareholders must be granted a subscription right; however, the Executive Board may, with the Supervisory Board's approval, exclude the subscription right on one or more occasions under certain conditions. The most recent entry of approved capital 2018 was recorded in the Commercial Register on June 6, 2018.

(22) Capital Reserve

The capital reserve includes the amounts by which the proceeds from the issuance of preferred and ordinary shares exceed their face value. In the current financial year, the capital reserve amounts to €46,687 thousand as in the previous year.

In the previous year, the capital reserve increased by €5,503 thousand from €41,364 thousand to €46,867 thousand due to the scrip dividend. Expenses associated with raising equity in the amount of €267 thousand were taken into account, leading to a reduction in capital reserves in the amount of €190 thousand after deducting deferred taxes of €77 thousand.

(23) Retained Earnings

On the reporting date, retained earnings totaled €170,069 thousand (previous year: €178,675 thousand). The reassessed net liability under defined benefit pension plans recorded under other comprehensive income totaled €-29,239 thousand (previous year: €-22,001 thousand). Other retained earnings totaled €2,293 thousand as of the reporting date (previous year: €2,293 thousand).

Dividends

At the Annual Shareholders' Meeting held on May 24, 2019, a decision was made not to pay a dividend for financial year 2018. The Executive Board and the Supervisory Board will propose to the Annual Shareholders' Meeting on May 31, 2020, that no dividend be distributed for financial year 2019, but to carry forward the distributable profit. This proposal is subject to approval by the shareholders at the Annual Shareholders' Meeting.

(24) Other Reserves

The other reserves amount to €12,310 thousand (previous year: €-639 thousand) and relate to cumulative other comprehensive income. They comprise the currency translation adjustment of €5,776 thousand (previous year: €-639 thousand) and the change in the measurement of equity instruments of €6,534 thousand (previous year: €0 thousand).

(25) Non-Controlling Interests

Non-controlling interests include shares of earnings and capital held by shareholders outside the Group. During the reporting period these changed as follows.

IN € THOUSAND	2019	2018
As of 1/1	**37,312**	**36,991**
Currency translation differences	280	-406
Proportionate share of net profit or loss	1,452	727
As of 12/31	**39,044**	**37,312**

Most of the non-controlling interests are attributable to H&R China Holding GmbH and its subsidiaries. The non-controlling interest in H&R China Holding GmbH totals 49%.

The table below shows a summary of financial data for the H&R China Group:

IN € THOUSAND	12/31/2019	12/31/2018
Current assets	76,490	72,021
Non-current assets	53,242	57,593
Current liabilities	46,317	49,379
Non-current liabilities	3,615	4,056
Cumulative equity	**79,960**	**76,179**
Non-controlling interests' proportionate share of net assets	**39,180**	**37,328**

IN € THOUSAND	2019	2018
Income	160,227	155,759
Expenses	-157,270	-154,278
Profit/loss	**2,957**	**1,481**
Non-controlling interests' proportionate share in income	1,449	726
Other comprehensive income	**572**	**-831**
Non-controlling interests' proportionate share of other comprehensive income	280	-407
Total comprehensive income	**3,529**	**650**
Non-controlling interests' proportionate share of total comprehensive income	1,729	319
Cash flow from operating activities	**9,091**	**-4,586**
Non-controlling interests' proportionate share of cash flow from operating activities	4,455	-2,247
Cash flow from investing activities	**-727**	**-1,519**
Non-controlling interests' proportionate share of cash flow from investing activities	-356	-744
Cash flow from financing activities	**-5,576**	**4,070**
Non-controlling interests' proportionate share of cash flow from financing activities	-2,732	1,994

Notes to the Consolidated Income Statement

(26) Research and Development Costs

In financial year 2019, research and development activities in the Chemical-Pharmaceuticals Division focused on the continued improvement of product quality in the product areas of formulated oils, paraffins and white oils. Research and development costs were incurred in the Plastics Division for testing and experiments on new materials in the plastics area as well as research relating to the possibility of the increased use of plastic parts in various sectors.

In the current financial year, research and development expenses totaled €2,801 thousand (previous year: €2,695 thousand). For further information regarding research and development costs, please consult the pertinent section in the combined management report.

(27) Sales Revenue

Segment reporting gives an overview of the trend in sales revenues by division, type of product and geographical segment (see Note (36)).

No contractual costs or contractual performance costs were capitalized.

(28) Other Operating Income

IN € THOUSAND	2019	2018
Exchange rate gains from foreign currency items	4,968	6,776
Income from services	4,960	5,393
Income from cost transfers	5,611	4,815
Own work capitalized	839	973
Income from acquisition of industrial power plant (business combination)	–	808
Income from the disposal of assets	50	711
Income from the reversal of provisions	4,223	3,605
Income from rents and leases	–	990
Miscellaneous	4,957	3,212
Total	**25,608**	**27,283**

Income from cost transfers results mainly from the reinvoicing of consumption taxes, project-related costs and current costs to the companies in which there is a participating interest, Westfalen Chemie KG and SRS EcoTherm GmbH. Income from services mainly refers to IT services provided.

(29) Cost of Materials

IN € THOUSAND	2019	2018
Raw materials	634,556	655,451
Auxiliary and production materials	16,043	15,100
Products for sale	151,957	162,355
Cost of raw materials, auxiliary and production materials and merchandise purchased	**802,556**	**832,906**
Energy costs	39,891	43,378
Other external services	2,116	1,190
Total expenditures on purchased services	**42,007**	**44,568**
Total	**844,563**	**877,474**

(30) Personnel Expenses

IN € THOUSAND	2019	2018
Wages and salaries	74,369	73,159
Social security payments	12,108	11,777
Defined benefit pension plan expenses	1,055	1,255
Defined contribution pension plan expenses	554	543
Other social security expenses	436	403
Total	**88,522**	**87,137**

Amounts arising from compounding the interest on personnel provisions, particularly pension provisions, are not reported as personnel expenses. They are reported as part of the financial income under net interest income.

AVERAGE NUMBER OF EMPLOYEES

	2019	2018
ChemPharm Refining	710	705
ChemPharm Sales	439	426
Plastics	465	520
Other	28	29
Total	**1,642**	**1,680**

(31) Other Operating Expenses

IN € THOUSAND	2019	2018
Freight costs, dispatch systems and other distribution costs	26,581	26,202
Third-party goods and services	20,408	19,219
Third-party repairs and maintenance	16,949	16,696
Rents and leases	–	8,924
Exchange rate loss from foreign currency items	5,570	7,653
IT costs	7,737	8,455
Legal and consulting fees, expenses for annual financial statements and Annual Shareholders' Meeting	5,729	4,414
Insurance premiums, fees and contributions	4,612	4,273
Cost transfers	4,131	3,954
Expenses for restructuring measures	2,935	–
Other taxes	2,365	2,064
Other personnel expenses	1,908	2,346
Expenses for short-term leases and leases of low-value assets	1,195	–
Leasing costs	–	1,911
Travel expenses	1,779	1,519
Commissions	1,445	1,636
Impairment loss from financial assets	1,891	115
Miscellaneous	8,561	6,978
Total	**113,796**	**115,359**

(32) Financing Income

IN € THOUSAND	2019	2018
Interest income from short-term bank deposits	227	316
Income from loans	29	13
Other interest and similar income	3	10
Total interest income	**258**	**339**
Income from derivatives	–	1,216
Dividends received from equity instruments	–	740
Miscellaneous financing income	1	181
Other financing income	**1**	**2,137**
Financing income	**259**	**2,476**

(33) Financing Expenses

IN € THOUSAND	2019	2018
Interest expense relating to loan interest	4,379	4,614
Interest expense relating to lease liabilities	1,287	–
Interest expense relating to derivatives	–	1,233
Interest expense from the compounding of pension provisions	1,501	1,520
Commitment commission	311	875
Other interest and similar expenses	1,245	1,057
Total interest expense	**8,723**	**9,299**
Expenses related to derivatives	–	–
Miscellaneous financing expenses	168	–
Total other financing expenses	168	**–**
Financing expenses	**8,891**	**9,299**

Further information on leases can be found in Notes (2), (3), (11.2) and (18).

(34) Income Taxes

Since January 1, 2009, the net income of German companies has been subject to a uniform corporation tax rate of 15% plus a solidarity surcharge of 5.5%. In conjunction with a trade tax burden of 13.39% (previous year: 13.28%), this amounts to a combined income tax rate for the Group in Germany of 29.20% (previous year: 29.10%). As in the previous year, income tax rates for companies abroad are between 17% and 30%. Any interest on tax arrears is reported under interest expense. Deferred income tax expense includes changes in deferred tax assets and liabilities.

Income taxes paid or owed in individual countries as well as tax accruals and deferrals are shown as income taxes. These can be broken down as follows:

IN € THOUSAND	2019	2018
Current income tax expenses	-5,022	-8,506
Current income tax refunds	2,032	42
Total current taxes	**-2,990**	**-8,464**
Deferred taxes from temporary differences	174	-627
Deferred taxes from loss carryforwards	4,086	-2,318
Total deferred taxes	**4,260**	**-2,945**
Total	**1,270**	**-11,409**

In accordance with IAS 12.34, a deferred tax asset is recognized for a tax loss carryforward available as of the reporting date if it is considered probable that there will be sufficient future taxable profit against which the loss carryforward can be utilized. At H&R KGaA, domestic tax loss carryforwards led to the recognition of €9,455 thousand (previous year: €5,288 thousand) in deferred taxes, with €70 thousand (previous year: €151 thousand) being recognized for foreign tax loss carryforwards. Overall, in Group companies that reported a loss in the previous year or the current year, a surplus of deferred tax assets totaling €9,803 thousand was recognized (previous year: €106 thousand). Recognition of the deferred tax assets is justified due to the fact that positive tax income is expected in the future due, among other things, to new corporate strategies, which will exceed the impact on earnings caused by the reversal of the temporary differences.

In addition to the deferred tax assets recognized for loss carryforwards, there are also domestic corporation tax losses in the amount of €9,333 thousand (previous year: €1,030 thousand) and trade tax losses of €593 thousand (previous year: €972 thousand), the realization of which is not sufficiently guaranteed and for which therefore no deferred tax claims have been recognized. Based on current laws, the loss carryforwards cannot expire. As of the reporting date, foreign loss carryforwards for which no deferred tax assets have been recognized totaled €14,743 thousand (previous year: €13,291 thousand) and essentially may be utilized without restriction within one to five years. No deferred tax assets were recognized for deductible temporary differences totaling €2,022 thousand (previous year: €22 thousand).

Deferred tax assets of €3,024 thousand were allocated for the remeasurement of defined-benefit pension plans (previous year: €224 thousand) and were recognized in other comprehensive income. The change in equity instruments measured at fair value through other comprehensive income led to a change in the deferred taxes recognized in other comprehensive income (with no effect on profit or loss) in the amount of €-97 thousand (prior year: €58 thousand).

For €12,386 thousand in temporary differences in the retained earnings of subsidiaries (previous year: €12,038 thousand), no deferred tax liabilities were recognized because of existing control pursuant to IAS 12.39.

The expected income tax expense and the reported income tax expense can be reconciled as follows:

IN € THOUSAND	2019	2018
Earnings before income tax	**-1,185**	**33,727**
Theoretical income tax rate: 29.20% (previous year: 29.10%)	**-346**	**9,815**
Effects from tax rate differences	-1,265	-1,382
Effects from previous years’ taxes	-1,643	541
Non-deductible expenses	885	660
Tax-free income	-690	-111
Foreign withholding tax	74	1,340
Effects from changes in tax rates	-19	3
Unrecognized deferred tax assets for loss carryforwards	1,975	650
Utilization of loss carryforwards	–	-128
Other tax effects	-241	21
Income tax expense as per consolidated income statement	**-1,270**	**11,409**

The deferred tax items were attributable to the following individual statement of financial position items:

IN € THOUSAND	12/31/2019 Deferred tax assets	12/31/2019 Deferred tax liabilities	12/31/2018 Deferred tax assets	12/31/2018 Deferred tax liabilities
Intangible assets	37	4,910	54	5,398
Property, plant and equipment	591	28,762	254	11,770
Financial investments	27	548	–	362
Inventories	404	36	505	51
Receivables and other assets	71	146	149	47
Pension provisions	13,130	–	10,182	17
Other provisions	754	13	878	14
Liabilities	17,009	114	199	146
Tax loss carryforwards	9,525	–	5,439	–
Subtotal	**41,548**	**34,529**	**17,660**	**17,805**
of which non-current	37,627	34,284	10,928	17,600
Netting	-30,449	-30,449	-13,391	-13,391
Total	**11,099**	**4,080**	**4,269**	**4,414**

(35) Earnings per Share

Earnings per share are calculated according to IAS 33 by dividing consolidated income by the average number of outstanding ordinary shares during the reporting period.

In the previous year, at the Annual Shareholders' Meeting held on May 24, 2018, H&R KGaA approved the distribution of a dividend of €0.40 per share, which corresponds to a total volume of €14,615 thousand. Shareholders had the choice to either receive the dividend in cash or to receive new shares. 72.8% of shareholders made use of the option to receive new shares, leading to a distribution of 685,193 new shares with a dividend entitlement effective January 1, 2018, at a price of €10.864 per share.

Due to the increase in share capital, the number of ordinary shares in circulation changed as demonstrated below:

	2019	2018
Number of shares issued at the beginning of the period	37,221,746	36,536,553
Issue of new shares effective June 27, 2018	–	685,193
Number of shares issued at the end of the period	37,221,746	37,221,746

Accordingly, the earnings per share figure is calculated as follows:

	2019	2018
Consolidated income attributable to shareholders in € thousand	-1,368	21,591
Average number of shares in circulation	37,221,746	36,889,474
Earnings per ordinary share (undiluted) in €	-0.04	0.59
Earnings per ordinary share (diluted) in €	-0.04	0.59

The diluted earnings per share ratio is equal to the basic earnings per share ratio, because H&R KGaA has not issued any potentially dilutive equity instruments.

Additional Notes

(36) Segment Reporting

Pursuant to IFRS 8, the business segments for reporting purposes were determined by identifying the individual divisions whose performance is monitored as part of internal reporting as a basis for management decisions.

The summary listing of the operating segments subject to separate, internal reporting is performed in accordance with IFRS 8.12, which stipulates that all of the following must be comparable within each segment: the nature of products and services; the types of production processes; the class or category of customers for products and services as well as the methods used to market products and services.

The ChemPharm Refining segment includes both of the chemical production sites in Germany that operate specialty refineries; at these sites, the production processes, organizational structures and distribution networks are closely interlinked. This segment's core products are paraffins, white oils, plasticizers, base oils, lubricants and other crude-oil-based specialty products. In addition to bitumen, by-products of the production process include feedstocks and bunker fuel.

The ChemPharm Sales segment encompasses foreign companies that process chemical-pharmaceutical raw materials and distribute these new products and other products for sale. These are mainly paraffins, plasticizers, wax emulsions and other crude-oil-based specialty products.

The Plastics Division develops, manufactures and sells high-precision plastic parts produced using the injection molding method.

Other activities are those associated with non-operating companies, as well as segments exempt from mandatory reporting. This includes H&R KGaA, which as the holding company is responsible for the strategic leadership of the Group companies comprising the various segments and for deciding how to efficiently allocate funds within the Group. In addition, the Other Activities segment generates income from IT services and from leasing land and buildings.

The list of shareholdings shows which segment each Group company belongs to.

The segments' operating performance and further information on their products are described in the combined management report.

Remarks Concerning Segment Data

Intercompany sales indicate the level of sales between the segments. Sales and revenues between the segments are always accounted for on an arm's-length basis. The segment sales figure is equal to the sum of external and internal sales.

The column "Consolidation/reconciliation" contains eliminations of all intragroup transactions as well as intradivisional receivables and payables.

The valuation principles for H&R KGaA's segment reporting are based on the IFRS guidelines applied in the consolidated financial statements. The geographical distribution of external sales is calculated according to the locations of the respective customers. The assets and investments are assigned to the regions on the basis of the company's domicile.

	Chemical-Pharmaceutical Raw Materials			
	ChemPharm Refining		ChemPharm Sales	
IN € THOUSAND	2019	2018	2019	2018
External sales	655,157	684,294	376,933	374,860
Consolidated sales	9,882	10,201	2	–
Sales revenues by segment	665,039	694,495	376,935	374,860
Depreciation and amortization	-31,912	-24,955	-10,208	-7,742
of which impairments	–	–	–	–
Interest income	3	–	203	308
Interest expense	-7,217	-5,927	-2,972	-2,179
Earnings before income tax	-10,076	15,252	17,760	20,510
EBIT	-2,694	21,009	20,529	22,381
EBITDA	29,218	45,964	30,737	30,123
Capital expenditure*	120,695	84,483	9,905	4,025
Income from holdings valued at equity	120	190	–	–
Shares in holdings valued at equity	764	644	–	–

*Investments in the 2019 financial year also include additions to the right-of-use assets under operating leases as of January 1, 2019, due to the first-time application of IFRS 16.

H&R KGaA generated €492.6 million in sales (previous year: €508.7 million), or more than 10% of consolidated sales, with one customer in the ChemPharm Refining segment. The following table shows how external sales revenue is broken down by region, products and services:

	ChemPharm Refining		ChemPharm Sales		Plastics		Other		Total	
IN € THOUSAND	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Germany	583,293	602,404	8,811	8,146	17,445	20,989	–	–	609,549	631,539
Rest of Europe	67,326	77,180	39,498	33,564	12,759	15,868	–	–	119,583	126,612
Rest of world	4,538	4,710	328,624	333,150	13,028	18,137	–	–	346,190	355,997
Total	**655,157**	**684,294**	**376,933**	**374,860**	**43,232**	**54,994**	**–**	**–**	**1,075,322**	**1,114,148**
Chemical-Pharmaceutical products – core products	328,983	354,783	376,045	373,571	–	–	–	–	705,028	728,354
Chemical-Pharmaceutical products – by-products	235,254	240,504	180	1,289	–	–	–	–	235,434	241,793
Precision plastics	–	–	–	–	43,220	54,780	–	–	43,220	54,780
Provision of services	90,920	89,007	708	–	12	214	–	–	91,640	89,221
Total	**655,157**	**684,294**	**376,933**	**374,860**	**43,232**	**54,994**	**–**	**–**	**1,075,322**	**1,114,148**

	Plastics		Reconciliation					
	Plastics		Other activities		Consolidation/reconciliation		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
	43,232	54,994	–	–	–	–	1,075,322	1,114,148
	–	–	–	–	-9,884	-10,201	–	–
	43,232	54,994	–	–	-9,884	-10,201	1,075,322	1,114,148
	-2,935	-1,298	-357	-165	–	–	-45,412	-34,160
	–	–	–	–	–	–	–	–
	26	18	5,741	5,185	-5,714	-5,172	259	339
	-586	-508	-3,659	-5,858	5,711	5,173	-8,723	-9,299
	-8,348	1,213	-575	-3,097	53	-151	-1,186	33,727
	-7,788	1,691	-2,657	-4,379	56	-152	7,446	40,550
	-4,853	2,989	-2,300	-4,214	56	-152	52,858	74,710
	7,638	2,966	1,300	116	–	–	139,539	91,590
	–	–	410	186	–	–	530	376
	–	–	3,918	3,706	–	–	4,682	4,350

The following table shows how non-current assets are broken down by region:

NON-CURRENT ASSETS

IN € THOUSAND	2019	2018
Germany	383,282	291,918
Rest of Europe	10,232	4,541
Rest of world	77,671	79,402
Group	**471,185**	**375,861**

RECONCILIATION OF OPERATING INCOME TO CONSOLIDATED INCOME

IN € THOUSAND	2019	2018
Operating income of segments (EBITDA)	55,102	79,076
Reconciliation	-2,244	-4,366
Operating income (EBITDA) of H&R KGaA	**52,858**	**74,710**
Depreciation, impairments and amortization of intangible assets and property, plant and equipment	-45,412	-34,160
Financing income	259	2,476
Financing expenses	-8,891	-9,299
Income taxes	1,270	-11,409
Consolidated income	**84**	**22,318**

(37) Notes to the Consolidated Cash Flow Statement

The cash flow statement has been prepared in accordance with the requirements of IAS 7. It shows the origin and use of cash flows.

The statement of cash flows divides the payment streams into three areas: cash flow from operating activities, cash flow from investing activities and cash flow from financing activities.

Cash and cash equivalents include bank balances, cash in hand, and checks, which are identified on the statement of financial position. As of December 31, 2019, €1.0 million (previous year: €0.0 million) was recognized as cash and cash equivalents, which was deposited in pledged accounts and therefore subject to access restrictions.

Non-cash operating expenses and earnings and gains from disposals of property, plant and equipment are eliminated from cash flow from operating activities. Interest received, interest paid and income taxes paid and received are allocated to this area. Cash flow from operating activities is calculated using the indirect method.

Cash flow from investing activities includes cash investments in intangible assets, property, plant and equipment and financial investments.

Cash flow from financing activities includes new borrowings, repayments of financial liabilities and advance payments received from customers, as well as dividend payments.

For additions to fixed assets in the amount of €18,655 thousand (previous year: €10,428 thousand) no cash outflow took place; trade payables in the same amount therefore exist.

CHANGE IN LIABILITIES FROM FINANCING ACTIVITIES

IN € THOUSAND	Liabilities to banks	Advance payments received	Lease liabilities	Total
12/31/2017	**112,735**	**3,479**	**–**	**116,214**
Changes affecting cash flow				
Repayments	-79,360	–	–	-79,360
Borrowings	116,626	2,249	–	118,675
Non-cash changes				
Changes due to fluctuations in interest rates	-244	-26	–	-27
Change in accrued/deferred interest	-244	-3,453	–	-3,697
Netting against trade receivables	–	-3,453	–	-3,453
12/31/2018	**149,513**	**2,249**	**–**	**151,762**
Initial application of IFRS 16	–	–	42,651	42,651
Changes affecting cash flow				
Repayments	-47,415	–	-8,826	-56,241
Borrowings	77,843	3,403	–	81,246
Non-cash changes				
Leasing costs	–	–	14,576	14,576
Changes due to fluctuations in interest rates	276	29	199	504
Change in accrued/deferred interest	1,417	–	–	1,417
Netting against trade receivables	–	-2,278	–	-2,278
12/31/2019	**181,634**	**3,403**	**48,600**	**233,637**

The general form in which the statement of cash flows is presented and the reporting options are exercised has not changed since the previous period.

(38) Financial Instruments

(38.1) General Information

The fair values of financial assets available for sale are derived from stock market prices or are calculated on the basis of recognized valuation methods. In the case of other financial assets, it is assumed that the fair value is equal to the carrying amount. The carrying amount of the financial assets corresponds to the maximum default risk. If default risks of financial assets can be identified, such risks are recognized in the form of impairment losses.

On the liabilities side, financial instruments mainly include liabilities measured at cost.

As an international company, H&R KGaA is exposed to risks relating to prices of commodities and raw materials, currency fluctuations, and changes in interest rates in the course of its ordinary business activities. Details concerning the risk management system used to deal with these risks can be found in Note (46), Risk Management Policy, Capital Management and Hedging Measures.

(38.2) Information Concerning Derivatives

Derivative financial instruments are employed to hedge currency fluctuations from the operating business and risks from changes in interest rates related to financing transactions. The types of instruments employed are primarily currency forward contracts and interest rate hedges (swaps).

There were no hedge accounting items to report as of December 31, 2019.

The following tables show the reported fair values of the various derivative financial instruments as of December 31, 2019, and December 31, 2018.

NOMINAL AND MARKET VALUES OF DERIVATIVES IN 2019

	Nominal value	Currency	Maturity	Market values 12/31/2019 in € thousand
Currency forward contract	HKD 27,494 thousand	HKD	until 2020	25
Currency forward contract	US$8,957 thousand	US$	until 2020	89
Currency forward contract	ZAR 52,527 thousand	ZAR	until 2020	-152
Currency forward contract	US$12,300 thousand	US$	until 2020	-139

NOMINAL AND MARKET VALUES OF DERIVATIVES IN 2018

	Nominal value	Currency	Maturity	Market values 12/31/2018 in € thousand
Currency forward contract	ZAR 15,367 thousand	ZAR	until 2019	14
Currency forward contract	ZAR 15,754 thousand	ZAR	until 2019	-3
Currency forward contract	US$14,252 thousand	US$	until 2019	135
Currency forward contract	HKD 27,518 thousand	HKD	until 2019	16

In financial year 2019, the expense from financial instruments measured at fair value through profit or loss totaled €338 thousand (previous year: income of €1,292 thousand).

(38.3) Maturity Analysis

H&R KGaA's liquidity risk consists of contractually agreed obligations to make future interest and redemption payments on financial liabilities and derivative financial instruments.

The maturities of these undiscounted payment streams are shown in the table below:

2019

IN € THOUSAND	Carrying amount	2020	2021	2022-2024	2025-2029	2030 and later
Trade payables	108,424	108,424	–	–	–	–
Liabilities to banks	181,634	112,384	12,064	32,361	24,825	–
Liabilities arising from derivatives with no hedge accounting items	291	291				
Lease liabilities	48,600	8,952	7,519	12,091	11,432	18,003
Other financial liabilities	633	497	27	82	27	–

2018

IN € THOUSAND	Carrying amount	2019	2020	2021-2023	2024-2028	2029 and later
Trade payables	100,376	100,376	–	–	–	–
Liabilities to banks	149,513	70,088	16,940	34,050	27,435	1,000
Liabilities arising from derivatives with no hedge accounting items	3	3	–	–	–	–
Other financial liabilities	3,712	3,710	–	–	2	–

(38.4) Information on Categories of Financial Instruments

According to IFRS 7, financial assets and liabilities have to be grouped in such a way that a distinction can be made between financial instruments stated at fair value and those valued at amortized cost.

The table below shows the carrying amounts of the separate financial assets and liabilities for each category of financial instrument.

IN € THOUSAND	Valuation category IFRS 9	12/31/2019 Carrying amount	12/31/2019 Fair value (for information)	12/31/2018 Carrying amount	12/31/2018 Fair value (for information)
Financial assets					
Cash and cash equivalents	Measured at amortized cost	94,794	94,794	46,495	46,495
Trade receivables	Measured at amortized cost	85,488	85,488	120,952	120,952
Trade receivables	Measured at fair value through profit or loss	1,393	1,393	–	–
Other financial assets					
Investments in equity instruments	Measured at fair value through other comprehensive income	7,681	7,681	1,050	1,050
Derivatives without hedge accounting item	Measured at fair value through profit or loss	114	114	165	165
Other current securities	Measured at fair value through profit or loss	52	52	52	52
Other financial assets	Measured at amortized cost	20,426	20,426	9,006	9,006
Financial liabilities					
Trade payables	Measured at amortized cost	108,424	108,424	100,376	100,376
Liabilities to banks	Measured at amortized cost	181,634	182,735	149,513	148,397
Other financial liabilities					
Lease liabilities	Measured at amortized cost	48,600	48,600	–	–
Derivatives without hedge accounting item	Measured at fair value through profit or loss	291	291	3	3
Miscellaneous financial liabilities	Measured at amortized cost	633	633	3,709	3,709

Since trade receivables, trade payables, other financial assets, other financial liabilities and cash and cash equivalents generally have short-term maturities, their carrying amounts do not deviate significantly from their fair values on the reporting date. The fair values of other long-term receivables and payables with remaining maturities of more than one year are equal to the present value of the payments associated with the assets and are subject to the relevant current discount rates.

Net Results by Valuation Category. The expenses, income, gains and losses from financial instruments can be broken down into the following categories:

2019

IN € THOUSAND	Financial assets measured at amortized cost	Financial liabilities measured at amortized cost	Financial assets at fair value through other comprehensive income	Financial liabilities measured at fair value through profit or loss	Total
Interest income	256	–	–	–	256
Interest expense	–	-6,740	–	–	-6,740
Impairment/reversal of impairment losses	-1,876	–	–	–	-1,876
Other financial expenses/income	-169	–	6,631	1	6,463
Net income/loss	**-1,789**	**-6,740**	**6,631**	**1**	**-1,898**

2018

IN € THOUSAND	Financial assets measured at amortized cost	Financial liabilities measured at amortized cost	Financial assets measured at fair value through profit or loss	Financial liabilities measured at fair value through profit or loss	Total
Interest income	328	–	–	–	328
Interest expense	–	-6,319	–	-1,233	-7,552
Impairment/reversal of impairment losses	-23	–	–	–	-23
Other financial expenses/income	909	–	6	1,451	2,366
Net income/loss	**1,214**	**-6,319**	**6**	**218**	**-4,881**

(38.5) Additional Disclosures on Financial Instruments

At the first level, fair value measurement is based on quoted prices in active markets for identical assets or liabilities. If this is not possible, second-level measurement is based on observable market transactions for comparable assets or liabilities. At the third and last level, fair values are measured by models that use parameters that are based on non-observable market data to value assets and liabilities.

12/31/2019

IN € THOUSAND	Level 1	Level 2	Level 3
ASSETS			
Financial assets at fair value through other comprehensive income		–	7,681
Financial assets measured at fair value through profit or loss	1,445	–	–
Derivatives without hedge accounting item	–	114	–
Total	**1,445**	**114**	**7,681**
LIABILITIES AND SHAREHOLDERS' EQUITY	**Level 1**	**Level 2**	**Level 3**
Derivatives without hedge accounting item	–	291	–
Total	**–**	**291**	**–**

12/31/2018

IN € THOUSAND	Level 1	Level 2	Level 3
ASSETS			
Financial assets at fair value through other comprehensive income	–	–	1,050
Financial assets measured at fair value through profit or loss	52	–	–
Derivatives without hedge accounting item	–	165	–
Total	**52**	**165**	**1,050**
LIABILITIES AND SHAREHOLDERS' EQUITY	**Level 1**	**Level 2**	**Level 3**
Derivatives without hedge accounting item	–	-3	–
Total	**–**	**-3**	**–**

The Level 2 financial liabilities relate to a foreign currency swap carried on the statement of financial position at its fair value. The fair values are determined using observable market interest rate curves.

The Level 3 financial asset relates to an equity instrument measured at fair value through other comprehensive income. The valuation is carried out using the discounted cash flow method on the basis of the best information available on the reporting date.

There were no reclassifications among the individual levels in financial year 2019.

The following table shows the allocation of the financial instruments' fair values, which are reported on the statement of financial position at their carrying amounts, to the different levels:

ALLOCATION OF FAIR VALUES OF FINANCIAL INSTRUMENTS

IN € THOUSAND	12/31/2019			12/31/2018		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Liabilities and shareholders' equity						
Liabilities to banks	–	182,735	–	–	148,397	–

The fair values are determined using observable market interest rate curves. The expected cash flows were discounted accordingly. There were no reclassifications among the individual levels in financial year 2019.

No offsetting between financial assets and financial liabilities took place, since no such offset agreements exist.

In the operating business, the outstanding balances are continuously monitored at the divisional level, i.e., locally. Insofar as the Hansen & Rosenthal Group handles sales and distribution, details are also integrated into its monitoring systems. Default risks are addressed through corresponding accounting risk provisions. Non-recoverable receivables are derecognized and the impairment is reversed. When a doubtful receivable is collected, the previous impairment is reversed. The maximum default risk is reflected in the carrying amounts of the financial assets reported on the statement of financial position, including free-standing derivatives with a positive market value. As of the reporting date, there were no material agreements in place that reduce the maximum default risk.

(39) Other Financial Liabilities

The other financial liabilities for order commitments for investments came to €10,193 thousand as of December 31, 2019 (previous year: €22,025 thousand).

(40) Contingent Liabilities

On the reporting date, H&R KGaA had joint liability for pension commitments totaling €34 thousand (previous year: €39 thousand).

A portion of the production site in Hamburg is rented. Obligations to clean up and restore the property to its original condition will apply when the rental agreement expires. In the very unlikely event that the lessor gives notice of extraordinary termination or does not renew the long-term rental agreement, this would give rise to claims against the lessor for compensation; as a result, no outflow of resources is assumed and therefore no provision has been set up to cover the obligations to restore the property to its original condition. This situation is regularly monitored by the management.

The supply of the Salzbergen production site with electricity is mainly secured by the operation of an industrial power plant within the parameters of a “Mehrpersonenkonstellation” in which several users procure their energy from the same power plant and which is basically exempt from any EEG levies. The amendment of the Renewable Energy Sources Act (EEG) as of January 1, 2017, stipulates that the preferential treatment of this kind of domestic current production by the EEG is to be dropped under certain circumstances. However, a legal opinion procured by the company finds that the decisive amendment of Section 104 paragraph 4 EEG 2017 is a breach of constitutional non-retroactivity. The H&R Group does not consider the probability of the claim for payment of the EEG levy to be predominantly likely.

(41) Governance Bodies of H&R KGaA

EXECUTIVE BOARD OF H&R KOMPLEMENTÄR GMBH

	Membership of Supervisory and Advisory Boards
Niels H. Hansen Managing Director Hamburg	–
Detlev Wösten Member of the Executive Board (until July 31, 2019) Buchholz	Member of the Advisory Board of Glasgard GmbH, Lollar/Salzböden

SUPERVISORY BOARD OF H&R GMBH & CO. KGAA

	Membership of Supervisory and Advisory Boards
Dr. Joachim Girg Chairman of the Supervisory Board Managing Director of H&R Beteiligung GmbH, Hamburg	–
Roland Chmiel Deputy Chairman – CPA/Chartered Accountant, Partner in Weiss-Walter-Fischer-Zernin Munich	Member of the Supervisory Board of Togal Werk AG, Munich
Sven Hansen Managing Director of Tudapetrol Mineralölerzeugnisse Nils Hansen KG	–
Dr. Rolf Schwedhelm Tax Lawyer and Partner at Streck Mack Schwedhelm Cologne	Chairman of the Supervisory Board of German Lawyer Academy Society for Education, Training and Services (Deutsche Anwalt Akademie Gesellschaft für Aus- und Fortbildung sowie Serviceleistungen mbH), Berlin
Sabine U. Dietrich (as of May 24, 2019) Chartered Engineer	Member of the Supervisory Board of Commerzbank Aktiengesellschaft, Mühlheim an der Ruhr
Dr.-Ing. Peter J. Seifried Chemical Engineer, Independent Consultant (until May 24, 2019)	Chairman of the Executive Board of the German Lubricants Industry Association (Verband der Schmierstoffindustrie e.V./ VSI) Elected Member of the Executive Board of UNITI, the German Association of Small and Medium-Sized Lubricant Manufacturers and Retailers (Bundesverband mittelständischer Mineralölunternehmen e.V.) Member of the Board of Trustees and the Board of Directors of the Oest Group Member of the Advisory Board, Hermann Lother + Co Mineralölhandelsgesellschaft mbH, Hamburg Member of the Advisory Board, Tiramizoo GmbH, Munich
Dr. Hartmut Schütter Consulting Engineer Schwedt/Oder	–

SUPERVISORY BOARD OF H&R GMBH & CO. KGAA (EMPLOYEE REPRESENTATIVES)

	Membership of Supervisory and Advisory Boards
Reinhold Grothus Works Council Chairman of H&R ChemPharm GmbH Salzbergen	–
Holger Hoff Works Council Chairman of H&R Ölwerke Schindler GmbH Hamburg	–
Harald Januszewski Works Council Chairman, GAUDLITZ GmbH Coburg	–

(42) Disclosures of Relationships With Related Parties

Related party transactions were carried out at arm's length. There were no transactions of material significance with unconsolidated subsidiaries.

Most transactions with related parties involve the companies of the Hansen Family (hereinafter referred to as Hansen & Rosenthal) and with joint ventures.

There is a mutual business relationship with Hansen & Rosenthal. The supply of goods for chemical-pharmaceutical products from the Salzbergen site takes place under a long-term distribution and supply contract, by which the relevant Hansen & Rosenthal company purchases the products and then resells them to its end customers in its own name and for its own account. Furthermore, deliveries are made on the basis of a long-term commission contract for the marketing of certain products from the Hamburg site, for which Hansen & Rosenthal receives a commission. Moreover, H&R KGaA subsidiaries provide production, IT and staffing services to the Hansen & Rosenthal Group and vice versa.

Sales revenues from goods and services to Hansen & Rosenthal totaled €497,905 thousand in financial year 2019 (previous year: €514,195 thousand). Most of this amount was for supplies of chemical-pharmaceutical products (2019: €409,062 thousand; previous year: €427,514 thousand) and for contract manufacturing services (2019: €83,516 thousand; previous year: €81,203 thousand). Goods and services purchased from Hansen & Rosenthal in financial year 2019 amounted to €100,261 thousand (previous year: €96,895 thousand). The bulk of this amount was for purchases of chemical-pharmaceutical products (2019: €92,277 thousand; previous year: €88,114 thousand).

As of December 31, 2019, receivables due from Hansen & Rosenthal amounted to €51,246 thousand (previous year: €58,771 thousand); liabilities owed to Hansen & Rosenthal came to €22,891 thousand (previous year: €6,459 thousand).

Goods and services provided to joint ventures generated €986 thousand in sales revenues in financial year 2019 (previous year: €1,109 thousand). Goods and services purchased from joint ventures in financial year 2019 amounted to €6,744 thousand (previous year: €7,243 thousand). These relate primarily to the purchase of energy and IT services.

As of December 31, 2019, receivables due from joint ventures amounted to €3 thousand (previous year: €173 thousand); liabilities owed to joint ventures came to €173 thousand (previous year: €5 thousand).

Supervisory Board and Executive Board. Key management positions are limited to the Supervisory Board and Executive Board of H&R KGaA. Management of the company is provided by the Executive Board of H&R Komplementär GmbH. For performing their tasks, members of the Executive Board received total remuneration of €877 thousand in the financial year (previous year: €1,223 thousand). Of this sum, the performance-related components of the remuneration accounted for €212 thousand (previous year: €453 thousand) and non-performance-related components accounted for €665 thousand (previous year: €770 thousand). The performance-related remuneration includes a sustainability component. The member of the Executive Board receives no share-based remuneration and no pension commitments. There were no expenses associated with terminating the employment agreements of managing directors. As of the reporting date, there was a liability of €113 thousand (previous year: €83 thousand) owed to H&R Komplementär GmbH.

Former members of the Executive Board and their survivors received payments totaling €237 thousand during the financial year (previous year: €203 thousand). For former members of the Executive Board and their survivors, pension commitments amounted to €3,725 thousand (previous year: €3,201 thousand).

Remuneration for members of the Supervisory Board included basic remuneration plus additional compensation for committee work and fees for attending meetings and totaled €465 thousand (previous year: €465 thousand). This was a short-term remuneration.

In addition to their Supervisory Board remuneration, the employee representatives on the Supervisory Board receive fees not related to their work for the Supervisory Board. These fees resulted from the respective employment contracts and totaled €253 thousand in financial year 2019 (previous year: €195 thousand).

As in the previous year, no members of the Executive Board or members of the Supervisory Board had received loans from the company as of December 31, 2019.

Data on the remuneration of members of the Executive Board and the Supervisory Board are provided in the remuneration report, which is an integral part of the combined management report. The remuneration report can be found in the section on other legally required disclosures on page 48.

H&R KGaA has an Advisory Board that provides advice to the Executive Board. Expenses of €126 thousand were incurred for the activities of the Advisory Board in 2019 (previous year: €117 thousand). In financial year 2019, fees paid to members of the governing bodies of H&R KGaA within the scope of consultancy contracts amounted to €93 thousand (previous year: €98 thousand). As of December 31, 2019, liabilities owed to Board members totaled €465 thousand (previous year: €465 thousand). These were short-term amounts.

(43) Statement of Compliance Pursuant to Section 161 of the German Stock Corporation Act (AktG)

The Statement of Compliance with the German Corporate Governance Code required by Section 161 of the German Stock Corporation Act (AktG) was submitted in December 2019. It is published on the Internet at www.hur.com.

(44) Group Audit Fees

The following fees for the services provided by Warth & Klein Grant Thornton AG Wirtschaftsprüfungsgesellschaft were recognized for the financial year:

IN € THOUSAND	12/31/2019	12/31/2018
Audits	408*	370
Other certification or valuation services	18	8
Tax counseling	–	–
Other services	–	–
Total	**426**	**378**

* of which €9 thousand relating to the previous year

The 2019 fee for auditing services charged by the auditors covers, in particular, the statutory audit of the annual financial statements and the consolidated financial statements of H&R KGaA, and the statutory and voluntary audits of the annual financial statements. The other certification services primarily refer to audits under the German Renewable Energy Sources Act for subsidiaries of H&R KGaA.

(45) Exemption from Disclosure Under Section 264, Paragraph 3 HGB

For the following fully consolidated subsidiaries, the company has elected to make use of the option to be exempted from the disclosure requirement in accordance with Section 264, paragraph 3, in conjunction with Section 325 of the German Commercial Code (HGB), and partly made use of concessions regarding the preparation of financial statements:

- H&R Ölwerke Schindler GmbH
- H&R Chemisch-Pharmazeutische Spezialitäten GmbH
- GAUDLITZ GmbH
- H&R Lube Blending GmbH
- H&R ChemPharm GmbH
- H&R Lube Trading GmbH
- H&R International GmbH
- H&R InfoTech GmbH
- H&R South Africa GmbH
- SYTHENGRUND Wasagchemie Grundstücksverwertungsgesellschaft Haltern mbH
- H&R Group Finance GmbH

(46) Risk Management Policy, Capital Management and Safeguards

The operating business and the financing of H&R KGaA are exposed to various financial and market price risks, in particular liquidity and refinancing risks, counterparty default risk as well as risks associated with fluctuations in raw material prices, currency exchange rates, and interest rates. A systematic risk management system is in place to limit these risks. Hedging transactions, among other things, are used to counter them.

H&R KGaA has implemented a Group-wide risk management system which identifies, analyzes and measures these risks so that informed decisions can then be made about actions to take to prevent or limit such risks. The key components of the risk management system are the planning and controlling process, internal Group rules and regulations, and the reporting function. The Group companies are subject to strict risk management. Dealing authorizations, responsibilities and supervision procedures are established on a binding basis in internal guidelines.

The company holds regular conferences on business performance at which the results of operations and potential risks and opportunities are highlighted and targets and control measures are agreed. Derivative financial instruments are also utilized in this context. In this respect, derivative financial instruments may not, as a matter of principle, be implemented for speculative purposes, but instead serve to hedge against risks in connection with the operating business.

The Executive Board defines the Group's equity ratio as the basic parameter for capital management, which in turn is aimed at ensuring that the Group will continue to be able to cover its financing needs for capital expenditures and debt service obligations in the future. At the same time, H&R KGaA strives to maintain a capital structure that optimizes the costs of capital provided by our investors and our lenders, while retaining strategic flexibility. Other key control parameters include net debt and net gearing, i.e., the ratio of net debt to operating income (EBITDA).

The syndicated loans and the bilateral loans require the company to meet financial covenants that also relate to its capital base and net gearing. The financial covenants were fully met both at the reporting date and also during the course of the year.

CAPITAL STRUCTURE

	2019	2018	2017	2016	2015
Net debt/EBITDA	2.42	1.4	0.6	0.4	1.0
Equity ratio (in %)	43.3	48.9	51.7	49.0	45.4
Net gearing	37.4	28.9	16.0	15.1	31.4

Liquidity Risks. H&R KGaA ensures that it has sufficient liquidity by monitoring its liquidity status daily, by maintaining financing facilities that have not been utilized in full and by refinancing expiring loan agreements in a timely manner. Compliance with financial covenants is a crucial part of the financing agreements. If these covenants were to be breached and could not be renegotiated or if alternative sources of financing could not be found on short notice, this would jeopardize the continued existence of the Group. H&R KGaA counters this risk by maintaining a financing structure that includes sufficient equity as well as through measures designed to ensure the sustainability and stability of earnings, such as switching the Salzbergen site to a contract-processing model.

Default Risks. Our risks from delays in payment and/or defaults on the part of our customers are limited by our broadly diversified customer base and the low level of dependence on individual debtors. Strict receivables management by our sales/distribution partner, Hansen & Rosenthal, reduces these risks even more. Based on the information currently available, existing del credere risks are covered through bad debt provisions/allowances for doubtful accounts.

We counter the default risk of banks with which we have arranged credit lines, entered into hedging transactions or invested funds by only entering into larger, long-term financial transactions with banks that have good credit ratings and by spreading larger transactions among several banks.

Raw Materials Price Risks. H&R KGaA is exposed to price fluctuation risks in, among other things, purchases of raw materials, particularly purchases of atmospheric residue and vacuum gas oil. Most supply agreements concluded with customers for specialty products manufactured by the Chemical-Pharmaceutical Raw Materials Division's specialty refineries specify fixed prices for a period of three months at most. Moreover, the production process at a specialty refinery can require up to eight weeks from the date on which raw materials arrive to the date when the finished product has been manufactured. This means that rapid increases in raw materials costs cannot be passed on to the markets immediately, but only with a delay. The relevant price trends are constantly monitored and analyzed. Changes in prices of raw materials can result in the recognition of “windfall losses” and “windfall profits”, which generally balance out over time. The raw materials price risk mainly affects sales revenues in the ChemPharm Refining and ChemPharm Sales segments (see Note (36)).

Currency Risks. The international orientation of H&R KGaA means that its operating activities give rise, among other things, to currency risks resulting from fluctuations between the company’s functional currency and other currencies. In particular, these are encountered in the area of procurement as a result of US dollar transactions. In the trading business, these risks are partially hedged through forward transactions. Hedging is not performed in the production process, as the length of time entailed in the production process means that the intended hedge may be reversed by the time the currency forward contracts are concluded.

For the presentation of market risks, IFRS 7 requires sensitivity analyses showing the impact of hypothetical changes in relevant risk variables on earnings and equity. It is assumed that the portfolio as of the reporting date is representative of holdings for the entire year.

The following table shows the net exposure in the most significant foreign currency as of the reporting date:

NET EXPOSURE

IN € THOUSAND	US$
12/31/2019	-7,269
12/31/2018	-27,785

The net exposure consists of statement of financial position items in the respective currency, which is not the functional currency, less derivatives used to hedge the foreign currency effects of the respective item on the statement of financial position.

The following table shows the effects on the income statement and on equity of exchange rate fluctuations in the currencies most significant to the H&R Group. The effects of projected cash flows for the next twelve months are not included.

		12/31/2019	12/31/2018
IN € THOUSAND	Impact on:	US$	US$
Exchange rate +10%	Consolidated income statement	661	2,526
	Equity	661	2,526
Exchange rate -10%	Consolidated income statement	-808	-3,087
	Equity	-808	-3,087

Interest Rate Risks. H&R KGaA employs variable interest rate facilities, among other things, as part of its financing activities. Interest rate swaps are used as interest hedging instruments to limit risks arising from changes in market interest rates. Such transactions may also be entered into on a decentralized basis within the Group, but require the prior approval of the Executive Board.

A sensitivity analysis for interest rate risk is performed on financial liabilities with variable interest rates. As of the December 31, 2019, reporting date, a hypothetical 0.5% (or 50 basis points) increase in the interest rate would have increased interest expense by €154 thousand (previous year: €119 thousand) and would have reduced the amount of equity shown accordingly.

(47) Events After the Reporting Date

During the period between December 31, 2019, and the date of approval of the consolidated financial statements, there were no events with a material impact on the net assets, financial position or results of operations of H&R KGaA.

(48) Approval of the Financial Statements

The financial statements were approved and released for publication by the management of the general partner with full personal liability on February 28, 2020.

Salzbergen, February 28, 2020

The Executive Board

Niels H. Hansen
Managing Director

Independent Auditor's Report

To H&R GmbH & Co. KGaA, Salzbergen

Report on the Audit of the Consolidated Financial Statements and of the Group Management Report

Audit Opinions

We have audited the consolidated financial statements of H&R GmbH & Co. KGaA, Salzbergen, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2019, the consolidated income statement and consolidated statement of comprehensive income, consolidated statement of changes in group equity and consolidated cash flow statement for the financial year from 1 January 2019 to 31 December 2019, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report which is combined with the management report of H&R GmbH & Co. KGaA (referred to subsequently as "group management report") for the financial year from 1 January 2019 to 31 December 2019. In accordance with the German legal requirements, we have not audited the content of Statement on Corporate Governance pursuant to Section 289f and Section 315d HGB [Handelsgesetzbuch: German Commercial Code] which it is referred to in the group management report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to section 315e paragraph 1 HGB and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2019 and of its financial performance for the financial year from 1 January 2019 to 31 December 2019, and

- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of the Declaration on Corporate Governance pursuant to Section 289f and Section 315d HGB.

Pursuant to section 322 paragraph 3 sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with section 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January 2019 to 31 December 2019. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon, we do not provide a separate audit opinion on these matters.

In the following we present the key audit matters in our view. Our presentation of the key audit matters has been structured as follows:

1 Financial statement risk
2 Audit approach
3 Reference to related disclosures

(1) Impairment Test for Goodwill

1 Financial Statement Risk

In the consolidated financial statements of H&R GmbH & Co. KGaA under the balance sheet line item "Goodwill" goodwill is reported with a book value amounting to EUR 22.4 million. The company allocates goodwill to the relevant cash generating units of the respective business segment. Goodwill is subject to an annual impairment test, in which the values in use are compared to the book values of the respective cash generating unit. To determine the values in use of the relevant cash generating unit, the discounted cash flow method is applied. The future cash flows to be discounted are derived from the current planning of the H&R group. The discount rate is determined by using the weighted average cost of capital of the respective cash generating unit. The legal representatives of H&R GmbH & Co. KGaA concluded that the respective goodwill and the book values of the cash generating units in total are covered by the discounted expected future cash flows at the balance sheet date.

The values in use are accounting estimates which are mainly influenced by the estimation of future cash flows and the discount rate applied and are subject to considerable uncertainty about estimates. Against this background and due to the complexity of the application of the valuation method, in our view, this matter was of particular significance in our audit.

2 Audit Approach

As part of our audit, among other things, we analysed the methodical approach for the execution of the impairment test and the determination of the weighted average cost of capital. We also evaluated the derivation of the forecasted cash flows from the planning of the H&R group. We analysed the planning assumptions of the planning for consistency and reasonableness and assessed the feasibility of significant planned measures against the background of actual and expected circumstances of the relevant markets and our understanding of the relevant economic environment of the cash generating units. Due to the sensitivity of the determined values in use in regard to changes of the discount rate, we under involvement of our internal valuation experts analysed the parameters used and evaluated the calculation model to determine the discount rate. Additionally, we performed own sensitivity analyses for selected cash generating units; the selection was based on the amount of deviations of book values and respective values in use as well as on qualitative aspects.

3 Reference to related Disclosures
The disclosures made by the H&R group concerning goodwill and goodwill impairment are presented in section 3 and 12 of the notes to the consolidated financial statements.

(2) Impact of the First time Adoption of IFRS 16 on the Accounting for Leases

1 Financial Statement Risk
In the consolidated financial statements of H&R GmbH & Co. KGaA as at 31 December 2019 right of use assets with a book value of EUR 54.4 million as well as lease liabilities with a book value of EUR 48.6 Mio. are reported. The first time adoption of IFRS 16 (Leases), accounted for in accordance with the modified retrospective method, had a material impact on the opening balances of the accounting balance mentioned above as at 1 January 2019 and their carry forwards in the financial year. In accordance with the methodology of first time adoption applied, prior years' balances have not been adjusted. Due to a comparably high number of leases agreements, the company installed group-wide processes and controls to ensure the complete and accurate recording of existing lease agreements. In this context the company has enhanced the IT-system group-wide used for accounting purposes to record and account for these leases accordingly. The provisions of IFRS 16 require estimates and discretionary decisions by the legal representatives, especially concerning the exercise of options concerning the term of single lease contracts as well as the discount rate. Due to the uncertainties of the estimates and the complexity of the new requirements of IFRS 16 the impact of its first time adoption on the accounting of leases in our view, this matter was of particular significance in our audit.

2 Audit Approach
As part of our audit, we evaluated the appropriateness of the group-wide accounting and valuation methods derived by the company from the new accounting standard as well as the group-wide implemented processes and controls to record lease contracts and the IT-system used to record and account these leases regarding appropriateness and effectiveness. Furthermore, we have assessed the impact of the first time adoption of IFRS 16. We analysed lease contracts on a test basis, reperformed the identification of rights of use and lease liabilities and evaluated, whether the recording and presentation of leases by the IT-system implemented was carried out complete and accurate. In this regard we assessed particularly the estimates concerning the exercise of options with an effect of the term of leases by inquiring personnel of the company and by the inspection of suitable evidence.

Furthermore we evaluated the processes and controls for the assessment of the discount rate group-wide applied for the determination of lease liabilities concerning appropriateness and effectiveness. Concerning the discount rate group-wide applied we evaluated estimates and assumptions made by the legal representatives with respect to their acceptability and whether they were sufficiently documented, to ensure the adequate accounting of leases under IFRS 16 both in the opening balance as well as in their carry forwards to 31 December 2019.

3 Reference to related Disclosures
The disclosures made by the H&R group concerning the impact of the first time adoption of the new accounting standard IFRS 16 as well as the changes in the beginning balances on the accounting for leases are presented in note 2, the presentation of the carry forwards of rights of use i.e. the lease liabilities in the financial year 2019 are included in note 11.2 and 18 of the notes of the consolidated financial statements.

Other Information

The executive directors are responsible for the other information. The other information comprises

- the Declaration on Corporate Governance pursuant to Section 289f and Section 315d HGB

- the Responsibility Statement pursuant to Section 297 para. 2 sentence 4 HGB and pursuant to Section 315 para. 1 sentence 5 HGB regarding the group management report

which we obtained prior to the date of this auditor's report, and the non-financial report pursuant to section 315b HGB which is expected to be made available to us after that date and the remaining parts of the annual report including the company brochure which are also expected to be made available to us after that date, with the exception of the audited consolidated financial statements, the group management report and our auditor's report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed concerning the other information prior to this audit opinion, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to section 315e paragraph 1 HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.
Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with section 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtainan understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.

- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to section 315e paragraph 1 HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.

- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor by the annual general meeting on 24 May 2019. We were engaged by the supervisory board on 19 September 2019. We have been the group auditor of H&R GmbH & Co. KGaA, Salzbergen, without interruption since the financial year 2015.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Cornelia von Oertzen.

Hamburg, 28 February 2020

Warth & Klein Grant Thornton AG
Wirtschaftsprüfungsgesellschaft

Clemens	***von Oertzen***
Wirtschaftsprüfer	*Wirtschaftsprüfer*
[German Public Auditor]	*[German Public Auditor]*

Attestation by the Legal Representatives

I hereby affirm that, to the best of my knowledge and according to the applicable accounting standards, the consolidated financial statements convey a true picture of the net assets, financial position, and results of operations of the Group and that the combined management report presents the course of business, including the Group's business income and situation, in a way that presents a true and fair view while describing the material opportunities for and risks to the Group's expected development.

Salzbergen, February 28, 2020

The Executive Board

Niels H. Hansen
Managing Director

FURTHER **INFORMATION**

List of Graphics and Tables*

* The tables in the consolidated financial statements are not listed.

Six-Year Overview H&R Group Key Figures (IFRS)

T. 29

		2019	2018	2017	2016	2015	2014
Sales volume (main products)[1]	KT	815	836	832	849	762	697
Sales revenue	€ MILLION	1,075.3	1,114.2	1,025.1	942.7	982.9	1,058.6
Operating income (EBITDA)	€ MILLION	52.9	74.7	97.9	101.4	85.4	31.5
EBIT	€ MILLION	7.4	40.6	54.3	64.2	48.7	5.8
Earnings before income tax	€ MILLION	-1.2	33.7	46.2	54.2	34.2	-7.8
Consolidated net income	€ MILLION	0.1	22.3	29.5	39.3	26.8	-15.6
Consolidated income attibutable to shareholders	€ MILLION	-1.4	21.6	32.1	38.4	26.9	-15.4
Consolidated income per share (undiluted) in €	€	-0.04	0.59	0.88	1.05	0.75	-0.49
Dividend per share	€	0.00	0.00	0.40	0.00	0.00	0.00
Market capitalisation as of 12/31	€ MILLION	194.3	226.7	553.4	535.5	330.9	270.1
Balance sheet total	€ MILLION	838.6	730.4	662.6	648.2	628.8	706.6
Net working capital	€ MILLION	105.9	174.5	153.3	153.4	139.5	127.4
Equity	€ MILLION	363.4	357.4	342.7	317.4	285.4	248.9
Equity ratio	%	43.3	48.9	51.7	49	45.4	35.2
Net debt	€ MILLION	86.8	103.0	53.7	42.1	86.7	107.3
Net gearing	%	37.4	28.9	16	15.1	31.4	45.8
Operating cash flow	€ MILLION	95.9	23.3	46.2	75.5	56.4	-0.4
Free cash flow	€ MILLION	20.8	-46.4	-11.9	36.7	28.4	-10.5

[1] Chemical-Pharmaceutical Raw Materials Division.

Financial Calendar

Our financial calendar is updated on an ongoing basis. Please visit our website www.hur.com in the Investor Relations section for the latest events.

April 8, 2020	Publication of Annual Report 2019
May 15, 2020	Publication of Q1 2020
May 29, 2020	Annual Shareholders' Meeting, Hamburg
August 14, 2020	Publication of Q2 2020
November 13, 2020	Publication of Q3 2020

Contact

If you have further questions concerning our company or if you would like to sign up for the company mailing list, please contact our Investor Relations Team:

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Legal Notices, Addresses

Published by

H&R GmbH & Co. KGaA
Neuenkirchener Straße 8
48499 Salzbergen

Concept/Design

Berichtsmanufaktur GmbH, Hamburg

Translation

Berichtsmanufaktur GmbH, Hamburg

Print

Dräger+Wullenwever p+m Lübeck GmbH & Co. KG

Photographs

Yavuz Arslan, Bochum (refinery photographs)
Achim Kraus, Munich (portrait photographs)

This annual report was published on April 8, 2020.

Disclaimer

Forward-looking statements

This document contains forward-looking statements that reflect management's current views with respect to future events. Such statements are subject to risks and uncertainties that are beyond H&R's ability to control or estimate precisely, such as future market and economic conditions, the behavior of other market participants, the ability to successfully integrate acquired businesses and achieve anticipated synergies and the actions of government regulators. If any of these or other risks and uncertainties occur, or if the assump-tions underlying any of these statements prove incorrect, actual results may be materially different from those expressed or implied by such statements. H&R does not intend or assume any obligation to update any forward-looking statements to reflect events or circumstances after the date of these materials.

Variances for technical reasons

For technical reasons (e.g., conversion of electronic formats) there may be variances between the accounting documents contained in this annual report and those submitted to the electronic Federal Gazette (Bundesanzeiger). In this case, the version submitted to the electronic Federal Gazette shall be binding.

This English version of the annual report is a translation of the original German version; in the event of variances, the German version shall take precedence over the English translation.

Annual Report 2019

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