

2018  
ANNUAL  
REPORT

# TEAM WORK



H&R GMBH & CO. KGAA

2018/2019  
**COMPANY  
MAGAZINE**

# **TEAM WORK**



**H&R GMBH & CO. KGAA**



# 1919–2019

## **A GROWTH STORY WRITTEN TOGETHER**

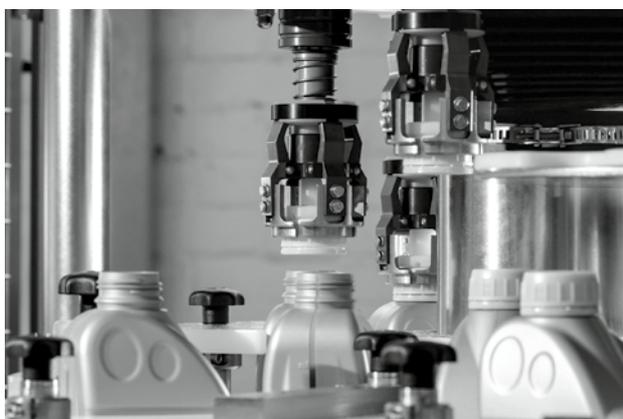
It all started back in 1919, when the Hanseatic family-run business Hansen & Rosenthal began trading in petroleum jelly. Within a very short period of time, the company built up a good reputation as a supplier of mineral oil products, in particular for pharmaceutical oils and petroleum jelly. As it became increasingly better known among its customers, it continued to develop successfully over the decades to establish itself as a broad-based specialist for crude-oil-based specialty products. Today, the H&R Group is a group of companies with international operations – employing a workforce of 1,700 on all continents. Its customers include discerning companies from major sectors such as the automotive, cosmetics, food and medical technology segments. A large number of renowned, but also many small and medium-sized customers from over 100 industries place their trust in H&R's high-quality products. And they rely on the characteristic that repeatedly makes H&R stand out from the crowd: its ability to ensure first-class cooperation.

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**„TEAMWORK IS  
A WORD MADE UP  
OF TWO CONCEPTS.  
AND BOTH ARE  
KEY TO SUCCESS“**



**NIELS H. HANSEN**  
CHAIRMAN OF THE EXECUTIVE BOARD

# EDITORIAL

## **PUBLISHED JUST IN TIME TO MARK OUR ANNIVERSARY YEAR. OUR FIRST CORPORATE MAGAZINE.**

100 years old but still young at heart. Built on experience but committed to pursuing a creative approach at the same time. The ability to focus on objectives but nevertheless explore new avenues too. I am delighted that H&R is able to strike the best possible balance between these different characteristics – this is what makes our company special. We are a family business. At the same time, we are a company that people, who are not members of the family, can invest in by buying shares. This is another aspect that makes us special and means that a larger group of people can join us in celebrating the successful completion of the “100” milestone.

A cosmopolitan outlook is at the heart of our strong Hanseatic tradition. It has led us into the markets that we feel at home in today, as a player that is valued by its partners and is proudly represented by a workforce of almost 1,700. Like an invisible web covering the length and breadth of the H&R world, it is countless personal relationships that will continue to provide us with even more impetus for additional growth as a strong team in the future, too.

Our Hanseatic roots also, however, make us committed to commercial stability. Some might think that makes us a bit boring. We like to know that we are well prepared for

any entrepreneurial steps we take, which means that we don't follow trends blindly. But in an environment that has become so difficult to predict, this is the approach we feel comfortable with. We are focused on long-term successes. This is a strategy that has served us well to date. And I am sure that it is one that we will stick to in the future.

Our products are needed in a large number of industries, which makes our day-to-day work interesting and varied. The magazine that we now want to publish on a regular basis gives you an insight into our world.

The fact that H&R is the company it is today is eminently thanks to the particularly effective collaboration between our employees in 41 locations worldwide. Day in, day out, they help to ensure that we can keep the promises we make to our customers, while continually providing our company with new impetus to ensure that we remain on the path to success. This also explains why the name given to this magazine was a very deliberate decision.

I am looking forward to successfully shaping the next few years at H&R in TeamWork with my employees, but also in TeamWork with you, our co-shareholders, partners and customers.

# THERE WHEREVER YOU NEED US

**CLOSE & FAST** While there is no doubt that long-standing customer relationships and product quality are helpful, it has been some time now since these two factors alone were enough to guarantee customer loyalty. Proximity to customers and speed are equally important. And that's exactly why there are almost 1,700 H&R employees working across the globe as part of a seamless, well-established network.

Although today's modern technology allows us communicate to each other digitally whenever we want, personal contact is a particularly important factor in successful collaboration – both internally and externally. This is why our managers spend a large amount of their time traveling the globe to address matters onsite, discuss customer requests, and observe market developments.

Our sales staff enjoy particularly close contact with our customers: They use regular visits to get direct feedback from customers and then pass this valuable information on to the product development/production team without further ado. This allows any defects to be checked and

remedied as soon as possible and also means that any ideas that a customer has given us can progress to the next development phase just as quickly.

The principles of customer communication include assigning each individual customer a dedicated point of contact that they can contact at any time. Contacts are assigned as early on as during the contract negotiation phase and are allocated to the customer in the Group-wide IT systems with binding effect.

In order to ensure that everything runs like clockwork even when several different sites are involved, clear – and ideally efficient – processes and a shared concept of teamwork are essential. The H&R code of conduct also helps to ensure this. It provides employees in the various countries with guidelines for their day-to-day working lives and ensures that their actions are founded on the principles of trust and respect. It also forms the basis for collaboration with our business partners in the spirit of trust so that cooperations can evolve into long-term customer relationships.

# 400 METERS



**JENS  
BRZEZINSKI**  
SHIFT  
SUPERVISOR  
**HAMBURG**

A product covers a distance of 400 meters from the first plant until the last step in the production process at our site in Neuhof.



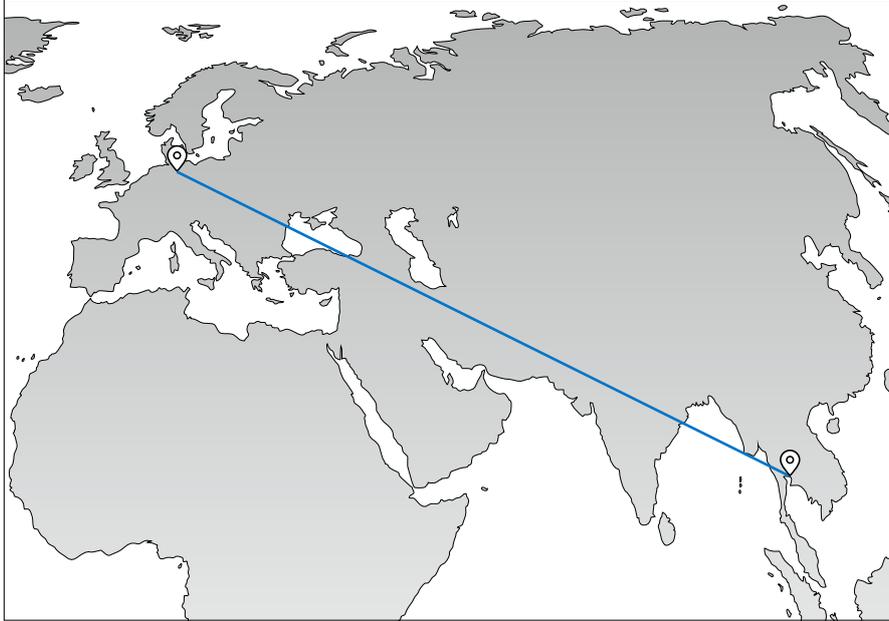
**HAMBURG**  
By-products and end products are stored in the on-site tank farm.

H&R's purest product is medical white oil. It is produced in numerous processing steps in a line of facilities covering a distance of 400 meters in total. The last processing step involves the hydrogenation and desulfurization of the white oil.

# 8,654 KILOMETERS

PROCESS OILS

HAMBURG



We share our expertise in the production of plasticizers with our partners in Thailand, located 8,654 kilometers away.



PROCESS OILS

THAILAND

Our label-free plasticizers are safe for humans and the environment and serve as an example of H&R's innovative strength and sustainability. They are used, for example, in tire manufacturing to make the tires stronger and more elastic and to improve their grip.

With more than  
17,000 components,  
crude oil is  
one of the most  
complex composition  
of organic material  
occurring naturally  
on earth.



1

raw material



**PETROLEUM JELLIES AND WHITE OILS** • PIONIER® 1761 • PIONIER® 5464 • PIONIER® 17146 • PIONIER® 5353 • PIONIER® 7646 • PIONIER® 3476  
 PIONIER® 5370 • PIONIER® 5741 • PIONIER® 17004 • PIONIER® 8693 • PIONIER® 1730 • PIONIER® 17291 • PIONIER® 17292 • PIONIER® 17293  
 PIONIER® 17241 • PIONIER® 17242 • PIONIER® 17106 • PIONIER® 1748 • PIONIER® 17122 • PIONIER® 17240 • PIONIER® 5671 • PIONIER® 17106  
 PIONIER 38005 • PIONIER® 7467 • PIONIER® 7321 • PIONIER® 7916 • PIONIER® 7878 • PIONIER® 2016 N • PIONIER® 2003 • PIONIER® 1618  
 PIONIER® 20 • PIONIER® 0030 SYN FG • PIONIER® 4281 • PIONIER® 7028 P • PIONIER® 2076 P • PIONIER® 2076 N  
 PIONIER® 2079 P • PIONIER® 6301 • PIONIER® 6301 N • PIONIER® 7860 • PIONIER® 2071 P • PIONIER® 2071 N • PIONIER® 2070 P  
 PIONIER® 1155 • **COSMETIC AND PHARMACEUTICAL SPECIALITIES** • PIONIER PLW • PIONIER PLW ORAL PLUS • PIONIER GEL 6 PAO  
 PIONIER GEL 12 PAO • PIONIER GEL • 11100 PIONIER GEL 11101 • PIONIER NOG • PIONIER MCT • PIONIER IPM • PIONIER IPP • PIONIER OLO  
 PIONIER DO • PIONIER ODD • PIONIER CP • PIONIER ST • PIONIER MAA • PIONIER MAA WEICH • PIONIER MAA ST • PIONIER MAA INDUSTRIE  
 PIONIER KWH SOFT • PIONIER KWH AP • PIONIER SVE • PIONIER SVE SOFT • PIONIER WWH SOFT • PIONIER WWH N • PIONIER 1053  
 PIONIER 1053 MCT • PIONIER 1533 • PIONIER KW 2020 • PIONIER KW 2020 • PIONIER T-HBN • PIONIER T-0150 • PIONIER T-0145  
 PIONIER OW 350 • PIONIER 1033 • PIONIER 5300 • PIONIER L-15 • PIONIER T-HWO • PIONIER ETOK ADD • PIONIER GMS SE • PIONIER NP 37 G  
 PIONIER NP 37 S • PIONIER PIH ADD • **WAXES AND EMULSIONS** • TUDAMELT 48/50 • TUDAMELT 50/52 • TUDAMELT 52/54 • TUDAMELT 54/56  
 TUDAMELT 56/58 • TUDAMELT 58/60 • TUDAMELT 60/62 • TUDAMELT 62/64 • TUDAMELT 64/66 • TUDAMELT MW 7520 • TUDAMELT MW 7525  
 TUDAMELT MW 8020 • TUDAMELT MW 8030 • TUDAMELT MW 8050 • TUDAMELT MW 8515 • TUDAMELT T2101 • TUDAMELT T2102  
 TUDAMELT T2301 • TUDAMELT T2302 • TUDAMELT T2401 • TUDAMELT T2402 • TUDAMELT T4301 • **PROCESS OILS** • PIONIER® 1998  
 PIONIER® 7725 • PIONIER® 3042 • PIONIER® 3141 • PIONIER® 4165 • PIONIER® 3267 • PIONIER® 4222 • PIONIER® 5107  
 PIONIER® 5128 • PIONIER® 5138 • PIONIER® 4353 • PIONIER® 4357 • PIONIER® 4358 • PIONIER® 8176 • PIONIER® 8186 • PIONIER® 8177  
 PIONIER® 6710 • PIONIER® 6709 • PIONIER® 6709 AP 72 • PIONIER® 6709 D • PIONIER® 9043 • TUDALEN® 3268 • TUDALEN® 3244  
 TUDALEN® 3246 • TUDALEN® 3247 • TUDALEN® 2081 • TUDALEN® 3257 • TUDALEN® 3261 • TUDALEN® 3262 • TUDALEN® 3245  
 TUDALEN® 3248 • TUDALEN® 2083  
 TUDALEN® 424 • TUDALEN® 3250  
 TUDALEN® 3263 • TUDALEN® 325  
 TUDALEN® 11 • TUDALEN® 500 TQ  
 TUDALEN® 1927 • PIONIER® WK 9054 • PIONIER® WK-9056 • PIONIER® 3161 • PIONIER® 3151 • PIONIER® 3149 • PIONIER® 3054  
 PIONIER® S 9000 • PIONIER® S-9001 • PIONIER® S-9002 • PIONIER® S-9005 • PIONIER® S-9006 • PIONIER® S-9007 LVD • PIONIER® S-9008LVD  
 PIONIER® S-9009 AR • PIONIER® S-9010 AR • PIONIER® S-9011 AR • PIONIER® S-9012 ARPIONIER® S-9013 AR • PIONIER® S-9014 AR  
 PIONIER® S-9015 AR • PIONIER® S-9016 AR • PIONIER® S-9017 AR • PIONIER® S-9018 AR ST • PIONIER® S-9019 AR ST • PIONIER® S-9020 AR ST  
 PIONIER® S-9021 AR ST • TUDALEN® 65 • TUDALEN® 81 • PIONIER® N-9072 • PIONIER® N-9073 • PIONIER® N-9074 • PIONIER® N-9075  
 TUDALEN® B 8013 EXTRA • TUDALEN® B 8014 EXTRA • TUDALEN® C-130 • TUDALEN® C-830 • TUDALEN® 4153 • PIONIER® 2109  
 PIONIER® 1998 • PIONIER® 7725 • PIONIER® 3042 • PIONIER® 3041 • VIVATEC® 500TDAE • VIVATEC® 400TDAE • VIVATEC® 180TDAE  
 TUDALEN® SX 500TDAE • TUDALEN® 4392 • TUDALEN® 5138 • TUDALEN® 5217 • TUDALEN® 5218 • TUDALEN® 5219 • TUDALEN® 5222  
 TUDALEN® 48 • TUDALEN® 58 • TUDALEN® 1912 • TUDALEN® 3918 • TUDALEN® 10/20 • TUDALEN® 1968 • TUDALEN® 12 • TUDALEN® 13  
 TUDALEN® 23 • TUDALEN® 115 • TUDALEN® 3912 • TUDALEN® 15 • TUDALEN® 4073 • PIONIER® 3192 • PIONIER® 3209 • PIONIER® 3138  
 PIONIER® 3148 • PIONIER® 3208 • PIONIER TP 130 B • PIONIER TP 130 C • PIONIER TP 130 N • PIONIER TP 130 NTW • PIONIER TP 130 M  
 PIONIER TP 130 J • VIVAMAX 5000 • VIVAMAX 5100 • TUDALEN® 4225 • TUDALEN® 4226 • VIVATEC® 200 • JUNIOR BH 105 **CABLE FILLING**  
**COMPOUNDS** • INSOJELL® 73 • INSOJELL® 80 • INSOJELL® 2332 • INSOJELL® 3332 • INSOJELL® 3582 • INSOJELL® 5743 • OPTIFILL® 5209  
 OPTIFILL® 5264 • OPTIFILL® LS 10 • OPTIFILL® QUARTZ • OPTIFILL® H2000 X2 80 • OPTIFILL® H210 • NAPELEC C • ND 424 • ND 321 SA • T 3788  
 T 3788 II • STRANDBLOK • DE 5 • DE 7 • DE 10 • FLOODING COMPOUND E • FLOODING COMPOUND 48 • FLOODING COMPOUND 50  
 FLOODING COMPOUND 85 • T 3544 • AQUASWELL 50A • QUASWELL 75A • QUASWELL 100 • INSOSWELL **MINERAL-OIL TRADE/INDUSTRY**  
 SRS Wiolan GT • SRS Wiolan CA • SRS Wiolan WT • SRS Wiolan CD • SRS Wiolan KF • SRS Wiolan CE • SRS Wintal UG • SRS Wiolan CN  
 SRS Wiolan CM • SRS ErsolanEP • SRS Wiolan MOEP • SRS Wiolan HF 32 DB • SRS ERSOLAN SYNTH GF • SRS Wiolan HF 32 SYNTH  
 SRS Wiolan HN • SRS Wiolan HSEP • SRS Wiolan HX • SRS Wiolan HV • SRS Wiolan HG • SRS Wiolan HVG • SRS Wiolan H-540 • SRS Wiolan HE 46  
 SRS Wiolan HB • SRS Wiolan HVX • SRS Wiolan TH • SRS Mihatherm WU • SRS Wiolan IF 10 • SRS Mihagran FO 2320 3 KOR • SRS Calibration Fluid  
 SRS Wiolan BF 10 • SRS Calibration Fluid CV • SRS Wiolit Sägekettentaftöl • SRS Wiolit BIOLUB SYNTH 68 • **CONSTRUCTION INDUSTRY**  
 SAHARA® GT • SAHARA® LS • SAHARA® Geoblok • VIVALITE® 70 • VIVALITE® 72 • Vivashield 9452 • Vivashield 9462 • Vivashield 9468  
 Vivashield 9552 • Vivashield 9562 • Vivashield 9568 • Vivashield 9652 • Vivashield 9662 • Vivashield 9668

# Products



# THE PERFECT FIT

**CUSTOMER-SPECIFIC & TAILOR-MADE** The number of products that H&R offers its customers today is several times larger than the number of products it offered 20 years ago. And despite the large number of products, each individual one of them is tailored to suit the exact needs of the customer concerned. How do we manage this?

If we were to answer the question as to how we achieve the “perfect fit” in a recipe, then we’d have to mention three ingredients: the ability to listen, meticulous attention to detail and, of course, experience of the subject matter.

The ability to listen: For our employees working in sales/distribution, but also for those working in H&R’s manu-

facturing operations, the ability to pay close attention to customers’ requirements and wishes is a key skill. H&R products are used in more than 100 industries. And each industry has its own specific features, just as the individual customers in that industry do. Listening closely enough to pick up on these differences and then translate them into products never ceases to be a challenge.

Meticulous attention to detail: Bearing in mind that H&R has only one base product that it uses in processes spanning multiple stages to create increasingly more refined products, then it seems logical that all of these processes involve detailed work. Even the smallest fluctuations in temperature or pressure can change a product and its properties considerably. Precise system settings and close

collaboration between employees ensure that the product that emerges at the end of the processes is exactly the product that the customers ordered.

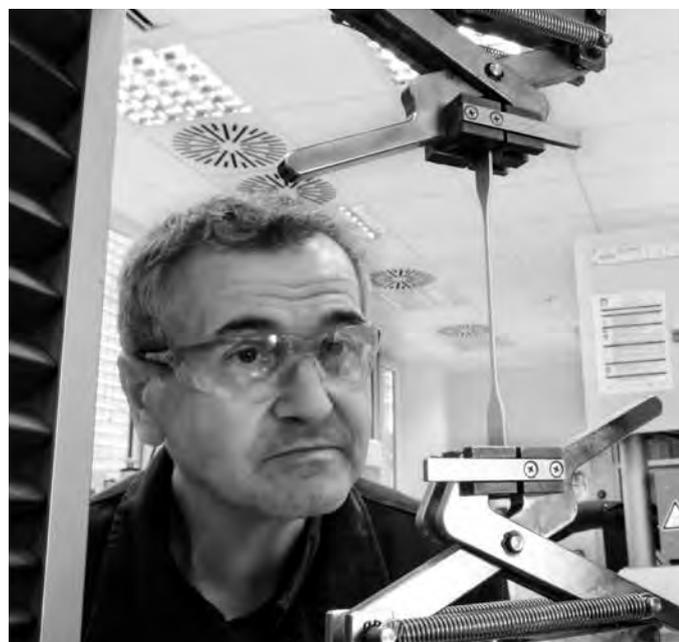
Experience of the subject matter: As professionals, our employees know exactly what they're doing. This is something that H&R's customers can rely on. Something else that our employees offer is long-standing experience, giving them the intuition needed to handle the raw materials and production systems. This goes further to ensuring that production operations are in safe hands.

## NEW PRODUCTS THANKS TO NEW REQUIREMENTS

Every H&R site is responsible for some of the research and development (R&D) activities that the Group has to perform. Our site in Neuhof in Hamburg focuses on process oils and waxes as well as on new technologies. This site-specific specialization makes it easier for H&R to tailor products to suit its customers and regions while further improving the raw material yield at the same time. When engaging in its research activities, the company also keeps an eye on the overall economic conditions too.

Customer requirements are constantly changing – due to their own initiatives and due to the wishes of their customers but also due to external factors such as changes in legislation or norms.

An important customer group remains the automotive industry. This sector needs plasticizers and specialty waxes for a whole range of areas:







non-evaporating plasticizers for vehicle interiors, plasticizers for highly abrasion-resistant technical rubber products that have to be able to function in the engine compartment at permanently high temperatures and, of course, car tires. This is an area in which the requirements are particularly high and diverse. Car tires are a safety component that has to be absolutely fail-safe. Plasticizers influence safety aspects such as traction in warm or cold conditions, shorten the braking distance and improve tire grip when driving through curves.

Together with specialty waxes, they improve aging-resistance, meaning that the tires last longer. Ultimately, tires use up around 25% of a vehicle's energy, be it gasoline or electricity, when the vehicle is moving. Plasticizers play a decisive role in this respect, too, helping to reduce CO<sub>2</sub> emissions.

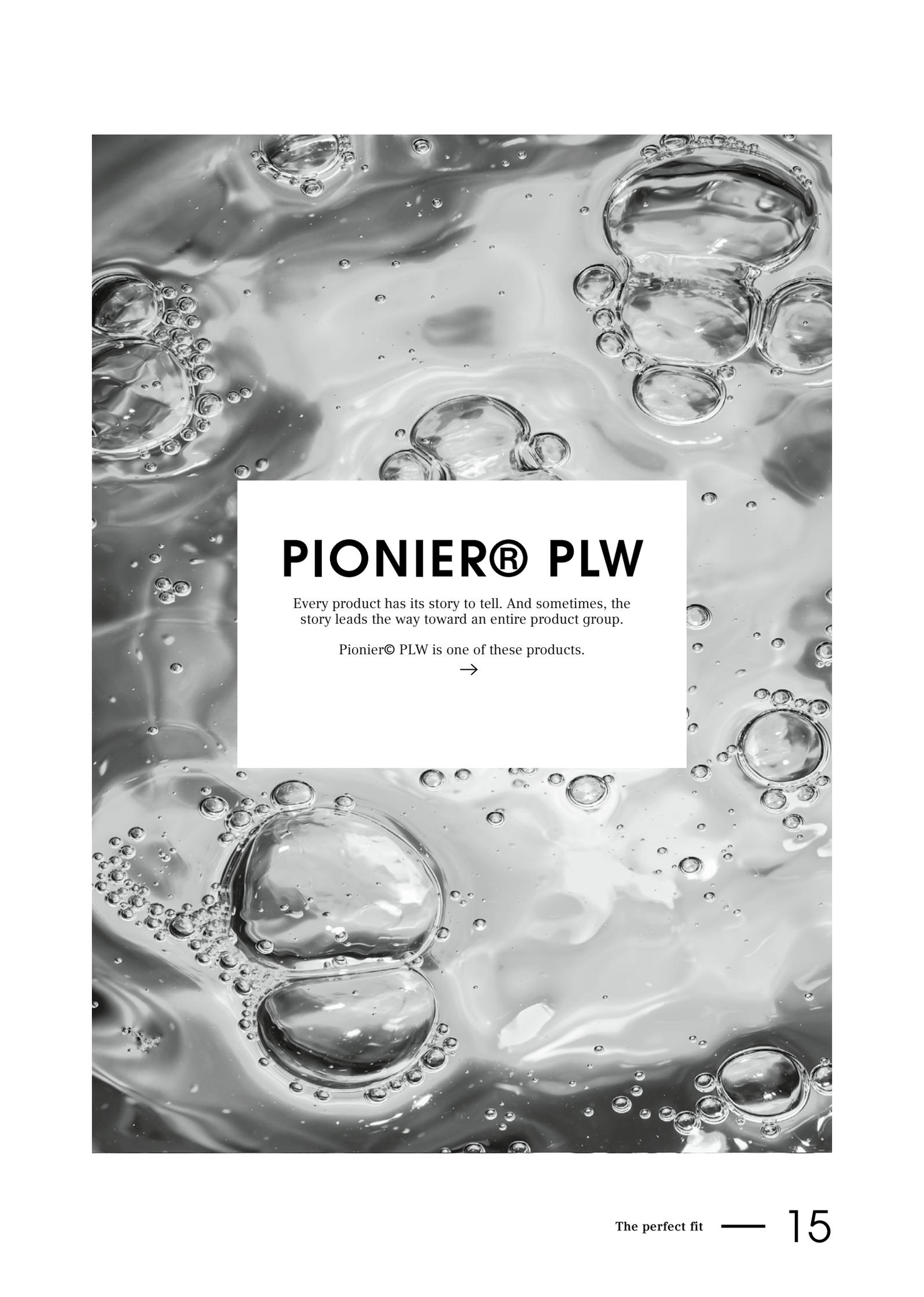
### **GOOD COLLABORATION PAVES THE WAY TOWARDS GOOD PRODUCTS**

H&R is valued on the market as a player who uses regular face-to-face customer visits to achieve a particular level of proximity to its customers, constantly reinforcing the foundation for long-standing business partnerships based on trust.

The intensive dialog between sales departments and the internal specialist departments ensures expert responses to customer inquiries and guarantees a reliable flow of information from the customer to the specialist areas of the company.

The product development team is always on the lookout for new high-quality products for H&R's customers. As part of this quest, it maintains close contact with colleagues from the process technology team, who ensure that raw material yields and, as a result, added value are at optimum levels.

Internal communication between the various H&R departments combined with direct collaboration with customers allows the product management team to implement product tracking in a responsible and competent manner. Just as the requirements that existing products have to meet are changing, so, too, are the statutory and normative requirements. In a Group with global operations, these changes have to be constantly monitored and the corresponding conclusions drawn.



# PIONIER® PLW

Every product has its story to tell. And sometimes, the story leads the way toward an entire product group.

Pionier® PLW is one of these products.





→ The path that led to Pionier© PLW is typical of the way many products emerge at H&R: As part of long-standing collaboration based on trust within the team and with discerning customers, the company gradually built up its knowledge of the particular problems associated with the raw materials and their processing. At the same time, it became increasingly willing and able to use this knowledge to create new products. A period of research and testing followed. And after many years of development work, the product was ready to launch on the market.

The production of Pionier© PLW started in August 1984. This led to the establishment of a completely new production branch involving specialty products that form the basis for a very large number of cosmetic and pharmaceutical creams and lotions to this day.

### **A PRODUCT WITH A WHOLE NUMBER OF POSITIVE CHARACTERISTICS**

Pionier© PLW is a medical white oil that H&R turns into a gel; the special gel formulation allows it to be rubbed into the body without applying pressure, allowing the active agents to penetrate quickly. Unlike petroleum jelly, the viscosity of Pionier© PLW is also less reliant on temperature, meaning that the preparations based on the gel can be used just as easily in winter as on a hot summer's day. Excellent skin and mucous membrane tolerance round off this product's positive characteristics. Pionier© PLW was included in the German Pharmacopoeia back in 1990 thanks to these particular advantages and the product's good track record in everyday use.

Unlike many other ointments and creams, Pionier© PLW can be combined in any ratio with virtually all solids and lipophilic liquids. This makes it an ideal carrier for problematic substances such as active agents to treat rheumatism, essential oils or similar substances.

### **CUSTOMIZED FORMULATIONS**

Many new customers have also developed an interest in Pionier© PLW over the years. Why? The product provides them with an ideal basis that can be adapted accordingly for the purposes of their own preparations.

The product's qualities ultimately inspired H&R to combine Pionier© PLW with suitable emulsifiers to offer it as a ready-made emulsion base, allowing customers to add their own oils to the formulation. Today, the company works with them to produce formulations on this basis that are customized to meet special demands and requirements in its large technical application laboratory.

One particular advantage is that many of these emulsion bases can be turned into creams, ointments and lotions without having to be heated or stirred until cool afterwards. The positive response to this development among the company's customers drove the rapid continuation and, in particular, the expansion of the range to feature numerous similar products.

# IT'S ALL ABOUT...



SINCE  
**1979**

**RUDI KRUPKE;**  
REFINERY OPERATOR

Rudi Krupke spent 38 years as a refinery operator at H&R and, as a retiree, helped to train young colleagues within the company up until May 2018. As an operator, he was mainly responsible for controlling the facility and monitoring its operation. This also included performing technical checks on power units and providing support with maintenance and repair work.

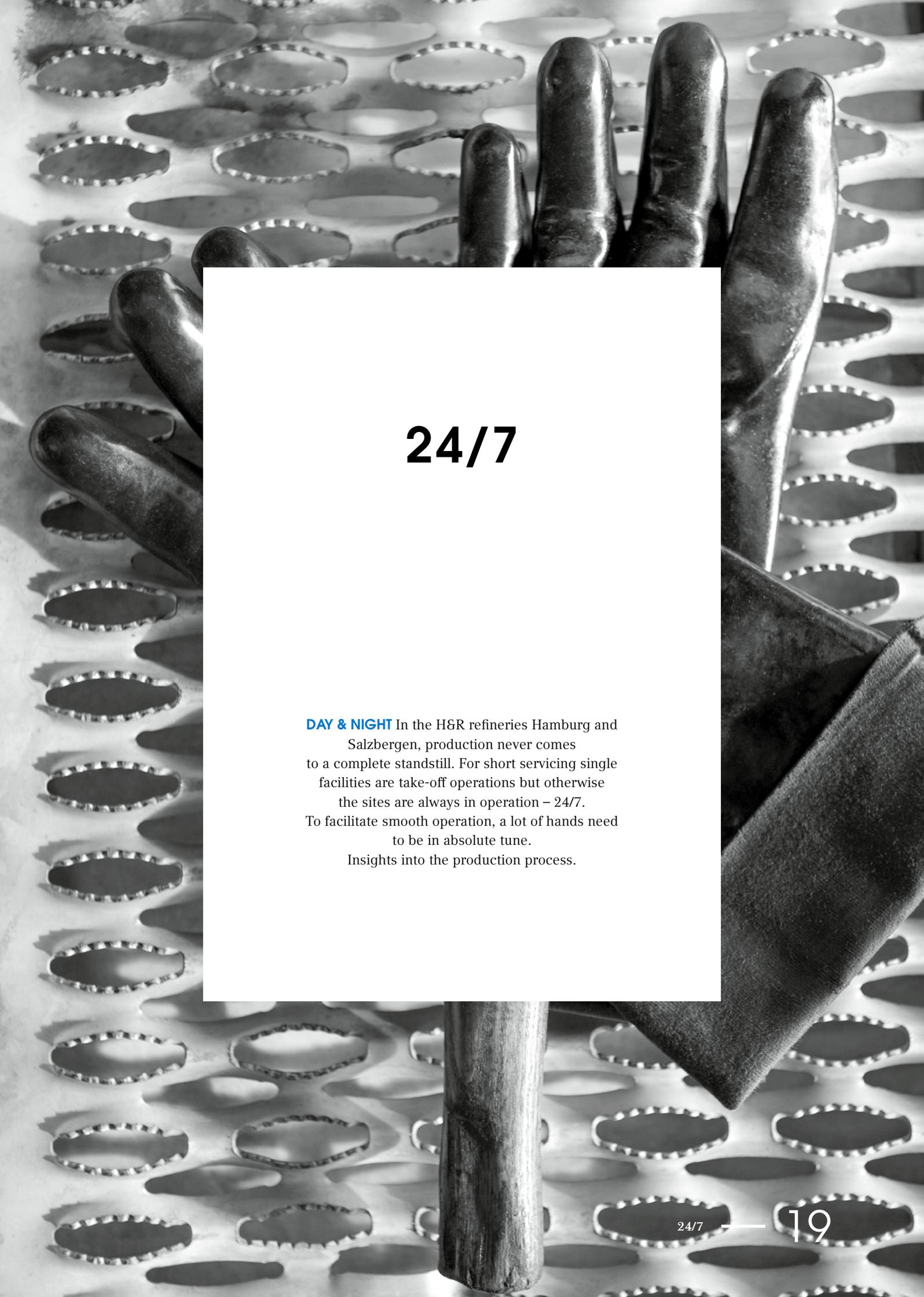
# ... THE RIGHT MIX



SINCE  
**2014**

**JACQUELINE  
BURGEMEISTER,**  
REFINERY OPERATOR

Jaqueline Burgemeister started her vocational training at H&R and now supports the controlling of the company's facilities in her role as a refinery operator. She is responsible for ensuring optimum facility utilization levels and for controlling and monitoring the facility parameters. Taking samples for quality control purposes and preparing reports form an essential part of her duties.



# 24/7

**DAY & NIGHT** In the H&R refineries Hamburg and Salzbergen, production never comes to a complete standstill. For short servicing single facilities are take-off operations but otherwise the sites are always in operation – 24/7. To facilitate smooth operation, a lot of hands need to be in absolute tune. Insights into the production process.

# 10:47

## TANK WAGON LOADING POINT

A rolling pipeline spanning a distance of 280km links the Hamburg refinery with Salzbergen. Tank wagons from Hamburg arrive in Salzbergen day and night to collect raw material supplies.

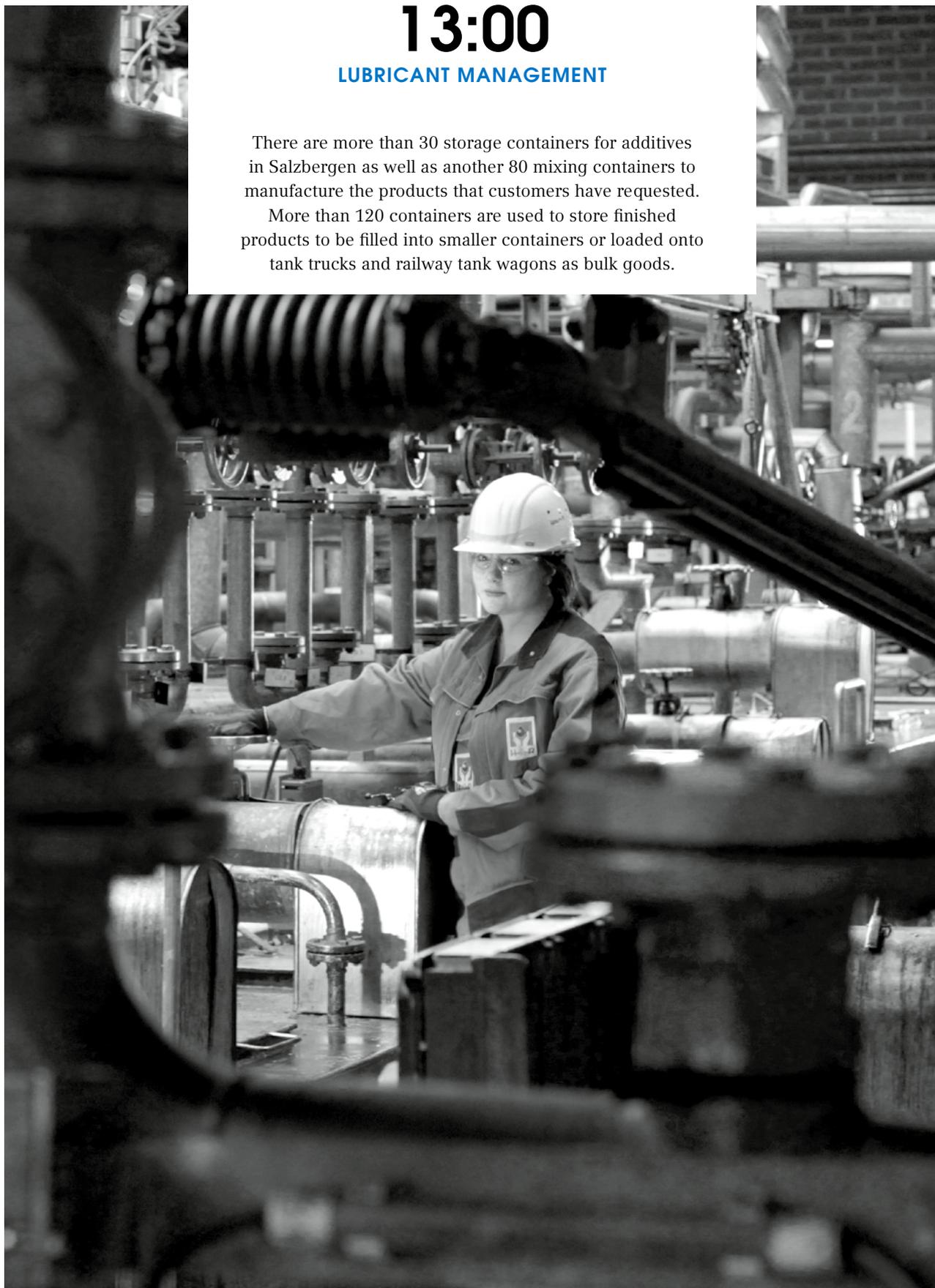


# 13:00

## LUBRICANT MANAGEMENT

There are more than 30 storage containers for additives in Salzbergen as well as another 80 mixing containers to manufacture the products that customers have requested.

More than 120 containers are used to store finished products to be filled into smaller containers or loaded onto tank trucks and railway tank wagons as bulk goods.



# 17:12

LABORATORY

H&R's laboratories are staffed around the clock. Products can only leave the plant once the laboratory has given them green light. This means that H&R is always at the ready to ensure the quality of its products and meet its customers' wishes just in time.



# 19:50

## HYDROREFINING

Hydrorefining is used to manufacture medical white oils and paraffins, among other products.

Due to their high purity levels, they are used as components for use in medical and pharmaceutical applications, for example.



# 23:10

## CENTRAL CONTROL ROOM

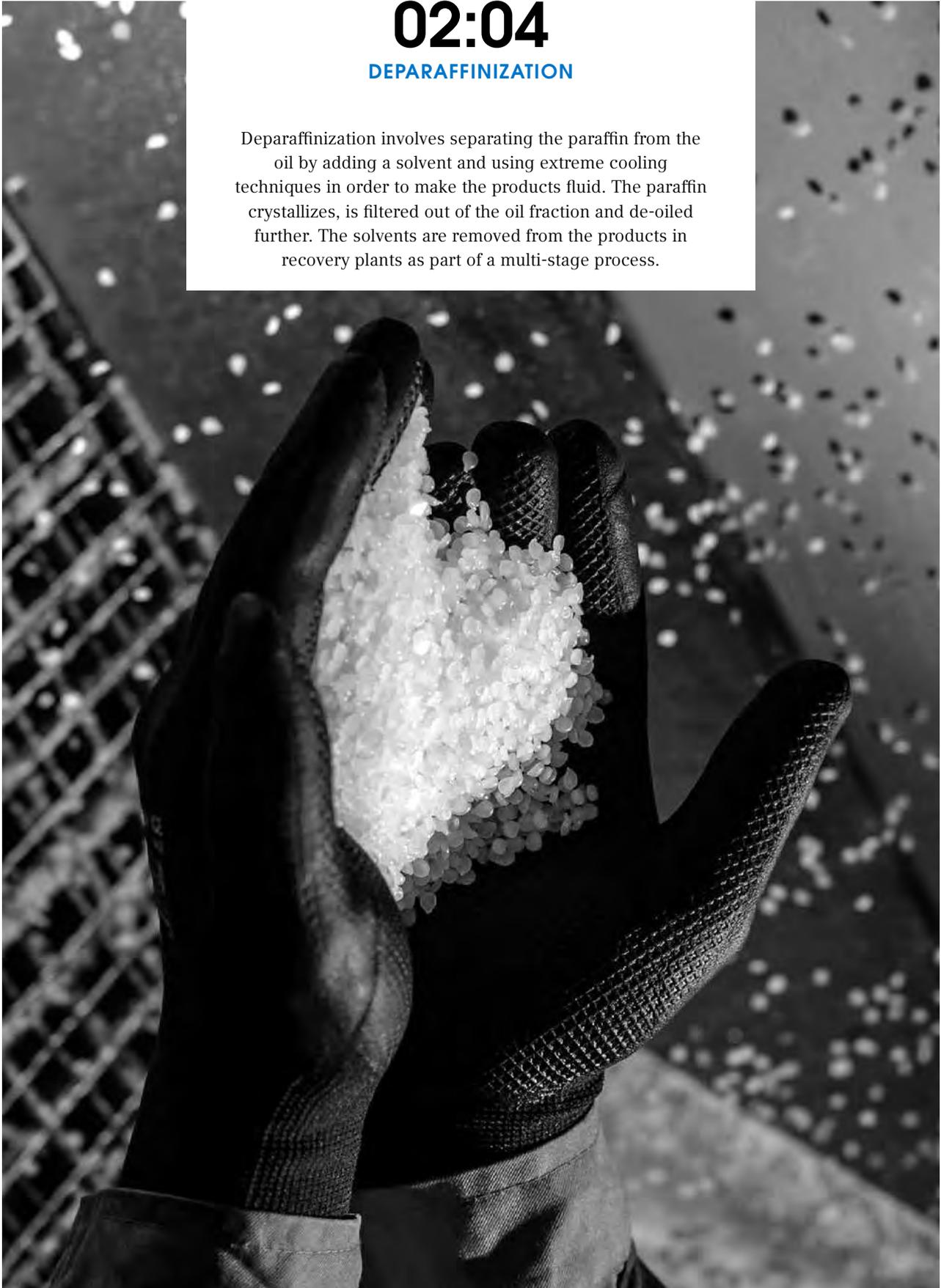
The central measuring station is home to the process control system used to monitor, manage and regulate all plants 24 hours a day, 7 days a week. The operator is informed about the plant status at all times and intervenes if necessary. Radio communication allows him to communicate with the person operating the plant.



# 02:04

## DEPARAFFINIZATION

Deparaffinization involves separating the paraffin from the oil by adding a solvent and using extreme cooling techniques in order to make the products fluid. The paraffin crystallizes, is filtered out of the oil fraction and de-oiled further. The solvents are removed from the products in recovery plants as part of a multi-stage process.



# AS PROMISED

**CHECKED & CERTIFIED** When you see a refinery standing in the middle of an industrial estate, it's hard to believe that the facility produces the very same substances that are used as ingredients in moisturizers and medical products. But in order to ensure that this is exactly what the process achieves, quality assurance is a key issue at H&R.

The high quality of our products is one of their distinguishing features: We ensure that these high quality standards are adhered to by setting quality assurance standards that are equally high. The criteria are defined taking the applicable legislation and the company's own exacting demands into account.



International norms on quality management, environmental management and occupational health and safety, for example, coupled with sector-specific requirements, provide another key framework for our quality standards. The Salzbergen site, for instance, is certified in line with ISO standards 9001 (quality management), 14001 (environmental management) and 50001 (energy management). The department responsible for our integrated management system employs more than 10 people, with each individual employee also responsible for ensuring that all of the applicable requirements are met.

### CUSTOMER AUDITS FOR QUALITY CONTROL PURPOSES

Our customers can use audits to get a first-hand impression of our production operations and to see the standards that we apply to our processes and their output for themselves. In close consultation with our sales and distribution team, they can request specific analyses to be performed before goods are dispatched. We then use customer-specific techniques to perform these analyses in our own labs. This means that our customers themselves are involved in the quality control process. We inform our customers of any changes in certifications without delay.

The quality management standard ISO 9001 is one that we see as a minimum standard, as H&R aims to exceed the requirements imposed by this norm by far. Our norms and standards are also evaluated on a regular basis and any necessary adjustments are made to ensure the best process management possible and to maintain the very highest quality levels.

The analyses performed on our incoming and outgoing goods are a key tool to ensure the quality of our products. A sample is taken from each and every tank truck that delivers supplies to us or leaves our refineries.

We also maintain a detailed management manual that sets out all of the relevant processes in depth and can be accessed by all of our employees. Teamwork among, and the involvement of, our employees in all of the accompanying processes allow us to ensure the very highest product quality and, as a result, to keep our customers satisfied.



**8  
YEARS**

**STANDARDS ARE UPDATED  
APPROXIMATELY EVERY 8  
YEARS.**

# 3 QUESTIONS

INTERVIEW WITH DETLEV WÖSTEN,  
MEMBER OF THE EXECUTIVE BOARD



## CRUDE OIL IS A VERY POLITICAL RAW MATERIAL. HOW IMPORTANT IS INVOLVEMENT IN POLITICS AND ENERGY TO H&R?

We are focusing on the concept of the “Green Refinery”. As part of this concept, we aim not to waste a single drop of oil and also only to use as much energy as is absolutely necessary in our processes. While the objectives defined in the Paris Agreement on climate change are ambitious, they are consistent with our strategy of wanting to establish ourselves as a leader for sustainable industrial policy in the process of industrial transformation. As part of our work within industry associations, we have already proposed ways in which emissions can be reduced efficiently using biomass and electricity-based technologies.

## H&R IS PURSUING ITS SUSTAINABILITY OBJECTIVES AS PART OF A THREE-PILLAR STRATEGY. HOW MUCH PROGRESS HAS THE COMPANY MADE SO FAR?

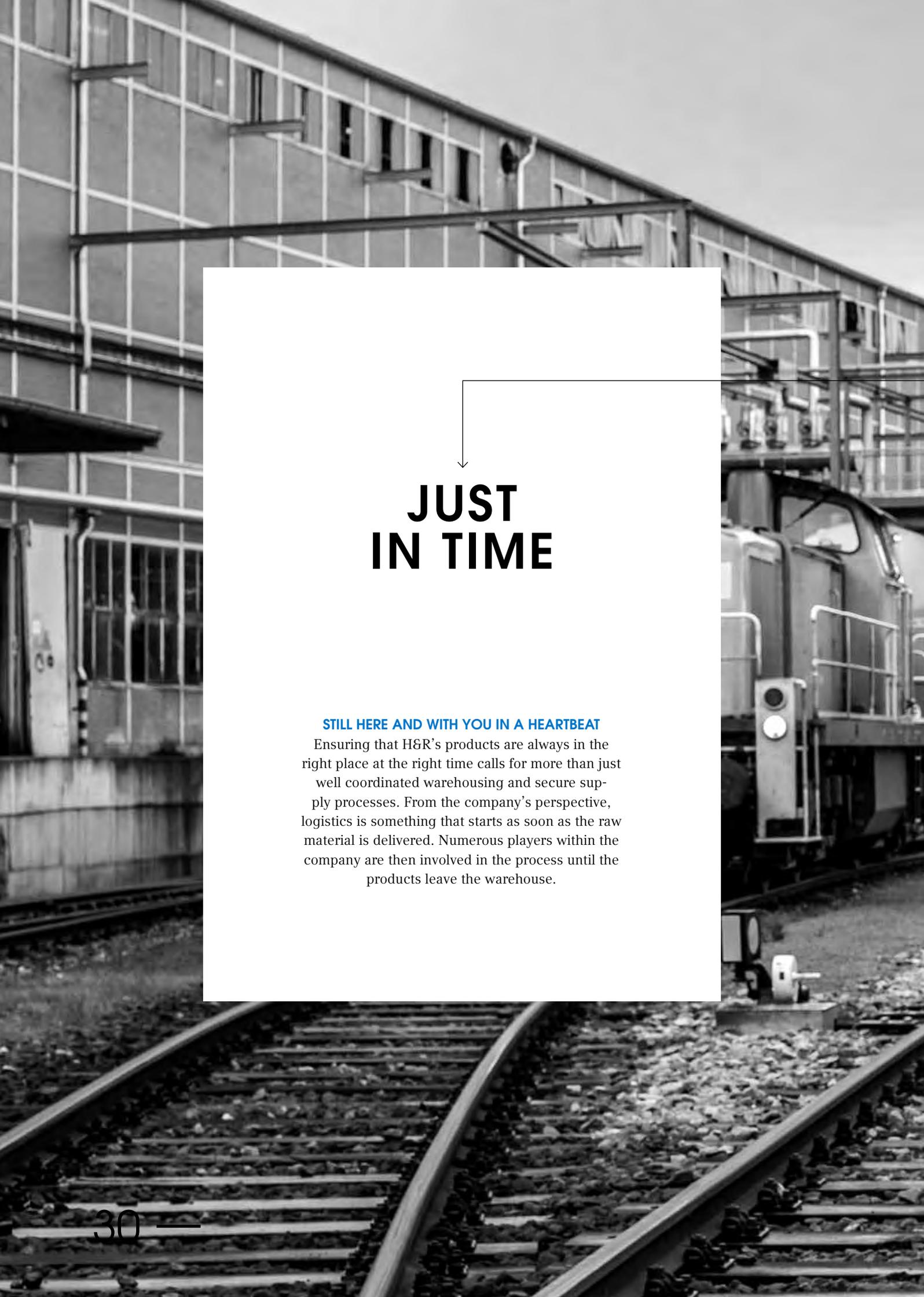
Our progress is reviewed on a regular basis in global competition analyses. They confirm that we rank among the leaders as far as added value and energy efficiency are concerned. But that’s only the first step for us. The next steps will involve using renewable sources, and later on synthesized products, alongside fossil raw materials. We have made this objective a firm component of our strategy with Eco<sup>2</sup> (Ecology x Economy).

In the meantime, the German federal government has also recognized the potential offered by sector coupling, i.e., linking the production of renewable energy with synthesis processes on an industrial scale, and has defined this as a key objective for the current parliamentary term. With the realization of a hydrogen electrolysis plant, H&R is already one step ahead.

## WHICH BENEFITS DO YOU EXPECT TO REAP FROM THE HYDROGEN ELECTROLYSIS PLANT OTHER THAN INSOURCING A PRODUCTION MATERIAL?

Since 2017, we have been able to produce the hydrogen we need by ourselves using our flexible-control hydrogen electrolysis plant. Our plant is helping to stabilize the northern German electricity grid since it allows us to supply the electricity market with positive and negative balancing power, which balances out fluctuations within the grid. We are able to produce the hydrogen we need to manufacture our specialty products using a process that is almost 100% “green”, allowing us to save approx. 2,500 tons of CO<sub>2</sub> every year. Our expertise helps us to evaluate other technological innovations and to plan the next steps to be taken in our quest to improve the carbon footprint of our products.

THANK YOU VERY MUCH  
FOR THE INTERVIEW.



# JUST IN TIME

## **STILL HERE AND WITH YOU IN A HEARTBEAT**

Ensuring that H&R's products are always in the right place at the right time calls for more than just well coordinated warehousing and secure supply processes. From the company's perspective, logistics is something that starts as soon as the raw material is delivered. Numerous players within the company are then involved in the process until the products leave the warehouse.



The key to successful logistics lies in the planning process. And H&R's approach is no exception: In order to secure its supply capability, it starts by looking at the production plans and the forecasts prepared based on these plans. The rolling three-monthly, monthly, weekly and daily reconciliation processes ensure optimum capacity utilization for the company's process plants, securing the company's ability to cover the anticipated requirements. The coordination of procurement processes among our employees is closely linked to the production planning process. This allows H&R to ensure that purchased products are available in the plants in a timely manner before production starts.

#### **LOGISTICS PRECISION IS PART OF OUR DAY-TO-DAY BUSINESS**

The key to successful logistics lies in teamwork. Taking current personnel and warehousing capacities into account, our production and planning employees discuss the upcoming production processes on a daily basis. At the same time, they look ahead to the production plans for the process plants over the coming week. These plans include planned data for plant configuration, operating and receiving tanks as well as information on yields, plant configuration parameters, incoming and outgoing tankers, recirculation processes, and formulations in the

tank farm storage. Together with their colleagues responsible for product management and technology, our production employees also take care to ensure that the guidelines and instructions they have developed together, such as the product specifications, throughput and downtime plans, are given due consideration.

Requirements planning is the responsibility of the sales/distribution staff working in the sales/distribution segments. In order to ensure that these plans are as reliable as possible, these employees analyze historical sales data, current customer information and customer buying behavior. They pass the information on the required quantities calculated as part of this process on to the individual production sites at regular team meetings. Making flexible adjustments to production activities to reflect sales strategies or developments in response to special requirements is something that forms part of our day-to-day business.

When it comes to ensuring smooth logistics processes, the human factor is indispensable. But optimum plant utilization, while at the same time ensuring the highest possible degree of delivery reliability and adhering to the defined product specifications and other obligations, is not possible without technology either. This is why H&R uses special production planning tools that support, and reliably reflect, the ongoing process of coordination between the responsible specialist departments.

## WAREHOUSING LED BY PRODUCT SPECIFICATIONS

Supplied products are temporarily stored at H&R in stationary storage and production tanks. As the products contain sensitive goods, stringent statutory provisions have to be adhered to. It is also crucial for the products to be preserved during storage so that they match the product specifications defined by the product management team without limitation when they are delivered to the customer later on. In order to achieve this, the tanks are heated using thermal oil, hot water or steam, for example, depending on the product properties and technical conditions – and involving close collaboration among our teams.





## SAFE PRODUCT HANDLING THROUGH- OUT THE ENTIRE PROCESS

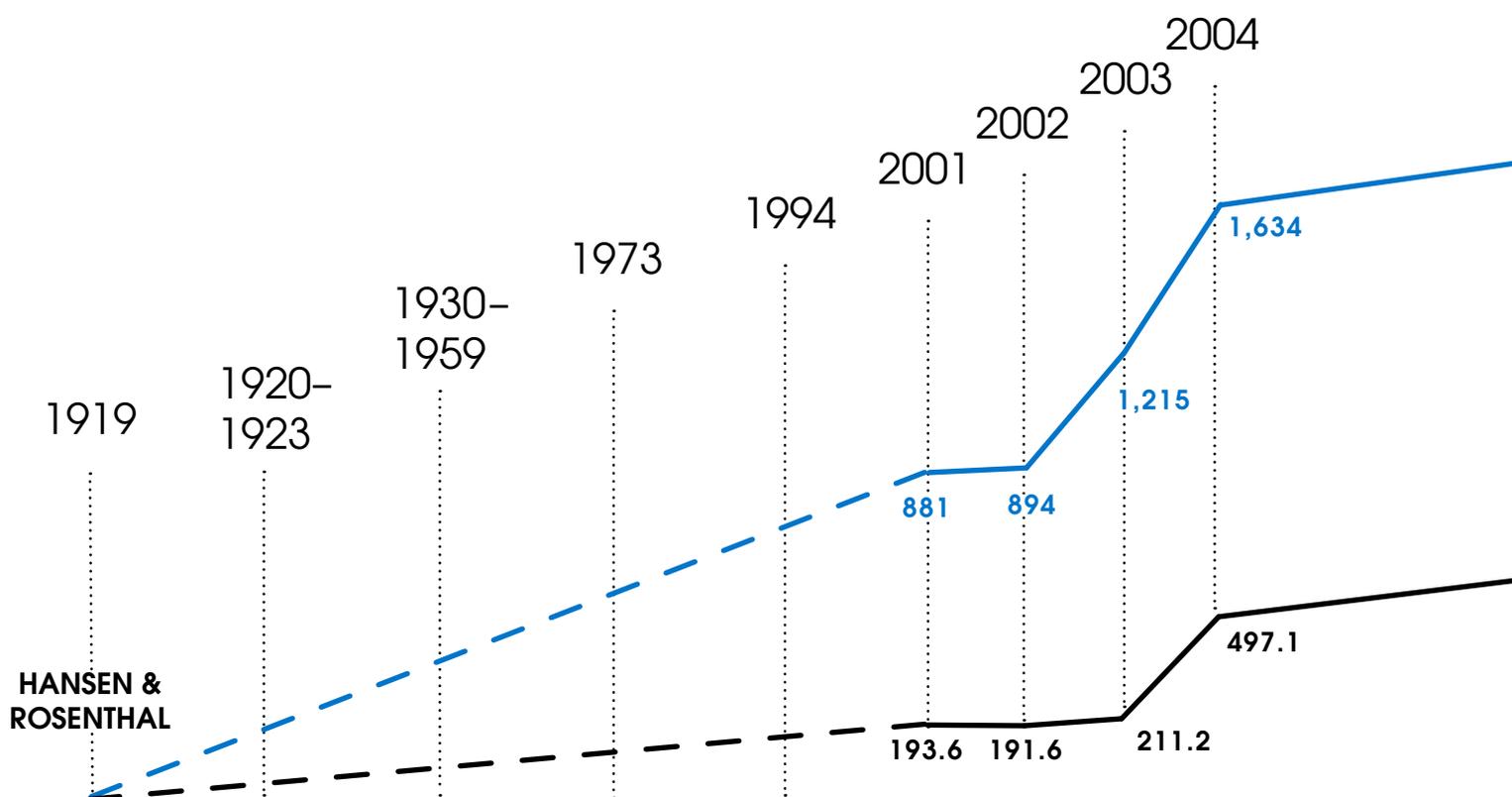
Ensuring that all of the relevant environmental and safety regulations are adhered to during the process is also a matter of course for H&R. Key aspects include measures to prevent product mix-ups, moisture, contamination and incorrect tempering.

H&R products are dispatched with the help of tank trucks and heavy goods vehicles, and also by rail or ship. They are distributed either via external service providers or via the H&R dispatch department. Forwarding agents and, later on, also the downstream warehouse keepers receive corresponding information on how to handle the products safely. This is particularly important if the products contain hazardous materials.

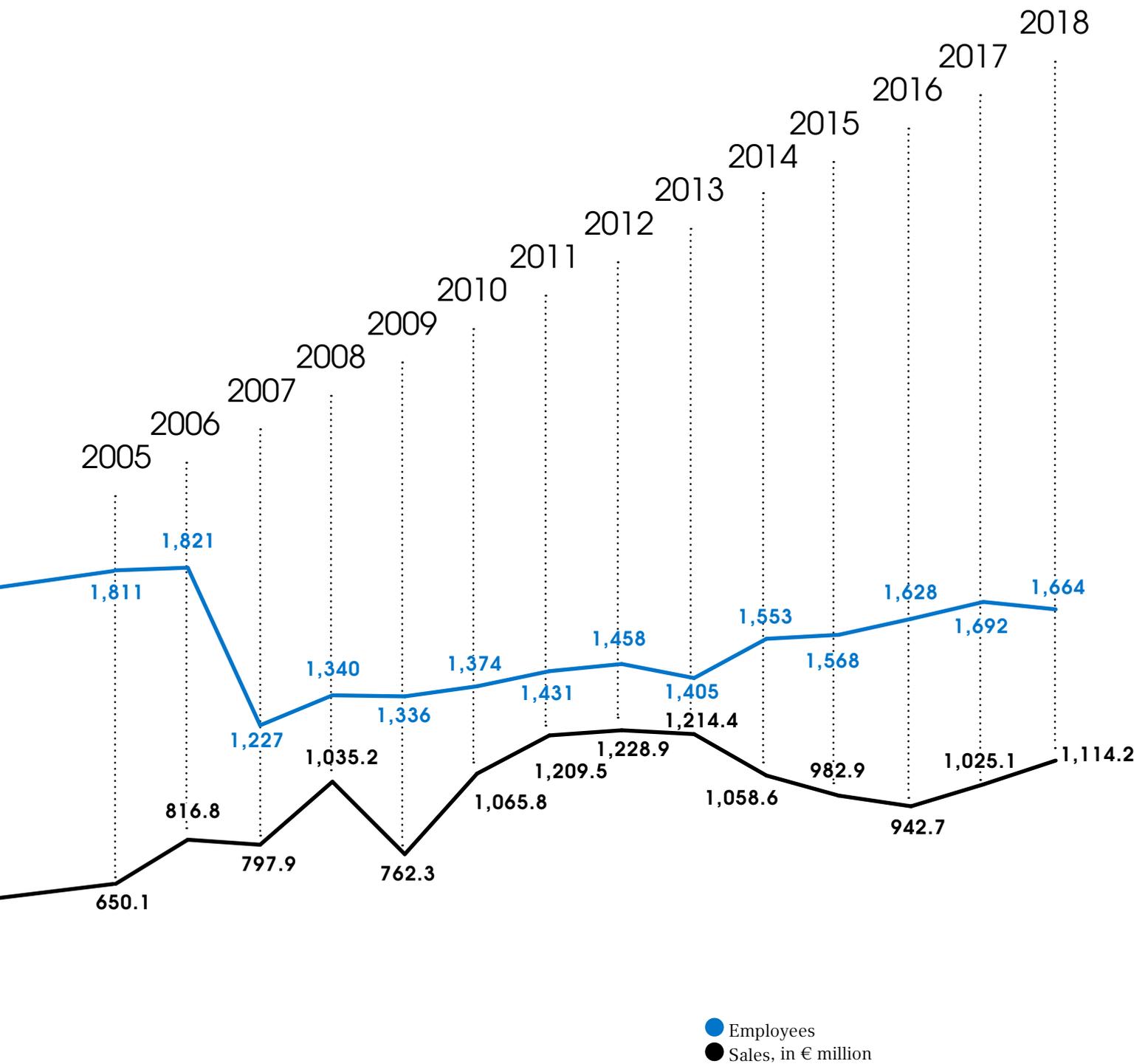
Before the goods set off on their journey, they are checked again as part of the loading process to verify their condition and ensure that they are complete, have been packaged and labeled correctly. This process is documented in order documents. Spot checks on quality and documentation form the last step in the process. The goods can then be sent to the customer safely and appropriately – just in time, of course.



# MILESTONES FROM A FAMILY BUSINESS TO A GLOBAL PLAYER

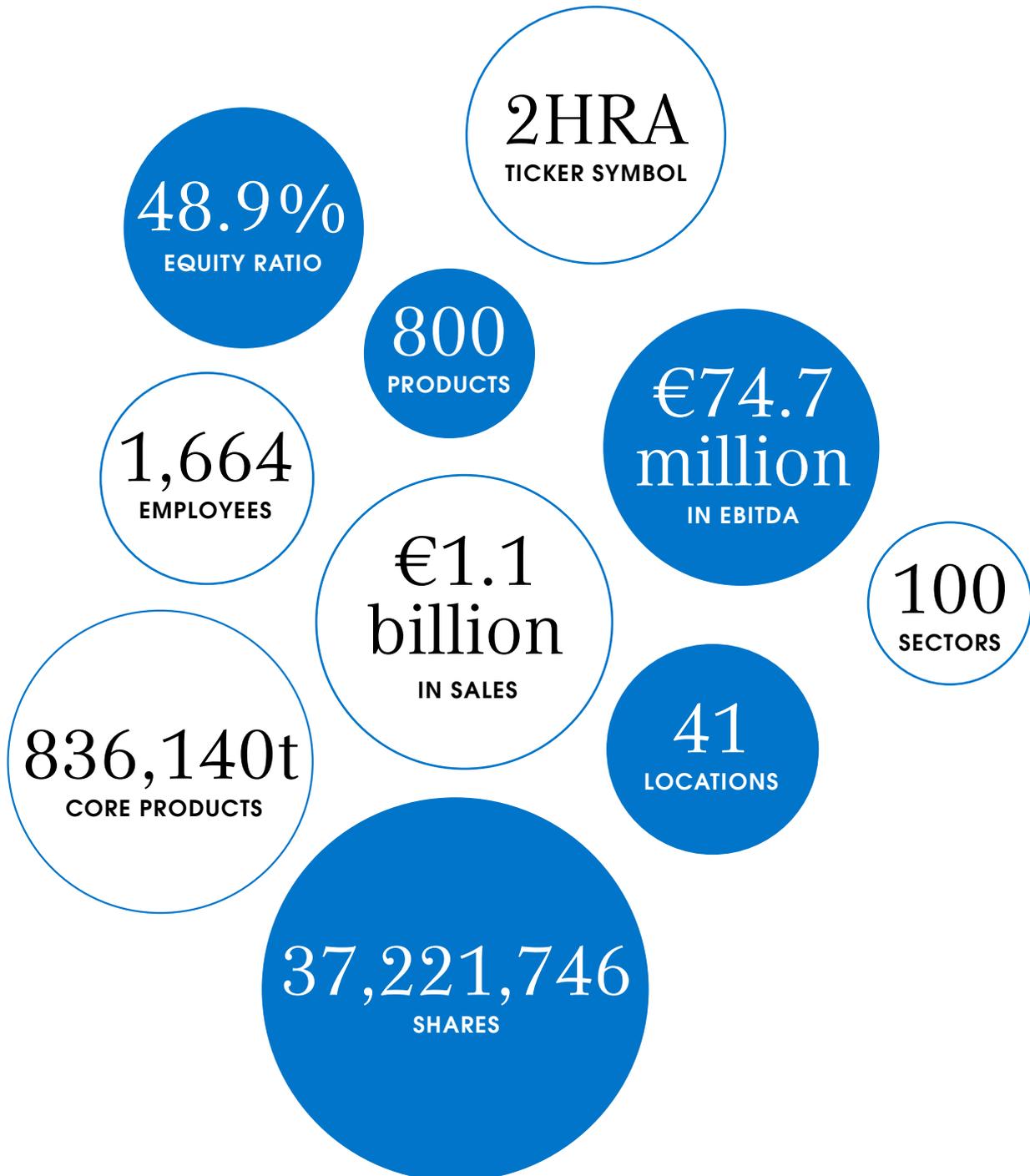


Back in **1919**, Heinrich Hansen and Emil Rosenthal set up the company **HANSEN & ROSENTHAL** in Hamburg. The company was originally involved in the purchase and sale of white oils and petroleum jelly. **1920-23** Beginning of the collaboration with Ölwerke Julius Schindler (OJS), which became BP and then, later on, H&R **1930-60** In spite of the difficulties of the wartime years, H&R develops from modest beginnings to establish itself as a specialist for all sorts of white oils **1960-64** Expansion of the value chain to include production and filling **1964** Ongoing development in collaboration with OJS **1973** Takeover of the company Klaus Dahleke KG/specialist for the rubber and tire industry **1994** Takeover of the refinery in Salzbergen from Wintershall AG and considerable increase in capacity in the ensuing years **2001** Merger of H&R's sister refinery SRS Salzbergen with WASAG Chemie AG to form H&R WASAG AG. Business divisions: Chemical specialty products, plastics, explosives **2004** Consolidation: Takeover



of the former OJS (refinery Hamburg/Neuhof) and parts of BP's international business as well as investments to improve the manufacture of label-free plasticizers and process oils **2005** Ongoing internationalization by way of acquisitions **2007** Focusing: Sale of the explosives business segment to Maxam/Pravisani **2009** Innovation: Expansion of R&D activities by setting up the new OWS research laboratory **2010** Increase in value creation by investing in a PDU processing unit (reduction/prevention of waste products from heating oil and, as a result, also sulfur and CO<sub>2</sub>) **2014** Incorporation of the activities of the H&R Group in China into H&R AG **2016** Conversion into H&R GmbH & Co. KGaA **2017** Commissioning of the world's largest dynamic hydrogen electrolysis plant based on PEM (proton exchange-membrane) technology **2018** Continuation of the focused strategy of internationalization

# H&R IN NUMBERS \*



# OUTLOOK 2019

As in the past, H&R will remain committed to further development with a long-term focus in the future too. Thanks to the positioning that it has established over the years, it will be able to rely, in these endeavors, on its extensive expertise spanning the entire value chain – from production to further processing and distribution. Partnerships and a global network provide additional stability as we embark on the path that lies ahead. And they provide a solid foundation for our sales and distribution activities, which the company will be increasing. Within this context, H&R will be further strengthening its global profile as a specialized refinery and forging ahead with internationalization.

Enhancing our profitability remains our overriding objective. This is an objective that H&R is tackling internally, too, by improving its operational positioning in its business with specialty products. Two focal points will remain: the continuation of the contract-production model in Salzbirgen and measures to leverage further potential via our location in Hamburg, where we will be focusing on moves to further optimize raw material yields. After all, raw materials remain the engine behind the company's success – whether as core or by-products.

KEY FIGURES	Actual value financial year 2018	Forecast for financial year 2019
Revenue Group	€ 1,114.2 million	€ 1,000 million to € 1,200 million
EBITDA Group	€ 74.7 million	approx. € 75 million to € 90 million

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2018  
**FINANCIAL  
REPORT**



**H&R GMBH & CO. KGAA**

# OUR KEY FIGURES 2018

In financial year 2018, we increased our sales again to €1.1 billion. Given the challenges facing us and our markets, our operating income is robust at €74.7 million.

This means that the company was once again firmly established in its markets in financial year 2018, reporting stable contributions to income for all business segments.

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

IN € MILLION	2018	2017	Change in absolute terms
Sales revenue	1,114.2	1,025.1	89.1
of which Chemical and Pharmaceutical Raw Materials Refining	694.5	616.8	77.7
of which Chemical and Pharmaceutical Raw Materials Sales	374.9	357.2	17.7
of which Plastics	55.0	59.6	-4.6
Reconciliation	-10.2	-8.5	-1.7
Operating income (EBITDA)	74.7	97.9	-23.4
of which Chemical and Pharmaceutical Raw Materials Refining	46.0	63.7	-17.9
of which Chemical and Pharmaceutical Raw Materials Sales	30.1	34.3	-4.2
of which Plastics	3.0	3.7	-0.7
Reconciliation	-4.4	-3.8	-0.6
EBIT	40.6	54.8	-14.2
Income before tax	33.7	46.2	-12.5
Consolidated income (before non-controlling interests)	22.3	29.5	-7.2
Consolidated income (after minority interests)	21.6	32.1	-10.5
Consolidated income per share (undiluted, in €)	0.59	0.88	-0.29
Operating cash flow	23.3	46.2	-22.9
Equity ratio (in %)	48.9	51.7	-2.8
Employees as of December 31 (absolute)	1,664	1,692	-28

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

KG PER TON OF FEEDSTOCK	2018	2017	2011 (Reference value)
CO <sub>2</sub> emissions	346.7	335.8	398.1
Waste	2.87	2.97	3.09
Wastewater	559.9	621.5	861.2

1,114

MILLION EURO  
IN SALES 2018

74.7

MILLION EURO  
EBITDA 2018

1,664

EMPLOYEES  
2018

# 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 A RAW MATERIAL THAT CONVENTIONAL REFINERIES HAVE NO FURTHER USE FOR: THE ATMOSPHERIC RESIDUE, A WASTE PRODUCT FROM THE CRUDE OIL DISTILLATION PROCESS. BUT FOR US AS A SPECIALTY REFINERY, IT OFFERS 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.

## 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.

## 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.

## 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.

## 02

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**NIELS H. HANSEN**  
Chairman of the Executive Board



**DETLEV WÖSTEN**  
Member of the Executive Board

**DEAR SHAREHOLDERS,  
DEAR LADIES AND GENTLEMEN,  
DEAR EMPLOYEES,**

If you read at an average speed, you will be able to read around 200 to 250 words a minute. As this Letter from the Executive Board is exactly 731 words long, it will take you just over three minutes to find out which challenges H&R faced in 2018, what sort of headaches we had to deal with, and which aspects we were able to master successfully.

In the very same amount of time, the President of the United States can set off a firestorm on Twitter and the stock markets can create (or wipe out) assets running into the billions in high-frequency trading. Alternatively, you could pop outside for a breath of fresh air or take a quick look at your e-mails. Is it really possible to provide an overview of an entire year in only three minutes?

And especially if that year was as eventful as the 2018 financial year?

On the one hand, we have reason to celebrate. We are now in the 100th year of our company history and offer an alternative to a world of fast-paced developments and short-term optimization. The company now known as H&R started out as a small company in Hamburg. It was here, that, on December 16, 1919, Heinrich Hansen and Emil Rosenthal set up the company Hansen & Rosenthal, laying the foundation for the international company we know today. In addition to our 100-year anniversary, we are celebrating two other milestones this year: The refinery in Salzbergen has been part of the H&R Group for 25 years now, while the Hamburg facility is celebrating 15 years within our Group.

On the other hand, there are aspects that we are not happy with: Our ninety-ninth year in business, 2018, did not give us much to celebrate from an operational perspective. Quite the contrary: It threw considerable obstacles in our path in many areas. We, too, 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.

This not only applied to our ChemPharm Refining segment, which was hit by a higher cost of materials driven by trends in the price of crude oil, that could only be partly passed on to our customers in the form of higher product prices. The international ChemPharm Sales segment also felt the effects of the waning momentum on the global markets. The trade conflict between the United States and China, in particular, put a strain on the projected development of our foreign operations. The Plastics segment is influenced by the automotive industry to a far from insignificant degree. As a result, the “Diesel-Gate” debate and the global slump in sales figures left their mark, too. As the numerous profit warnings issued by listed companies in the second half of last year show, H&R is in the very best of company. This comes as little consolation, however.

With operating income (EBITDA) of €74.7 million, we fell far short of the targets set in the previous year and the original projections from the beginning of the year. The fact that we managed to report robust income that is far in excess of that reported in the crisis years of 2013 and 2014 and reaches the upper end of the adjusted expectations range that we published in October is nothing more than a hollow victory for us.

All in all, we achieved consolidated income attributable to shareholders of €21.6 million and notional earnings per share of €0.59. The distributable profit at HGB level comes to €26.7 million.

This is a result that puts us in a position to pay a dividend. Nevertheless, after intensive talks, we have decided to propose to this year’s Annual Shareholders’ Meeting that no dividend be paid. Due to the negative cash flow, a dividend would have to be financed using borrowed funds, further increasing in the company’s liabilities. The uncertainty surrounding the amount of subsidies that will be made available for the flood protection measures at the refinery in Hamburg and surrounding the Salzbergen site’s exemption from the EEG legislation based on the new provisions set out in the EEG 2017, mean that we have to be cautious in how we budget. Ongoing doubts regarding the economic outlook in our core markets and among our main customers are yet another argument for leaving these funds within the company.

We are proposing this in the interests of our shareholders and in line with a long-term approach that values a sustainable strategy over a short-term boost to our image.

Against this backdrop, we would like to extend our particular thanks to you, our shareholders, for your ongoing loyalty to our company.

We would also like to thank not only our customers and partners who remained by our side and supported us over the course of the last year but also those that have accompanied us over the last few decades. And last but not least, we would like to thank all of our employees, who stand for everything we have achieved, who rise to new planned or unexpected challenges year in, year out, who are steadfast in their commitment and share our passion, and who are marking the start of the next century in the company's history with us.

We are delighted to have you aboard!

Best regards,

Executive Board of H&R GmbH & Co. KGaA



**Niels H. Hansen**  
*Chairman of the Executive Board*



**Detlev Wösten**  
*Member of the Executive Board*

Salzbergen, March 2019

## 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. Its two managing directors are also the managing directors of H&R KGaA. Each member of the Executive Board is responsible for one or more duties within the H&R Group.

***Niels H. Hansen***

*Chairman of the Executive Board*

***Detlev Wösten***

*Member of the Executive Board*

## The Supervisory Board

---

The Supervisory Board of H&R KGaA is responsible for the supervision of the Executive Board. In financial year 2018, 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

**Sven Hansen**  
Managing Partner of the H&R  
Group

**Dr. Hartmut Schütter**  
Certified Engineer,  
Freelance Consultant

**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

### Members of the Supervisory Board

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

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

**Dr. Ing. Peter J. Seifried**  
Chemical Engineer,  
Independent Consultant

**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

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

**Eckbert von Bohlen und Halbach**  
Managing Director of Bohlen Industrie GmbH

**Mazdak Rafaty**  
Entrepreneur

**Sabine Dietrich**  
Member of the Supervisory Board of  
Commerzbank AG; former member of the Board  
of Directors of BP Europa SE

**Wilhelm Scholten**  
Managing Director of Ölfabrik Wilhelm Scholten  
GmbH

**Dr. Erwin Grandinger**  
Entrepreneur

**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.

- I. We fell considerably short of our income target for 2018, reporting EBITDA of €74.7 million.
- II. Isolated positive effects, such as the encouraging development of our wax and paraffin business at our site in Fushun, China, or in the production activities of our plastics company GAUDLITZ GmbH, were unable to compensate for the drop in earnings in our national refinery business.
- III. Despite a retrograde earnings trend, last year – which was the ninety-ninth year in the history of the H&R Group – once again saw our company make extensive investments in the two northern German refinery locations in order to further strengthen their future viability and flexibility.

The main reasons behind the negative earnings trend lie in the national economic slowdown that emerged in the second half of the year, as well as varied, and sometimes contradictory, developments in our global core markets. All in all, the overall environment for H&R clouded over considerably in 2018. The trade conflict between the United States and China, in particular, put a spoke in the wheel of the plans made by our international sales/distribution segment. As the numerous profit warnings issued by listed companies in the second half of last year show, H&R is in good company in this respect – although this admittedly comes as little consolation. In compensation for these external factors, we once again sought out internal optimization potential, too, during financial year 2018. I will come back to this topic later on in my report when I talk about the work performed in the company's committees.

Looking back on the activities performed by the Supervisory Board in 2018, it would appear that the biggest challenges facing our company come not only from our competitors or the markets. Yet

again, an increasing volume of our work involved discussions and negotiations with regional and national government authorities. The issue of the flood-protection wall at our Hamburg refinery and the 2017 Renewable Energy Sources Act (EEG 2017) serve as just a few examples. As the Executive Board and the second level of management of H&R GmbH & Co. KGaA are often involved in ongoing dialog with local authorities and federal state governments relating to a whole range of permits and other requirements, the Supervisory Board opened up a second channel for discussion and negotiation with the public sector in selected cases, and in close consultation with the company's operational management team. This left the company's existing operational relationships untouched, while at the same time opening up a second, separate channel for dialog with the responsible authorities.

Despite falling well short of its earnings targets for 2018, H&R GmbH & Co. KGaA generated a distributable profit according to HGB regulations for separate financial statements of €26.7 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 in concluding that it would be better not to propose a dividend payout for 2018, but to carry the full amount of the distributable profit 2018 forward. This decision was motivated primarily by the following reasons:

- I. Due to the negative cash flow in 2018, a dividend would have to be financed using borrowed funds, further increasing in the company's liabilities.
- II. The uncertainty surrounding the amount of subsidies that will be made available for the flood protection measures at the refinery site in Hamburg, and surrounding the Salzbergen site's exemption from the EEG legislation based on the new provisions set out in the EEG 2017, mean that the company has to be cautious in how it budgets.

III. Ongoing doubts regarding future economic developments in our core markets and among our main customers also argue against a dividend payment.

### Key Focal Points of Supervisory Board Work

During the past year, the Supervisory Board focused on five issues in particular. You will be familiar with most of them from the previous year:

In 2018, the Supervisory Board once again provided close support with regard to the company's extensive **investment projects**. At the OWS refinery site in Hamburg, several measures to optimize our production operations and make them more flexible were, and still are, being implemented. An amount running into the treble-digit millions has been invested in OWS' systems since the company was taken over in 2014, creating a large number of new jobs. The main focus was on sustainability and environmental protection. Current comparative studies on refineries, such as the latest Solomon studies, provide the company with confirmation that it is on the right track with its long-term approach. The investment activities and the measures to upgrade the flood-protection wall that were performed at the same time meant that numerous contractors and employees of third-party companies were on the site premises for prolonged periods. At times, this more than doubled the number of people working on the site. As a result, **safety at our refinery locations** was another recurring key issue addressed at our meetings.

The concept of scheduling **meetings on site** was revived last year. This kicked off with the locations in Salzbergen in August and GAUDLITZ GmbH in Coburg in October. At two-day events comprising committee and Supervisory Board meetings, intensive talks were held with the local management teams and production site tours were organized. A similar event was also held at OWS in the Port of Hamburg. We aim to hold at least one meeting a year at a production site in Germany or a neighboring country in the future too.

As far as business opportunities in **international markets** are concerned, the Supervisory Board addressed the following issues, in particular:

- I. Safeguarding and expanding our locations in Thailand and China
- II. Market potential and tapping into markets in South-East Asia, on the Indian sub-continent and in East Africa
- III. The abandonment of our plans for Iran

The last aspect, in particular, was regrettable from a financial perspective, but was sadly our only alternative. Iranian Group 1 refineries offer considerable potential for collaboration both in terms of technical cooperation and for tapping into the sales potential that the region offers. Iranian refineries are particularly well-positioned in India. Nevertheless, in light of the global orientation of H&R GmbH & Co. KGaA, the United States sanctions imposed on the country and the implications of these sanctions on the banking and logistics sector send out clear signals for us to suspend our activities. This decision was also made easier in light of the existing ownership structures in the Iranian oil and refinery industry. After a wave of privatization a few years back, the vast majority of the companies that are relevant from our perspective are in the hands of pension funds managed by the country's Islamic Revolutionary Guard Corps. Even in the absence of the existing U.S. sanctions, the serious reputational risk that this would entail would be difficult to enter into for any German company.

**Negotiations with the public sector** covered topics such as the upgrading of the flood-protection wall at the OWS refinery site in the Port of Hamburg and the impact of the EEG 2017 legislation in Salzbergen. As far as the first aspect is concerned, the Hanseatic City of Hamburg wants port users to bear half of the costs associated with coastal protection measures, which would put them at a considerable disadvantage in terms of location compared with their national and international competitors. The latter aspect threatens to impose an additional burden, which could well be imposed with retroactive effect, on our refinery site in the Emsland region. We have contacted local authorities, federal state governments and

federal government ministries in Berlin with regard to both issues and we are working constructively towards finding a solution. We are confident that we will be able to resolve both matters with a positive outcome for the company in the course of this year.

The Supervisory Board Chairman embarked on **two trips** in the financial year 2018. At the beginning of the year, he accompanied the Chairman of the Executive Board, Niels H. Hansen, on a trip to Dubai to discuss the further course of action

in the Persian Gulf with local sales/distribution partners. At the end of February, he obtained information on upcoming measures in the wax and paraffin business at a management meeting held at regular intervals in Shenyang.

In addition to general supervisory and control functions, we consider another one of our primary missions to be helping the Executive Board to achieve the **five core company goals**. Target achievement for 2018 is as follows:

**T. 03 PERFORMANCE GOALS, GOALS ACHIEVED IN 2018**

Performance Goals	Targets Achieved in 2018
Reducing low-margin and negative-margin by-products and converting these into high-grade specialty products	Continuous improvement through capital expenditure and product innovations, as well as cross-company cooperation, but project delays
Securing and improving our competitive position	The latest Solomon studies show that we have a top position in terms of margins, while at the same time pointing out areas for potential improvement
Improving performance of international sales/distribution	Share of revenue and earnings increased, but figures fell short of budget goals
Safety and environmental protection	Safety record below industry standard
	Investments in sustainability and environmental protection
Generation of an EBITDA margin of >10%	2018 EBITDA margin: target missed at 6.7%

**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. For companies with the legal form of a limited partnership (KG) in which the general partner (Komplementär) is a limited liability company (GmbH & Co. KGaA), the co-determination obligations incumbent upon the Supervisory Board of a stock corporation, do among others, neither include major investment projects, defining the company's strategy, nor any human resources competencies regarding the managing directors (f. e. 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 at the level 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 version most recently adopted at the meeting held on January 29, 2019, 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.

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

Name	Dr. Joachim Girg	Roland Chmiel	Reinhold Grothus	Sven Hansen
Age	54 years	61 years	58 years	50 years
Function	Chairman of the Supervisory Board; representative of the majority shareholder	Deputy chairman; independent financial expert	Employee representative; Group works council chairman H&R GmbH & Co. KGaA; works council chairman H&R ChemPharm Group, Salzbergen	Majority shareholder, entrepreneur
Occupation/Professional Background	MBA	MBA; Certified Public/Chartered Accountant	Chemical Technician	Industrial Manager (degree in Business Administration)
Profile requirements	Family-run SME, capital market operator	x	x	x
	Refinery business & petroleum specialty products; plastics			x
	Application research & product development			x
	Production; marketing; sales/distribution; digitalization, sustainability			x
	Internationality	x		x
	Accounting & auditing	x	x	
	Controlling & risk management	x	x	
	Financing & capital market	x		
	Law & taxes		x	
Boards	Audit Committee; RTS; Nomination Committee	Audit Committee (Chairman)	none	RTS; Nomination Committee (Chairman)
On the panel since/elected until	September 2011/HV 2022	May 2011/HV 2021	2001/HV 2022	August 2016/HV 2022
Panel activity (# meetings/participation)	Meetings 7/7 Boards 15/15	7/7 9/9	7/7	6/7 6/6
Additional board functions	none	Togal Werk AG, München: member of the supervisory board	none	none

<b>Holger Hoff</b>	<b>Harald Januszewski</b>	<b>Dr. Hartmut Schütter</b>	<b>Dr. Rolf Schwedhelm</b>	<b>Dr. Peter Seifried</b>
<b>61 years</b>	<b>56 years</b>	<b>74 years</b>	<b>63 years</b>	<b>69 years</b>
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
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	
none	none	RTS (chairman)	Audit Committee; Nomination Committee	RTS; Audit Committee
September 2011/HV 2012, May 2017/HV 2022	May 2012/HV 2022	May 2013/HV 2023	May 2011/HV 2021	May 2015/HV 2020
7/7	7/7	7/7 5/5	7/7 7/8	7/7 13/14
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

### **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 (see list in figure).

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. Insofar as shareholder representatives and employee representatives are to be assessed separately, at least half of them should be independent within the meaning of Section 5.4.2 of the German Corporate Governance Code. At least half of the shareholder representatives must be free of potential conflicts of interest, in particular those that could arise due to an advisory function at, or a position held on the governing bodies of, customers, suppliers, lenders or other third parties. The Supervisory Board must not include more than two former members of the Executive Board of H&R GmbH & Co. KGaA.

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. According to the requirements set out in Section 96, paragraph 2 of the German Stock Corporation Act (AktG), the Supervisory Board should comprise at least 20 percent female members and at least 20 percent male members. The aim is to have achieved these objectives by 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. In general, adhering to these quotas is seen as the joint responsibility of the shareholder and employee representatives.

At least one-third of the shareholder representatives should have long-standing international experience in the markets relevant to H&R.

### **Requirements that individual Supervisory Board members have to meet**

Supervisory Board members should have entrepreneurial/business experience in at least one of the areas listed in figure x, 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.

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 his/her 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.

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 resumes of the Supervisory Board members in the form of a table, as well as the internal rules of procedure of the Supervisory Board and the three committees, can be found on the company's website by clicking on the link in the section on additional information on the Company Representative Bodies (<https://www.hur.com/de/investoren/ueber-die-kgaa/>).

### Efficiency Audit

The efficiency audit performed last year was different to the audits performed in previous years. Unlike in previous years, each Supervisory Board member was asked to answer the following questions, in particular, based on their own self-assessment and self-reflection:

- How much time do I invest for the Supervisory Board?
- What is my role/function on the Supervisory Board and am I performing these duties to my own satisfaction?
- What could I do better?
- What do I think of the Supervisory Board on the whole?
- What could we do better, or more efficiently, as a team?
- Are all of the necessary issues discussed and is the necessary amount of time devoted to these discussions?
- What is the ideal number of meetings?

The answers were collected and evaluated by the Chairman of the Audit Committee and discussed in the panel. The results were incorporated into the Supervisory Board's meeting activities on a gradual basis.

### 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 2018, 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 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.

The workflow for a "normal" Supervisory Board meeting includes the following:

- Approval of the minutes of the last meeting
- News on production and administration (Audit Committee: risk management, compliance, internal audit and RTS Committee: investment projects, safety)
- The current situation of the company, broken down into Refineries, Sales and Plastics
- Special topic: Product segment or priority region
- Miscellaneous

### Topics Discussed by the full Supervisory Board

During 2018, a total of seven Supervisory Board meetings were held. There were six face-to-face Supervisory Board meetings and one conference call. With the exception of two absences, one due to a stay in hospital and the other due to a sales visit on behalf of the company, all members were present at all Supervisory Board meetings. The attendance rate for the Supervisory Board meetings was 97%.

Below is a brief presentation of the main areas focused on at the meetings. We have decided not to list the recurring items on the agenda:

The 2018 annual session began on January 30, 2018 with a report on the status of the work associated with the annual financial statements for 2017. The second main topic was a presentation on Vision 2020 given by the Executive Board, which was followed by a discussion. Based on a three-pillar model, the path from refinery production using fossil raw materials to products made from biomass and synthesized products was described over a ten-year period. This agenda item was rounded off by information on the invest-

ments required within this context and the associated costs. The Chairman of the Executive Board, Niels H. Hansen, then presented an internal study on relevant market developments in the rubber and tire industry, with a particular emphasis on the Asian continent.

The second Supervisory Board meeting, which was held on March 14, 2018, was used to discuss the annual financial statements for 2017. After the necessary supporting documents had first of all been discussed by the Audit Committee on March 1, 2018 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 2018. The members also discussed the proposal for the appropriation of net income put forward by the Executive Board, which proposed the distribution of a dividend of €0.40 for each share carrying dividend rights. This proposal was also accepted unanimously.

The meeting held by telephone on April 10, 2018 dealt with the agenda items "Coordination of the agenda and convocation of the 2018 Regular Annual Shareholders' Meeting of H&R GmbH & Co. KGaA, including the passing of resolutions" and "Passing of a resolution on the commissioning of the Audit Committee to develop the details regarding the implementation of a scrip dividend". A unanimous resolution was passed following a discussion of both agenda items. Both aspects had already been raised at the March meeting and were handed back to the Executive Board so that they could be completed in time for the April meeting.

On May 23, 2018 – the day before the 2017 Annual Shareholders' Meeting –, the Supervisory

Board held its fourth meeting, focusing on three main topics. First of all, the Executive Board provided the Supervisory Board with information on the early termination of the current working capital loan of H&R GmbH & Co. KGaA by the company and explained the tender process as well as the associated objectives regarding the new financing plan. Much of the discussion was also devoted to the issue of the OWS refinery site in Hamburg. After the earnings trend at the site had fallen short of expectations in the first few months of the year, investment projects and their strategic objectives as well as efficiency concepts were discussed in detail. This agenda item was rounded off by an update on the status of the upgrading work on the flood-protection wall. Finally, the Supervisory Board discussed the status of, and further steps to be taken regarding, the contract-production model at the refinery site in Salzbergen. The discussion referred, in particular, to the issues of risk diversification and earnings stability and predictability on the one hand, and to the equal treatment of both refinery sites in line with the strategic requirements of "ONE refinery system" on the other.

The Supervisory Board meeting held on August 28, 2018 took place at the refinery in Salzbergen, Emsland. Discussions at the fifth meeting were centered around the topic of refinery safety performance and the wax and paraffins product group. The first topic was viewed with regard to occupational and process safety. An intensive discussion followed on current measures to improve security levels, in particular. The individual responsible for the wax and paraffins product group presented the current status quo and the short-term and medium-term sales targets. Ultimately, the conclusion drawn was that waxes and paraffins constitute a value-enhancing component of H&R's product portfolio and support the company's diversification strategy. With global production on the wane, China is becoming the global market and price leader. Access to this market via our site in Fushun offers the potential for establishing and expanding the business with specialty waxes. In the medium term, new production methods will pave the way toward CO<sub>2</sub>-optimized waxes. The meeting finished with a tour of the production facilities on the site.

The penultimate meeting of the Supervisory Board was held on October 30, 2018 on the premises of GAUDLITZ GmbH in Coburg. The main issues covered were Industry 4.0, its effects and implications for the business model GAUDLITZ GmbH and the adjustments that will need to be made as a result. The second topic of discussion related to the Indian sub-continent as a production and sales/distribution market for chemical-pharmaceutical specialty products. With regard to the latter aspect, an extensive overview of India was provided, including information on its advantages and weaknesses, as well as the risks involved. Taking this as a basis, the Executive Board then explained the company's existing activities and its plans for the next five years. This was followed by a tour of the Coburg site, during which GAUDLITZ GmbH's management explained the current plans for the further development of the business division.

The last meeting of 2018 was held on December 4. As in previous years, the meeting focused on a review of the current financial year, 2019 planning, and the five-year mid-term plan. The panel discussed the proposed investment plan in particular detail. In addition, the Chairman of the Audit Committee presented the results of the efficiency audit. The panel unanimously approved the revised 2018 Statement of Compliance. The last special topic addressed in 2018 was Africa. We have had a presence on the African continent, namely in South Africa, since 2004. Although the local business opportunities have become increasingly challenging over the years due to political requirements, new markets in sub-Saharan Africa are opening up new opportunities. H&R is looking at countries in East Africa and Nigeria in particular.

### The Work of the Supervisory Board Committees

In 2018, a total of 15 committee meetings were held, including nine meetings of the Audit Committee, four meetings of the Refinery Technology and Strategy Committee (RTS) and one meeting of the Nomination Committee. On August 8, a joint special meeting of the RTS and Audit Committee was also held to discuss our refinery site in the Port of Hamburg in detail. There were no

absences at any of the committee meetings held in 2018, putting the attendance rate at 100%.

### Audit Committee

The Audit Committee held a total of nine meetings in financial year 2018. Two meetings related to the resolution tasks assigned by the Supervisory Board to the Audit Committee in connection with the dividend distribution in the financial year. Of the remaining Audit Committee meetings, one meeting was held jointly with the Refinery Technology and Strategy Committee. Every year, one of the committee's main responsibilities is to deal with the annual financial statements and the combined management report for H&R KGaA and the Group, the subordinate status report and the appropriation of net income. These documents were once again discussed in detail in the presence of the auditors and the Executive Board in 2018. The Audit Committee then gave the Supervisory Board its recommendations regarding approval of the financial statements for financial year 2017 and the proposal to the Annual Shareholders' Meeting concerning the appropriation of net income and the election of the auditors for financial year 2018.

Other areas of focus for the committee included issuing the audit engagement to the auditors elected for financial year 2018, 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' independence and qualifications, the corresponding provisions of the Audit Reform Act (AReG) also had to be given particular consideration. Accordingly, 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 so-called 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 addressed the organization of accounting in individual locations, the

internal control system and the Group's compliance and risk management system. It also sought information on the activities and results of the Internal Audit department and the further development of the Tax Compliance Management System. Other matters discussed included the budgeting for the coming financial years, the implementation of the EU General Data Protection Regulation, implications resulting from the Renewable Energy Sources Act (EEG), the Statement of Compliance with the German Corporate Governance Code (GCGC), individual issues relating to capital expenditure/personnel, and the preparation and the examination of the completeness of the Subordinate Status Report and the non-financial report. With regard to the efficiency audit performed on the activities of the Supervisory Board, the Audit Committee took a particular look at the assessment procedure used. The Committee also discussed how – also with regard to plans for a corresponding amendment to the GCGC – the Supervisory Board could be supported in its self-assessment by external consultants.

On top of the committee meetings, the Chairman of the Audit Committee, the Executive Board and 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, holding numerous discussions with the auditor in this regard.

### Refinery Technology and Strategy

The Refinery Technology and Strategy Committee held four meetings during the year under review. Recurring agenda items related to safety performance in the refineries, updates on individual investment projects and the status of the upgrading work on our flood protection project. At the first meeting held on January 29, 2018, the committee also performed a detailed review on the extensive maintenance work performed at the Hamburg site in the previous quarter. The last two meetings in 2018 focused mainly on the company's medium-term investment planning and financing. Individual investment projects at our refineries and in the International Sales segment were discussed in detail with the respective project managers.

Results from these discussions were incorporated into the 2019 plan and into medium-term planning through 2023.

At a **combined meeting of the RTS and Audit Committee** held on August 8, 2018, the committee members took an intensive look at the refinery site in the Port of Hamburg. Due to the negative earnings trend in the course of the year, the committee members discussed raw materials and raw materials yields, sales of by-products, fixed cost development and personnel efficiency concepts with the Executive Board. The project managers responsible for individual investment projects presented details information on the status of their systems, as well as deviations from the plan and the reasons for these deviations. Error analyses were requested where necessary. We held a joint discussion on short-term and medium-term measures to improve earnings.

### Nomination Committee

Following preliminary discussions, the Nomination Committee met once during the past financial year, on March 13, 2018. The term of office of Dr. Hartmut Schütter ended at the close of the 2018 Annual Shareholders' Meeting. Dr. Schütter is the expert responsible for refinery and engineering issues on the committee. He also boasts extensive knowledge and experience in the chemicals segment and, in particular, in those areas of the chemicals segment that are relevant to our business. Despite Dr. Schütter's age, the Nomination Committee was unanimous in recommending to the Annual shareholders' Meeting that Dr. Schütter be nominated for re-election on the basis of his extensive experience and his important work on the committee.

At the same time, the Nomination Committee commissioned the Supervisory Board Chairman to focus intensively, and if necessary by calling upon the support of external consultants, on looking for suitable female candidates for the Supervisory Board. As a result, we are delighted to be able to present a female candidate, Sabine U. Dietrich, for election to the Supervisory Board by the 2019 Annual Shareholders' Meeting. Ms. Dietrich is an engineering graduate and spent many years working for the BP Group, both na-

tionally and internationally. Until recently she held a position on the Management Board of BP Europa SE in Bochum. Ms. Dietrich is also a member of the Supervisory Board of Commerzbank AG, Frankfurt am Main. The resolutions required to nominate Ms. Dietrich were passed in March 2019. It was possible to nominate Ms. Dietrich after Dr. Peter Seifried resigned from his position on the Supervisory Board voluntarily one year before his mandate would have expired at the 2020 Annual Shareholders' Meeting. Dr. Seifried will continue to assist H&R GmbH & Co. KGaA with his expertise as a member of the Advisory Board. The full Supervisory Board would like to extend its most sincere thanks to Dr. Seifried for taking this step.

#### 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. KG and the Group for financial year 2018 and issued an unqualified audit certificate for each.

The annual financial statements for H&R GmbH & Co. KG and the combined management report for H&R GmbH & Co. KG 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 of the HGB. The auditors carried out the audit in accordance with Section 317 of the 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 and the Combined Management Report (as well as the non-financial report) were examined in

great detail at the Audit Committee meeting March 8, 2019.

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 held on March 19, 2019 to discuss the financial statements. The auditors reported on particularly important audit matters, the main findings of their audit and confirmed that the internal control and risk management system had no major weaknesses as far as the accounting process was concerned. In addition, the auditors talked about significant transactions and decisions that had been taken concerning accounting policies. At the plenum 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 our own audit of the annual and consolidated financial statements, we approved the results of the audit conducted by the auditors and ratified both the annual and the consolidated financial statements including the combined management and Group management report. For the above mentioned reasons, the Executive Board's proposal regarding the appropriation of net income is deemed appropriate by the Supervisory Board and its members concurred.

The Executive Board has drawn up a separate non-financial Group report acc. to the stipulations of Sections 298b et seq. in connection with Section 315b HGB, which will be published on the company website. The report was duly examined regarding functionality and regularity of reporting and raised no 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.”

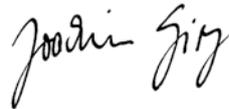
On the basis of the auditor’s report, the Supervisory Board examined the subordinate report with particular regard to completeness. The Supervisory Board endorses the closing statement made by the auditor and closing statement of the Executive Board contained in the subordinate report and has no objections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

There were no staff changes within the Supervisory Board or the Executive Board of H&R GmbH & Co. KGaA in the financial year 2018. Based

on the proposal put forward by the Supervisory Board, the Annual Shareholders’ Meeting elected Dr. Hartmut Schütter to the Supervisory Board for a further five years on May 24, 2018. Dr. Schütter has been a member of the Supervisory Board since July 2013.

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

#### Stormy Times for the Company's Share Price Instead of Fireworks

The despondent manner in which the 2018 stock exchange year drew to a close was consistent with the trend witnessed over large parts of the year as a whole. After six consecutive years on an upward trajectory, the DAX closed 2018 down by more than 18 percent. The year had initially started on a very promising note, with Germany's benchmark index climbing to a record high of almost 13,600 points in January. From that point onwards, however, share prices started to head south, in some cases with considerable fluctuations. Most of the other European indices also closed the year having made double-digit losses in percentage terms.

After the DAX reached its peak, rising U.S. interest rates were the first factor that frightened investors off. As the year progressed, the customs and trade dispute between the United States and China started to move increasingly into the spotlight. The economy showed signs of stalling,

particularly in China, a market so accustomed to growth. In Europe, the mounting tension over Brexit and, periodically, also the Italian debt crises, caused rather a few sleepless nights on the stock markets, sending share prices tumbling.

This overall climate, which has clouded over considerably, is likely to remain unchanged for the time being. Many investors could well opt to remain on the sidelines, guarding their cash while adopting a "wait-and-see" approach, at least until the middle of the year – after Brexit and the European elections. Nevertheless, the stocks that will prove successful on the stock exchange in the long run are those that remain true to their long-term investment strategy, unfazed by one or two weak stock exchange years. And looking at the trend over a longer investment horizon, Germany's leading index can report an average annual return of 8 percent.

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

H&R's shares made a stable start to the financial year to begin with, maintaining a price above the €14 mark in the first two months of the year. In the period that followed, however, neither the positive results for 2017 nor the announcement of the

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

(INDEX 2.1.2018=100)



● H&R GmbH & Co. KGaA

first cash dividend since 2011 were ammunition enough to provide a positive boost to the share price. Even the robust quarterly figures seen in May took hardly any pressure off our shares.

The capital market also showed a “wait-and-see” response to our profit distribution of €0.40, with shareholders being given the choice of either a cash or a scrip dividend, meaning that our shares had slid to around the €10 mark by the middle of the year. In line with this trend, the fact that H&R reported only meager figures for the first half of the year in August, also making a downward correction to its forecast for the year as a whole, could hardly be expected to prop share price performance up. As a small cap stock that is nevertheless always viewed in the context of major global economic issues such as the “automotive crisis”, “trend in the price of crude oil” or “United States-Chinese trading dispute”, the share lost considerable value, falling to €5.78 in December 2018 in spite of a robust updated earnings outlook of more than €70.0 million, a lower level than that seen in the most recent crisis years of 2013/14.

#### T. 05 BASIC DATA ON H&R'S SHARES

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 und Prime IG Chemicals Speciality, DAXPlus Family-Index
Designated Sponsor	Oddo Seydler Bank AG

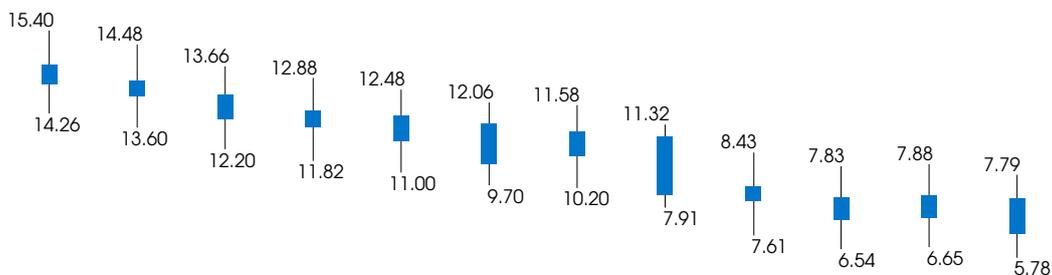
#### Number of Shares, Market Capitalization and Trading Volume

The number of company shares issued totaled 37,221,746 as of December 31, 2018, i.e., higher than in the previous year due to the issuance of new shares in the summer of 2018 in connection with the combined cash and scrip dividend.

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.

#### G. 02 HIGHEST AND LOWEST PRICES OF THE H&R SHARE, FULL YEAR 2018

IN €



■ Highest and lowest prices

During the past year, interest in our shares was stable on the whole, with around 6.1 million shares being traded on the Frankfurt Stock Exchange and on Xetra. Another 1.1 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 €70.8 million.

#### T. 06 KEY SHARE DATA

	2018	2017	2016	2015	2014
Number of shares on December 31	37,221,746	36,536,553	35,820,154	35,820,154	35,820,154
Earnings per share	€0.59	€0.88	€1.06	€0.77	€-0.49
Highest price for the year	€15.40	€15.91	€19.97	€9.70	€9.40
Lowest price for the year	€5.78	€11.49	€7.31	€5.86	€6.45
Price on December 31	€6.09	€14.60	€14.95	€9.24	€7.54
Market capitalization on December 31	€226.7 million	€ 553.4 million	€535.5 million	€ 330.9 million	€ 270.1 million
Average daily trading volume	€228 thousand	€436 thousand	€608 thousand	€269 thousand	€130 thousand

#### Board Members Further Increase Stakes

No directors' dealings involving shares in H&R were reported to us during the reporting period. Nevertheless, all of the members of the Supervisory Board and the Executive Board, without exception, opted to receive new shares as a scrip dividend in the summer of 2018, deciding against a cash distribution. As the transaction volumes did not exceed the €5 thousand threshold, no notifications had to be submitted.

#### Shareholder Structure

When the company changed its legal form from that of a joint-stock company to a partnership limited by shares (KGaA), H&R Komplementär GmbH became partner.

In a voting rights notification dated July 5, 2016, Mr. Nils Hansen reported that his share of voting rights totaled 60.63% of the company's voting rights due to his direct holdings and the attribution of voting rights held by or attributed to him personally, H&R Beteiligung GmbH, H&R Internationale Beteiligung GmbH and H&R Holding GmbH.

As a result of the scrip dividend that Mr. Hansen subscribed to, the share of the company's voting rights held by him had risen to a total of 61.43% by December 31, 2018, based on an informal notification. Of this amount, 59.74% of the voting rights relate to the attribution of shares held by or attributed to H&R Beteiligung GmbH, H&R Internationale Beteiligung GmbH, and H&R Holding GmbH. Mr. Nils Hansen holds a further share of just under 1.7% as privately owned shares.

According to an informal notification, Mr. Wilhelm Scholten's total stake in the share capital on December 31, 2018 was virtually 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 32.5% of H&R shares were in free float as of December 31, 2018. Of these, around 9.6% are in turn held by institutional investors.

### Investor Relations

During the 2018 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.

Despite heavier trading in H&R shares and the increased attractiveness of the share's liquidity, many banks continued to focus exclusively on covering blue chips in 2018. Nevertheless, the number of banks covering our shares has increased to four. In addition to DZ Bank and Baader Bank, analysts from Kepler Cheuvreux and Commerzbank are monitoring our shares.

#### **T. 07 RESEARCH COVERAGE OF H&R'S SHARES**

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Kepler Cheuvreux

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Baader Bank

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DZ Bank

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Commerzbank

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### 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](http://www.hur.com).

We will 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 in the Investor Relations section of our website.

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

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Internet: [www.hur.com](http://www.hur.com)

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

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## 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.

At the same time, we have three business segments: ChemPharm Refining, ChemPharm Sales and Plastics.

Our biggest segment, ChemPharm Refining, includes the two German specialty refinery sites in Hamburg and Salzbergen. These two production sites differ from conventional lubricant refineries in that a significantly higher percentage of output consists of so-called crude-oil-based specialty products such as label-free plasticizers, paraffins and white oils and a considerably lower percentage consists 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. This segment's core products include label-free plasticizers for the tire industry and paraffins for many different applications.

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 KGaA) 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 41 consolidated subsidiaries (December 31, 2017: 38). Three new companies joined the Group last year, including one at the production site in Coburg, a company in the United States and another company in Indonesia.

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 domestic production plant in Coburg, Germany.

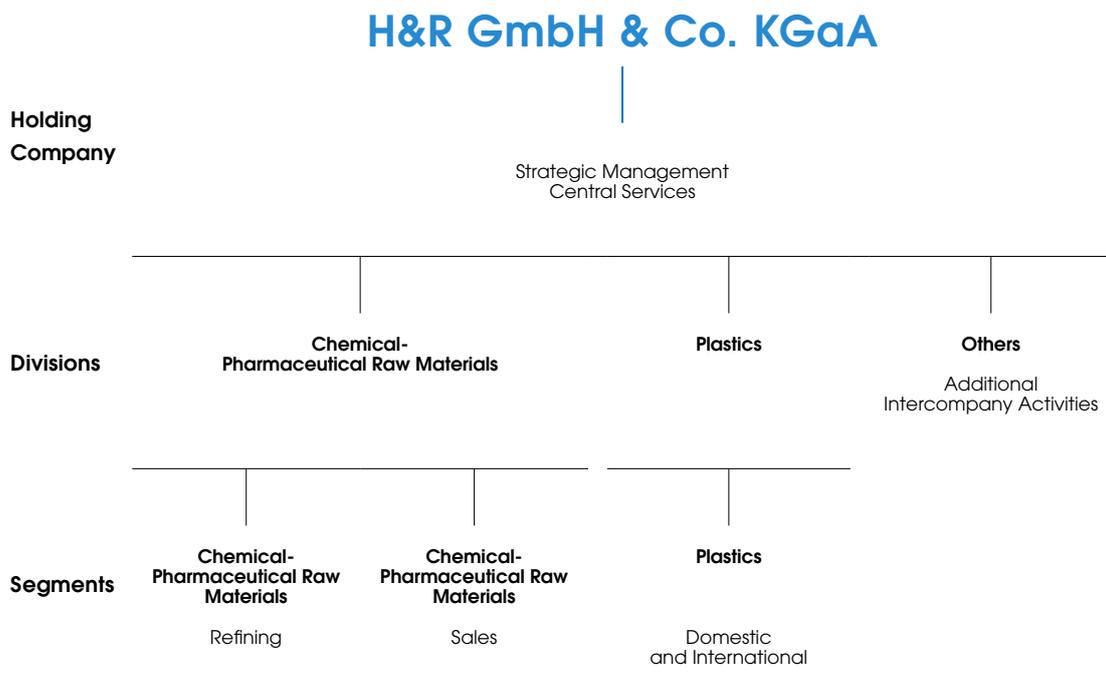
#### Locations

At year-end 2018, our Group employed 1,664 people worldwide (previous year: 1,692 employees). 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	60
Asia	China	Wuxi	Plastics	115
		Ningbo/Daixi	ChemPharm	115
		Fushun	ChemPharm	90
	Thailand	Bangkok/Si Racha	ChemPharm	63
Europe	Germany	Hamburg	ChemPharm	309
		Salzbergen	ChemPharm	407
		Coburg	Plastics	284
	Great Britain	Tipton	ChemPharm	42
	Czech Republic	Dačice	Plastics	86

G. 03 OVERVIEW OF GROUP STRUCTURE



**Main Products, Services and Business Processes**

In our domestic specialty refineries in the ChemPharm Refining segment, we use what is known as “reduced crude oil” as a feedstock. This is crude oil that has had its light components removed, using the distillation process, in upstream fuel refineries. This is used to produce a total of approximately 800 crude-oil-based specialty products. In addition to base oil as a raw material for lubricant production, we primarily produce 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 used as feedstock for other types of refineries.

While in Hamburg we exclusively manufacture our own specialty products, we act as a service provider at the Salzbergen production site, where we manufacture products to specification

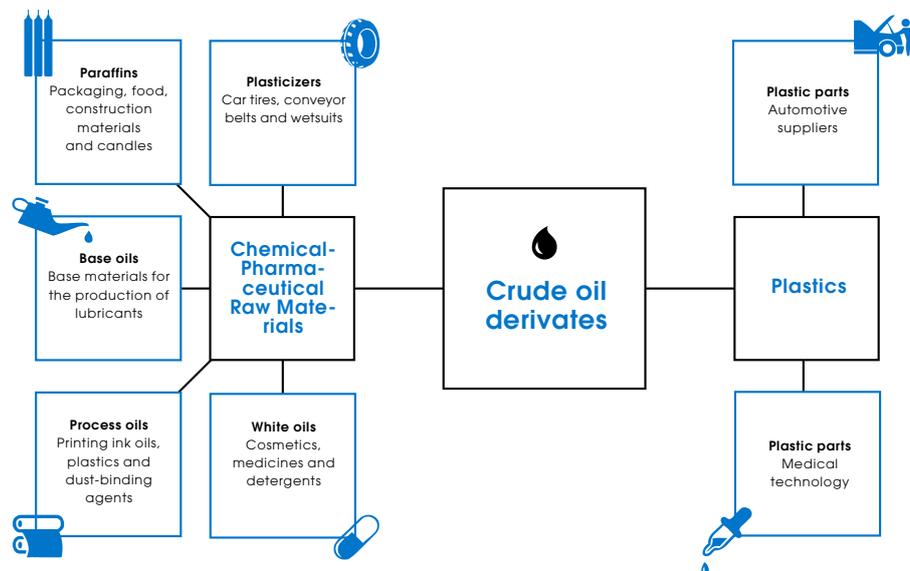
on a contract basis for our main customer. Furthermore, at a special filling facility, we also mix lubricants based on well-known end customers' formulations.

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.

In the Plastics segment, we produce high-precision, injection-molded plastic components as well as the molds required to manufacture them. This division is particularly skillful at producing complex plastic parts while using different types of materials simultaneously.

#### G. 04 CRUDE OIL SPECIALTIES



## 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.

A comparative biennial study published by the renowned U.S. research organization HSB Solomon Associates LLC® (most recently in 2017) in which around 50% of the worldwide refinery

capacity in the lubricants segment participated, rated H&R KGaA as being “well positioned competitively” and confirms our own rating: What is more, based on the product mix generated, the H&R refineries also see themselves as specialty refineries, and not as lubricant refineries.

These specialty products include, among others, our 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 and 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: 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. In the construction industry, wax emulsions provide construction materials with water repellent characteristics. In this product segment, we and other competitors are close to the market leader.

We are sure that thanks to our ability to reliably meet high quality standards, we have also established a good reputation in the market for white oils. For instance, our technical white oils are used to clean printing presses or as plasticizers for plastic components. Our medical white oils are found, among other applications, as components in cosmetic products such as creams and ointments. The large oil companies are also significant producers in this field.

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

In addition to the core products, the company's by-products are also being marketed in an increasingly targeted manner: As a matter of principle, H&R KGaA is focusing on maximizing its output of primary products and avoiding by-products. Nevertheless, the production process at our production sites in Salzbergen and Hamburg generates 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. In turn, some of this bitumen can be used as a raw material by other refinery operators.

The customers of our Plastics Division can be divided into three groups of which the automotive industry is by far our biggest customer group. Other customer groups include 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.

### Legal and Economic Factors

REACH (The European Regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals) entered into force in the EU in 2007. The main aim of REACH is to protect human health and the environment when dealing with chemical substances. In order to accomplish this goal, REACH places a special level of responsibility on the manufacturer or importer of a substance by requiring it to assess the risks of substances it has brought to market and their uses over the entire life cycle.

With regard to REACH, H&R KGaA performs both the role of an importer and a manufacturer as well as that of a downstream user. As a manufacturer of chemical substances, H&R KGaA had already completed REACH registrations for all of the substances manufactured in its refineries by the earliest registration date, December 1, 2010.

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.

H&R KGaA 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.

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 goods) 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 KGaA 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.

### Objectives

H&R KGaA's main economic objectives primarily refer to our Chemical-Pharmaceutical Raw Materials Division.

Our main operating goal is to establish production partnerships on every continent. We also want to have a global presence through our own additional processing facilities and sales/distribution units. Further, we intend to increase the ChemPharm Sales segment's share of total revenues to around 50%.

We have defined the target of the "Green Refinery" for those production sites in Germany that we manage ourselves: This reflects our efforts to permanently reduce the percentage of combustion products and to generate an output of more than 90% in high-grade primary and value-added products.

In the Plastics segment, we aim to continue pursuing over the long term the corporate development efforts implemented over the past two years.

Taken together, these measures should, over the next three to five years, result in a level of earnings that will enable us to achieve operating income (EBITDA) of around €100.0 million that will give us planning certainty while being relatively unaffected by market volatility.

### 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 expanding further internationally, we see ourselves as a **Globally** oriented company. 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 application driven** 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 locations are always on the cutting edge technologically and searching for innovative solutions to achieve continuous improvements in our processes and products. We successfully combine Economy and Ecology, acting in an economically prudent way, with full awareness of the resources we are using. **Eco<sup>2</sup>**, i.e., "Ecology X Economy", increases the potential in both areas exponentially while bringing us another step closer to the Green Refinery.

## Company Control

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### Internal Management System

A value-based management system is used to guide and manage the Group. This system is centered on comprehensive reporting of key performance indicators and ratios designed to support management's monitoring of 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 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 result, income taxes, other financial income and depreciation, impairments and amortization of the H&R KGaA Group's intangible assets and property, plant and equipment.

H&R KGaA calculates EBITDA as follows:

Consolidated income  
 +/- income taxes  
 +/- net interest income  
 +/- other financial income  
 + depreciation, impairments and amortization of intangible assets and property, plant and equipment  
 = EBITDA

Although 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 income. For the H&R KGaA Group, EBITDA is the relevant income figure that illustrates the income needed to cover the Group's ongoing (maintenance) capital expenditures. This is of critical importance for the company's capital-intensive business model.

## T. 09 RECONCILIATION OF OPERATING INCOME (EBITDA) TO CONSOLIDATED INCOME (IFRS)

IN € MILLION	2018	2017
<b>Operating income (EBITDA) of H&amp;R GmbH &amp; Co. KGaA</b>	<b>74.7</b>	<b>97.9</b>
depreciation and amortization of fixed assets and property, plant and equipment	-34.2	-43.1
Reversals of fixed-asset impairments (in € thou.)	-	-
Financial income	2.5	1.8
Financing expenses	-9.3	-10.4
Income taxes	-11.4	-16.7
<b>Consolidated income</b>	<b>22.3</b>	<b>29.5</b>

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 and calculation of the holdings' carrying amounts and impairment tests.

The ROCE profitability ratio (Return On Capital Employed), 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	2018	2017	2016	2015	2014
Cash flow from operating activities	22.3	46.2	75.5	56.4	-0.4
Cash flow from investing activities	-69.7	-58.1	-38.8	-28.1	-10.1
<b>Free cash flow</b>	<b>-46.5</b>	<b>-11.9</b>	<b>36.7</b>	<b>28.4</b>	<b>-10.5</b>

The starting point for calculating and reporting cash flow from operating activities in 2018 was the decrease in consolidated income to €22.3 million (December 31, 2017: €29.5 million) resulting from the higher cost of materials and higher depreciation/amortization. Therefore, our capital expenditures rose 20.0% to €-69.7 million and generated free cash flow of €-46.5 million (December 31, 2017: €-11.9 million).

**Capital Structure.** We aim to have a balanced capital structure that provides leeway for strategic development of the Group while optimizing the cost of capital for our equity and borrowings. Under the terms of our loan agreements and our borrower's note loans, we are obliged to uphold two financial covenants relating to our equity funding and the ratio of our net debt 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. The increase in debt in 2018 and a significant improvement in equity caused this ratio to change from 16.0% to 28.9%.

T. 11 CAPITAL STRUCTURE

	2018	2017	2016	2015	2014
Net debt/EBITDA	1.38	0.55	0.41	1.00	3.41
Equity ratio in %	48.9	51.7	49.0	45.4	35.2
Net gearing in %	28.9	16.0	15.1	31.4	45.6

**Operating 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 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 net debt, they constitute the main relevant control parameters used by our company.

T. 12 INCOME AND VOLUME TREND

IN € MILLION	2018	2017	2016	2015	2014
Sales volume of primary products in kt <sup>1)</sup>	836	832	849	762	697
EBITDA	74.7	97.9	101.4	85.4	31.5
EBIT	40.6	54.8	64.2	48.7	5.8
EBT	33.7	46.2	54.2	34.2	-7.8

<sup>1)</sup> 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. In order to ensure that the components we supply are as ideally suited to the end product as possible, we maintain close dialogue with our customers.

One focal point of our R&D work 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 domestic production sites. 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 great potential for developing new products. Our sales/distribution staff and partners are an important source of ideas for product innovations; 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. While in the past we focused mainly on expanding our production capacity, in recent years we have increased our investments in plants that can further refine our products.

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<sub>2</sub> 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. 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 around €2.7 million, R&D spending was once again noticeably, i.e., 11.2%, higher than the prior-year figure. Our R&D ratio, defined as R&D expense divided by sales revenues, remained unchanged at 0.24% due to the increase in sales.

#### T. 13 RESEARCH AND DEVELOPMENT COSTS

IN € THOUSAND	2018	2017	2016	2015	2014
Research and development costs	2,695	2,423	2,054	1,955	1,909
of which ChemPharm	2,170	2,160	1,904	1,749	1,563
of which Plastics	525	263	150	206	346
as % of annual sales	0.24	0.24	0.22	0.20	0.17

## Report on Economic Position

### Trends in the Business Environment

#### Macroeconomic Conditions

The Economic Barometer of the German Institute for Economic Research (DIW Berlin) most recently pointed towards above-average national growth for the final quarter of 2018: After gross domestic product had initially dropped in the third quarter, DIW's year-end forecast for growth in 2018 as a whole came to between 1.4% and 1.6%.

The German Economic Institute in Cologne expects to see a similar level of growth. The expectations of numerous companies have been hit by U.S. protectionism, the uncertainties associated with the impending Brexit process and Italian government policies.

The OECD also identified slower growth for the global economy of late. The experts believe that the mounting trade and financial risks are one of the main factors behind this trend. Looking at 2018 as a whole, growth was predicted to come in at 3.7%, in line with the forecast released at the beginning of the year, falling to 3.5% in the ensuing years. The trend for the euro area was already headed slightly south in 2018: Growth fell short of the 2.4% forecast at only 1.9% and is tipped to come in at 1.8% in 2019.

The euro, which is the functional currency used to calculate the earnings trend at H&R KGaA, made a strong start to the financial year against the US dollar. The exchange rate came to around US\$ 1.20. After touching on a high of around US\$ 1.26, however, the euro came under significant pressure as of mid-April, pushing the exchange rate down to US\$ 1.12. Toward year-end, it followed a sideways movement around the US\$ 1.13 mark.

Average annual crude oil prices (all data refer to the average price of a barrel of North Sea Brent) rose considerably until October 2018. Starting at a price of around US\$ 67 at the start of the year, prices climbed to an annual high of around US\$ 86. In the period that followed, however, disagreements among the OPEC countries, coupled with record production levels in Russia and the United States, resulted in a sustained high level of supply. At the same time, concerns over an economic slowdown put a damper on demand. The oil price came to US\$ 53 at the end of the year.

#### Industry-Specific Climate

The German Chemical Industry Association VCI believes that 2018 was a good year for the chemical-pharmaceutical industry in German. Sales in the industry rose by 4.5% to €204 billion, breaking through the €200 billion threshold for the very first time. Production increased by 2.5% year-on-year, while chemical prices rose by 2%.

#### G. 05 EXCHANGE RATES US\$ PER € IN 2018

(CLOSING RATE US\$ PER €)



## Overview of Business Development and Performance

In 2018, H&R KGaA sold a total of 836,140 tons of primary products from its Chemical-Pharmaceutical Raw Materials Division (2017: 831,700 tons) to outside buyers. Overall, it generated €1.11 billion in sales – more than in the previous year (2017: €1.03 billion). We have increased our sales volumes in general. The marked year-on-year increase in the price of raw materials up until October 2018 raised the cost of materials, the main factor influencing pricing and, therefore, the level of sales revenues.

The fluctuations in the crude oil price trend – increase in prices up until October, falling prices until the end of the year – resulted in “windfall effects” during the year that had a slightly positive impact looking at 2018 as a whole. All in all, the total operating income (EBITDA) generated by the Group amounted to €74.7 million (2017: €97.9 million).

### Events with a Major Impact on Business Development and Performance

Overall, the Group’s €1.11 billion of sales exceeded the prior-year level (2017: €1.03 billion). At the same time, global political factors

such as U.S. economic policy, waning economic growth in China and tension in Europe surrounding Brexit and Italy had a negative impact. Our customers also felt considerably under pressure and adopted a more cautious approach. In some cases, we were unable to implement the price adjustments that were needed in light of the raw materials situation.

### 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 2018 were based, among other factors, on the good performance that the company had been able to achieve over the last few years. As a result, we predicted rising sales and operating income (EBITDA) ranging between €94.0 million and €106.0 million.

As our key figures deviated considerably from our forecasts at the end of the first half of 2018, we retracted this guidance and waited until the figures for the first nine months were available before communicating an income forecast of between €70.0 million and €75.0 million. We ultimately reported sales revenue of €1.11 billion. The EBITDA reported in the consolidated income statement for the financial year came to €74.7 million, easily in the upper range of our adjusted forecast.

#### T. 14 FORECAST FOR FINANCIAL YEAR 2018

Forecast Date	Publication of the 2017 Annual Report	Publication of Interim Statement for the 1st quarter 2018	Publication of the 2018 Semi-Annual Report	Publication of Interim Statement for the 3rd quarter 2018	Actual Value
Total sales	“€950.0 million to €1,100.0 million”	not defined	not defined	not defined	€1,114.2 million
Sales in ChemPharm Refining	“≥ €570.0 million”	not defined	not defined	not defined	€694.5 million
Sales in ChemPharm Sales	“≥ €323.0 million”	not defined	not defined	not defined	€374.9 million
Sales in Plastics	“≥ €57.0 million”	not defined	not defined	not defined	€55.0 million
EBITDA at Group level	“€94.0 million to €106.0 million”	“€94.0 million to €106.0 million”	forecast retracted, not renewed	“€70.0 million to €75.0 million”	€74.7 million

In the Chemical-Pharmaceutical Raw Materials Division, sales increased year-on-year to €1.06 billion, primarily because of prices of raw materials (2017: €965.5 million). We referred to this upward trend in sales in our interim reports but did not update the forecast. On the earnings side,

the Refinery segment was hit particularly hard by the raw materials prices. Instead of the approx. €90.0 million expected at the start of the year, our ChemPharm business generated €71.5 million.

By contrast, performance in the Plastics Division was down slightly. This segment reported lower sales revenues (€55.0 million) than in the previous year (2017: €59.6 million), and was also less profitable than in 2017 with EBITDA of €3.0 million (EBITDA €3.7 million).

After a robust start to the year, it was not necessarily to be expected that H&R KGaA would fall short of the targeted operating income for the year as a whole. 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 adhere to our guidance. At the same time, any new forecast published would not have been reliable.

Our expectations only started to become more precise when the figures for the first nine months of 2018 were released. All in all, the company achieved EBITDA of €74.7 million and, while this is a weaker result than the figures achieved in recent years, it is much better than the sort of performance seen in the crisis years of 2013/14.

## Economic Position of the H&R Group

### Assessment of Economic Performance and Overall Statement by the Management Board

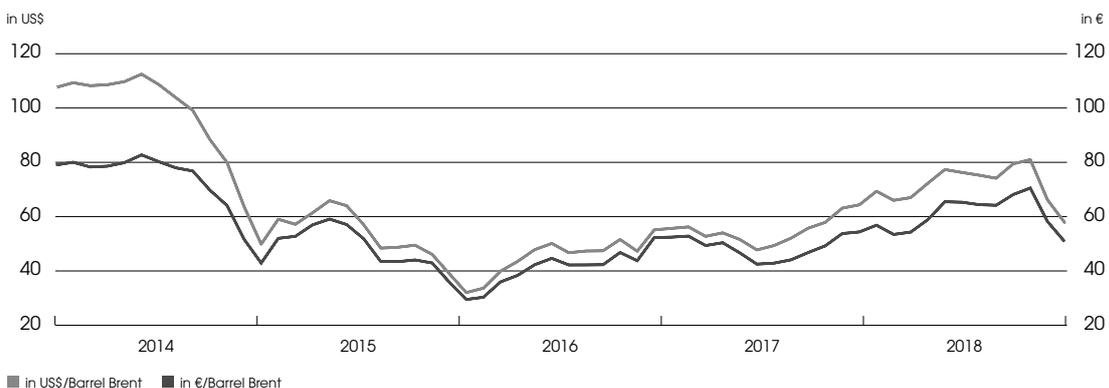
Overall, H&R KGaA's business performed much worse during the reporting period than the Management Board had expected at the beginning of 2018. This was primarily due to the trend in the price of crude oil. A trend that is noticeable on a small scale at the gas station has a huge leverage effect in the refineries.

We were only partly able to pass on the additional costs in the form of higher product prices. For some products, such as base oils, price indices remained low despite crude oil being more expensive. This also meant that our sales team only had limited options available for passing on our additional costs.

At the same time, as the year drew to a close, our customers started to take a much more skeptical view of their own development than they had at the beginning of the year. This was more than understandable given the difficult global policy environment, which was marred by U.S. customs policy, sanctions, Brexit negotiations and the toing and froing shown by the "grand coalition" in Berlin. This means that, while customers remained keen

#### G. 06 OIL PRICES 2014-2018

(AVERAGE MONTHLY PRICES)



to buy our products, they continued to adopt an extremely price-conscious approach.

In addition to the market factors, influences relating to refinery processes also played a role: in order to get the best out of production facilities, the quality of the raw materials used is crucial. We were only able to influence their availability to a limited extent in 2018. This meant that we have had to use raw materials in our production operations that allowed us to produce a significantly smaller quantity of our core products. As a result, our strategy of specialization and yield optimization was less successful than in recent years.

All of these factors are reflected in the figures: The increase in sales on the one hand was offset, on the other, by income that was down by around 24% to €74.7 million due to the factors set out 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.

#### Result of Operations

In financial year 2018, our sales revenues increased year-on-year to €1,114.2 billion (previous year: €1,025.1 million). Revenues from the Chemical-Pharmaceutical businesses (2018 sales contribution: 95.1%; previous year: 94.2%) were higher mainly because prices of raw materials rose again until October 2018. In the Plastics Division (2018 sales contribution: 4.9%; previous year: 5.8%), on the other hand, the sales volume was slightly weaker than in 2017. As far as operating income (EBITDA) is concerned, all areas fell short of expectation.

The regional focus of our business activities remains on Germany, where 56.7% of sales were generated in financial year 2018 (2017: 55.6%). This percentage includes transactions with our sales partner – the Hansen & Rosenthal Group – which in turn generates a large proportion of its sales outside of Germany.

Europe-wide, H&R KGaA's direct sales from foreign customers stood at 11.4%. Sales from outside of Europe accounted for 31.9% of the total.

Financial year 2018 was characterized primarily by market-related factors for H&R KGaA. Due to the mounting uncertainty regarding global trade (in particular the customs policy of the United States vis-à-vis China; Brexit; the diesel emissions scandal), our customers remained cautious and took a more skeptical view of their own outlook. This sort of environment made it difficult for us to enforce the price adjustments we urgently had to make.

All divisions suffered as a result. Positive effects, such as the expansion of our international network in the Chemical-Pharmaceutical Raw Materials division, were also unable to compensate for this development.

All in all, the company has achieved income that is adequate for such a difficult financial year: consolidated operating income (EBITDA) totaled €74.7 million (previous year: €97.4 million). Driven by the increase in sales revenues and lower income, there was a 2.9 percentage point change in the EBITDA margin to 6.7%, compared to 9.6% in 2017.

The other net income levels also showed the same development overall. For example, consolidated income before interest and taxes (EBIT) totaled €40.6 million in 2018 with a slightly lower level of depreciation and amortization (previous year: €54.8 million). Income before tax (EBT) decreased from €46.2 million in 2017 to €33.7 million in 2018. Consolidated income attributable to shareholders amounted to €21.6 million (previous year: €32.1 million).

The company reported earnings per share of €0.59 for 2018, compared to earnings per share of €0.88 in the prior-year period.

## T. 15 CHANGE IN SALES SALES AND INCOME

IN € MILLION	2018	2017	2016	2015	2014
Sales revenues	1,114.2	1,025.1	942.7	982.9	1,058.6
EBITDA	74.7	97.9	101.4	85.4	31.5
EBIT	40.6	54.8	64.2	48.7	5.8
Income before tax	33.7	46.2	54.2	34.2	-7.8
Consolidated income attributable to shareholders	21.6	32.1	38.4	26.9	-15.4
Earnings per share	0.59	0.89	1.07	0.75	-0.49

**Trend in Orders**

New orders for products in our Chemical-Pharmaceutical business were at a solid level throughout all of 2018. Even at year-end, there was hardly any decrease in demand, meaning that the volume of core products sold increased slightly during the financial year.

The Plastics Division was in robust shape overall, with the order book increasing slightly to around €34.9 million at the end of the year (December 31, 2017: €34.6 million).

**Trends in the main items on the income statement**

During the reporting period, there was a €12.9 million change in inventories of finished products and work-in-progress (previous year: €9.8 million).

In financial year 2018, our cost of materials increased by 14.8% to €877.5 million (previous year: €764.3 million) as a direct result of increases in prices of raw materials. The change in the material expense ratio to 77.8% (2017: 73.6%) was also primarily attributable to increases in prices of raw materials.

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

IN € MILLION	2018	2017	2016	2015	2014
Sales revenues	1,114.2	1,025.1	942.7	982.9	1,058.6
Changes in inventories	12.9	9.8	9.2	-27.9	0.4
Other operating income	27.3	26.5	21.6	32.4	18.7
Cost of materials	-877.5	-764.3	-671.8	-709.4	-881.4
Personnel expenses	-87.1	-86.0	-86.7	-79.9	-72.7
Depreciation and amortization	-34.2	-43.1	-37.2	-36.8	-25.6
Other operating expenses	-115.4	-113.7	-114.1	-113.1	-92.4
<b>Operating result</b>	<b>40.2</b>	<b>54.3</b>	<b>63.7</b>	<b>48.3</b>	<b>5.7</b>
Financial income	-6.4	-8.1	-9.5	-14.1	-13.5
<b>Consolidated income before taxes</b>	<b>33.7</b>	<b>46.2</b>	<b>54.2</b>	<b>34.2</b>	<b>-7.8</b>
<b>Consolidated income before minority interests</b>	<b>22.3</b>	<b>29.5</b>	<b>39.3</b>	<b>26.8</b>	<b>-15.6</b>
<b>Consolidated income attributable to shareholders</b>	<b>21.6</b>	<b>32.1</b>	<b>38.4</b>	<b>26.9</b>	<b>-15.4</b>

There was a slight 1.3% increase in personnel expenses to €87.1 million (previous year: €86.0 million), although the total number of employees was lower.

Depreciation and amortization, which stood at €43.1 million in the previous year, fell considerably to €34.2 million.

Unlike in previous years, impairment testing did not result in any impairment losses having to be recognized in 2018.

In 2018, the financing costs dropped from €10.4 million to €9.3 million, also affecting the financial income, which improved from €-6.4 million in 2017 to €-8.1 million in 2018.

Earnings Trends by Segment

**ChemPharm Refining.** Sales volumes of primary products at our Group’s largest segment decreased somewhat from around 463,798 tons in 2017 to around 459,236 tons in 2018.

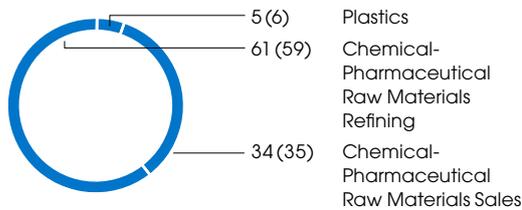
Meanwhile, segment sales were higher in financial year 2018, primarily because of higher raw material prices. Because of our substantial material requirements, the higher commodity prices translated into higher material costs, thereby increasing our sales. Overall, sales increased by 12.7% to €694.5 million (previous year: €616.8 million). However, operating income (EBITDA) for the segment was down considerably on the previous year, decreasing from €63.7 million in 2017 to €46.0 million in 2018.

**ChemPharm Sales.** Sales in the international segment increased by 5.0% to €374.9 million (previous year: €357.2 million). The sales volume increased from around 378,993 tons in 2017 to 391,309 tons in 2018. As in previous years, the earnings trend of our subsidiaries was mixed and overall remained below expectations. As a result, operating income (EBITDA) declined to €30.1 million (2017: €34.3 million).

**Plastics.** With €55.0 million in sales, our Plastics Division made less of a contribution to total sales than in the previous year (2017: €59.6 million). After contributing €3.7 million to operating income (EBITDA) in the previous year, the segment achieved EBITDA of €3.0 million in the reporting period.

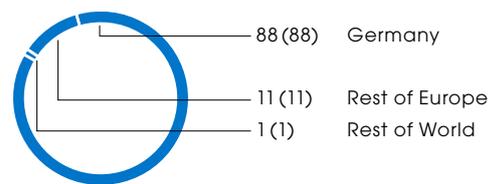
G. 07 SALES BY SEGMENT IN 2018

IN % (PREVIOUS YEAR'S FIGURES)



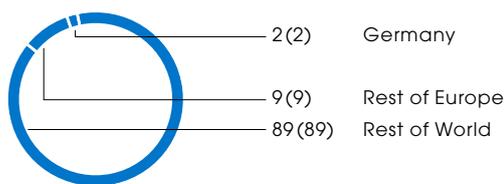
G. 08 SALES BY REGION IN THE CHEMPHARM REFINING SEGMENT IN 2018

IN % (PREVIOUS YEAR'S FIGURES)



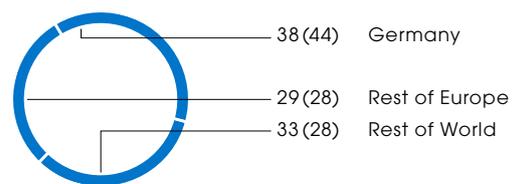
G. 09 SALES BY REGION IN THE CHEMPHARM SALES SEGMENT IN 2018

IN % (PREVIOUS YEAR'S FIGURES)



G. 10 SALES BY REGION IN THE PLASTICS SEGMENT IN 2018

IN % (PREVIOUS YEAR'S FIGURES)



## T. 17 KEY FIGURES BY SEGMENT (IFRS)

IN € MILLION	2018	2017	2016	2015	2014
<b>Sales revenues</b>					
Refining	694.5	616.8	567.2	614.3	768.7
Sales	374.9	357.2	328.0	320.2	244.7
Plastics	55.0	59.6	56.5	60.1	56.5
Reconciliation	-10.2	-8.5	-9.1	-11.6	-11.3
<b>Operating income (EBITDA)</b>					
Refining	46.0	63.7	64.5	52.7	18.2
Sales	30.1	34.4	39.4	35.1	18.8
Plastics	3.0	3.7	2.6	-0.8	-1.5
Reconciliation	-4.4	-3.8	-5.1	-1.5	-3.9

### 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 loan with a volume of € 200 million. In 2018, we successfully refinanced the syndicated loan granted in August 2015 ahead of time, negotiating improved conditions and a term of five years, with two options to extend the loan by one year in each case. 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 2018, we took out a loan of € 16.0 million under the KfW environmental program to finance a flood-protection wall in Hamburg-Neuhof. We also increased the loan drawdown under the KfW Energy Efficiency Program for waste heat from € 9.5 million to € 19.0 million. This will serve to finance the measures designed to improve our ability to avoid, and make use of, waste heat at the site in Hamburg-Neuhof. Borrower's note loans of € 7.0 million that were still outstanding at the beginning of the year were repaid on time on November 30, 2018.

While our long-term financing was still possible at very attractive though almost unchanged conditions since the end of 2017, we were able to secure considerably improved conditions for the short-term financing of a substantial syndicated loan.

## T. 18 MAIN FINANCING INSTRUMENTS OF THE H&amp;R GROUP

	Original Loan Amount in € million	Year Issued	Current	Maturity
Syndicated loan	up to 200.0	2018	27.7	7/25/2023
Redeemable loan	50.0	2011	12.5	9/30/2020
Redeemable loan	28.8	2015	20.6	9/30/2023
Redeemable loan	10.0	2017	10.0	6/30/2027
Redeemable loan	19.0	2017	19.0	9/30/2027
Redeemable loan	14.5	2017	14.5	9/30/2027
Redeemable loan	16.0	2017	16.0	6/30/2028

As of December 31, 2018, firmly agreed but unused credit lines in the amount of € 135.2 million were in existence.

#### Analysis of the Cash Flow Statement

Based on the lower consolidated income figure of €22.3 million, cash flow from operating activities totaled €23.3 million in the year under review (previous year: €46.2 million). This amount included €34.2 million of depreciation and amortization (previous year: €43.1 million). Changes in net working capital totaled €-29.4 million (previous year: €-6.7 million). Income taxes paid were slightly lower at €-9.5 million (previous year: €-17.8 million).

Cash from investing activities increased to €-69.7 million (previous year: €-58.1 million). The main component of this item is the €-70.5 million spent on increased investments in property, plant and equipment in connection with projects realized in our specialty refineries and sites (2017: €-56.8 million).

Accordingly, free cash flow (total cash flow from investing and operating activities) decreased again to €-46.4 million (previous year: €-11.9 million). Overall, financing activities resulted in a net cash inflow of €33.2 million (previous year: €15.3 million). Financial liabilities, which had already been

steadily reduced in the past, were further reduced in 2018 (€-79.4 million; 2017: €-42.8 million). At the same time, €118.9 million of new financial liabilities were incurred (2017: €57.8 million). At the end of the reporting period, cash and cash equivalents amounted to €46.5 million, compared to €59.0 million a year earlier.

In the fourth quarter of 2018 alone, the company reported a significantly improved cash flow from operating activities of €14.0 million (Q4 2017: €1.5 million). One key factor in this development was the drop in raw materials prices and, as a result, lower net working capital requirements. Despite higher investing activities of €-25.7 million (2017: €-20.3 million), free cash flow for the fourth quarter of 2018 improved to €-11.7 million (Q4 2017: €-16.8 million).

The company was always able to fulfill its payment obligations.

For the current year, there are no pre-existing payment obligations under finance leases (previous year € 0 thousand); commitments under operating leases total €41.8 million (previous year: €41.1 million).

The total amount of liabilities to banks maturing in 2019 was € 70.1 million as of the reporting date.

#### T. 19 FINANCIAL POSITION

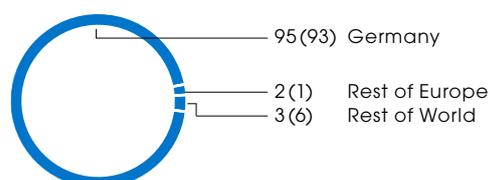
IN € MILLION	2018	2017	2016	2015	2014
Cash flow from operating activities	23.3	46.2	75.5	56.4	-0.4
Cash flow from investing activities	-69.7	-58.1	-38.8	-28.1	-10.1
Free cash flow	-46.4	-11.9	36.7	28.4	-10.5
Cash flow from financing activities	33.2	15.3	-58.9	-52.4	-0.3
Cash and cash equivalents as of 31/12	46.5	59.0	58.0	79.3	101.6

#### Capital expenditures

During the reporting period, our investments in property, plant and equipment of €91.6 million were considerably higher than in the prior-year period (2017: €59.1 million). We invested a total of €88.5 million in the Chemical-Pharmaceutical Raw Materials Division during the 2018 financial year (previous year: €58.1 million). A substantial portion of this amount (€84.5 million) was again invested in the ChemPharm Refining segment, where it was

#### G. 11 CAPITAL EXPENDITURES BY REGION IN 2018

IN % (PREVIOUS YEAR'S FIGURES)



used to expand and replace capital assets at the specialty refineries in Hamburg and Salzbergen.

The division's remaining €4.0 million of capital expenditures were divided among our ChemPharm Sales segment's international locations.

In the Plastics segment, investments in property, plant and equipment came to €3.0 million due to the replacement of old machinery.

In sum, order commitments for property, plant and equipment to the amount of €22.0 million existed. Their financing was secured by existing resources and credit lines.

#### T. 20 CAPITAL EXPENDITURES BY SEGMENT

IN € MILLION	2018	2017	2016	2015	2014
Refining	84.5	54.2	34.0	23.6	18.1
Sales	4.0	3.9	4.5	6.7	4.7
Plastics	3.0	0.8	0.8	0.7	0.8
Reconciliation (other activities)	0.1	-	-	-	0.1
<b>Group</b>	<b>91.6</b>	<b>59.1</b>	<b>39.3</b>	<b>31.1</b>	<b>23.7</b>

#### Analysis of the Statement of Financial Position

As of year-end 2018, total assets stood at €730.4 million (December 31, 2017: €662.6 million).

On the assets side, there was a marked 21.2% drop in cash and cash equivalents to €46.5 million, compared to €59.0 million at the end of the prior year. There was also a considerable 12.6% increase in trade receivables to €121.0 million (December 31, 2017: €107.5 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 – increased by 19.1% to €153.9 million (2017: €129.2 million). Overall, current assets increased by 10.3% to €339.7 million as of December 31, 2017, compared with €308.1 million at the end of 2017. As a proportion of balance sheet total, they remained unchanged at 46.5%.

During financial year 2018, non-current assets likewise increased significantly (by 10.2%) from €354.5 million on December 31, 2017 to €390.7 million. Property, plant and equipment rose 14.9%, from €292.6 million to €336.1 million. Goodwill remained unchanged, while other intangible assets dropped by 11.3% to €17.3 million (2017: €19.5 million). Deferred taxes decreased by 43.3%, from €7.6 million to €4.3 million.

Overall, non-current assets comprised 53.5% of balance sheet total.

On the liability side of the statement of financial position, current liabilities increased by 23.6% from €164.0 million to €202.7 million and their percentage of the balance sheet total increased to 27.8% (December 31, 2017: 24.8%). Liabilities to banks, which rose from €44.4 million to €70.1 million as a result of the valuation on the reporting date and new borrowings, and trade payables, which increased from €83.3 million at December 31, 2017 to €100.4 million due to higher purchase prices for ship deliveries of our raw materials, were offset by lower income tax liabilities, which decreased from €7.4 million on December 31, 2017 to €6.4 million, and by a decrease in other provisions from €11.6 million on December 31, 2017 to €11.2 million.

Other financial liabilities were also lower than in the previous year at €3.7 million (2017: €5.6 million). Contract liabilities increased to a current total of €2.2 million.

During the same period, non-current liabilities increased by 9.2% to €170.3 million (December 31, 2017: €155.9 million) and as a percentage of balance sheet total decreased from 23.5% to 23.3%. Non-current liabilities to banks increased from €68.4 million to €79.4 million, in part due to the new borrowings. Pension provisions and other liabilities decreased slightly. Other provi-

sions also increased marginally. Deferred tax liabilities decreased by 10.2% from €4.9 million to €4.4 million.

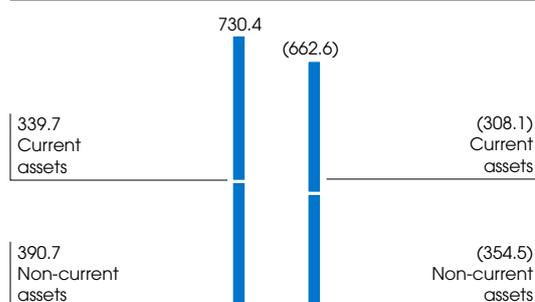
At the end of the reporting period, H&R KGaA's equity amounted to €357.4 million (December 31, 2017: €342.7 million). Thanks to the substantial increase in retained earnings, which after including consolidated income totaled €178.7 million (December 31, 2017: €172.0 million), it was around 3.9% higher than in the previous year.

Due to the higher balance sheet total, the equity ratio came to 48.9% as of the reporting date (December 31, 2017: 51.7%). Net gearing (the ratio of net financial liabilities to equity) increased (by 12.9 percentage points) from 16.0% to 28.9%.

Our non-recognized assets are limited mainly to the leased portion of our specialty refinery site in Hamburg and our fleet of leased vehicles.

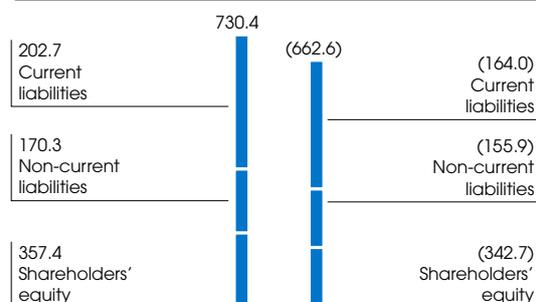
G. 12 ASSETS 2018

IN € MILLION (PREVIOUS YEAR'S FIGURES)



LIABILITIES AND SHAREHOLDERS' EQUITY 2018

IN € MILLION (PREVIOUS YEAR'S FIGURES)



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

### T. 21 RESULT OF OPERATIONS OF H&R GMBH KG & CO. KGAA UNDER HGB

IN € THOUSAND	2018	2017	Change
Sales Revenue	1,516	1,361	155
Other Operating Income	2,275	14,674	-12,399
Personnel Expenses	-590	-546	-44
Depreciation and amortization of fixed assets and property, plant and equipment	-22	-26	4
Other Operating Expenses	-7,657	-7,449	-208
Income from equity investments	740	0	740
Income from profit-transfer agreements	27,082	52,094	-25,012
Expenses from loss-transfer agreements	-1,173	-922	-251
Income from lending financial assets	2,357	2,086	271
Other interest and similar income	2,886	2,124	762
Interest and similar expenses	-5,787	-6,944	1,157
<b>Income before tax</b>	<b>21,626</b>	<b>56,452</b>	<b>-34,826</b>
Income Taxes	-1,417	-2,021	604
Other taxes	-7	-7	0
<b>Net income/loss for the year</b>	<b>20,202</b>	<b>54,425</b>	<b>-34,223</b>
Loss carryforward	21,106	-33,318	54,424
Distribution of dividend	-14,615	0	-14,615
Distributable profit/accumulated deficit	26,694	21,106	5,588

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 2018, 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 €1.5 million, higher than in the prior year (2017: €1.4 million). Personnel expenses for the reporting period stood at just under €0.6 million, also slightly higher than the prior-year level (2017: €0.5 million).

Depreciation of property, plant and equipment fell from €26 thousand to €22 thousand. Other operating income came to €2.3 million in 2018, down considerably on the prior-year figure, which had benefited from the reversal of impairment of a receivable due from GAUDLITZ GmbH (2017: €14.7 million).

Other operating expenses remained constant overall, rising from €7.4 million to €7.7 million. As a result of the less dynamic economic performance of our subsidiaries on the whole, income from profit and loss transfer agreements was down year-on-year to €27.1 million (2017: €52.1 million).

Due to results of operations that were, nevertheless, stable overall at the vast majority of subsidiaries with which individual profit and loss transfer agreements have been concluded, expenses from loss-transfer agreements showed only a moderate increase to €1.2 million (2017: €0.9 million).

The subsidiaries of H&R KGaA obtain funding for their financing needs from H&R KGaA's resources, which in turn are financed on the capital markets via credit lines and borrower's note loans. Due to slightly higher demand, other interest and similar income increased slightly from €2.1 million to €2.9 million. Financing costs, however, dropped in 2018: Interest and similar expenses fell from €6.9 million to €5.8 million.

Overall, income before tax amounted to €21.6 million (previous year: €56.5 million). Tax liability decreased from €2.0 million in the prior-year

period to €1.4 million. Overall, H&R KGaA generated €20.2 million in net income for the year (2017: €54.4 million).

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

IN € THOUSAND	2018	2017	Change
<b>Intangible assets</b>	<b>9</b>	<b>18</b>	<b>-9</b>
Other equipment, operating and office equipment	42	55	-13
<b>Property, plant and equipment</b>	<b>42</b>	<b>55</b>	<b>-13</b>
Shares in affiliated companies	124,675	124,311	364
Loans to affiliated companies	94,045	80,450	13,595
Holdings	1,050	1,050	0
<b>Financial investments</b>	<b>219,771</b>	<b>205,812</b>	<b>13,959</b>
Receivables due from affiliated companies	148,273	115,256	33,017
Other assets	5,823	3,658	2,165
<b>Receivables and other assets</b>	<b>154,096</b>	<b>118,914</b>	<b>35,182</b>
<b>Securities</b>	<b>52</b>	<b>76</b>	<b>-24</b>
Bank balances	19	4,242	-4,223
<b>Net current assets</b>	<b>154,167</b>	<b>123,232</b>	<b>30,935</b>
<b>Accruals and deferrals</b>	<b>54</b>	<b>113</b>	<b>-59</b>
Active difference from offsetting of assets	446	537	-91
<b>Assets</b>	<b>374,489</b>	<b>329,767</b>	<b>44,722</b>
Subscribed capital	95,156	93,404	1,752
Capital reserve	60,340	54,648	5,692
Other retained earnings	29,866	29,866	0
Distributable profit/accumulated deficit	26,694	21,106	5,588
<b>Equity</b>	<b>212,056</b>	<b>199,024</b>	<b>13,032</b>
Provisions for pensions and similar commitments	2,010	2,191	-181
Tax provisions	2,302	2,487	-185
Other provisions	1,248	2,853	-1,605
<b>Provisions</b>	<b>5,561</b>	<b>7,530</b>	<b>-1,969</b>
Liabilities to banks	119,085	84,609	34,476
Trade payables	158	182	-24
Liabilities to affiliated companies	34,227	35,183	-956
Other liabilities	3,402	3,239	163
<b>Liabilities</b>	<b>156,872</b>	<b>123,213</b>	<b>33,659</b>
<b>Liabilities and shareholders' equity</b>	<b>374,489</b>	<b>329,767</b>	<b>44,722</b>

As of December 31, 2018, H&R KGaA's balance sheet total had increased by a good 13.6% to €374.5 million (December 31, 2017: €329.8 million). Loans to affiliated companies increased to €94.0 million (previous year: €80.5 million) and related predominantly to payments from loans for projects such as the flood protection wall. As a result, financial assets increased overall, rising from €205.8 million to €219.8 million at the end of 2018.

Receivables due from affiliated companies increased from €115.3 million to €148.3 million

in total. At the same time, higher claims from cash pooling were countered by lower claims from profit and loss transfer agreements.

These were offset somewhat by scheduled loan repayments, meaning that, on balance, the receivables increased from €118.9 million to €154.1 million. Bank balances declined from €4.2 million to €19 thousand.

All in all, net current assets increased by 25.2%, from €123.2 million to €154.2 million.

On the liability side, the increase in capital in connection with the issue of the scrip dividend carried out in mid-2018 caused an increase in subscribed capital (2018: €95.2 million; 2017: €93.4 million) and an increase in the capital reserve (2018: €60.3 million; 2017: €54.6 million). The “other retained earnings” figure of €29.9 million was comparable to the prior-year figure.

The net income generated during the reporting period, €20.2 million, was posted to distributable profit, which therefore improved to €26.7 million. Equity therefore increased from €199.0 million as of December 31, 2017 to €212.1 million at the end of the reporting period. The equity ratio came to 58.4% (December 31, 2017: 60.3%).

Provisions for pension commitments decreased slightly. In contrast, there was a sharper decline in other provisions. Lower tax provisions additionally reduced the burden, causing the total provisions item to drop from €7.5 million on December 31, 2017 to €5.6 million.

Liabilities rose by 27.4% to €156.9 million (December 31, 2017: €123.2 million), due first and foremost to an increase in liabilities to banks to €119.1 million (previous year: €84.6 million) with a drop in liabilities to affiliated companies (€34.2 million; previous year: €35.2 million) at the same time.

## Other Legally Required Disclosures

### Disclosures in accordance with Section 289a, paragraph 1 and Section 315a, paragraph 1 of the German Commercial Code (HGB)

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#### Item 1: Composition of Subscribed Capital

At the beginning of the year, i.e., on January 1, 2018, the share capital of H&R GmbH & Co. KGaA totaled €93,404,214.59, divided into 36,536,553 no-par bearer shares. Due to an increase in capital from approved capital connected with the issuance of 685,193 new shares (scrip dividend), subscribed capital increased by €1,751,668.09 effective June 27, 2018. On the reporting date, subscribed capital therefore totaled €95,155,882.68, divided into 37,221,746 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 Ex- ceeding Ten Percent of Voting Rights

In a voting rights notification dated July 5, 2016, Mr. Nils Hansen reported that his share of voting rights totaled 60.63% of the company's voting rights due to his 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 voting rights notification, (i) the share of voting rights of H&R Beteiligung GmbH totaled 59.33% 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 26.02% 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 59.33% of the company's voting rights due to the attribution of voting rights.

Due to the issuance of the scrip dividend on the basis of a corresponding resolution passed by the 2018 Annual Shareholders' Meeting, this combined stake held by H&R Beteiligung GmbH and H&R Internationale Beteiligung GmbH – in relation to the company's share capital of 37,221,746 shares – increased to 59.74%.

In accordance with an informal notification made at the end of 2018, Mr. Nils Hansen also holds 1.69% of the shares as privately owned shares, meaning that he holds shares corresponding to 61.43% 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 has various options for implementing corporate actions.

Pursuant to Section 4, paragraph 5 of the Articles of Association, the general partner with full personal liability is authorized – with the Supervisory Board's approval – to increase the company's share capital by May 12, 2019 by a maximum of €20,613,128.44 by issuing up to 8,063,154 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 (2014 Approved Capital). In principle, the shareholders have a subscription right. The new shares may also be acquired by one or more banks with the obligation to offer them for subscription to shareholders.

Subject to the approval of the Supervisory Board, the general partner with full personal liability is authorized to suspend shareholders' subscription rights on one or more occasions:

- a) to the extent necessary to exclude fractional share amounts from shareholders' subscription rights;
- b) to the extent necessary to grant holders of option or conversion rights and/or obligations

under warrants or convertible bonds the same rights to subscribe new shares that they would have as shareholders if they had already exercised their option or conversion rights or fulfilled their conversion obligations;

- c) to the extent that the new shares are issued for subscription in cash and the proportion of share capital attributable to the new shares does not exceed the lesser of €7,662,503.90 or 10% of share capital at the time this authorization to exclude subscription rights takes effect and is exercised for the first time (“maximum amount”) and the issue price of the new shares is not significantly lower than the quoted price for company shares of the same type already listed on the stock exchange at the time the issue price is set definitively;
- d) to the extent that the new shares are issued in exchange for contributions-in-kind, especially in the form of companies, parts of companies, equity investments in companies or receivables.

The maximum amount defined in Section 4, paragraph 5(c) of the Articles of Association is to be reduced by the proportion of share capital attributable to new or previously acquired treasury shares that have been issued or sold since May 13, 2014 on the basis of a simplified exclusion of subscription rights in accordance or by analogy with Section 186, paragraph 3, sentence 4 AktG, and by the proportion of share capital attributable to shares that can be acquired through option or conversion rights and/or obligations that have been issued since May 13, 2014 pursuant to Section 186, paragraph 3, sentence 4 AktG, mutatis mutandis. Any reduction is reversed to the extent that authorizations to issue convertible bonds and/or bonds with warrants in accordance with Section 221, paragraph 4, sentence 2 and Section 186, paragraph 3, sentence 4 AktG, or to sell treasury shares in accordance with Section 71, paragraph 1, no. 8 and Section 186, paragraph 3, sentence 4 AktG, or to issue new shares in accordance or by analogy with Section 186, paragraph 3, sentence 4 AktG are granted again by the Annual Shareholders’ Meeting once the authori-

zations that resulted in the reduction have been exercised.

The general partner with full personal liability is authorized, with the approval of the Supervisory Board, to specify further details about the capital increase, in particular details regarding the rights accruing to the shares and the terms of issue. The Supervisory Board is authorized, once the increase in share capital has been fully or partly completed, to revise Section 4 of the Articles of Association based on the utilization of the approved capital from time to time and once the authorization period has expired.

In addition, by way of a resolution passed by the Annual Shareholders’ Meeting on May 24, 2018, 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 €24,000,000.00 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 towards 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, 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 Sharehold-

ers' 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 towards 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 towards 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.

Finally, the Annual Shareholders' Meeting passed a resolution on a contingent increase in the company's share capital of up to €7,650,000.00 in the period until May 12, 2019 through the issuance of up to 2,992,419.90 no-par bearer shares with dividend rights from the beginning of the financial year in which they are issued. The contingent capital is intended to grant shares to satisfy subscription and/or conversion rights and/or obligations of holders of warrant-linked and/or convertible bonds that are issued by the company or a Group company in accordance with the authorization by the company's Annual Shareholders' Meeting on May 13, 2014.

The general partner is authorized, with the approval of the Supervisory Board, to determine the further details of the process relating to the contingent capital increase (2014 Contingent Capital).

The Supervisory Board is authorized to amend Section 4, paragraphs 1 and 6 of the Articles of Association in accordance with the respective utilization of the contingent capital.

#### [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 borrower's note 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

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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 2018, 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, 2018 to December 31, 2018, 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.”

## Corporate Governance Statement

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The Statement on Corporate Governance is made available by the company on the company website at [www.hur.com/en/investor-relations/corporate-governance/](http://www.hur.com/en/investor-relations/corporate-governance/).

## Remuneration Report

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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 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 is 110% or more of the plan, 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 the 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 a 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 timeframe spanning several years.

In Mr. Detlev Wösten's case, up to 20% of the variable remuneration may be awarded on a project basis. The earnings and sustainability components will then be 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	
		2017	2018
<b>Niels H. Hansen</b> Chairman of the Executive Board Chairman of the Executive Board (until 31 July 2016) Chairman of the Executive Board since January 1, 2012	Fixed remuneration	725,000	751,666
	Fringe benefits <sup>1)</sup>	14,952	17,902
	<b>Total</b>	<b>739,952</b>	<b>769,568</b>
<b>Detlev Wösten</b> Member of the Executive Board Member of the Executive Board (until 31 July 2016) Member of the Executive Board since August 1, 2011	One-year variable remuneration	319,725	232,000
	Multiple-year variable remuneration	262,233	221,234
	<b>Total</b>	<b>1,321,910</b>	<b>1,222,802</b>
	Pension expenses	-	-
	<b>Total remuneration</b>	<b>1,321,910</b>	<b>1,222,802</b>

<sup>1)</sup> Inter alia, this item includes the use of a car and casualty insurance premiums

## T. 24 EXECUTIVE BOARD REMUNERATION (ACCRUED)

Members of the Executive Board	IN €	Benefits Received	
		2017	2018
<b>Niels H. Hansen</b> Chairman of the Executive Board Chairman of the Executive Board (until 31 July 2016) Chairman of the Executive Board since January 1, 2012	Fixed remuneration	725,000	751,666
	Fringe benefits <sup>1)</sup>	14,952	17,902
	<b>Total</b>	<b>739,952</b>	<b>769,568</b>
	One-year variable remuneration	472,328	319,725
	Multiple-year variable remuneration	-	262,233
<b>Detlev Wösten</b> Member of the Executive Board Member of the Executive Board (until 31 July 2016) Member of the Executive Board since August 1, 2011	<b>Total</b>	<b>1,212,280</b>	<b>1,351,526</b>
	Pension expenses		
	<b>Total remuneration</b>	<b>1,212,280</b>	<b>1,351,526</b>

<sup>1)</sup> 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 his 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

IN €	Fixed Remuneration		Remuneration for Committee Work		Total	
	2017	2018	2017	2018	2017	2018
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	30,000	30,000	20,000	20,000	50,000	50,000
Reinhold Grothus	30,000	30,000	-	-	30,000	30,000
Holger Hoff (Since April 26, 2017)	20,547.95	30,000	-	-	20,547.95	30,000
Harald Januszewski	30,000	30,000	-	-	30,000	30,000
Mathias Erl (Until April 26, 2017)	9,452.05	-	-	-	9,452.05	-
<b>Subtotal</b>	<b>345,000</b>	<b>345,000</b>	<b>120,000</b>	<b>120,000</b>	<b>465,000</b>	<b>465,000</b>

## Events after the Reporting date

Between December 31, 2018 and the editorial deadline for this 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

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### 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 generally 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, we have a particular responsibility to operate our specialty refineries 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 are recorded that a subsidiary classes as relevant. 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 contact persons 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 have the appropriate manpower, 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, processes and measures which ensure that the accounting is effective, efficient and correct, and complies with the relevant legal requirements.

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.

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 of the German Stock Corporation Act (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 systems.

Extensive access regulations for the relevant IT systems and a strict dual-review policy in the Accounting Departments – both at the individual companies and at the Group level – 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 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).

Derivative financial instruments are not used for speculative purposes. At the reporting date, no open interest rate positions were in existence. In the currency area, HKD 27.5 million and ZAR 31.1 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<sup>1)</sup>

	Likelihood of occurrence <sup>2)</sup>		
	Unlikely	Possible	Likely
Existential threat	●	●	●
Significant	●	●	●
Moderate	●	●	●

<sup>1)</sup> Moderate: some negative effects on business activity, financial position, results of operations and cash flows if EBITDA falls below €30.0 million in 2019;

Significant: substantial negative effects on business activity, financial position, results of operations and cash flows if EBITDA falls below €30.0 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 €30.0 million.

<sup>2)</sup> 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
<b>Macroeconomic and Industry Risks</b>			
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	moderate	unchanged
Changes in the tax and legal environment	possible	moderate	unchanged
Brexit - composition of European Union	likely	moderate	higher
<b>Operating and Corporate Strategy Risks</b>			
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
Personnel risks	unlikely	moderate	unchanged
<b>Financial Risks</b>			
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 net income.

**Macroeconomic and Industry Risks**

**Demand and Margin Fluctuations (Risk Class: high).** External influences can cause demand for our chemical-pharmaceutical specialty products and high-precision plastic parts 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.

We continue to generate the majority of our sales in Europe. Economic developments in this region therefore have an important influence on our sales and earnings trend.

In the Plastics Division, there is a risk of excessive dependence on direct suppliers to the automotive industry and/or individual customers, for example because automobile manufacturers' declining sales also affect H&R KGaA's business indirectly. Accordingly, we make every effort to diversify into new customer areas. Expanding our activities beyond Europe also furthers our global presence and makes us less dependent on developments in the domestic economy.

Closely correlated with the risk of weak demand is the risk of low product margins. As the fixed costs of complex plants in the chemical industry are relatively high, lower margins are often tolerated at times of weaker demand in order to maintain capacity-utilization rates. We counter this risk with the targeted expansion of the percentage of our

business that generates crude-oil-based specialty products that are less price sensitive.

As a rule, fluctuating raw material prices and low prices for base oils also result in product margin volatility. Base oil is a by-product of our joint production process and is used to make motor oils among other things.

If commodity prices are high and base oil prices are simultaneously low, this will affect margins accordingly. Even with moderate raw material prices, the effects can have a significant impact. The conversion of the specialty refinery in Salzbergen to contract production back in 2013 has significantly reduced the overall risk of these effects.

Moreover, because of the fact that the production process in the ChemPharm Refining segment takes several weeks, sharp and, in particular, rapid declines in crude oil prices such as those seen in 2014 may lead to a relative increase in material costs (i.e., an increase in the percentage of the product price accounted for by material costs), to lower margins and, in some cases, even to significant losses (so-called “windfall losses”) at H&R KGaA.

The reason for this is that, on the date of their acquisition, the market prices for petroleum-based inputs are considerably higher than the market prices on the date when the primary products manufactured from such inputs are sold. This leads to a substantial increase in the relative material-use ratio for H&R KGaA, because production planning is based on a stable crude oil price for the duration of the production run and it is not economical to hedge fluctuations in commodity prices over that period. Similarly, sharp and, in particular, rapid increases in crude oil prices may also lead to a reverse scenario with correspondingly positive effects (so-called “windfall profits”).

Although the “windfall losses” and “windfall profits” that occurred in 2018 had an impact that was largely positive over the year as a whole, the company rates this risk as “high”, based on the likelihood of occurrence and the significant impact that the “windfall losses” can have.

The high degree of competition in the plastics industry means that for many product groups, there is a risk of having to accept lower margins in order to safeguard or expand market share. We are therefore continuing to expand production in product segments with a more attractive market environment, such as medical technology. In some cases, the risk of increases in raw material prices can partly be passed on to our customers through escalation clauses. If the risk does materialize, the financial impact is also lower because of the lower business volume.

**Risks Related to Raw Materials Procurement (Risk Class: medium).** At our specialty refineries in Hamburg and Salzbergen, the main raw material is a residue left over when fuels are produced from crude oil. To minimize the risk of supply shortages, we purchase this so-called long residue from different sources. At the same time, we diversify our sources of supply through annual volume agreements with well-known oil companies in different parts of the world and buy another portion on the spot market.

In the International Chemical-Pharmaceutical Division and the Plastics Division, 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 and the proportion of the overall yield attributable to core products can vary.

**Risks from the Development of Substitute Products and General Competitive Pressure (Risk Class: medium).** One risk applicable to both divisions is the development of substitutes or alternative production methods for our products. Furthermore, for the Chemical-Pharmaceutical

segments, there is a risk that customers may develop manufacturing processes which rely to a lesser extent or not at all on crude-oil-based specialty products as feedstock. We address these risks through intensive research and development activities in all the Group's operating divisions. This approach makes us the leading innovator in some product groups. The high degree of diversification in our product portfolio also reduces the effects individual substitutes would have on consolidated income.

Moreover, 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.

In addition to substitution risk, there is also the possibility, over the lifecycle of a given product, that competitors will develop and bring to market products of their own which are identical to our specialty products. This would expose us to greater competitive pressure.

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 expenditures. 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 also address these objectives through technology and modernization projects, as part of our investment strategy. By implementing procedures to protect resources and lower emissions, we simultaneously improve our profitability and our reputation in the market.

The political framework for future changes in legal requirements is also defined in the Paris Agreement on climate change and will now be transposed step-by-step into international and domestic agreements. Despite the measures described above and improvements made in recent years, our specialty refinery operations do entail emissions, and the use of chemicals and are 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).** As things stand at the moment, Brexit, i.e., the United Kingdom's exit from the European Union, will result in long-term changes to the European economic network. From the perspective of H&R KGaA, this could give rise to a risk regarding the activities performed by the British subsidiary H&R ChemPharm (UK) Ltd. In particular, a "hard Brexit", i.e., a Brexit scenario without any trade and customs agreements, could make component imports or exports of finished products more expensive and result in longer transaction processing times. The contractual agreements already provide for the passing on of customs duties. Nevertheless, it is impossible to rule out a scenario in which the British subsidiary shows slower development than is currently the case, particularly during the transition period.

#### **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 accordance with strict ISO standards 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).** 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. H&R KGaA would then have to come up with new funds to finance the refinery business at both locations.

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 one-sided; on the contrary, 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. In principle, investment projects may entail cost overruns and delays in construction. To mitigate these risks, we deploy project teams with in-depth knowledge of our plants who will therefore professionally coordinate and strictly monitor such value maintenance measures.

In addition, these measures predominantly take place at plants whose technology has already been tried and tested in practice and for which the financial costs can be estimated with above-average certainty.

**Product-Liability Risks (Risk Class: low).** Our crude-oil-based specialty products and plastic parts are incorporated directly into our customers' products. Incorrect specifications for our products may result in damages to our customers and give 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.

**Human-Resources Risks (Risk Class: low).** Qualified and committed employees play an important factor in our success. In the chemical industry, there is a great deal of competition for highly qualified staff to operate plants and refine production processes.

We limit the associated risk of employee turnover through a number of personnel policy measures: a pleasant working atmosphere, targeted development opportunities for junior staff and practical training and continuing education for professionals all help to create an attractive working environment.

Our Research & Development department has a wide range of cooperative arrangements with various universities, which help establish contact with high-potential candidates at an early stage.

A flat hierarchy, good development opportunities, and a performance-related remuneration system also make us an attractive employer for experienced professionals.

We also boost our employees' motivation with attractive performance-related pay schemes, a company platform for making suggestions for improvement, and activities throughout the Group to encourage healthy living.

#### **Financial Risks**

Our subsidiaries receive the funds they use to execute business and production processes through H&R KGaA, which in turn ensures that such funds will be available. As a result, risks involving these financing instruments generally originate with 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. Overall, though, we rate the risk situation as non-critical.

**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 for our raw materials are subject to fluctuations. The prices for 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 substantial part of the line of credit under the syndicated loan in the amount of €200 million and which we renewed in July 2018 has been ear-

marked as a risk cushion; at the end of 2018, 44.1 million had been utilized for cash loans and €21.0 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.

**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 €200.0 million accounts for the bulk of current refinancing risks.

However, there is no guarantee that it will be possible to refinance in the future under the same or more favorable terms and conditions. In general, banks have shown a great deal of interest 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 should 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 our subsidiaries' customers are limited by the 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 further. Trade-credit insurance has also been taken out for a number of major customers.

The default risk for banks with which we have arranged credit lines, entered into hedging transactions or invested funds has increased since the onset of the financial crisis. We counter this risk 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 generated there in terms of 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 Australian dollar, the pound sterling, the Thai baht, the Malaysian ringgit and the South African rand.

For a sensitivity analysis of exchange rate fluctuations between the US dollar and the euro, our Group currency, please refer to the notes to the consolidated financial statements. Nonetheless, despite the strong growth in our international business, around 80% of our sales are still invoiced in euros. Overall, we weigh the costs for hedging all foreign currency risks against the financial effects of a potential loss event.

The US dollar/euro exchange rate also affects our raw material costs, as we purchase our main raw materials – the crude oil derivatives long residue and vacuum gas oil – in US dollars. An appreciation of the US dollar against the euro therefore increases our raw material expenses; however, we are generally able to pass most of this increase on to our customers.

**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. To increase planning certainty for the net interest

result, we take out fixed-interest loans and fix some variable-interest financial liabilities.

To secure Group financing for the long-term, we increased financing with fixed interest instruments by KfW on the one hand in 2018, and on the other, we have a syndicated loan credit line of €200 million dating from 2018 at our disposal.

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. The risk of increased interest expense from rising interest rates currently exists for our Chinese equity investments due to short-term fixed-interest loans denominated in Chinese yen and US dollar that will have to be refinanced when they mature in 2019.

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 overall 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 classifies H&R KGaA as "eligible".

## Report on Opportunities

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### 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 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 could play a more significant role in supplying the market, as, on top of base oils, they can still provide other products, which can only be manufactured

in Group 1 processes. These Group 1 products are, f.e., paraffins, process oils and white oils. The fact that a higher share of their capacity is devoted to specialty products than to lubricants might mean that they would have another advantage over the remaining Group 1 refineries.

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 in a number of emerging markets in East Asia. Although economic researchers at the OECD do not expect the economies in the ASEAN 5 zone to pick up significantly in 2019 after average growth of 5.6% in 2018, the region will nevertheless remain stable with a growth rate of 5.5% in 2019, which continues to make it attractive.

If these Asian economies develop in line with the forecasts, this could have a positive impact on our company, our results of operations, and our cash flows and could lead to better overall performance than expected.

In recent years, we have concentrated on developing environmentally friendly products that satisfy the highest quality standards. Stricter environmental regulations or mandatory disclosures about product characteristics in our customer industries could also create additional incentives to use our crude-oil-based specialty products and plastic parts. This also applies, for example, to marine fuel, which will be subject to new sulfur limits as of 2021. H&R is making additional capacities available so that it can offer the bunker fuel produced during the coupling process as a low-sulfur fuel.

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 electromobility initiatives pursued by automotive manufacturers have the potential to offer additional impetus.

#### **Strategic Opportunities for the Company**

**Opportunity Class: high.** In the Chemical-Pharmaceutical segments, we see considerable opportunities in extending the value chain even further and increasing production efficiency with innovative manufacturing processes.

In addition, our Research & Development department is working on innovative products that, once they are ready for market, could create significant added value for our customers. If we make faster progress in our research and development, this could be accompanied by the market launch of new, improved products. This could have a positive effect on our revenues and our income and enable H&R KGaA to exceed current expectations.

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.

In the Chemical-Pharmaceutical Division, we are already taking advantage of joint-production agreements with local partners who enable us to develop new markets in a stable and successful manner. Our primary goal in expanding collaboration beyond the production area is to exploit synergies with our sales/distribution partners. Increasing the market penetration of our products could also have a positive effect on our business and lead to improved results of operations.

Basically, we should note that, thanks to our high degree of diversification, both at the product and customer levels, overall demand for our products is stable. Opportunities also arise from the fact that many of our specialty products are now used in several of our numerous customer industries. For example, our high-quality paraffins are used in the candle, building materials and food industries – sectors with very different economic cycles.

#### **Economic Performance Opportunities**

**Opportunity Class: medium.** Operating specialty refineries is very energy-intensive. By investing in CO<sub>2</sub> reduction and 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.

We can also benefit – in the form of higher margins – when the supply of our products becomes scarce, such as during shutdowns, closings or capacity reductions at our competitors' refineries. Launching new capacities for Group 2 lubricants might induce other refineries to discontinue producing Group 1 lubricants. Accordingly, not only would the number of suppliers for many of our products decline; due to our specialty refineries' focus on high-grade specialty products with lubricants accounting only for a smaller percentage, our refineries should have a competitive edge over the remaining competitors, who are more heavily weighted toward lubricants.

More intensive, targeted marketing of our by-products will also create opportunities. For example, we are currently producing bitumen, which is primarily used in road building, as a by-product at our propane-deasphalting plant. However, by building new process-engineering plants, so-called cokers, we can also use bitumen as a feedstock for producing diesel and low-sulfur heating oil. As of 2015, two such cokers had already been built in Europe; others are expected to follow in the United States, Russia, India and Saudi Arabia. The more bitumen is used as a feedstock, the higher the demand may be for available high-quality bitumen for infrastructure projects.

In the Plastics Division, new large-scale orders from the automotive supply or medical technology sectors could lift revenue and earnings above our expectations.

### 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, overall, H&R KGaA rates the distribution of risks and opportunities as balanced.

During the past year, in which the distribution ratio was similar, H&R KGaA not only was able to

benefit, but to benefit significantly, from existing opportunities. Among other things, this was due to the fact that total sales and earnings are supported by a variety of different chemical-pharmaceutical specialty products, that are sold to different industries. We view this, our global presence and our good market position as the major drivers of opportunities in 2018. H&R KGaA will actively search for and develop additional opportunities.

## Forecast Report

### Future Focus of the Group

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#### Companies and Segments

Statements concerning short-term company performance from January 1 to December 31 of financial year 2019 assume that, based on our current knowledge, the structure of the Group will remain 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.

At the same time, we need to take goal-oriented, individually tailored steps to achieve our 2019 targets.

In 2019, we will prepare our Chemical-Pharmaceutical Refining business – 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. Above all, this applies to the efficiency and degree of vertical integration at our specialty refineries. Here, we have already taken steps in the past to more clearly highlight the market-driven influences on our business that are only partly within our control, while at the same time increasing the level of certainty for medium-term corporate planning.

This should minimize the adverse effect of these volatile factors on our income accordingly. For the Salzbergen site, this means continuing the contract-production model implemented in 2013, which adds stability and planning predictability to our sales and income forecasts.

In our view, improving performance at the production site in Hamburg is the one of the most effective tools we have for further optimizing our results. Here, too, we have already carried out important groundwork in previous years, for example by implementing our flexible, improved raw materials management system and by avoiding and/or more actively marketing by-products. We will continue along this path in 2019 by implementing additional technology-driven projects.

In the Chemical-Pharmaceutical Sales 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 already well positioned in the global markets for financial year 2019. The establishment of subsidiaries in the United States and Indonesia in the past financial year will underpin our international presence. All in all, we expect the segment to support H&R KGaA's overall performance as a stable driver of sales and income.

The Plastics segment has largely completed its restructuring phase, which involved reorganizing its Sales units. In 2019, the Executive Board will intensify efforts to sustainably grow new customer business, which will mean focusing in particular on North America, Korea and Thailand. The goal is still to reduce dependence on individual customers and to operate the business profitably over the coming years with customary market returns.

#### Sales Markets

In the Chemical-Pharmaceutical business, Germany and other European countries will continue to be the main drivers of our sales. In view of the maturity of these markets, our growth strategy in this region is based less on increasing volumes than on improving the efficiency of production processes and manufacturing higher-quality products. At the same time, we intend to continue to benefit from our products' broad range of applications in a multitude of different industrial sectors. Outside of Europe, we are focusing on Asia. China continues to be more than just an important supply hub for our activities in the region. We continue to regard the country as a growth market for our specialty products. Our efforts in China focus

primarily on producing and marketing wax products and label-free plasticizers for the tire industry. For us, the significance of this market has already increased due to the relocation of many tire manufacturers from Europe to China.

### Technologies and Processes

Constantly improving processes to increase efficiency and raise product quality is a core element of our corporate strategy. By operating new equipment at our facilities, we increase value added by our domestic production sites. This enables us to convert products previously not capable of being refined into high-grade crude-oil-based specialty products and to minimize the amount of waste residue left over by the production process. At the same time, we believe that the challenges posed by energy and climate-protection policies – which are currently the focus of attention – represent an opportunity and we intend to take advantage of that opportunity by pressing ahead with innovative ideas for interlinking sectors and, therefore, for using renewable energy sources in a systematic, holistic and environmentally friendly manner.

At both our domestic production sites, we are planning corresponding investments to increase output and to improve the quality of our products. In the Plastics Division, too, we are constantly working to improve our production processes.

### Products and Services

In the future, we will continue to pursue our successful strategy of developing innovative products that are closely aligned with our customers' needs. In the Chemical-Pharmaceutical Division, our sales partner, Hansen & Rosenthal KG, serves as an interface between our customers and our R&D departments. By constantly testing new product specifications, we aim to have our input materials contribute to increase efficiency gains in our customers' production processes and further increase the quality of their products. One of the focal points of our research and development activities is to ensure the continued diversification of our core products while increasing their percentage share of the overall product mix. We are already developing the next generation of products in order to maintain our technological lead in this field. Work is also under way to develop innovative processes for manufacturing white oils and other crude-oil-based specialty products. New sales and distribution strategies are designed to boost marketing of current by-products.

The Plastics Division enters this financial year in a stronger position. For example, GAUDLITZ GmbH has managed to reposition itself for former customers. At the same time, we aim to expand the customer base in medical technology and the industrial sector. We intend to attract new customers and to jointly tap into new markets with existing customers through a performance-oriented reorganization of Sales and of business organizational and production processes. In recent years, the company has managed to achieve double-digit growth rates in the profitable in-house development segment. It is imperative that this area be consolidated and expanded during the current financial year.

## Expected Performance in Financial Year 2019

### Macroeconomic Conditions

#### General Economic Environment

The growth forecasts for virtually all of the world's key economies have been lowered due to the risks and challenges associated with global trade. As a result, experts from the OECD now expect to see growth of 3.5% in 2019, compared with their last forecast of 3.7%.

The results of the economic survey conducted by the German Economic Institute (IW) point towards a continuation of the current production, export, investment and employment outlook, which has started to deteriorate of late, in 2019, meaning that growth will be very subdued at only 1.2%.

This means that Germany is expected to lag behind the euro area growth rate, which the OECD has tipped to come in at 1.8% in 2019.

Our budget for financial year 2019 is based on a US dollar/euro exchange rate which we set at 1.20 at the beginning of the planning process for 2019.

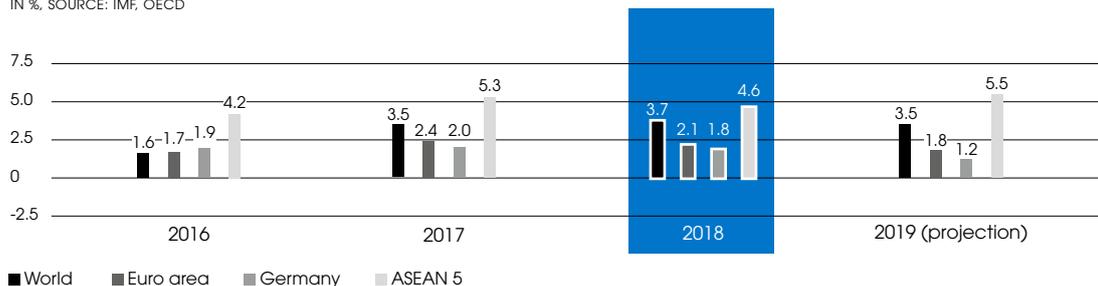
For crude oil prices, we rely on the estimates published by the economics departments of major banks. For budget year 2019, on the planning date, we assumed a price of US\$75/barrel Brent, which is slightly higher than the average annual price of US\$72 seen in 2018.

#### Industry Environment

The German Chemical Industry Association VCI predicts modest growth in the chemical business in 2019. Provided that it is spared any setbacks, the chemical-pharmaceutical industry should be able to increase its production by 1.5% in 2019. The price of chemical products will increase by 1.0%, with sales in the industry expected to rise by 2.5%. The VCI does, however, believe that the industry is exposed to mounting risks associated with global trade, an economic slowdown in Germany and weaker global economic development. According to the VCI, political challenges such as the trade conflicts between the United States on the one hand, and the EU and China on the other and the looming prospect of Brexit pose a risk to the trade regime in which the German chemical-pharmaceutical industry writes its success stories.

G. 13 GLOBAL ECONOMIC GROWTH FORECAST

IN %, SOURCE: IMF, OECD



## Company's Performance

### Sales and Income

The following table compares the actual values of the main or key control figures used by H&R KGaA for the past financial year with the original forecast and shows the outlook for financial year 2019:

T. 28 COMPARISON OF ACTUAL VALUES WITH FORECAST

Key Figure	Original Forecast FY 2018	Actual FY 2018	Outlook FY 2019
Consolidated sales	€950 million to €1,100 million	€ 1,114.2 million	€1,000 million to €1,200 million
of which Refining	60%	€694.5 million (approx. 61%)	63%
of which Sales	34%	€374.9 million (approx. 34%)	32%
of which Plastics	6%	€55.0 million (approx. 5%)	5%
Reconciliation with consolidated sales	n. a.	€-10.2 million	n. a.
Consolidated EBITDA	approx. €94.0 million to €106.0 million	€74.7 million	approx. €75 million to €90 million
of which Refining	65%	€46.0 million (approx. 56%)	64%
of which Sales	31%	€30.1 million (approx. 40%)	30%
of which Plastics	4%	€3.0 million (approx. 4%)	6%
Reconciliation with consolidated EBITDA	n. a.	€-4.4 million	n. a.

**Sales.** Our revenue is affected considerably by the cost of raw materials for our Chemical-Pharmaceutical Division, which we pass on to our customers through our product prices, usually with a time lag. Even though we were unable to achieve this in full in 2018, we believe that this statement still stands in principle.

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 also expect to see stable sales volumes in the ChemPharm Refining segment and an improved revenue situation in Hamburg. We believe there is also further potential in the ChemPharm Sales segment.

All in all, we expect consolidated sales for 2019 to match, or even slightly exceed, the level of €1.1 billion we generated in 2018. The contribution from our ChemPharm Refining segment

will account for around 63% of this amount. The ChemPharm Sales business will contribute approximately 32%, i. e., a slightly lower percentage than in the previous year.

The Plastics Division will contribute around 5%.

**Income.** Financial year 2018 was satisfactory at best after very strong previous years. Nevertheless, the company was profitable in 2018 and the year was not without its success stories. Operating income of €74.7 million is stable and reflected the options open to us in a challenging market environment.

In the specialty business, we believe the key to improving the earnings trend again in 2019 lies in continuing with the contract-production model in Salzbergen and taking advantage of the potential at the Hamburg site. There, it will be important to focus on ensuring the future viability of the site while increasing performance and the yield of pri-

mary products. The Hamburg refinery offers the most leverage for improving income. If by-products can be reduced while stepping up our sales efforts at the same time, this will take considerable pressure off the refinery.

At the same time, we expect to see a return to a much more relaxed situation as far as raw materials supplies are concerned following developments over the last few months. Both, more acceptable purchase prices and the quality of the raw materials available could provide impetus helping us to boost our margins.

As a result, we expect business in the ChemPharm Refining segment to be much better than in 2018. To accomplish this, we will also focus on continuing to optimize our specialized production processes, with corresponding cost effects.

In the ChemPharm Sales segment, by focusing heavily on the high-margin international specialty-products business, we expect stable, positive EBITDA contributions at the same level as last year. As in 2018, we expect sales and income at our international subsidiaries in Asia to be mixed, with developments potentially being shaped primarily by the trade disputes between the United States and China.

All in all, we are expecting consolidated operating income (EBITDA) of between €75.0 million and €90.0 million in 2019, higher than the EBITDA for this year.

The earnings contribution from our ChemPharm Refining segment will account for around 64% of this amount. The international business will make up approximately 30%. The Plastics Division should contribute around 6% to the Group's operating income (EBITDA).

For the forecast of Group EBITDA and/or expectations regarding the segments' operating income, we have estimated the ratios in consistence with the accounting standards used for the annual financial statements.

No structural changes to the income statement are expected for 2018.

### Liquidity

After having adjusted our financing in 2018, we do not see a 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 2023, even in the event of higher crude oil prices and the associated increase in working capital requirements. Financing requirements for long-term capital expenditures are covered both by current operating cash flow and by long-term financing.

### Capital Expenditures

We are once again planning to significantly increase our investments in maintenance, modernization, and added value at our facilities during the current financial year. Around 83% of total capital expenditures will be in the ChemPharm Refining segment. Around 13% of capital expenditures will be in the Sales segment and approximately 4% will be focused on investments in the Plastics Division and on other items.

Together with other measures intended to increase the efficiency and cost-effectiveness of our production processes, our capital expenditures will exceed our ordinary depreciation and amortization charges.

### Financing Measures

The Annual Shareholders' Meeting has authorized H&R KGaA to increase the share capital in exchange for cash or contributions in kind, so that corporate actions are also a possibility when reviewing strategic options or other plans that exceed the scope of normal investments. At the moment, no specific corporate actions are planned.

H&R KGaA has entered into various loan agreements and borrower's note loans with banks.

In November 2018, we repaid €7.0 million of an outstanding borrower's note loan on time.

We cover our short-term financing needs using a widely syndicated loan with a volume of €200 million. In 2018, we successfully refinanced the syndicated loan granted in August 2015 ahead of time, negotiating improved conditions and a term

of five years, with two options to extend the loan by one year in each case. 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 2018, we took out a loan of €16.0 million under the KfW environmental program to finance a flood-protection wall in Hamburg-Neuhof. We also increased the loan drawdown under the KfW Energy Efficiency Program for waste heat from €9.5 million to €19.0 million. This will serve to finance the measures designed to improve our ability to avoid, and make use of, waste heat at the site in Hamburg-Neuhof.

For the borrower's note loans and the syndicated loan, several financial covenants are in operation.

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 Developments

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Following the positive strategic moves and vastly improved operating results witnessed in the period of 2015 to 2017, H&R GmbH & Co. KGaA was forced to bow to the global economic developments of 2018 and accept lower EBITDA.

Looking back over the last ten or twelve years, we can see that part of our performance has repeatedly been influenced by external factors, with our results fluctuating accordingly. Nevertheless, the figure of €75 million that we managed to achieve shows that: Even in times of considerable economic uncertainty and massive global economic challenges, we have still managed to achieve a stable income that is much closer to our perfor-

mance in successful years than it is to the crisis years we have experienced to date.

The basis for positive business performance is intact. We are also confident regarding our own strengths, be it our ability to push ahead with international expansion or our focus on operating highly specialized refineries whose yields of high-grade – and above all high-demand – products make them superior to conventional lubricant refineries.

And finally, we aim not only to adopt a more aggressive approach when it comes to marketing the remaining by-products, but also to achieve greater proximity to the customers of our core products and to use our quality, service and expertise to ensure that our Sales team has the key arguments it needs to ensure adequate and sustainable pricing.

If we can manage to achieve these objectives, then we will be able to further reduce our vulnerability to those market factors over which we have no control in 2019.

It is therefore with self-confidence, but also a dose of realism, that we are drawing up our forecasts for 2019 and setting as our target an operating income (EBITDA) figure that should range between €75.0 million and €90.0 million.

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

as of December 31, 2018

### ASSETS

IN € THOUSAND	Notes	12/31/2018	12/31/2017
<b>Current assets</b>			
Cash and cash equivalents	(6)	46,495	58,952
Trade receivables	(7)	120,952	107,479
Income tax refund claims		1,911	259
Inventories	(8)	153,945	129,150
Other financial assets	(9)	5,641	4,076
Other assets	(10)	10,766	8,194
<b>Current assets</b>		<b>339,710</b>	<b>308,110</b>
<b>Non-current assets</b>			
Property, plant and equipment	(11)	336,087	292,631
Goodwill	(12)	22,455	22,446
Other intangible assets	(12)	17,319	19,467
Shares from holdings valued at equity	(13)	4,350	4,469
Other financial assets	(9)	2,145	6,489
Other assets	(10)	4,070	1,393
Deferred tax assets	(34)	4,269	7,606
<b>Non-current assets</b>		<b>390,695</b>	<b>354,501</b>
<b>Total assets</b>		<b>730,405</b>	<b>662,611</b>

**LIABILITIES AND SHAREHOLDERS' EQUITY**

IN € THOUSAND	Notes	12/31/2018	12/31/2017
<b>Current liabilities</b>			
Liabilities to banks	(14)	70,088	44,384
Trade payables	(15)	100,376	83,328
Income tax liabilities		6,438	7,442
Contract liabilities	(16)	2,249	-
Other provisions	(17)	11,151	11,599
Other financial liabilities	(18)	3,710	5,597
Other liabilities	(19)	8,724	11,647
<b>Current liabilities</b>		<b>202,736</b>	<b>163,997</b>
<b>Non-current liabilities</b>			
Liabilities to banks	(14)	79,425	68,351
Pension provisions	(20)	76,720	77,598
Other provisions	(17)	3,419	3,223
Other financial liabilities	(18)	2	2
Other liabilities	(19)	6,318	1,792
Deferred tax liabilities	(34)	4,414	4,904
<b>Non-current liabilities</b>		<b>170,298</b>	<b>155,870</b>
<b>Equity</b>			
Subscribed capital	(21)	95,156	93,404
Capital reserve	(22)	46,867	41,364
Retained earnings	(23)	178,675	171,989
Other reserves	(24)	-639	-1,004
<b>Equity attributable to H&amp;R GmbH &amp; Co. KGaA shareholders</b>		<b>320,059</b>	<b>305,753</b>
Equity attributable to non-controlling interests	(25)	37,312	36,991
<b>Equity</b>		<b>357,371</b>	<b>342,744</b>
<b>Total liabilities and shareholders' equity</b>		<b>730,405</b>	<b>662,611</b>

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

January 1, 2018 to December 31, 2018

IN € THOUSAND	Notes	1/1 -12/31/2018	1/1 -12/31/2017
Sales revenue	(27)	1,114,148	1,025,108
Changes in inventories of finished and unfinished goods	(8)	12,873	9,816
Other operating income	(28)	27,283	26,524
Cost of materials	(29)	-877,474	-764,341
Personnel expenses	(30)	-87,137	-85,974
Depreciation, impairments and amortization of intangible assets and property, plant and equipment	(11,12)	-34,160	-43,102
Other operating expenses	(31)	-115,359	-113,746
<b>Operating result</b>		<b>40,174</b>	<b>54,285</b>
Income from holdings valued at equity	(13)	376	492
Financing income	(32)	2,476	1,811
Financing expenses	(33)	-9,299	-10,357
<b>Income before tax (EBT)</b>		<b>33,727</b>	<b>46,231</b>
Income taxes	(34)	-11,409	-16,728
<b>Consolidated income</b>		<b>22,318</b>	<b>29,503</b>
of which attributable to non-controlling interests		727	-2,628
<b>of which attributable to shareholders of H&amp;R GmbH &amp; Co. KGaA</b>		<b>21,591</b>	<b>32,131</b>
Earnings per share (undiluted), €	(35)	0.59	0.88
Earnings per share (diluted), €	(35)	0.59	0.88

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

January 1, 2018 to December 31, 2018

IN € THOUSAND	Notes	1/1 - 12/31/2018	1/1 - 12/31/2017
<b>Consolidated income</b>		<b>22,318</b>	<b>29,503</b>
of which attributable to non-controlling interests		727	-2,628
of which attributable to shareholders of H&R GmbH & Co. KGaA		21,591	32,131
<b>Positions that will not be reclassified into profit or loss</b>			
Remeasurement of defined-benefit pension plans		-678	5,052
Deferred taxes		224	-1,465
<b>Total remeasurement of defined-benefit pension plans</b>		<b>-454</b>	<b>3,587</b>
Equity instruments		-222	-
Deferred taxes		58	-
<b>Total equity instruments</b>		<b>-164</b>	<b>-</b>
<b>Positions that will not be reclassified into profit or loss</b>		<b>-618</b>	<b>3,587</b>
<b>Positions that may subsequently be reclassified into profit or loss</b>			
Changes in the fair value of financial assets held for sale		-	-45
Amount transferred to the income statement		-	-
Deferred taxes		-	13
<b>Change in the amount included in equity (assets held for sale)</b>		<b>-</b>	<b>-32</b>
Changes in the currency translation adjustment item		123	-8,578
<b>Positions that may subsequently be reclassified into profit or loss</b>		<b>123</b>	<b>-8,610</b>
<b>Other comprehensive income</b>		<b>-495</b>	<b>-5,023</b>
of which attributable to non-controlling interests		-406	-2,404
of which attributable to shareholders of H&R GmbH & Co. KGaA		-89	-2,619
<b>Total comprehensive income</b>		<b>21,823</b>	<b>24,480</b>
of which attributable to non-controlling interests		321	-5,032
of which attributable to shareholders of H&R GmbH & Co. KGaA		21,502	29,512

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

as of December 31, 2018

IN € THOUSAND	Subscribed capital (21)	Capital reserve (22)	Retained earnings (23)
<b>1/1/2017</b>	<b>91,573</b>	<b>42,753</b>	<b>136,271</b>
Issuance of bonus shares	1,831	-1,831	-
Increase in capital	-	442	-
Consolidated income	-	-	32,131
Other comprehensive income	-	-	3,587
Total comprehensive income	-	-	35,718
<b>12/31/2017</b>	<b>93,404</b>	<b>41,364</b>	<b>171,989</b>
Capital increase	1,752	5,503	-
Dividends	-	-	-14,615
Reserve reclassification for market evaluation	-	-	164
Consolidated income	-	-	21,591
Other comprehensive income	-	-	-454
Total comprehensive income	-	-	21,137
<b>12/31/2018</b>	<b>95,156</b>	<b>46,867</b>	<b>178,675</b>

Other reserves/cumulative other comprehensive income					
Market valuation of financial assets (24)	Currency translation adjustment	Equity attributable to shareholders of H&R GmbH & Co. KGaA	Equity attributable to non-controlling interests (25)		Total
<b>196</b>	<b>5,006</b>	<b>275,799</b>	<b>41,598</b>		<b>317,397</b>
-	-	-	-		-
-	-	442	425		867
-	-	32,131	-2,628		29,503
-32	-6,174	-2,619	-2,404		-5,023
-32	-6,174	29,512	-5,032		24,480
<b>164</b>	<b>-1,168</b>	<b>305,753</b>	<b>36,991</b>		<b>342,744</b>
-	-	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
-	<b>-639</b>	<b>320,059</b>	<b>37,312</b>		<b>357,371</b>

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

January 1, 2018 to December 31, 2018

IN € THOUSAND		Notes	2018	2017
1.	Consolidated income		22,318	29,503
2.	Income taxes		11,409	16,728
3.	Net interest result		8,960	9,863
4.	+/- Depreciation/appreciation on fixed assets and intangible assets		34,160	43,102
5.	+/- Increase/decrease in non-current provisions		-2,942	-3,406
6.	+ Interest received		339	493
7.	- Interest paid		-7,752	-8,672
8.	+/- Income tax received/paid		-9,530	-17,845
9.	+/- Other non-cash expenses/income		605	5
10.	+/- Increase/decrease in current provisions		-455	-7,749
11.	-/+ Gain/loss from disposal of fixed assets		-507	-71
12.	-/+ Changes in net working capital		-29,385	-6,701
13.	+/- Changes in remaining net assets/other non-cash items		-3,897	-9,056
<b>14.</b>	<b>= Cash flow from operating activities (sum of items 1 to 13)</b>	(37)	<b>23,323</b>	<b>46,194</b>
15.	- Payments for the acquisition of shares of joint ventures		-364	-
16.	+ Proceeds from disposals of property, plant and equipment		1,454	234
17.	- Payments for investments in property, plant and equipment		-70,489	-56,809
18.	- Payments for investments in intangible assets		-640	-634
19.	+ Proceeds from disposals of financial assets		1,020	-
20.	- Payments for investments in financial assets		-683	-893
<b>21.</b>	<b>= Cash flow from investing activities (sum of items 15 to 20)</b>	(37)	<b>-69,702</b>	<b>-58,102</b>
<b>22.</b>	<b>= Free cash flow (sum of items 14 and 21)</b>		<b>-46,379</b>	<b>-11,908</b>
23.	Dividend paid by H&R GmbH & Co. KGaA		-7,171	-
24.	+ Dividends received from holdings valued at equity		860	325
25.	- Payments for settling financial liabilities		-79,360	-42,828
26.	+ Proceeds from taking up financial liabilities		118,876	57,807
<b>27.</b>	<b>= Cash flow from financing activities (sum of items 23 to 26)</b>	(37)	<b>33,205</b>	<b>15,304</b>
<b>28.</b>	<b>+/- Changes in cash and cash equivalents (sum of items 14, 21 and 27)</b>		<b>-13,174</b>	<b>3,396</b>
29.	+ Cash and cash equivalents at the beginning of the period		58,952	57,999
30.	+/- Changes in cash and cash equivalents due to changes in exchange rates		717	-2,443
<b>31.</b>	<b>= Cash and cash equivalents at the end of the period</b>		<b>46,495</b>	<b>58,952</b>

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

as of December 31, 2018

## (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 12 months of the reporting date. Pension provisions and deferred tax claims and/or liabilities are in principle treated as being non-current.

The 2018 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 9	Financial Instruments	1/1/2018	11/22/2016	1/1/2018	see explanation
IFRS 15	Revenue from Contracts with Customers	1/1/2018	9/22/2016	1/1/2018	see explanation
	Clarifications to IFRS 15	1/1/2018	10/31/2017	1/1/2018	see explanation
IFRIC 22	Foreign Currency Transactions and Advance Consideration	1/1/2018	3/28/2018	1/1/2018	none
	Amendments to IFRS 4: Applying IFRS 9 – Financial Instruments with IFRS 4 – Insurance Contracts	1/1/2018	11/3/2017	1/1/2018	none
	Annual Improvements to IFRSs 2014–2016 Cycle: Amendments to IFRS 1 and IAS 28	1/1/2018/ 1/1/2017	2/7/2018	1/1/2018	none
	Amendments to IAS 40: Transfers of Investment Property	1/1/2018	3/14/2018	1/1/2018	none
	Amendments to IFRS 2: Classification and Measurement of Share-Based Payment Transactions	1/1/2018	2/26/2018	1/1/2018	none

### Initial Application of IFRS 9

H&R KGaA is applying IFRS 9 “Financial Instruments” for the first time with retroactive effect from January 1, 2018 and has made use of the exception allowing comparative information to be reported without adjustments. IFRS 9 replaces IAS 39 and contains, in particular, new rules on classifying and measuring financial assets, on accounting for impairment losses to financial assets, and on hedge accounting. The classification and measurement of financial assets will, in the future, depend on the business model of the company and the characteristics of the contractual cash flows associated with the financial asset, which does not lead to any significant changes for the consolidated financial statements of H&R KGaA.

The new accounting for impairment results in the recognition of expected losses, as opposed to the incurred losses that were recognized in the past. H&R KGaA has altogether low failure ratios to report; the amount of impairments only comes

to about 0.6% of total receivables. Since the customer portfolio is subject to very little change, we expect little defaulting. Thus, application of IFRS 9 does not lead to any significant changes in the accounting risk provisions for defaults resulting from expected credit risks associated with financial assets. The aim of the new accounting rules for hedge accounting is to focus more on a company’s economic risk management. Since H&R KGaA did not apply hedge accounting neither in the previous period nor in the current period, this has no effect on the consolidated financial statements. With the exception of the establishment of new valuation categories and associated changes to the disclosures in the notes, the first-time application of IFRS 9 has no material impact on the net assets, financial position and results of operations of H&R KGaA. No financial assets or financial liabilities were designated as measured at fair value through profit or loss. The following table shows the reconciliation of the valuation categories according to IAS 39 and IFRS 9:

#### IFRS 9 VALUATION CATEGORIES OF FINANCIAL INSTRUMENTS

			Carrying amounts according to IAS 39 12/31/2017	Carrying amounts according to IFRS 9 1/1/2018
	IAS 39	IFRS 9		
<b>Financial assets</b>				
Cash and cash equivalents	Loans and advances	Measured at amortized cost	58,952	58,952
Trade receivables	Loans and advances	Measured at amortized cost	107,479	107,479
Other financial assets				
Loans and receivables	Loans and advances	Measured at amortized cost	3,840	3,840
Current securities	Assets held for trading	Measured at fair value through profit or loss	76	76
Other financial assets	Assets held for sale	Measured at fair value through other comprehensive income	2,082	2,082
<b>Financial liabilities</b>				
Trade payables	Financial liabilities at acquisition cost	Measured at amortized cost	83,328	83,328
Liabilities to banks	Financial liabilities at acquisition cost	Measured at amortized cost	112,735	112,735
<b>Other financial liabilities</b>				
Derivatives without hedge accounting item	Liabilities held for trading	Measured at fair value through profit or loss	1,216	1,216
Other financial liabilities	Financial liabilities at acquisition cost	Measured at amortized cost	4,383	4,383

**Initial Application of IFRS 15**

In May 2014, the IASB published IFRS 15 “Revenue from Contracts with Customers”, which governs revenue recognition from contracts with customers as a central standard in the future. IFRS 15 replaces IAS 11 “Construction Contracts” and IAS 18 “Revenue”, as well as the corresponding interpretations, and is to be applied to financial years beginning on or after January 1, 2018 as a mandatory requirement. H&R KGaA has applied IFRS 15 for the first time as of January 1, 2018.

IFRS 15 provides for a five-step model for revenue recognition that is applicable to all contracts with customers, unless they fall under other standards (e.g. leasing). In line with this model, the amounts that are expected to be received as consideration for the transfer of distinct goods or the rendering of services to customers must be recognized as sales revenue. As soon as the customer has control over the goods or services, the revenue is recorded either over time or at a specific point in time. In addition, IFRS 15 introduces the two new balance sheet items “Contractual assets” and “Contractual liabilities” alongside “Trade receivables”, which leads to changes in the balance sheet presentation of H&R KGaA compared to the previous presentation.

The transition to IFRS 15 at H&R KGaA is based on the modified retrospective method, according to which any effects of initial application as of January 1, 2018 are cumulatively recognized in retained earnings and the comparative periods are presented in accordance with the previous regulations. In line with the transitional provision, IFRS 15 is applied to contracts with customers that had not yet been settled in full on January 1, 2018. H&R KGaA is only marginally affected by the changes resulting from IFRS 15 compared to

the previous regulations. H&R KGaA generates revenue predominantly from the sale of products and, to a lesser extent, from services. Within this context, the contracts on which the revenue recognition is based largely contain only one performance obligation. Variable remuneration components, contractual amendments and construction contracts are of secondary importance for H&R KGaA. As a result, the first time application of this standard has no material impact on H&R KGaA’s net assets, financial position or results of operations apart from the required changes in presentation in the balance sheet. The following table shows the accounting changes resulting from the introduction of IFRS 15:

**IFRS 15 CHANGES IN ACCOUNTING FOR THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS OF JANUARY 1, 2018**

IN € THOUSAND	12/31/2017	Changes due to the first time application of IFRS 15	1/1/2018
<b>Current liabilities</b>			
Contract liabilities	-	3,479	3,479
Other liabilities	11,647	-3,479	8,168
Other current liabilities	152,350	-	152,350
<b>Total current liabilities</b>	<b>163,997</b>	<b>-</b>	<b>163,997</b>

The contract liabilities include advance payments received relating to contracts with customers.

**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/ Interpre- tation	Title	IASB effective date	Date of EU endorsement	EU effective date	Material impact on H&R KGaA
IFRS 16	Leases	1/1/2019	31/10/2017	1/1/2019	see notes
	Amendments to IFRS 9: Prepay- ment Features with Negative Compensation	1/1/2019	3/22/2018	1/1/2019	none
IFRS 17	Insurance Contracts	1/1/2021	open	to be determined	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	8/2/2019	1/1/2019	none
	Annual Improvements to IFRS 2015-2017 Cycle	1/1/2019	expected in Q1.2019	to be determined	none
	Amendments to IAS 19: Plan Amendment, Curtailment or Settlement	1/1/2019	expected in Q1.2019	to be determined	none
	Amendments to References to the Conceptual Framework in IFRS	1/1/2020	expected in 2019	to be determined	none
	Amendments to IFRS 3: Business Combinations	1/1/2020	expected in 2019	to be determined	none
	Amendments to IAS 1 and IAS 8: Definition of "Material"	1/1/2020	expected in 2019	to be determined	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 assets for the right of use and lease liabilities for outstanding lease payments are to be allocated for all leases. For leases with a term of up to 12 months and for leases on assets of low value, there is the right to choose direct recognition in expenses or to waive the right of the recognition of a use right and a lease liability.

For the major part of its lease contracts, H&R KGaA will record the value of the respective use right in the total amount of the lease liability, which will then be adjusted for the amount prepaid or accrued on the lease in the period immediately preceding the time of initial application. Furthermore, there is the option to use a single interest rate or to resign impairment testing on a portfolio of similar leases. Instead, the decision whether they be onerous contracts or not can be taken according to IFRS 37 immediately before the time of initial application. Last but not least, initial application

of IFRS 16 facilitates the retroactive assessment of the lease term if and when lease contracts contain a renewal/termination option. In the evaluation of the use right at the time of initial application, direct initial expenses can be disregarded. H&R KGaA will be making use of this right.

The H&R Group will not be adjusting the comparative information when introducing IFRS 16 in line with the modified retrospective method and will be reporting the cumulative effects of initial application in retained earnings. H&R KGaA will also be making use of the simplified application for short-term leases and leases of low-value assets. In the course of the initial application, H&R will make use of the simplified application which reports leases ending in 2019 as short-term leases. Moreover, current findings will be considered in the determination of the lease term for contracts with a renewal/termination option.

The first time application of IFRS 16 will lead to an extension of the statement of financial position in H&R KGaA's consolidated financial statements due to the mandatory recognition of right-of-use

assets and the corresponding liabilities. This, along with the future recognition of depreciation/amortization and interest expenses instead of other operating expenses on the statement of comprehensive income will result in a change in financial indicators and ratios that are important to the H&R Group, especially EBITDA.

Based on the contracts recognized to date, H&R KGaA expects balance sheet total to increase in the amount of approx. €34 million. This increase in total assets and liabilities will therefore lead to a lower equity ratio. The application of the modified retrospective method is only expected to put slight pressure on equity at the time of the changeover. Positive effects on EBITDA and slightly positive effects on EBIT are expected for the subsequent periods. In addition, pressure will be taken off operating cash flow, with a corresponding burden on the cash flow from financing activities.

Finally, the first time application of IFRS 16 will also require additional disclosures in the notes to the consolidated financial statements regarding H&R KGaA's leases.

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”, company mergers 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 euro 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 immediately charged against income.

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. With the exception of incomes and expenses directly recognized in equity, 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

	Exchange rate on the reporting date 12/31/2018	Exchange rate on the reporting date 12/31/2017	Average rate 2018	Average rate 2017
US dollar	1.1450	1.1993	1.1815	1.1293
British pound	0.89453	0.8872	0.88475	0.87614
Australian dollar	1.6220	1.5346	1.5799	1.4729
South African rand	16.4594	14.8054	15.6134	15.0434
Thai baht	37.052	39.121	38.163	38.279
Chinese yuan	7.8751	7.8044	7.8074	7.6264
Czech crown	25.724	25.535	25.643	26.327
Malaysian ringgit	4.7317	4.8536	4.7642	4.8501

**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 “at amortized cost”, “at fair value through other comprehensive income” and “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. Financial assets whose business model 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. If the business model for a financial asset 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. For equity instruments that are not held for trading purposes, the option of reporting changes in fair value directly in equity is exercised on a case-by-case basis. These instruments are generally measured at fair value. In individual cases, however, the acquisition costs constitute a reasonable estimate of the fair value. Other financial assets are recognized at fair value through profit or loss. There were no reclassifications between the categories.

The financial assets valued at fair value and recognized through profit or loss concern securities classified as current assets as well as derivative financial instruments with a positive fair value.

Impairments relating to financial assets are taken into account using the expected credit loss model pursuant to IFRS 9. The impairment model comprises three stages. For stage 1 financial assets, risk provisions are to be set up in the amount of the 12-month expected credit loss, which 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 stage 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 stage 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, and which are assigned to stage 2 of the impairment model. In the event of a default, the receivable in question is moved to stage 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 counter-party 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.

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 hedge accounting 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. 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 scheduled 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:

<b>ASSETS</b>	
	<b>Economic Life</b>
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

**Borrowing Costs**

Essentially, borrowing costs are charged against income in the period in which the external capital expense is incurred. According to IAS 23, borrowing costs that are directly attributable to the construction, acquisition or production of a qualifying asset are capitalized as part of the cost of that asset.

**Leasing Costs**

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. Leasing transactions are classified either as finance leases or as operating leases. If H&R KGaA, as the lessee in leasing transactions, bears all essential risks and opportunities related to ownership, then such transactions are treated as finance leases. In that case, the Group capitalizes the leased property at the lower of the fair value and the present value of the minimum lease payments and thereafter depreciates the leased property over the estimated useful life or the lease term, whichever is shorter. At the same time, a matching financial liability is 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 will subsequently be made, and the liability adjusted accordingly, using the effective-interest method. All remaining lease agreements in which the Group is the lessee are treated as operating leases. In this case, lease payments made are recorded under expenses and lease payments received are recorded as income.

**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.

The annual goodwill impairment tests take place at the level of the cash-generating units (CGUs) that are relevant for the test. The cash-generating unit represents the lowest level at which goodwill is monitored for internal management purposes. 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. Goodwill impairment is determined by comparing the carrying amount of the cash-generating unit, including the goodwill to be allocated to it, with the recoverable amount for the cash-generating unit. 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. If the calculated impairment loss is equal to, or higher than, the carrying amount of the goodwill, the goodwill must be written off entirely. The remaining impairment is, as a rule, allocated to the remaining non-current assets of the cash-generating unit in proportion to their carrying amounts.

The expected cash flows of the cash-generating units are derived from 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. The plan is based, in particular, on assumptions concerning the trend in sales revenues, 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.

Average costs of capital were used for the discounted cash flow; these weighted capital costs are calculated based on market values. The discount rates after tax used were 5.9% in the ChemPharm Refining segment (previous year: 6.3%) and between 6.2% and 11.1% in the ChemPharm Sales segment (previous year: between 7.2% and 12.5%). This is equal to an interest rate before tax of 8.5% in the ChemPharm Refining segment (previous year: 8.9%) and 8.1% to 14.9% in the ChemPharm Sales segment (previous year: 9.3% to 17.3%). 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.

#### 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. 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 CO<sub>2</sub> 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 CO<sub>2</sub> emission rights acquired are stated at amortized cost.

Any expenses that arise in connection with the registration of products pursuant to the EU Chemicals Regulation (REACH) are capitalized under other intangible assets and amortized over an expected useful life of ten years.

Permanent impairments to other intangible assets are accounted for under impairment. 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.

#### **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 amortized 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's assets is deducted from the present value of the pension obligations recorded on the statement of financial position. The plan asset consist 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 as "other receivable", 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 cur-

rent, 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 CO<sub>2</sub> 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 revenues are recognized when power of control for definable goods and services is transferred to the customer and the customer is able to determine their use and to capitalize them. Prior condition is 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, associated companies, 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 asset and liability, income and expense, and contingent liability amounts reported for the reporting period. Estimates are based on empirical values and other assumptions that are deemed to be appropriate given the circumstances.

Assumptions and estimates are used in particular in determining overhead surcharges when valuing inventories, in determining the economic lives of property, plant and equipment throughout the Group in a uniform manner throughout the Group in a uniform manner, in estimating the recoverability of receivables, and in reporting and measuring provisions. In financial year 2018, this was the case for the evaluation of reversals of provisions for energy taxes at the Salzbergen site due to constitutional objections against the applicable changes in legislature. Moreover, discretionary decisions and estimates are necessary in testing intangible assets for impairment and in measuring the amount of deferred tax assets relating to loss carryforwards to recognize. Further details on the individual items can be found in each section.

Identifying signs of an impairment and determining recoverable amounts and fair values also involve the use of estimates. These include, in particular, estimates of future cash flows, of the applicable discount rates, of expected useful lives and of residual values.

For sensitivity analyses, generally a possible fluctuation range of 10% is assumed, as a change of up to this amount seems possible, especially over the long term. Sensitivity analyses were carried out in particular for the goodwill impairment tests at the level of the cash-generating units and in connection with financial instruments. For pension provisions, the sensitivity analysis assumes a 50-basis-point change in the interest rate and a 50-basis-point change in the pension trend.

Other important estimated values are the discount rate and the underlying mortality tables in connection with pension provisions and similar commitments as well as estimates of necessary expenditures for the circumstances taken into account for other provisions. This also applies to the possibility of a resources drain due to dismantling obligations (see note (40) for more). Details on sensitivity analyses and the bases for estimates in the area of pension provisions can be found in note (20).

Assumptions and estimates 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. Developments in these macroeconomic conditions that deviate from the assumptions and are outside of Management's control may cause the actual amounts to deviate from the original estimates. In such cases, the assumptions and, if necessary, the carrying amounts of the assets and liabilities affected will be adjusted accordingly.

### (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
1/1/2017	17	17	34
Additions	2	2	4
Disposals	-	-	-
<b>12/31/2017</b>	<b>19</b>	<b>19</b>	<b>38</b>
Additions	1	3	4
Disposals	-	-	-
<b>12/31/2018</b>	<b>20</b>	<b>22</b>	<b>42</b>

The addition in Germany relates to the establishment of a new company in Coburg, The additions abroad result from the new company established in the United States, Gaudlitz INC, the establishment of PT. HUR SALES Indonesia in Indonesia and the first-time consolidation of H&R India Sales Private Limited.

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 disclosures concerning the holdings satisfy the requirements of Section 313 HGB. Changes as against the previous year result from the new companies established, as well as from the acquisition of a 5% stake in HRI IT-Consulting GmbH (formerly IGEPa IT Service GmbH).

**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, Great Britain	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 <sup>1)</sup>
H&R Malaysia Sdn. Bhd.	Port Klang, Malaysia	b	100 <sup>1)</sup>
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 taxes (in € thousand)	Equity (in € thousand)
<b>Joint ventures</b>					
Westfalen Chemie GmbH & Co. KG	Salzbergen, Germany	a	50		
Westfalen Chemie Verwaltungsgesellschaft mbH	Salzbergen, Germany	a	50		
HRI IT-Service GmbH	Berlin, Germany	d	50		
HRI IT-Consulting GmbH (previously: IGEPA IT-Service GmbH)	Münster, Germany	d	50		
<b>Unconsolidated subsidiaries</b>					
WAFA Kunststofftechnik GmbH & Co. KG, i. K.	Augsburg, Germany	c	100	.. <sup>2)</sup>	.. <sup>2)</sup>
WAFA Kunststofftechnik Verwaltungsgesellschaft mbH, i. K.	Augsburg, Germany	c	100	.. <sup>2)</sup>	.. <sup>2)</sup>
<b>Other interests</b>					
SRS EcoTherm GmbH	Salzbergen, Germany	a	10	2,891	12,052
Betreibergesellschaft Silbersee II Haltern am See mit beschränkter Haftung	Essen, Germany	d	8	.. <sup>2)</sup>	.. <sup>2)</sup>
Segment:	a) ChemPharm Refining b) ChemPharm Sales	c) Plastics d) Other activities			

<sup>1)</sup> 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.

<sup>2)</sup> No financial statements are available for these companies.

## Notes to the Consolidated Statement of Financial Position

### (6) Cash and Cash Equivalents

IN € THOUSAND	12/31/2018	12/31/2017
Cash on hand	23	16
Cash in banks	46,472	58,936
<b>Total</b>	<b>46,495</b>	<b>58,952</b>

### (7) Trade Receivables

IN € THOUSAND	12/31/2018	12/31/2017
Trade receivables (gross)	121,536	108,077
Impairments	-584	-598
<b>Total</b>	<b>120,952</b>	<b>107,479</b>

No trade receivables (previous year: €0 thousand) were pledged as credit guarantees. Receivables from related parties are listed under Note (43).

In the Group, risk provisions for trade receivables based on impairments can be summarized as follows:

#### CHANGES IN IMPAIRMENTS OF TRADE RECEIVABLES

IN € THOUSAND	2018	2017
<b>As of 1/1</b>	<b>598</b>	<b>542</b>
Addition	115	203
Utilization	-106	-
Reversals	-27	-125
Currency translation differences	4	-22
<b>As of 12/31</b>	<b>584</b>	<b>598</b>

### (8) Inventories

IN € THOUSAND	12/31/2018	12/31/2017
Raw, auxiliary and production materials	67,273	57,209
Work in process	20,988	22,499
Finished products and products for sale	63,277	45,769
Advance payments on inventories	2,407	3,673
<b>Total</b>	<b>153,945</b>	<b>129,150</b>

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 €7,996 thousand during the reporting period (previous year: €3,324 thousand).

Pursuant to IAS 2.34, €795 thousand of impairment of net realizable values were recognized as expenses during the reporting period (previous year: €399 thousand). These affected the ChemPharm Refining and Plastics segments. For more information on expenditures relating to inventories, please consult Note (29).

No inventories (previous year: €0 thousand) were pledged as collateral for liabilities.

### (9) Other Financial Assets

IN € THOUSAND	12/31/2018		12/31/2017	
	Total	of which long-term	Total	of which long-term
Loans and receivables	103	19	2,963	2,604
Bills receivable	4,407	-	2,932	-
Receivables due from BP	987	987	1,632	1,632
Other interests	1,052	1,052	1,052	1,052
Other securities	53	2	1,109	1,033
Other financial assets	1,184	85	877	168
<b>Total</b>	<b>7,786</b>	<b>2,145</b>	<b>10,565</b>	<b>6,489</b>

The loans and receivables essentially comprise receivables from SRS EcoTherm GmbH as well as a loan to a joint venture. Bills receivable refer to receivable claims in China secured by bills of exchange.

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 setoff 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 (€987 thousand; previous year: €1,632 thousand) pursuant to IAS 1.32.

The claims to compensation were as shown in the following table:

IN € THOUSAND	2018	2017
As of 1/1	11,155	11,757
Interest income	223	195
Reassessment of compensation claims	-231	-189
Claims paid	-606	-608
<b>As of 12/31</b>	<b>10,541</b>	<b>11,155</b>

The drop in other securities is due to the disposal of fund units. These assets were stated at market value, with changes recognized in other comprehensive income. At the time of derecognition, the fair value of securities amounts to €1,030 thou-

sand and accumulated profit to €222 thousand. This item also includes other short-term securities, which totaled €52 thousand on the reporting date (previous year: €76 thousand).

The holdings mainly comprise the shares in SRS EcoTherm GmbH, Salzbergen, with a value of €1,050 thousand (previous year: €1,050 thousand). The holding is carried at fair value. Lacking sufficient information to determine a reliable fair value, acquisition costs serve as the most reliable approximate value.

Of the remaining financial assets, as of December 31, 2018, €6 thousand (previous year: €6 thousand) had specific valuation allowances.

## (10) Other Assets

IN € THOUSAND	12/31/2018		12/31/2017	
	Total	Of which long-term	Total	Of which long-term
Reinsurance contracts	1,337	1,337	1,376	1,376
Other tax receivables	5,278	-	5,702	-
Receivables from subsidiaries	2,487	2,487	-	-
Accruals and deferrals	1,267	11	1,174	17
Other assets	4,467	235	1,335	-
<b>Total</b>	<b>14,836</b>	<b>4,070</b>	<b>9,587</b>	<b>1,393</b>

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.

## (11) Property, Plant and Equipment

## CHANGES IN 2018

IN T€	Land and build-ings	Technical equip-ment/machinery	Other facilities/operating and office equipment	Advance payments and construction in progress	Total
<b>Acquisition and production costs</b>					
<b>As of 12/31/2017</b>	<b>91,420</b>	<b>463,921</b>	<b>22,993</b>	<b>28,732</b>	<b>607,066</b>
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
<b>As of 12/31/2018</b>	<b>92,237</b>	<b>497,558</b>	<b>25,736</b>	<b>49,638</b>	<b>665,169</b>
<b>Cumulative depreciation/amortization</b>					
<b>As of 12/31/2017</b>	<b>37,246</b>	<b>260,570</b>	<b>16,616</b>	<b>3</b>	<b>314,435</b>
Depreciation/amortization	3,018	26,388	2,017	-	31,423
Disposals	-440	-15,697	-237	-	-16,374
Currency translation	-112	-259	-31	-	-402
<b>As of 12/31/2018</b>	<b>39,712</b>	<b>271,002</b>	<b>18,365</b>	<b>3</b>	<b>329,082</b>
<b>Carrying amounts</b>					
<b>As of 12/31/2018</b>	<b>52,525</b>	<b>226,556</b>	<b>7,371</b>	<b>49,635</b>	<b>336,087</b>
As of 12/31/2017	54,174	203,351	6,377	28,729	292,631

## CHANGES IN 2017

IN € THOUSAND	Land and build-ings	Technical equip-ment/machinery	Other facilities/operating and office equipment	Advance payments and construction in progress	Total
<b>Acquisition and production costs</b>					
<b>As of 1/1/2017</b>	<b>91,323</b>	<b>432,676</b>	<b>21,417</b>	<b>14,393</b>	<b>559,809</b>
Additions	2,309	27,783	1,784	26,627	58,503
Disposals	-19	-4,988	-892	-78	-5,977
Currency translation	-2,803	-2,267	-190	-4	-5,264
Reclassifications	610	10,717	874	-12,206	-5
<b>As of 12/31/2017</b>	<b>91,420</b>	<b>463,921</b>	<b>22,993</b>	<b>28,732</b>	<b>607,066</b>
<b>Cumulative depreciation/amortization</b>					
<b>As of 1/1/2017</b>	<b>34,270</b>	<b>239,440</b>	<b>15,762</b>	<b>3</b>	<b>289,475</b>
Depreciation/amortization	3,388	27,010	1,841	-	32,239
Disposals	-6	-4,930	-882	-	-5,818
Currency translation	-406	-950	-105	-	-1,461
<b>As of 12/31/2017</b>	<b>37,246</b>	<b>260,570</b>	<b>16,616</b>	<b>3</b>	<b>314,435</b>
<b>Carrying amounts</b>					
<b>As of 12/31/2017</b>	<b>54,174</b>	<b>203,351</b>	<b>6,377</b>	<b>28,729</b>	<b>292,631</b>
As of 1/1/2017	57,053	193,236	5,655	14,390	270,334

The item advance payments and construction in progress includes expenses which are reported in the property's carrying amount during construction to the amount of €48,216 thousand (previous year: €22,283).

Land and buildings are essentially the Group companies' production sites and the technical equipment and machinery are production facilities.

The additions to plant assets in 2018 were primarily for the production sites in Salzbergen and Hamburg. At both sites, capital expenditures were made to modernize facilities and infrastructure. A larger amount was invested in the respective projects at the Hamburg production site, where in addition to measures to improve product logistics the first construction stage for the improvement of the flood protection wall has successfully been concluded. Moreover, capital expenditure to optimize production facilities were used. This refers to the continued development of utilization measures for residues and to the optimizing of product quality in the area of high-grade process oils. Moreover, expenditures for major overhauls at both sites were capitalized.

Borrowing costs of €131 thousand were capitalized in financial year 2018 (previous year: €0 thousand). This figure was calculated using a financing cost rate of 1.8%.

The results for H&R KGaA do not include any income from compensation payments by third parties for depreciation/amortization on property, plant and equipment (previous year: €20 thousand).

H&R KGaA has entered into a number of finance and operating lease agreements for technical equipment, operating and office equipment, and intangible assets.

#### **Acquisition of an industrial power plant as a business combination**

H&R KGaA acquired an industrial power plant with effect of December 28, 2018, to ensure their own private supply with energy and steam. This transaction was classified as business combination pursuant to IFRS 3 and has correspondingly been accounted for. In line with the criteria of

IFRIC 4, the industrial power plant had already been included in the statement of financial position in the period prior to the acquisition date as it was operated for H&R KGaA by the vendor on a cost reimbursement basis. With acquiring the industrial power plant, all necessary operating licenses have been transferred to H&R KGaA as these are inseparable from the industrial site. H&R KGaA also acquired all hereditary building rights connected with the industrial power plant.

#### **ACQUISITION-DATE FAIR VALUES**

IN € THOUSAND	
Buildings	504
Technical equipment	15,544
Operating and office equipment	8
Facilities under construction	203
<b>Total assets</b>	<b>16,259</b>
Inventories	91
<b>Total net assets acquired</b>	<b>16,350</b>

H&R KGaA acquired the assets at a carrying amount of €15,373 thousand. Based on the provisions set out in IFRS 3, these assets are to be measured at fair value, resulting in the derecognition of the assets at their carrying amount and the addition of the assets at fair value in the statement of financial position of H&R KGaA. The fair values mainly relate to the acquired property, plant and equipment, which was measured on the basis of a cost-oriented measurement approach on the acquisition date. The total fair value amounted to €16,350 thousand, meaning that the acquisition resulted in a passive difference of €808 thousand after taking deferred taxes into account. This is recognized as income in the income statement under the item other operating income.

As the acquisition was made very close to the reporting date, the income statement does not include any significant revenue or contributions to income since the acquisition date. Costs that are directly related to the acquisition in the amount of €400 thousand were recognized as expenses in the reporting period. If H&R KGaA had already taken over the industrial power plant with effect from January 1, 2018, the sales revenue would have been unchanged and income would have been approx. €-0.2 million lower.

**Finance Lease**

The finance leases essentially include land-use rights and in the previous year an agreement that meets the requirements of IFRIC 4 and relates to the supply of energy as well as of cooling and boiler feed water. The main element of this agreement was a power plant operated by the lessor for H&R KGaA on a cost reimbursement basis. H&R KGaA acquired this power plant from the lessor at the carrying amount with effect from December 28, 2018. The acquisition was classed as a business combination pursuant to IFRS 3 as above mentioned.

Property, plant and equipment used under finance leases are recognized in the reported property, plant and equipment with a carrying amount of €6,963 thousand (previous year: €24,045 thousand). This amount is broken down into technical equipment and machinery, with a carrying amount of €0 thousand (previous year: €16,839 thousand), and land-use rights, with a carrying amount of €6,963 thousand (previous year: €7,206 thousand). These amounts were paid in full in advance. As of the reporting date, the acquisition costs of these property, plant and equipment totaled €12,676 thousand (previous year: €40,564 thousand). The drop in these amounts is associated with the acquisition of the power plant.

As the payments for the land-use rights are made in advance, no more payments will fall due for finance leases in future periods.

**Operating Lease**

In addition to the finance leases, other lease and/or rental agreements were also entered into, which must be classified as operating leases based on their contents, as ownership of the property constituting the subject matter of the lease or rental agreement is attributable to the lessor or landlord. This involves, in particular, land and buildings, hardware, vehicles, forklift trucks, office machines and tank railcars. For technical equipment and operating and office equipment, the terms are generally between two and five years. For land and buildings, the terms are longer than five years. The agreements generally terminate automatically at the end of their term, although in some cases there are renewal options.

Operating leases entailed expenses totaling €8,394 thousand (previous year: €6,380 thousand).

Future minimum lease payments based on non-cancelable operating leases will become due in future periods as follows:

IN € THOUSAND	Up to 1 year		1 to 5 years		Longer than 5 years		Total	
	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017
Land and buildings	1,735	1,530	5,540	4,639	17,244	18,333	24,519	24,502
Technical equipment	3,027	1,516	2,173	1,710	149	-	5,349	3,226
Operating and office equipment	1,997	2,120	4,334	5,014	5,613	6,267	11,944	13,401
<b>Total</b>	<b>6,759</b>	<b>5,166</b>	<b>12,047</b>	<b>11,363</b>	<b>23,006</b>	<b>24,600</b>	<b>41,812</b>	<b>41,129</b>

## (12) Goodwill and Other Intangible Assets

The table below shows changes in intangible assets during financial year 2018:

## CHANGES IN 2018

IN € THOUSAND	Other intangible assets						Subtotal	Total
	Goodwill	Distribu- tion and similar rights	Software	Licenses/ product rights	Patents/ (produc- tion) tech- nology	Other rights		
<b>Acquisition and production costs</b>								
<b>As of 12/31/2017</b>	<b>54,946</b>	<b>18,064</b>	<b>12,929</b>	<b>3,910</b>	<b>13,372</b>	<b>63</b>	<b>48,338</b>	<b>103,284</b>
Currency translation	-81	-150	-6	17	-118	-	-257	-338
Additions	-	-	479	58	-	159	696	696
Disposals	-	-	-	-	-	-	-	-
Reclassifications	-	-	40	12	-	-33	19	19
<b>As of 12/31/2018</b>	<b>54,865</b>	<b>17,914</b>	<b>13,442</b>	<b>3,997</b>	<b>13,254</b>	<b>189</b>	<b>48,796</b>	<b>103,661</b>
<b>Cumulative depreciation/amortization</b>								
<b>As of 12/31/2017</b>	<b>32,500</b>	<b>9,145</b>	<b>11,865</b>	<b>2,487</b>	<b>5,374</b>	<b>-</b>	<b>28,871</b>	<b>61,371</b>
Currency translation	-90	-76	-4	6	-57	-	-131	-221
Depreciation/amortization	-	756	624	173	1,184	-	2,737	2,737
Impairments	-	-	-	-	-	-	-	-
Disposals	-	-	-	-	-	-	-	-
Reclassifications	-	-	-	-	-	-	-	-
<b>As of 12/31/2018</b>	<b>32,410</b>	<b>9,825</b>	<b>12,485</b>	<b>2,666</b>	<b>6,501</b>	<b>-</b>	<b>31,477</b>	<b>63,887</b>
<b>Carrying amounts</b>								
<b>As of 12/31/2018</b>	<b>22,455</b>	<b>8,089</b>	<b>957</b>	<b>1,331</b>	<b>6,753</b>	<b>189</b>	<b>17,319</b>	<b>39,774</b>
As of 12/31/2017	22,446	8,919	1,064	1,423	7,998	63	19,467	41,913

## CHANGES IN 2017

IN € THOUSAND	Other intangible assets						Subtotal	Total
	Goodwill	Distribu- tion and similar rights	Software	Licenses/ product rights	Patents/ (produc- tion) tech- nology	Other rights		
<b>Acquisition and production costs</b>								
<b>As of 1/1/2017</b>	<b>55,449</b>	<b>19,166</b>	<b>11,296</b>	<b>4,987</b>	<b>14,242</b>	<b>217</b>	<b>49,908</b>	<b>105,357</b>
Currency translation	-503	-1,102	-22	-17	-870	-	-2,011	-2,514
Additions	-	-	257	251	-	50	558	558
Disposals	-	-	-122	-	-	-	-122	-122
Reclassifications	-	-	1,520	-1,311	-	-204	5	5
<b>As of 12/31/2017</b>	<b>54,946</b>	<b>18,064</b>	<b>12,929</b>	<b>3,910</b>	<b>13,372</b>	<b>63</b>	<b>48,338</b>	<b>103,284</b>
<b>Cumulative depreciation/amortization</b>								
<b>As of 1/1/2017</b>	<b>30,414</b>	<b>4,035</b>	<b>10,097</b>	<b>3,571</b>	<b>3,381</b>	<b>83</b>	<b>21,167</b>	<b>51,581</b>
Currency translation	-391	-288	-18	-6	-247	-	-559	-950
Depreciation/ amortization	-	1,137	546	201	1,345	-	3,229	3,229
Impairments	2,477	4,261	-	-	895	-	5,156	7,633
Disposals	-	-	-122	-	-	-	-122	-122
Reclassifications	-	-	1,362	-1,279	-	-83	-	-
<b>As of 12/31/2017</b>	<b>32,500</b>	<b>9,145</b>	<b>11,865</b>	<b>2,487</b>	<b>5,374</b>	<b>-</b>	<b>28,871</b>	<b>61,371</b>
<b>Carrying amounts</b>								
<b>As of 12/31/2017</b>	<b>22,446</b>	<b>8,919</b>	<b>1,064</b>	<b>1,423</b>	<b>7,998</b>	<b>63</b>	<b>19,467</b>	<b>41,913</b>
As of 1/1/2017	25,035	15,131	1,199	1,416	10,861	134	28,741	53,776

The carrying amount of goodwill can be broken down as follows:

IN € THOUSAND			
Reporting segment	Cash Generating Unit (CGU)	12/31/2018	12/31/2017
ChemPharm Refining	Salzbergen CGU	16,738	16,738
ChemPharm Sales	H&R China CGU	-	-
ChemPharm Sales	H&R ChemPharm (UK) CGU	282	282
ChemPharm Sales	Asia CGU	371	362
ChemPharm Sales	South Africa CGU	5,064	5,064
<b>Total</b>		<b>22,455</b>	<b>22,446</b>

**Goodwill**

In performing the impairment test on the CGU, management must make certain future-oriented valuation assumptions. 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. The CGUs' recoverable amounts are equal to their values in use.

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%, increasing the weighted cost of capital by 10% and lowering the growth rate by one percentage point were analyzed. The sensitivity analysis indicated that none of the CGU's would require recognition of an impairment loss. In the previous year a 0.3% increase in the cost of capital or a 2.3% reduction in cash flow in the CGU South Africa would have caused the recoverable amount to be equal to the carrying amount.

In 2017, a goodwill impairment test performed in CGU China resulted in a goodwill impairment of €2.5 million. The carrying amount of the China CGU's goodwill decreased by a total of €2.6 million due to €0.1 million in additional currency translation effects. Previous year's impairments of €2.5 million are recorded as depreciation, impairments and amortization of property, plant and equipment in the income statement.

The China CGU consists of the legal entities in the Chemical-Pharmaceutical Division. The CGU's interest rate before tax, which was used for the prior-year impairment test, was 10.4%. This was equivalent to an interest rate after tax of 7.8%.

**Other intangible assets**

Other intangible assets primarily consist of customer relationships with a residual carrying amount of €8.1 million (previous year: €8.9 million) and (production) technologies with a residual carrying amount of €6.8 million (previous year: €8.0 million). The remaining other intangible assets are mainly production and application software as well as production, control and process flow licenses. The additions in financial year 2018 primarily refer to the acquisition of new software licenses.

An impairment loss of €5,156 thousand was recognized in the income statement under depreciation, impairments and amortization of intangible assets and property, plant and equipment for other intangible assets in the previous year.

**(13) Shares from Holdings Valued At Equity**

The reported shares in holdings valued at equity concern the 50 % share in the joint venture Westfalen Chemie KG and the related general partner with full personal liability Westfalen Chemie Verwaltungsgesellschaft mbH. Westfalen operates a hydrogen production and bottling facility at the Salzbergen site, from which the Salzbergen specialty refinery obtains hydrogen for its own production. In addition, H&R KGaA has a 50% stake in both the joint venture HRI IT-Service GmbH, Berlin, and in HRI IT-Consulting GmbH, Münster. In financial year

2018, H&R Group purchased a 5% stake in HRI IT-Consulting GmbH, meaning that this company is now also treated as a joint venture.

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		Associates	
	12/31/2018	12/31/2017	12/31/2018	12/31/2017
<b>Assets</b>				
Non-current assets	1,144	1,874	-	164
Current assets	2,748	1,221	-	1,778
<b>Liabilities</b>				
Non-current liabilities	272	-	-	231
Current liabilities	2,354	2,533	-	677
<b>Cumulative equity</b>	<b>1,566</b>	<b>562</b>	<b>-</b>	<b>1,034</b>
Income	16,390	11,636	-	5,927
Expenses	-15,373	-11,112	-	-5,141
<b>Earnings after income taxes</b>	<b>1,017</b>	<b>524</b>	<b>-</b>	<b>786</b>
Other comprehensive income	-	-	-	-
<b>Total comprehensive income</b>	<b>1,017</b>	<b>524</b>	<b>-</b>	<b>786</b>

The following table shows the changes in the carrying amounts of holdings valued at-equity:

IN € THOUSAND	2018	2017
<b>Carrying amounts on 1/1</b>	<b>4,469</b>	<b>4,302</b>
Addition	364	-
Proportionate share of result	376	492
Distribution	-859	-325
<b>Carrying amounts on 12/31</b>	<b>4,350</b>	<b>4,469</b>

#### (14) Liabilities to Banks

Liabilities to banks include the following items:

IN € THOUSAND	Carrying amount on 12/31/2018	Residual term up to one year	Residual term 2020 to 2023	From 2024 onward
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	-
<b>Total</b>	<b>149,513</b>	<b>70,088</b>	<b>50,990</b>	<b>28,435</b>
of which secured	702			

IN € THOUSAND	Carrying amount on 12/31/2017	Residual term up to one year	Residual term 2019 to 2022	From 2023 onward
Loans under KfW programs	77,979	10,296	42,831	24,852
Syndicated loan	-	-	-	-
Borrower's note loans	7,000	7,000	-	-
Other loans	27,756	27,088	668	-
<b>Total</b>	<b>112,735</b>	<b>44,384</b>	<b>43,499</b>	<b>24,852</b>
of which secured	823			

**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. It was used to refinance a syndicated loan dating back to 2015 ahead of schedule. The loan serves to secure the Group's financing based on attractive conditions; 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). The adjustment always takes place after the filing of the quarterly and/or annual reports. The syndicated loan was only utilized to a minor extent in financial year 2018.

**Other Loans.**

Other loans 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.

**Financial Covenants.**

Financial covenants such as net gearing and the equity ratio have been agreed for the syndicated loans and for bilateral loans of H&R GmbH & Co. KGaA. The financial covenants were fully met both at the reporting date and also during the course of the year.

**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 €2,249 thousand as of December 31, 2018. The carrying amount on January 1, 2018 was €3,479 thousand. This amount included €3,479 thousand that was recognized as revenue in the reporting period.

## (17) Other Provisions

Changes in other provisions in 2018 were as follows:

IN € THOUSAND	HR provisions (17.1)	Environmental protection (17.2)	Energy taxes (17.3)	Trade-related commitments (17.4)	Miscellaneous provisions (17.5)	Total
<b>As of 1/1/2018</b>	<b>10,566</b>	<b>525</b>	<b>363</b>	<b>1,872</b>	<b>1,496</b>	<b>14,822</b>
of which long-term	3,223	-	-	-	-	3,223
Utilization	-6,293	-130	-	-1,290	-333	-8,046
Reclassification	-	-	2,634	-	-	2,634
Reversal	-526	-	-2,997	-7	-23	-3,553
Additions	7,581	-	-	848	240	8,669
Compounding/ discounting	37	-	-	-	-	37
Currency translation differences	6	-	-	-4	5	7
<b>As of 12/31/2018</b>	<b>11,371</b>	<b>395</b>	<b>-</b>	<b>1,419</b>	<b>1,385</b>	<b>14,570</b>
of which long-term	3,419	-	-	-	-	3,419

The following cash outflows are expected in connection with the provisions shown on the statement of financial position for 2018:

### EXPECTED CASH OUTFLOWS FOR OTHER PROVISIONS

IN € THOUSAND	HR provisions	Environmental protection	Energy taxes	Trade-related commitments	Miscellaneous provisions	Total
2019	7,952	395	-	1,419	1,385	11,151
2020	590	-	-	-	-	590
2021-2023	655	-	-	-	-	655
2024-2028	1,158	-	-	-	-	1,158
2029 and later	1,016	-	-	-	-	1,016
<b>Total</b>	<b>11,371</b>	<b>395</b>	<b>-</b>	<b>1,419</b>	<b>1,385</b>	<b>14,570</b>

### (17.1) HR Provisions

The short-term HR provisions primarily concern directors' fees, profit sharing, performance bonuses, deferred leave, flex-time credits as well as professional association contributions.

The long-term HR provisions consist of early retirement pensions and service anniversaries.

### (17.2) Environmental Protection

Subsoil contamination with hazardous materials resulting from the production of ammunition (grenades) under the supervision of the armed forces during the two world wars and from the decommissioning of military explosives were already discovered some time ago on a piece of land belonging to a Group company that is used by third parties to produce such explosive materials.

The affected soil was disposed of some years ago. However, due to the size and diversity of the plot of land, areas contaminated with hazardous substances are being discovered on a regular basis; these must be remediated by professionals. The level of hazardous materials in the ground and surface water is regularly measured and monitored in coordination with the relevant authorities. The explosives business was sold in 2007; however, the land was not transferred to the buyer, but, rather, was leased to the explosives company operating there.

Sythengrund GmbH had various tests carried out to assess the hazardous materials situation. These assessments revealed that the plume of pollutants extending beyond the site borders cannot be removed using current technology. The company

is therefore focusing its ongoing measures on monitoring and securing the pollutants, carrying out long-term research into potential additional contamination and supporting research projects into developing more advanced chemical/physical treatment methods. All steps to monitor and secure the pollutants and to decontaminate affected areas, are carried out in close cooperation with the regulatory authorities of the Recklinghausen district.

In August 2015, the quartz sand deposits, which cover an area of around 50 hectares, were sold to a nearby quartz sand producer. Most of the remaining land (around 210 hectares) was sold to the Recklinghausen district in a notarized purchase agreement dated September 16, 2016. The property is scheduled to be handed over in March/April 2019. The explosives manufacturer has already ceased operations at this site. This purchase agreement with the Recklinghausen district also represents a final settlement of the company's liability as site owner, thereby eliminating, from today's perspective, the risk of many years of litigation to determine the extent of the liability. The remaining areas, which are insignificant, have now almost been sold in full. Respon-

sibility for public safety on the site will also be performed by the Recklinghausen district at the time of the handover. In addition, the investment in the operating company Silbersee II Haltern am See mbH was sold to the district in this purchase agreement.

**(17.3) Energy Taxes**

The provisions for energy taxes also included provisions for electricity taxes. The €2,997 thousand reversal on the one hand refers to the provisions for energy and electricity taxes, since, according to a clarification with the main customs office, the reasons for setting aside these provisions no longer apply. On the other hand, it refers to provisions for energy taxes, which have to be dissolved due to the findings of a legal opinion as their legal basis is a breach of constitutional retroactivity.

**(17.4) Trade-Related Commitments**

Provisions for trade-related commitments primarily include provisions for complaints, and warranties.

**(17.5) Other Provisions**

Miscellaneous provisions primarily include provisions for waste disposal and other obligations.

**(18) Other Financial Liabilities**

IN € THOUSAND	12/31/2018		12/31/2017	
	Total	of which long-term	Total	of which long-term
Liabilities arising from derivatives	3	-	1,216	-
Liabilities from company acquisitions	3,231	-	3,969	-
Other financial liabilities	478	2	414	2
<b>Total</b>	<b>3,712</b>	<b>2</b>	<b>5,599</b>	<b>2</b>

Liabilities from company acquisitions relate to existing liabilities from the acquisition of the Chinese activities in 2014.

## (19) Other Liabilities

IN € THOUSAND	12/31/2018		12/31/2017	
	Total	of which long-term	Total	of which long-term
Tax liabilities	5,126	-	4,883	-
Accruals and deferrals	8,493	6,318	4,118	1,792
Payments received	-	-	3,479	-
Other liabilities	1,423	-	959	-
<b>Total</b>	<b>15,042</b>	<b>6,318</b>	<b>13,439</b>	<b>1,792</b>

Tax liabilities primarily concern the current VAT and payroll tax liabilities as well as import VAT still due. The advance payments received are reported according to IFRS 15 under contract liabilities from the end of the financial year 2018 onwards.

Accruals and deferrals mainly include subsidies for investments into H&R KGaA. A substantial amount of these is the subsidy for the construction of a proton exchange membrane (PEM) at the refinery site in Hamburg. The subsidy is financed by EFRE funds and comes with obligations, which were so far, and in future will be, fully complied with.

## (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 by 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 so-called 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 by 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 (so-called 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, so-called 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, 2018 are shown in the following table:

IN € THOUSAND	12/31/2018	12/31/2017
Group 1	40,210	39,659
Group 3	10,541	11,155

Another category (so-called Group 2) comprises employees of BP who were not taken on by H&R Ölwerke Schindler. For this group of people in Group 2, H&R Ölwerke Schindler has agreed to pay BP for the relevant pension obligations remaining with BP in the amount of €9,554 thousand (previous year: €9,523 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 €10,541 thousand (previous year: €11,155 thousand), which also arose

as part of the takeover of the specialty business (see Note (9)). The net receivable of €987 thousand (previous year: €1,632 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	2018	2017
<b>As of 1/1</b>	<b>79,292</b>	<b>85,206</b>
Current service cost	803	877
Interest expense	1,553	1,406
Reassessments	57	-4,948
of which due to changes in financial assumptions	-	-3,867
of which due to empirical adjustments	-704	-1,081
of which due to changes in demographic assumptions	761	-
Payments made	-3,244	-3,249
<b>As of 12/31</b>	<b>78,461</b>	<b>79,292</b>

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 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	2018	2017
<b>As of 1/1</b>	<b>1,694</b>	<b>1,648</b>
Interest income	34	28
Reassessments	14	18
Contributions to plan	-	-
<b>As of 12/31</b>	<b>1,741</b>	<b>1,694</b>

The following table shows changes in the carrying amount of the net debt related to defined-benefit retirement plans:

IN € THOUSAND	2018	2017
<b>As of 1/1</b>	<b>77,598</b>	<b>83,558</b>
Current service cost	803	877
Interest expense	1,520	1,378
Payments made	3,244	-3,249
Employer contribution to the plan	-	-
Reassessments	43	-4,966
of which return on plan assets	-14	-18
of which due to changes in financial assumptions	-	-3,867
of which due to empirical adjustments	-704	-1,081
of which due to changes in demographic assumptions	761	-
<b>As of 12/31</b>	<b>76,720</b>	<b>77,598</b>

The following valuation parameters were used to determine the pension obligations:

	12/31/2018	12/31/2017
Interest rate	2.0%	2.0%
Salary trend	4.0%	4.0%
Pension trend	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 2018.

Payments totaling €3,277 thousand are expected for the next financial year (previous year: €3,823 thousand). The average duration of the benefit obligations is 15.4 years.

**CHANGE IN PENSION OBLIGATIONS**

	Change in parameter by	12/31/2018		12/31/2017	
		Change in obligation if increased in € thousand	Change in obligation if decreased in € thousand	Change in obligation if increased in € thousand	Change in obligation if decreased in € thousand
Change in discount rate	0.50%	-5,584	6,418	-5,789	6,556
Change in expected salary trend	0.50%	1,044	-990	1,324	-1,235
Change in expected pension trend	0.50%	1,113	-1,028	1,165	-1,074
Change in expected mortality	1 year	756	-781	-3,216	3,172

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. Only H&R Ölwerke Schindler GmbH has active employees with a pension claim.

**(21) Subscribed Capital**

**Capital Increase via Scrip Dividend**

At the Annual General 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 option of receiving the dividend either in cash or in the form of new shares. 72.8% of shareholders made use of the option of receiving new shares, which led to the issue of 685,193 new shares carrying a dividend entitlement from January 1, 2018 at a subscription price of €10.864. This increased the subscribed capital by €1,752 thousand.

In the previous period, subscribed capital increased due to an increase in capital from company funds in connection with the distribution of 716,403 new

shares (bonus shares) effective on June 28, 2017 in the amount of €1,831 thousand. In turn, subscribed capital increased from €91,573 thousand to €93,404 thousand.

As of the reporting date, subscribed capital consequently totaled €95,156 thousand (previous year: €93,404 thousand), divided into 37,221,746 ordinary no-par bearer shares (previous year: 36,536,553 ordinary 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.

**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.

The general partner with full personal liability is authorized – with the Supervisory Board’s approval – to increase the company’s share capital by May

12, 2019 by a maximum of €20.6 million by issuing up to 8,063,154 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 (2014 Approved 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 amendment (reduction in the approved capital) was recorded in the Commercial Register on June 27, 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 financial year 2018, the capital reserve increased by €5,503 thousand from €41,364 thousand to €46,867 thousand (see Note (21)) 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.

In the previous year, the capital reserve dropped by €1,389 thousand from €42,753 thousand to €41,364 thousand. This was due to the issuance of bonus shares, resulting in a reduction of €1,831 thousand, and to a pro rata increase in capital at H&R China Holding GmbH in the amount of €442 thousand.

### (23) Retained Earnings

On the reporting date, retained earnings totaled €178,675 thousand (previous year: €171,989 thousand). The reassessed net liability under defined-benefit pension plans recorded under other comprehensive income totaled €-22,001 thousand (previous year: €-21,547 thousand). Due to the disposal of equity instruments, €164 thousand (previous year €0 thousand) were transferred from other provisions to retained earnings. 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, 2018, it was decided that a dividend of €0.40 would be distributed from H&R KGaA's annual net income for financial year 2017 as determined in accordance with the German Commercial Code (HGB). The dividend was granted as a combination of a cash dividend and a dividend in kind. The Executive Board and the Supervisory Board will propose to the Annual Shareholders' Meeting on May 24, 2019 that no dividend be distributed for financial year 2018, but to carry forward the distributable profit. This proposal is subject to approval by the shareholders at the Annual Shareholders' Meeting.

### (24) Other Reserves

Other reserves refer to cumulative other comprehensive income and include the currency translation adjustment and adjustments from the marking-to-market of financial assets. Due to the sale of securities, the reserves relating to the marking-to-market of securities fell to €0 thousand on the reporting date (previous year: €164 thousand). The currency translation adjustment totaled €-639 thousand on the reporting date (previous year: €-1,168 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	2018	2017
<b>As of 1/1</b>	<b>36,991</b>	<b>41,598</b>
Increase in capital	-	425
Currency translation differences	-406	-2,404
Proportionate share of net profit or loss	727	-2,628
<b>As of 12/31</b>	<b>37,712</b>	<b>36,991</b>

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	12/31/2018	12/31/2017
Current assets	72,021	61,193
Non-current assets	57,593	62,720
Current liabilities	49,379	43,757
Non-current liabilities	4,056	4,627
Cumulative equity	76,179	75,529
<b>of which non-controlling interests' proportionate share of net assets</b>	<b>37,328</b>	<b>37,009</b>

IN T€	2018	2017
<b>Income</b>	<b>155,759</b>	<b>144,571</b>
<b>Expenses</b>	<b>-154,278</b>	<b>-149,933</b>
<b>Profit/loss</b>	<b>1,481</b>	<b>-5,362</b>
of which non-controlling interests' proportionate share in income	726	-2,627
<b>Other comprehensive income</b>	<b>-831</b>	<b>-4,909</b>
of which non-controlling interests' proportionate share of other comprehensive income	-407	-2,405
<b>Total consolidated income</b>	<b>650</b>	<b>-10,271</b>
of which non-controlling interests' proportionate share of total comprehensive income	319	-5,033
<b>Cash flow from operating activities</b>	<b>-4,586</b>	<b>-1,086</b>
of which non-controlling interests' proportionate share of cash flow from operating activities	-2,247	-532
<b>Cash flow from investing activities</b>	<b>-1,519</b>	<b>-724</b>
of which non-controlling interests' proportionate share of cash flow from investing activities	-744	-355
<b>Cash flow from financing activities</b>	<b>4,070</b>	<b>1,523</b>
of which non-controlling interests' proportionate share of cash flow from financing activities	1,994	746

## Notes to the Consolidated Income Statement

### (26) Research and Development Costs

In financial year 2018, 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 2018, research and development expenses totaled €2,695 thousand (previous year: €2,423 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	2018	2017
Exchange rate gains from foreign currency items	6,776	7,994
Income from services	5,393	5,377
Income from cost transfers	4,815	3,653
Own work capitalized	973	677
Income from acquisition of industrial power plant (business combination)	808	-
Income from the disposal of property, plant and equipment	711	146
Income from the reversal of provisions	3,605	4,873
Income from rents and leases	990	995
Miscellaneous	3,212	2,809
<b>Total</b>	<b>27,283</b>	<b>26,524</b>

Income from cost transfers results mainly from the re-invoicing 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. Income from the reversal of provisions encompasses the reversal of provisions for energy taxes at the Salzbergen site in the amount of €2.6 million.

### (29) Cost of Materials

IN € THOUSAND	2018	2017
Raw materials	655,451	544,566
Auxiliary and production materials	15,100	16,799
Products for sale	162,355	160,640
<b>Cost of raw materials, auxiliary and production materials and merchandise purchased</b>	<b>832,906</b>	<b>722,005</b>
Energy costs	43,378	41,248
Other external services	1,190	1,088
<b>Total expenditures on purchased services</b>	<b>44,568</b>	<b>42,336</b>
<b>Total</b>	<b>877,474</b>	<b>764,341</b>

### (30) Personnel Expenses

IN T€	2018	2017
Wages and salaries	73,159	72,243
Social security payments	11,777	11,821
Defined benefit pension plan expenses	1,255	846
Defined contribution pension plan expenses	543	537
Other social security expenses	403	527
<b>Total</b>	<b>87,137</b>	<b>85,974</b>

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

	2018	2017
ChemPharm Refining	705	679
ChemPharm Sales	426	388
Plastics	520	577
Other	29	28
<b>Total</b>	<b>1,680</b>	<b>1,672</b>

### (31) Other Operating Expenses

IN € THOUSAND	2018	2017
Freight costs, dispatch systems and other distribution costs	26,202	26,259
Third-party goods and services	19,219	20,846
Third-party repairs and maintenance	16,696	15,650
Rents and leases	8,924	9,202
Exchange rate loss from foreign currency items	7,653	7,156
IT costs	8,455	8,609
Legal and consulting fees, expenses for annual financial statements and Annual Shareholders' Meeting	4,414	3,735
Insurance premiums, fees and contributions	4,273	3,685
Cost transfers	3,954	3,516
Other taxes	2,064	1,732
Other personnel expenses	2,346	2,274
Leasing costs	1,911	1,896
Travel expenses	1,519	1,510
Commissions	1,636	1,457
Miscellaneous	6,093	6,219
<b>Total</b>	<b>115,359</b>	<b>113,746</b>

### (32) Financing income

IN € THOUSAND	2018	2017
Interest income from short-term bank deposits	316	379
Income from loans	13	13
Other interest and similar income	10	13
<b>Total interest income</b>	<b>339</b>	<b>405</b>
Income from derivatives	1,216	1,406
Dividends received from equity instruments	740	-
Other financial income	181	-
<b>Other financing income</b>	<b>2,137</b>	<b>1,406</b>
<b>Financing income</b>	<b>2,476</b>	<b>1,811</b>

The dividends received from equity instruments were distributed by SRS EcoTerm GmbH.

### (33) Financing Expenses

IN € THOUSAND	2018	2017
Interest expense relating to loan interest	4,614	5,114
Interest expense relating to derivatives	1,233	1,351
Interest expense from the compounding of pension provisions	1,520	1,379
Commitment commission	875	895
Other interest and similar expenses	1,057	1,618
<b>Total interest expense</b>	<b>9,299</b>	<b>10,357</b>
Expenses related to derivatives	-	-
Miscellaneous financing expenses	-	-
<b>Total other financing expenses</b>	<b>-</b>	<b>-</b>
<b>Financing expenses</b>	<b>9,299</b>	<b>10,357</b>

### (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 13.28% (previous year: 13.18%), this amounts to a combined income tax rate for the Group in Germany of 29.10% (previous year: 29.00%). 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	2018	2017
Current income tax expenses	-8,506	-14,532
Current income tax refunds	42	559
<b>Total current taxes</b>	<b>-8,464</b>	<b>-13,973</b>
Deferred taxes from temporary differences	-627	107
Deferred taxes from loss carry-forwards	-2,318	-2,862
<b>Total deferred taxes</b>	<b>-2,945</b>	<b>-2,755</b>
<b>Total</b>	<b>-11,409</b>	<b>-16,728</b>

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 €5,288 thousand of deferred tax assets (previous year: €7,757 thousand) as well as on foreign tax loss carryforwards amounting to €151 thousand (previous year: €0 thousand). Overall, in Group companies that reported a loss in the prior or the current year, a surplus of deferred tax assets totaling €106 thousand was recognized (previous year: €7 thousand). Recognition of the deferred tax assets is justified since the Group expects positive future taxable income to 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 €1,030 thousand (previous year: €934 thousand) and trade tax losses of €972 thousand (previous year: €876 thousand) whose realization 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 €13,291 thousand (previous year: €13,632 thousand) and essentially may be utilized without restriction within one to

five years. No deferred tax claims were recognized for deductible temporary differences totaling €22 thousand (previous year: €1,572 thousand). In the financial year, deferred tax expenses were not reduced through the use of previously unrecognized deferred tax assets relating to loss carryforwards (previous year: €1,517 thousand).

Deferred tax assets of €224 thousand were allocated for the remeasurement of defined-benefit pension plans (previous year: reversal of €1,465 thousand) and were recognized in other comprehensive income. The change in financial assets available for sale measured at fair value led to a change in the deferred taxes recognized in other comprehensive income reported on the income statement in the amount of €58 thousand (previous year: €13 thousand).

For €12,038 thousand of temporary differences in the retained earnings of subsidiaries (previous year: €12,008 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	2018	2017
<b>Earnings before income tax</b>	<b>33,727</b>	<b>46,231</b>
<b>Theoretical income tax rate: 29.10% (previous year: 29.00%).</b>	<b>9,815</b>	<b>13,407</b>
Effects from tax rate differences	-1,382	-1,487
Effects from previous years' taxes	541	-496
Tax effects from the reversal of deferred taxes	-	-
Non-deductible expenses	660	1,010
Goodwill impairment	-	718
Tax-free income	-111	-88
Foreign withholding tax	1,340	2,843
Effects from changes in tax rates	3	1
Unrecognized deferred tax assets for loss carryforwards	650	963
Utilization of loss carryforwards	-128	-410
Other tax effects	21	267
<b>Income tax expense as per consolidated income statement</b>	<b>11,409</b>	<b>16,728</b>

The deferred tax items were attributable to the following individual statement of financial position items:

IN € THOUSAND	12/31/2018		12/31/2017	
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
Intangible assets	54	5,398	201	5,919
Property, plant and equipment	254	11,770	268	11,688
Financial investments	-	362	27	207
Inventories	505	51	519	-
Receivables and other assets	149	47	94	47
Pension provisions	10,182	17	10,402	-
Other provisions	878	14	902	13
Liabilities	199	146	524	118
Tax loss carryforwards	5,439	-	7,757	-
<b>Subtotal</b>	<b>17,660</b>	<b>17,805</b>	<b>20,694</b>	<b>17,992</b>
of which long-term	10,928	17,600	11,315	17,860
Netting	-13,391	-13,391	-13,088	-13,088
<b>Total</b>	<b>4,269</b>	<b>4,414</b>	<b>7,606</b>	<b>4,904</b>

### (35) Earnings per Share

Earnings per share are calculated according to IAS 33 (Earnings per Share) by dividing consolidated income by the average number of outstanding ordinary shares during the reporting period.

At the Annual Shareholders' Meeting on May 24, 2018, H&R KGaA decided to distribute a dividend of €0.40 per share, equal to a total of €14,615 thousand. Shareholders had the choice to either receive the dividend in cash or to receive new shares. 72.8% of shareholders availed of the opportunity 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:

	2018	2017
Number of shares issued at the beginning of the period	36,536,553	35,820,154
Issue of new shares effective June 27, 2018	685,193	-
Redemption of shares	-	-4
Issuance of bonus shares effective June 28, 2017	-	716,403
Number of shares issued at the end of the period	37,221,746	36,536,553

Since the issuance of bonus shares last year does not lead to a change in resources, in order to calculate previous year's earnings per share, the weighted average number of shares in circulation must be adjusted to reflect the change in the number of ordinary shares in circulation, as if the bonus shares had been issued at the beginning of the first period shown. Accordingly, the earnings per share figure is calculated as follows:

IN € THOUSAND	2018	2017
Consolidated income attributable to shareholders in € thousand	21,591	32,131
Average number of shares in circulation	36,889,474	36,536,553
Earnings per ordinary share (undiluted) in €	0.59	0.88
Earnings per share (diluted) in €	0.59	0.88

The diluted earnings per share ratio is equal to the basic earnings per share ratio, since H&R KGaA has not issued any potentially dilutive equity instruments.

## Additional Notes

### (35) 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. By-products of the production process include feedstocks like bunker fuel and to bitumen.

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.

IN € THOUSAND	Chemical-Pharmaceutical Raw Materials			
	ChemPharm Refining		ChemPharm Sales	
	2018	2017	2018	2017
External sales	684,294	608,325	374,860	357,162
Consolidated sales	10,201	8,507	-	-
Sales revenues by segment	694,495	616,832	374,860	357,162
Depreciation and amortization	-24,955	-25,379	-7,742	-16,318
of which impairments	-	-	-	-7,633
Interest income	-	-	308	579
Interest expense	-5,927	-4,698	-2,179	-2,230
Earnings before income tax	15,252	33,590	20,510	16,312
EBIT	21,009	38,287	22,381	17,963
EBITDA	45,964	63,666	30,123	34,281
Capital expenditures	84,483	54,182	4,025	3,917
Income from holdings valued at equity	190	210	-	-
Shares in holdings valued at equity	644	965	-	-

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 at arm's length.

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.

	Plastics		Other Activities		Reconciliation		Total	
	2018	2017	2018	2017	Consolidation/Reconciliation	2018		
	54,994	59,621	-	-	-	-	1,114,148	1,025,108
	-	-	-	-	-10,201	-8,507	-	-
	54,994	59,621	-	-	-10,201	-8,507	1,114,148	1,025,108
	-1,298	-1,220	-165	-185	-	-	-34,160	-43,102
	-	-	-	-	-	-	-	-7,633
	18	18	5,185	4,136	-5,172	-4,258	339	475
	-508	-563	-5,858	-7,131	5,173	4,265	-9,299	-10,357
	1,213	1,977	-3,097	-5,577	-151	-71	33,727	46,231
	1,691	2,498	-4,379	-3,893	-152	-78	40,550	54,777
	2,989	3,718	-4,214	-3,708	-152	-78	74,710	97,879
	2,966	848	116	113	-	-	91,590	59,060
	-	-	186	282	-	-	376	492
	-	-	3,706	3,504	-	-	4,350	4,469

H&R KGaA generated €508.7 million of sales (previous year: €459.7 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:

IN T€	ChemPharm Refining		ChemPharm Sales		Plastics		Others		Total	
	2018	2017	2018	2017	2018	2017	2018	2017		
Germany	602,404	536,904	8,146	7,010	20,989	26,229	-	-	631,539	570,143
Rest of Europe	77,180	67,796	33,564	32,781	15,868	16,592	-	-	126,612	117,169
Rest of world	4,710	3,625	333,150	317,371	18,137	16,800	-	-	355,997	337,796
<b>Total</b>	<b>684,294</b>	<b>608,325</b>	<b>374,860</b>	<b>357,162</b>	<b>54,994</b>	<b>59,621</b>	<b>-</b>	<b>-</b>	<b>1,114,148</b>	<b>1,025,108</b>
Chemical-pharmaceutical products – core products	354,783	340,950	373,571	365,909	-	-	-	-	728,354	697,859
Chemical-pharmaceutical products – by-products	240,504	181,961	1,289	253	-	-	-	-	241,793	182,214
Precision plastics	-	-	-	-	54,780	59,606	-	-	54,780	59,606
Provision of services	89,007	85,414	-	-	214	15	-	-	89,221	85,429
<b>Total</b>	<b>684,294</b>	<b>608,325</b>	<b>374,860</b>	<b>357,162</b>	<b>54,994</b>	<b>59,621</b>	<b>-</b>	<b>-</b>	<b>1,114,148</b>	<b>1,025,108</b>

The following table shows how non-current assets are broken down by region:

NON-CURRENT ASSETS	Non-current assets	
	2018	2017
IN € THOUSAND		
Germany	291,918	246,070
Rest of Europe	4,541	3,346
Rest of world	79,402	85,127
<b>Group</b>	<b>375,861</b>	<b>334,543</b>

#### RECONCILIATION OF OPERATING INCOME TO CONSOLIDATED INCOME

IN € THOUSAND	2018	2017
Operating income of segments (EBITDA)	79,076	101,665
Reconciliation	-4,366	-3,786
<b>Operating income (EBITDA) of H&amp;R GmbH &amp; Co. KGaA</b>	<b>74,710</b>	<b>97,879</b>
Depreciation, impairments and amortization of intangible assets and property, plant and equipment	-34,160	-43,102
Financing Income	2,476	1,811
Financing Expenses	-9,299	-10,357
<b>Income Taxes</b>	<b>-11,409</b>	<b>-16,728</b>
<b>Consolidated income</b>	<b>22,318</b>	<b>29,503</b>

#### (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.

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, fixed and financial assets, including holdings consolidated for the first time in the financial year.

Cash flow from financing activities includes new borrowings, repayments of financial liabilities and

advance payments received from customers, as well as dividend payments. In 2018, a dividend in the amount of €14,615 thousand was distributed. This led, due to the possibility to receive the dividend either in cash or in the form of new shares, to a cash outflow of €7,171 thousand. Additional details can be seen in note (21).

The acquisition of an industrial power plant at a carrying amount of €15,373 thousand did not lead to a cash outflow since the acquisition cost was cancelled out by vendor's receivables in the same amount. For additions to fixed assets in the amount of €10,428 thousand (previous year: €6,873 thousand) no cash outflow took place; thus trade payables in the same amount are in existence.

**CHANGE IN LIABILITIES FROM FINANCING ACTIVITIES**

	12/31/2017	Changes affecting cash flow				Non-cash changes			12/31/2018
		Repay-ments	Borrowings	Changes due to fluctuations in interest rates	Reclassifi-cations	Change in accrued/deferred interest	Netting against trade receivables		
Current liabilities to banks	44,384	-67,585	91,517	-161	2,177	-244	-	70,088	
Non-current liabilities to banks	68,351	-11,775	25,109	-83	-2,177	-	-	79,425	
Advance payments received	3,479	-	2,249	-26	-	-	-3,453	2,249	
<b>Total liabilities from financing activities</b>	<b>116,214</b>	<b>-79,360</b>	<b>118,875</b>	<b>-270</b>	<b>-</b>	<b>-244</b>	<b>-3,453</b>	<b>151,762</b>	

	1/1/2017	Changes affecting cash flow				Non-cash changes			12/31/2017
		Repay-ments	Borrowings	Changes due to fluctuations in interest rates	Reclassifi-cations	Change in accrued/deferred interest	Netting against trade receivables		
Current liabilities to banks	38,187	-19,389	20,328	-1,993	7,000	251	-	44,384	
Non-current liabilities to banks	62,041	-20,662	34,000	-28	-7,000	-	-	68,351	
Loan liabilities	3,184	-2,777	-	-407	-	-	-	-	
Advance payments received	2,243	-	3,479	138	-	-	-2,381	3,479	
<b>Total liabilities from financing activities</b>	<b>105,655</b>	<b>-42,828</b>	<b>57,807</b>	<b>-2,290</b>	<b>-</b>	<b>251</b>	<b>-2,381</b>	<b>116,214</b>	

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 level 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. The portfolio of financial instruments is reported in the statement of financial position.

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 ordi-

nary business activities. Details concerning the risk management system and used to deal with these risks can be found in Note (47), 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 hedging (swaps).

There were no hedge accounting items to report as of December 31, 2018.

The following tables show the reported fair values of the various derivative financial instruments as of December 31, 2018 and December 31, 2017.

#### 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	\$14,252 thousand	\$	until 2019	135
Currency forward contract	HKD 27,518 thousand	HKD	until 2019	16

#### NOMINAL AND MARKET VALUES OF DERIVATIVES IN 2017

	Nominal value	Currency	Maturity	Market values 12/31/2017 in € thousand
Interest rate swap	€40,000 thousand	€	until 2018	-1,216
Currency forward contract	\$11,155 thousand	\$	until 2018	67
Currency forward contract	HKD 27,334 thousand	HKD	until 2018	18

In financial year 2018, the income from financial instruments measured at fair value through profit or loss totaled €1,292 thousand (previous year: €1,406 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:

**2018**

IN € THOUSAND	Carrying amount	2019 cash flows		2020 cash flows	
		Interest	Redemption	Interest	Redemption
Trade payables	100,376	-	100,376	-	-
Liabilities to banks	149,513	3,604	70,088	1,635	16,940
Liabilities arising from derivatives with no hedge accounting items	3	-	3	-	-
Other financial liabilities	3,712	-	3,710	-	-

**2018**

IN € THOUSAND	2021-2023 cash flows		2024-2028 cash flows		Cash flows 2029 and beyond	
	Interest	Redemption	Interest	Redemption	Interest	Redemption
Trade payables	-	-	-	-	-	-
Liabilities to banks	2,791	34,050	985	27,435	7	1,000
Liabilities arising from derivatives with no hedge accounting items	-	-	-	-	-	-
Other financial liabilities	-	-	-	2	-	-

**2017**

IN € THOUSAND	Carrying amount	2018 cash flows		2019 cash flows	
		Interest	Redemption	Interest	Redemption
Trade payables	83,328	-	83,328	-	-
Liabilities to banks	112,735	3,773	44,384	1,690	11,950
Liabilities arising from derivatives with no hedge accounting items	1,216	-	1,216	-	-
Other financial liabilities	4,383	-	4,381	-	-

**2017**

IN € THOUSAND	2020-2022 cash flows		2023-2027 cash flows		Cash flows 2028 and beyond	
	Interest	Redemption	Interest	Redemption	Interest	Redemption
Trade payables	-	-	-	-	-	-
Liabilities to banks	2,695	31,549	902	24,852	-	-
Liabilities arising from derivatives with no hedge accounting items	-	-	-	-	-	-
Other financial liabilities	-	-	-	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.

**12/31/2018**

IN € THOUSAND	Valuation category acc. to IFRS 9	Carrying amount	Fair value (for information)
<b>Financial assets</b>			
Cash and cash equivalents	Measured at amortized cost	46,495	46,495
Trade receivables	Measured at amortized cost	120,952	120,952
Other financial assets			
Derivatives without hedge accounting item	Measured at fair value through profit or loss	165	165
Other short-term securities	Measured at fair value through profit or loss	52	52
Other financial assets	Measured at amortized cost	7,569	7,569
<b>Financial liabilities</b>			
Trade payables	Measured at amortized cost	100,376	100,376
Liabilities to banks	Measured at amortized cost	149,513	148,397
Other financial liabilities			
Derivatives without hedge accounting item	Measured at fair value through profit or loss	3	3
Other financial assets	Measured at amortized cost	3,709	3,709

**12/31/2017**

IN € THOUSAND	Valuation category according to IAS 39	Statement of financial position valuation acc. to IAS 39				Carrying amount according to IAS 17	Fair value (for information)
		Carrying amounts	Amortized cost	Fair value without impact on net income	Fair value with impact on net income		
<b>Financial assets</b>							
Cash and cash equivalents	LaR	58,952	58,952				58,952
Trade receivables	LaR	107,479	107,479				107,479
Other financial assets							
Loans and receivables	LaR	3,840	3,840				3,840
Other short-term securities	FAHfT	76			76		
Financial assets available for sale	AfS	2,082	1,052	1,030			
<b>Financial liabilities</b>							
Trade payables	FLAC	83,328	83,328				83,328
Liabilities to banks	FLAC	112,735	112,735				114,533
Other financial liabilities							
Liabilities from finance leases							
Derivatives without hedge accounting item	FLHfT	1,216			1,216		
Other financial liabilities	FLAC	4,383	4,383				4,383

12/31/2017

IN € THOUSAND	Valuation category according to IAS 39	Statement of financial position valuation acc. to IAS 39					Fair value (for information)
		Carrying amounts	Amortized cost	Fair value without impact on net income	Fair value with impact on net income	Carrying amount according to IAS 17	
<b>Total per category</b>							
Loans and receivables	LaR	170,271	170,271				170,271
Financial assets available for sale	AFS	2,082	1,052	1,030			
Financial assets held for trading	FAHFT	76			76		
Financial liabilities at amortized cost	FLAC	200,446	200,446				202,244
Financial liabilities held for trading	FLHFT	1,216			1,216		

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 area 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:

2018

IN € THOUSAND	Financial assets measured at amortized cost	Financial liabilities measured at amortized cost	Financial assets measured at fair value though profit or loss	Financial liabilities measured at fair value though profit or loss	Total
Interest income	328	-	-	-	328
Interest expense	-	-6,319	-	-1,233	-7,552
Impairments	-23	-	-	-	-23
Other financial expenses/income	909	-	6	1,451	2,366
<b>Net income/loss</b>	<b>1,214</b>	<b>-6,319</b>	<b>6</b>	<b>218</b>	<b>-4,881</b>

2017

IN € THOUSAND	Loans and receivables	Financial assets held for trading	Financial liabilities held for trading	Financial liabilities measured at amortized cost	Total
Interest income	391	1	-	-	392
Interest expense	-	-	-1,351	-7,496	-8,847
Impairments	37	-	-	-	37
Other financial expenses/income	-284	-	1,406	-277	845
<b>Net income/loss</b>	<b>144</b>	<b>1</b>	<b>55</b>	<b>-7,773</b>	<b>-7,573</b>

**(38.5) Additional Disclosures on Financial Instruments**

The assets held by GAUDLITZ GmbH were sold during the reporting period. Up until the time of the sale, they were measured at fair value. The carrying amount came to €1,030 thousand as of December 31, 2017.

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.

The financial instruments of H&R KGaA measured at fair value are allocated to the levels described above by category as follows:

**12/31/2018**

IN € THOUSAND	12/31/2018		
	Level 1	Level 2	Level 3
<b>Assets</b>			
Financial assets at fair value through other comprehensive income	-	-	1,050
Financial assets recognized at fair value through profit or loss	52	-	-
Derivatives without hedge accounting item	-	165	-
<b>Total</b>	<b>52</b>	<b>165</b>	<b>1,050</b>
<b>Liabilities and shareholders' equity</b>			
Derivatives without hedge accounting item	-	-3	-
<b>Total</b>	<b>-</b>	<b>-3</b>	<b>-</b>

**12/31/2017**

IN € THOUSAND	12/31/2017		
	Level 1	Level 2	Level 3
<b>Assets</b>			
Financial assets available for sale	1,030	-	-
Financial assets held for trading	76	-	-
Derivatives without hedge accounting item	-	85	-
<b>Total</b>	<b>1,106</b>	<b>85</b>	<b>-</b>
<b>Liabilities and shareholders' equity</b>			
Derivatives without hedge accounting item	-	1,216	-
<b>Total</b>	<b>-</b>	<b>1,216</b>	<b>-</b>

The level 2 financial liabilities in the previous year are an interest rate swap carried on the statement of financial position at fair value. The fair values are determined using observable market interest rate curves. The level 3 financial asset is an equity instrument. There were no reclassifications among the individual levels in financial year 2018.

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	12/31/2018			12/31/2017		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
<b>Liabilities</b>						
Liabilities to banks	-	148,397	-	-	114,533	-

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 2018.

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 accounting for risk prevention. 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) Order Commitments**

Capital expenditures for which contractual obligations existed on the reporting date, but which have not yet been incurred, totaled €22,025 thousand as of December 31, 2018 (previous year: €20,188).

**(40) Contingent Liabilities**

On the reporting date, H&R KGaA had joint liability for pension commitments totaling €39 thousand (previous year: €45 thousand).

A portion of the production premises at the Hamburg site 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.

To supply raw materials to the specialty refinery operated at the Hamburg-Neuhof site, the company maintains an extensive tank farm which is fully registered as a so-called tax warehouse under customs and tax laws. Due to the existence of a tax warehouse, the timing of the accrual of an energy tax is shifted from the date on which energy products – mainly petroleum – are placed into storage to the date on which they are withdrawn from the tax warehouse, and therefore to the date on which they are consumed as raw materials by the specialty refinery. During a routine audit of the tax storage by the responsible customs authorities in the previous year, deviations between former declared tanks and the actual existing tanks were noted. They concluded that specific tanks had not been part of the tax warehouse in calendar years 2014 and 2015 and that this therefore resulted in energy taxes totaling €9.0 million under Section 8 of the Energy Tax Act (EnergieStG). An objection was lodged against the legal opinion issued by the customs administration, which has also been evaluated by experts with whom the company consulted. H&R KGaA did not consider it highly probable that the energy tax claim will be enforceable (contingent

liability). If, contrary to expectations, the energy tax claim had been enforceable, it would have been offset by €9.0 million of contingent receivables claimed under applications for relief. In June 2018, the main customs office of the Port of Hamburg (Hamburg-Hafen) upheld our objections and issued corresponding annulment notices.

The supply of the Salzbergen production site with electricity is basically 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 think the probability of occurrence of the utilization on payments of the EEG levy of €2.6 million predominantly likely.

## (42) Governance Bodies of H&R KGaA

### EXECUTIVE BOARD OF H&R KOMPLEMENTÄR GMBH

	Membership of Supervisory and Advisory Boards
<b>Niels H. Hansen</b> Chairman of the Executive Board Hamburg	-
<b>Detlev Wösten</b> Member of the Executive Board Buchholz	Member of the Supervisory Board of Glasgaard-AG, Lollar/ Salzböden

## (41) Other Financial Obligations

Financial obligations under long-term rental and lease agreements and other obligations stretching over several years are shown in the following table (nominal amounts):

IN € THOUSAND	12/31/2018	12/31/2017
Due within one year	10,554	12,539
Due > 1 year and < 5 years	16,583	20,244
Due > 5 years	23,349	27,350
<b>Total</b>	<b>50,486</b>	<b>60,133</b>

Other financial liabilities at the Hamburg site mainly include a long-term lease agreement with Hamburg Port Authority, Hamburg.

In addition, other financial liabilities at the Salzbergen location include contracts for the delivery of natural gas, compressed air and nitrogen as well as maintenance and servicing contracts for the process control system.

Further information about finance and operating lease agreements can be found in Note (11).

**SUPERVISORY BOARD OF H&R GMBH & CO. KGAA**

	Membership of Supervisory and Advisory Boards
<b>Dr. Joachim Girg</b> Chairman of the Supervisory Board Managing Director of H&R Beteiligung GmbH, Hamburg	-
<b>Roland Chmiel</b> Deputy Chairman – CPA/Chartered Accountant, Partner in Weiss-Walter-Fischer-Zernin, Munich	Member of the Supervisory Board of Togonal Werk AG, Munich
<b>Sven Hansen</b> Managing Director of Tudapetrol Mineralölerzeugnisse Nils Hansen KG	-
<b>Dr. Rolf Schwedhelm</b> 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
<b>Dr.-Ing. Peter J. Seifried</b> Chemical Engineer, Independent Consultant	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 Lothar + Co Mineralölhandels-gesellschaft mbH, Hamburg Member of the Advisory Board, Tiramizoo GmbH, Munich
<b>Dr. Hartmut Schütter</b> Consulting Engineer, Schwedt/Oder	-

**SUPERVISORY BOARD OF H&R GMBH & CO. KGAA (EMPLOYEE REPRESENTATIVES)**

	Membership of Supervisory and Advisory Boards
<b>Reinhold Grothus</b> Works Council Chairman at H&R ChemPharm GmbH, Salzbergen	-
<b>Holger Hoff (seit 26.4.2017)</b> Works Council Chairman at H&R Ölwerke Schindler GmbH, Hamburg	-
<b>Matthias Eri (bis 26.4.2017)</b> GAUDLITZ GmbH, Coburg	-
<b>Harald Januszewski</b> Works Council Chairman GAUDLITZ GmbH, Coburg	-

**(43) 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.

Revenues from goods and services to Hansen & Rosenthal totaled €514,195 thousand in financial year 2018 (previous year: €465,050 thousand). The majority of this is attributable to the supply of chemical-pharmaceutical products (2018:

€427,514 thousand; previous year: €381,719 thousand) and for contract manufacturing services (€81,203 thousand; previous year: €77,965 thousand). Goods and services purchased from Hansen & Rosenthal in the 2018 financial year amounted to €96,895 thousand (previous year: €97,421 thousand). The bulk of this amount was for purchases of chemical-pharmaceutical products (€88,114 thousand; previous year: €88,335 thousand).

As of December 31, 2018, receivables due from Hansen & Rosenthal totaled €58,771 thousand (previous year: €47,083 thousand); liabilities owed to Hansen & Rosenthal amounted to €6,459 thousand (previous year: €5,170 thousand).

Goods and services provided to joint ventures generated €1,109 thousand in revenue in financial year 2018 (previous year: €860 thousand). Goods and services purchased from joint ventures in financial year 2018 amounted to €7,243 thousand (previous year: €6,575 thousand). These relate primarily to the purchase of energy and IT services.

As of December 31, 2018, receivables due from joint ventures totaled €173 thousand (previous year: €253 thousand); liabilities owed to joint ventures amounted to €5 thousand (previous year: €118 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 €1,223 thousand in financial year 2018 (previous year: €1,323 thousand). Of this sum, the performance-related components of the remuneration accounted for €453 thousand (previous year: €583 thousand) and non-performance-related components accounted for €770 thousand (previous year: €740 thousand). The performance-related remuneration includes a sustainability component. Members of the Executive Board receive no share-based remuneration and no pension commitments. There were no expenses associated with terminating the employment agree-

ments of managing directors. As of the reporting date, there was a liability of €83 thousand (previous year: €38 thousand) owed to H&R Komplementär GmbH.

Former members of the Executive Board and their survivors received payments totaling €203 thousand during the financial year (previous year: €207 thousand). For former members of the Executive Board and their survivors, pension commitments amounted to €3,201 thousand (previous year: €3,394 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 that are not related to their work for the Supervisory Board. These fees resulted from the respective employment contracts and totaled €195 thousand in financial year 2018 (previous year: €185 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, 2018.

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 section other legally required disclosures on page 52.

H&R KGaA has an Advisory Board that provides advice to the Executive Board. Expenses of €117 thousand were incurred for the activities of the Advisory Board in 2018 (previous year: €120 thousand). In 2018, fees paid to members of the governing bodies of H&R KGaA within the scope of consultancy contracts amounted to €98 thousand (previous year: €98 thousand). As of December 31, 2018, liabilities owed to Board members totaled €465 thousand (previous year: €465 thousand). These were short-term amounts.

**(44) 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 2018. It is published on the Internet at [www.hur.com](http://www.hur.com).

**(45) 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	12/31/2018	12/31/2017
Audits	370	447
Other certification or valuation services	8	18
Tax counselling	-	-
Other services	-	-
<b>Total</b>	<b>378</b>	<b>465</b>

The 2018 fee for auditing services charged by the auditors covers the statutory audit of the annual financial statements and the consolidated financial statements of H&R KGaA. The other certification services of the previous year primarily refer to audits under the German Renewable Energy Sources Act for subsidiaries of H&R KGaA.

**(46) 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

**(47) 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.

#### CAPITAL STRUCTURE

	2018	2017	2016	2015	2014
Net debt/EBITDA	1.39	0.55	0.41	1.00	3.47
Equity ratio (in %)	48.9	51.7	49.0	45.4	35.1
Net Gearing	28.9	16.0	15.1	31.4	47.2

**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\$
12/31/2018	-27.785
12/31/2017	-9.052

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 balance sheet item.

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.

IN € THOUSAND	Impact on:	12/31/2018	12/31/2017
		US\$	US\$
Exchange rate +10%	Consolidated Income Statement	2.526	823
	Equity	2.526	823
Exchange rate -10%	Consolidated Income Statement	-3.087	-1,006
	Equity	-3.087	-1,006

**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, 2018 reporting date, a hypothetical 0.5% (or 50 basis points) increase

in the interest rate would have increased interest expense by €119 thousand (previous year: €200 thousand) and would have reduced the amount of equity shown accordingly.

**(48) Events after the Reporting Date**

During the period between December 31, 2018 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.

**(49) 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, 2019.

Salzbergen, February 28, 2019

The Executive Board



Niels H. Hansen  
Vorsitzender  
der Geschäftsführung



Detlev Wösten  
Mitglied  
der Geschäftsführung

## Independent Auditor's Report

To H&R KGaA

### 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 2018, 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 2018 to 31 December 2018, 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 2018 to 31 December 2018. In accordance with the German legal requirements, we have not audited the content of the Statement on Corporate Governance pursuant to Section 289f and Section 315d HGB [Handelsgesetzbuch: German Commercial Code].

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 2018 and of its financial performance for the financial year from 1 January 2018 to 31 December 2018, 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 [Insti-

tute 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 2018 to 31 December 2018. 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 €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, which covers a period of five years. The discount rate is determined by using the weighted average capital costs of the respective cash generating unit. The executive directors 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 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 substantial estimation uncertainties. Against this background and due to the complexity of the implementation of the valuation method, in our view this matter was of particular significance in our audit.

## 2 Audit Approach

As part of our audit, we evaluated the legal opinion obtained by H&R GmbH & Co. KGaA. In this regard, we assessed the competence, capabilities and objectivity of the external expert commissioned by the Company. We also evaluated the relevance and the reasonableness of the conclusions stated in the legal opinion. In this context, we discussed the legal opinion with the external expert and representatives of the Company. In this context, we obtained explanations how the external experts assessed the potential risk of claim based on their legal evaluation of the matter. H&R Group provided us with a written statement regarding the estimates of the executive directors of H&R GmbH & Co. KGaA concerning the risk of a potential claim. In addition, based on our assessment of the admissibility of the release of provisions, we ensured the completeness of the disclosures concerning the contingent liabilities resulting from this matter.

## 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) Release of a provision for energy taxes in the consolidated financial statements

#### 1 Financial Statement Risk

Under "other operating income", income resulting from the release of provisions is reported, which concerns a provision for energy taxes in the amount of €2.6 million recognized in the prior financial year. Originally, the provision was

recognized for the risk of an impending payment respectively subsequent payment of the EEG-apportionment related to the electricity supply of the production site in Salzbergen that was supplied by an industrial power plant within a so-called "Scheibepachtmodell", because the amendment of the Renewable Energy Act (EEG 2017) stipulates the elimination of the preferential status of this kind of on-site generation of energy. As of 31 December 2018 the corresponding provision was released because, based on a legal opinion obtained by the company, the executive directors are of the opinion that the amendment of section 104 para. 4 EEG 2017 constitutes a breach of the constitutional non-retroactivity and therefore, the executive directors consider the probability of a claim for those energy taxes not to be predominantly likely. Therefore, the provision was replaced in the consolidated financial statements as of 31 December 2018 by a contingent liability in the same amount.

The decision whether the previous provision has to be released, and the risk assessment required for this purpose highly depend on the estimates and assumptions of the executive directors of H&R GmbH & Co. KGaA. Against this background and due to the complexity of the legal evaluation of the matter as well as the high amount of income from the release of the provisions, this matter was of particular significance in our audit.

#### 2 Audit Approach

As part of our audit, we evaluated the legal opinion obtained by H&R GmbH & Co. KGaA. In this regard, we assessed the competence, capabilities and objectivity of the external expert commissioned by the Company. We also evaluated the rel-

evance and the reasonableness of the conclusions stated in the legal opinion. In this context, we discussed the legal opinion with the external expert and representatives of the Company. In this context, we obtained explanations how the external experts assessed the potential risk of claim based on their legal evaluation of the matter. H&R Group provided us with a written statement regarding the estimates of the executive directors of H&R GmbH & Co. KGaA concerning the risk of a potential claim. In addition, based on our assessment of the admissibility of the release of provisions, we ensured the completeness of the disclosures concerning the contingent liabilities resulting from this matter.

### 3 Reference to related Disclosures

The disclosures made by the H&R group concerning the release of provisions for energy taxes and the contingent liability are included in sections 17.3, 28 and 40 of the notes to 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 regarding the consolidated financial statements and the Responsibility Statement Declaration 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, 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**

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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**

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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.
- Obtain an 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

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### [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 2018. We were engaged by the supervisory board on 2 October 2018. 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 2019

Warth & Klein Grant Thornton AG  
Wirtschaftsprüfungsgesellschaft

**Dr. Senger**

*Wirtschaftsprüfer*

*[German Public Auditor]*

**von Oertzen**

*Wirtschaftsprüfer*

*[German Public Auditor]*

## Attestation by the Legal Representatives

We hereby affirm that, to the best of our 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, 2019

The Executive Board



**Niels H. Hansen**  
*Chairman of the  
Executive Board*



**Detlev Wösten**  
*Member of the  
Executive Board*

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## Six-Year Overview H&amp;R Group Key Figures (IFRS)

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		2018	2017	2016	2015	2014	2013
Sales volume (main products) <sup>1)</sup>	KT	836	832	849	762	697	734
Sales revenue	€ MILLION	1,114.2	1,025.1	942.7	982.9	1,058.6	1,214.4
Operating income (EBITDA)	€ MILLION	74.7	97.9	101.4	85.4	31.5	32.6
EBIT	€ MILLION	40.6	54.3	64.2	48.7	5.8	-4.1
Earnings before income tax	€ MILLION	33.7	46.2	54.2	34.2	-7.8	-16.8
Consolidated net income	€ MILLION	22.3	29.5	39.3	26.8	-15.6	-14
Consolidated income attributable to shareholders	€ MILLION	21.6	32.1	38.4	26.9	-15.4	-14
Consolidated income per share (undiluted) in €	€	0.59	0.88	1.05	0.75	-0.49	-0.47
Dividend per share	€	0.00	0.40	0.00	0.00	0.00	0.00
Market capitalisation as at 31/12	€ MILLION	226.7	553.4	535.5	330.9	270.1	260.7
Balance sheet total	€ MILLION	730.4	662.6	648.2	628.8	706.6	594.7
Net working capital	€ MILLION	174.5	153.3	153.4	139.5	127.4	104.2
Equity	€ MILLION	357.4	342.7	317.4	285.4	248.9	189.2
Equity ratio	%	48.9	51.7	49	45.4	35.2	31.8
Net debt	€ MILLION	103.0	53.7	42.1	86.7	107.3	73.1
Net gearing	%	28.9	16	15.1	31.4	45.8	38.6
Operating cash flow	€ MILLION	23.3	46.2	75.5	56.4	-0.4	88.9
Free Cash flow	€ MILLION	-46.4	-11.9	36.7	28.4	-10.5	72.8

<sup>1)</sup> Chemical-Pharmaceutical Raw Materials Division.

## Financial Calendar

Our financial calendar is updated on an ongoing basis. Please visit our website [www.hur.com](http://www.hur.com) in the Investor Relations section for the latest events.

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21 March 2019	Publication of Annual Report 2018
15 May 2019	Publication of Q1 2019
24 May 2019	Annual Shareholders' Meeting, Hamburg
15 August 2019	Publication of Q2 2019
15 November 2019	Publication of Q3 2019

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## 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 assumptions 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.

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