Annual Report
2018/19

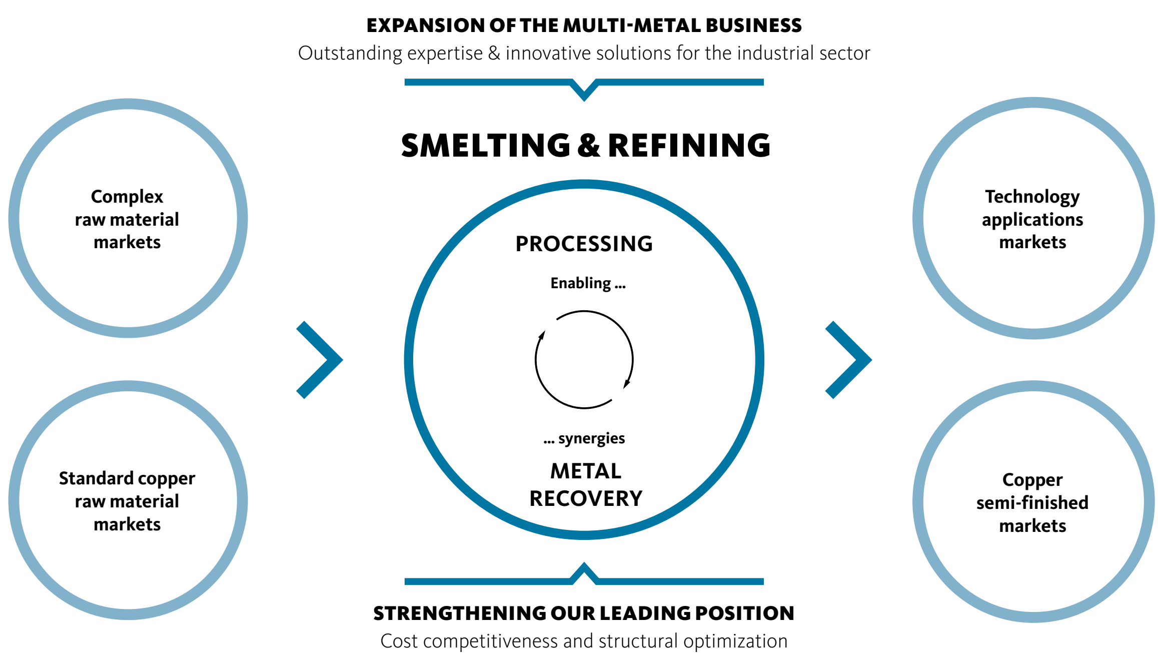
RE/SHAPE
THE FUTURE

Aurubis
Metals for Progress

COMPANY PORTRAIT

We are a leading global provider of non-ferrous metals, renowned for our ability to process complex metal concentrates, scrap metals, and metal-bearing recycling materials to produce metals of the highest quality. We produce more than one million tons of copper cathodes annually, from which we then manufacture a wide range of copper and copper alloy products. This includes wire rod, shapes, rolled products, strip, specialty wire, and profiles.

Thanks to our wide range of services, we rank among the global leaders in the industry. Our product portfolio also includes gold, silver, lead, nickel, tin, minor metals like tellurium and selenium, platinum group metals, and a number of other products such as sulfuric acid and iron silicate.



ONLINE ANNUAL REPORT 2018/19

Our magazine accompanying the Annual Report provides deeper insights into our recycling activities – the challenges, opportunities, and successes.

You can find our magazine and the full Annual Report online at:
annualreport2018-19.aurubis.com

MAGAZINE
2018/19

RE/SHAPE THE FUTURE

Aurubis
Metals for Progress

RE / SHAPE

Our goal is to improve each and every day, a goal we weren't always successful in achieving during the past fiscal year. This pushes us to continue working hard and focusing on the things that really count, the things that make a difference, in an effort to reshape our future.

Our strategic orientation to the multi-metal business is the basis for tomorrow's success. We plan to strengthen our recycling activities with additional international acquisitions. Recycling materials are real treasures that we unlock with our knowledge and our technology, allowing us to recover valuable metals while fulfilling our responsibility to society through our sustainable approach to resources.

The prefix "RE" best sums up our recycling activities – it represents metal recovery, a responsible approach to business, and being open every day to new ideas that simply make us better.

It starts with our magazine and Annual Report, which are 100 % recyclable and printed in a CO_2-neutral process.

You can find the full Annual Report at:
annualreport2018-19.aurubis.com

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RE/PUTATION

“We’re still on the right track with our multi-metal strategy. And we’ll continue to implement this approach.”

ROLAND HARINGS
EXECUTIVE BOARD CHAIRMAN

INTERVIEW WITH THE EXECUTIVE BOARD CHAIRMAN

"I see fantastic opportunities for Aurubis, especially in recycling"

MR. HARINGS, YOU'VE BEEN AT THE HELM OF AURUBIS FOR ABOUT HALF A YEAR NOW. HOW WERE YOUR FIRST FEW MONTHS?
They were both very exciting and very intense. I'm pleased with the warm welcome I received at Aurubis, and I'm proud to be part of this dedicated team. But I also came during a phase of far-reaching decisions for the company, so there wasn't much time to get settled.

THAT'S TRUE. IN THE FIRST MONTH OF YOUR TERM, YOU WERE ABLE TO ANNOUNCE THE ACQUISITION OF THE METALLO GROUP.
Right, a crucial transaction for our company, and a very positive one at that. The acquisition of the Metallo Group, which is still subject to approval by the European Commission, will take us to a new level in multi-metal processing. The combination of the two complementary business models considerably strengthens our portfolio in metals of the future, such as nickel, tin, zinc, and lead. It makes us a leading solution provider in Europe when it comes to processing complex recycling raw materials. Metallo and Aurubis are also united by their efforts towards sustainable metal production: together, we'll recover even more environmentally friendly and recycled material. This is something that is very important to me. And something that we have to preserve in Europe.

SPEAKING OF EUROPE: POLICYMAKERS ARE STRIVING FOR CARBON NEUTRALITY BY 2050. WHAT DOES THAT MEAN FOR AURUBIS?
I'm convinced that we have to make our production processes as carbon-neutral as possible. And my goal is to achieve this as quickly as possible. As an industrial company, we're already working intensively on being part of the solution for the energy shift. We are steadily improving our energy management, optimizing material cycles within our value chain, and checking out new ideas and technologies. For example, we're currently sounding out how we can reduce fossil fuels by using hydrogen in production.

However, the fact is that Aurubis will remain an energy-intensive company now and in the future. That's the nature of metal manufacturing. As a result, we in Europe have to make sure that metal production stays profitable – otherwise, its existence is at risk. We need reliable conditions at the political level to ensure our international competitiveness.

WHAT ARE SOME CURRENT, CONCRETE EXAMPLES OF CO_2 REDUCTION?
For one, there's our award-winning Industrial Heat project, which already reduces about

Roland Harings advocates reliable conditions that ensure that metal production in Europe remains internationally competitive.

RE /

In Harings' opinion, Aurubis has some internal homework to do to make itself fit for the future.

20,000 t of CO_2 annually and has the potential to reduce up to 140,000 t. That alone accounts for over 90 % of the voluntary CO_2 reduction commitment that Hamburg companies have agreed on. Another example is our power-to-steam plant, which went online this year. It can reduce CO_2 emissions by up to 4,000 t per year by using renewable energies. But to be very clear: we achieve a large part of this reduction outside of the plant boundaries. This means that it is only offset against our CO_2 emissions to a limited extent. Nevertheless, this isn't a reason to avoid implementing such meaningful projects.

THIS IS A TOPIC THAT OBVIOUSLY MEANS A GREAT DEAL TO YOU.

Absolutely. Another issue that's also important to me personally is occupational health and safety. In this area, Aurubis hasn't gotten to where we want to be yet. We'll therefore work more consistently on this in the future, especially when it comes to substantially reducing the number of accidents and injuries. Among other things, we've developed a new communication concept for this purpose, called 10forZero. It combines new communication materials with modern training units. All of these measures together have to lead to a change in employee conduct so that we can quickly reach our long-term vision of zero accidents and injuries.

YOU HAD TO STOP A COMPLETELY DIFFERENT PROJECT IN 2019 – FUTURE COMPLEX METALLURGY, OR FCM FOR SHORT. CAN YOU SAY ANYTHING ABOUT THE REASON FOR THIS DECISION?

Of course. First of all, however, it's important for me to emphasize that halting the internal growth project FCM, with which we had wanted to process higher volumes of complex material, was fully detached from our multi-metal strategy. We're still on the right track with the strategy and we'll continue to implement it. The best example is the acquisition of the Metallo Group, which has more than ten years of experience in multi-metal recycling alone.

But back to FCM: the Executive Board and Supervisory Board made the decision in June to discontinue the project in its current form. Why? In particular, because it became clear at that point in time that the project would require much higher investments than planned. We therefore wouldn't have been able to maintain our profitability targets anymore. This decision was not easy for us, but it was the right step to take, especially since none of the key facilities had been ordered at that point yet. We are now fully documenting the project with the core team. Nothing is lost, we're just back to square one. Following the successful integration of Metallo, we will look at the material flows in the expanded smelter network again in more detail. At that point, we will discuss what additional multi-metal projects will be implemented in the future.

YOU'VE DESCRIBED 2018/19 AS A TRANSITIONAL YEAR FOR AURUBIS. WHERE DO YOU SEE THE GREATEST CHALLENGES?
The past fiscal year has shown that we definitely have some internal homework to do to make ourselves fit for the future. The unplanned shutdowns in the plants and our cost basis are two key topics I'd like to mention here. Without a doubt, 2018/19 was a transitional year during which we had to equip ourselves for multiple large-scale maintenance shutdowns. In Hamburg alone, we invested approximately € 50 million in around 450 individual projects for this purpose in the fall. To give you an idea: in addition to 750 of our own employees, about 1,200 employees from partner companies worked during these shutdowns – around the clock! It's also clear that unplanned downtimes can't happen to the extent that they did in the past fiscal year. We have to improve in this area. Our research and development activities will therefore concentrate more strongly on optimizing operating processes in the future.

While we're talking about challenges, we should also discuss the markets. Our business is influenced by different market developments that we have zero or very little control over. During the past year, we closely monitored topics such as the global capacity buildup on the mine and smelter side, the weakening global and European economy due in large part to trade conflicts, and the sagging global metal demand that ensued. Although we view some of these effects as temporary and look positively to the future in light of the healthy fundamental data regarding the metal markets, we still have to keep one thing in mind: to ensure our success on the market in challenging times, it's crucial that we position ourselves more efficiently internally and continue to pursue our strategy.

HAVE YOU ALREADY OUTLINED ANY MEASURES THAT WILL SHAPE YOUR FIRST YEARS AT AURUBIS?
Yes, absolutely. Our multi-metal strategy will of course be the focus of my attention, along with the successful integration of the Metallo Group. However, this also includes finding a meaningful solution for our Segment Flat Rolled Products since the European Commission prohibited the sale in February 2019. We stand by our intention to sell Segment FRP. As soon as we're on the right track with that, we'll once again take a closer look at growth opportunities abroad. We have the financial means, with available funds exceeding € 1 billion.

> *"We'll once again take a closer look at growth opportunities abroad."*
>
> ROLAND HARINGS

RE /

And I already addressed our cost basis earlier. With our top-down efficiency improvement program and the Aurubis Operating System, or AOS for short, we've achieved important project success in the last three years, uncovering inefficiencies and driving continuous development. Our internal AOS consultants will continue this throughout the company in the future in the new department Group Process Management. We want to keep making our processes leaner and push digitalization forward in the Group.

Nevertheless, we intend to go one step further in the future, placing a stronger focus on the cost side. We'll identify corresponding measures at all of the sites and start implementing them promptly. We of course plan to report on these measures at regular intervals. However, what's even more important to me is that we see the results in the company's success.

LET'S CLOSE ON A DIFFERENT SUBJECT. WHAT IS IT ABOUT AURUBIS THAT EXCITES YOU THE MOST?

I can think of a number of things. First and foremost, the people. I've now visited most of our sites and I'm delighted by the enthusiasm the "Aurubians" have for their work, and by the fact that many colleagues come to me with new ideas. And then there are of course our products, our metals. We're truly at the place where the future is being created. Copper is the metal of the energy shift. Renewable energies require up to twelve times more copper than conventional energy systems. And we produce this copper today from recycled material to a large extent, under the strictest environmental standards in the world. And I see fantastic opportunities for Aurubis, especially in recycling.

AND WHAT IS YOUR PERSONAL WISH FOR THE CURRENT FISCAL YEAR?

I would be happy for more positive news to dominate again. We invested extensively in our facilities in 2018/19 and learned a great deal. The company has to secure its operating performance. Together with all Aurubis employees, we on the Executive Board team want to lead the company to a successful future. We're confident that the potential is there. I, personally, will put all of my energy into implementing this as well. And we'll be successful if we all focus on our strengths.

Roland Harings reaffirms that with Aurubis' multi-metal approach and its targeted expansion of the recycling business, the company is pursuing the right strategy for a successful future.

The interview was conducted by Angela Seidler, Vice President Investor Relations & Corporate Communications.

“

Together with all Aurubis employees, we on the Executive Board team want to lead the company to a successful future.

”

From left to right:

DR. THOMAS BÜNGER
Chief Operations Officer

RAINER VERHOEVEN
Chief Financial Officer

ROLAND HARINGS
Executive Board Chairman

RE / FOCUS

BUSINESS MODEL

Robustly positioned for sustainable success

Today, Aurubis has a broader position than ever before: we process metal concentrates, scrap metals, and metal-bearing recycling materials into metals of the highest purity and products with added value. Christophe Koenig, Senior Vice President Commercial, on mine partners, market flows, and why recycling is becoming increasingly important as a driver of value.

"To put it very simply, our business rests on three main pillars: the processing of raw materials from the mining industry, the processing of recycling materials from preprocessors and the electronics industry, and product business," says Koenig. "The core of this unique positioning within the metal value chain is the use of different metallurgical flows, and each of these three pillars is influenced by different market cycles. This broad positioning ensures the sustainability of our results and the robustness of our business model."

Christophe Koenig is Senior Vice President Commercial and, together with his team, coordinates the purchase of raw materials and the sale of metals for the sites.

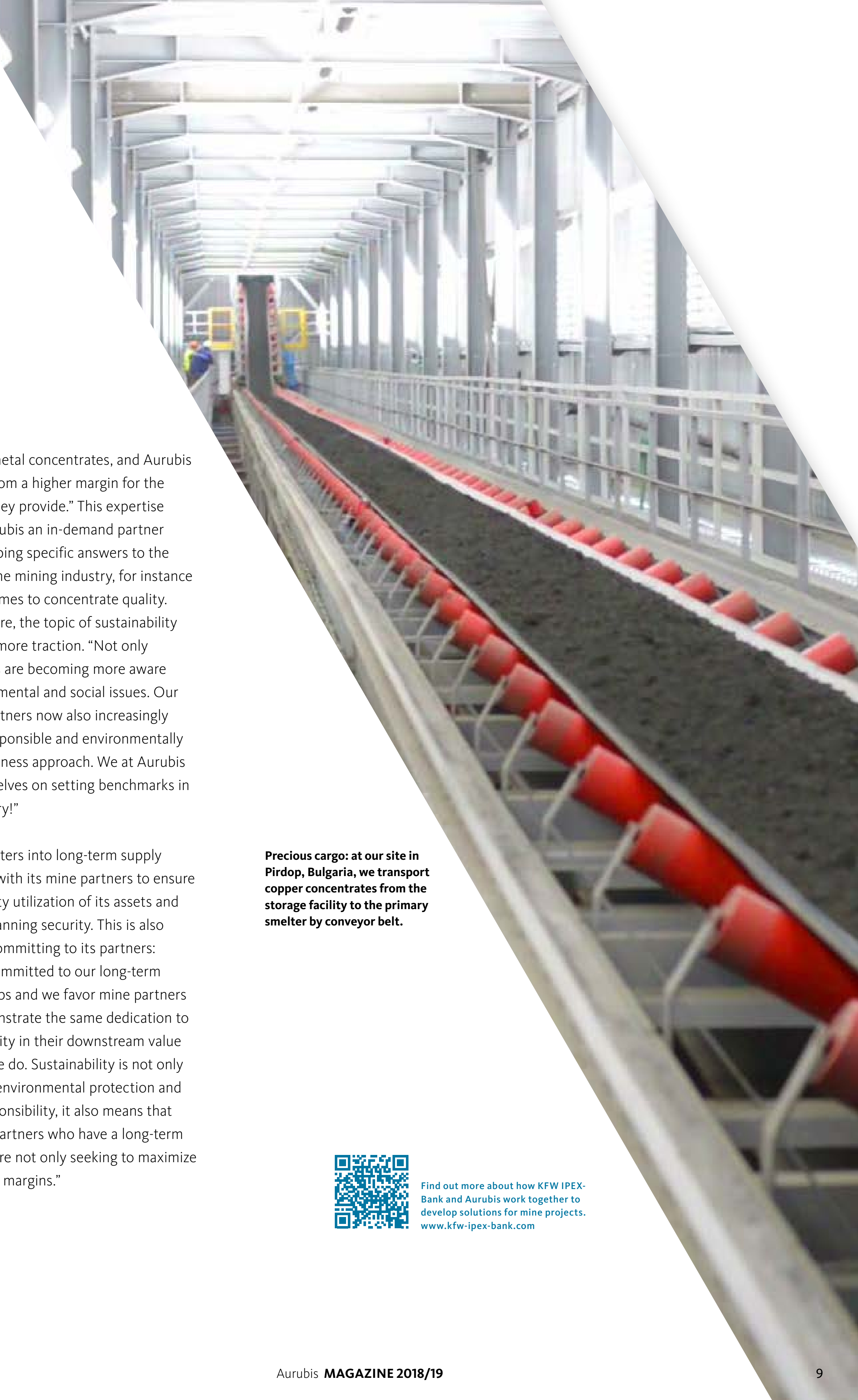
CONCENTRATE BUSINESS: COMPLEXITY, SUSTAINABILITY, AND A FOCUS ON INDIVIDUAL SOLUTIONS

Aurubis sources metal concentrates from its global network of over 30 mining partners and a few traders. The company has decided that mining metal ores is not part of its strategy. What some would see as a disadvantage is something that Koenig views as a strength. "The independence and flexibility of this setup allow Aurubis to create an optimal input mix of standard and complex raw materials for its production facilities. We are focusing on our core expertise."

> *"We favor mine partners that demonstrate the same dedication to sustainability in their downstream value chain as we do."*
>
> CHRISTOPHE KOENIG

Thanks to its integrated smelter network, Aurubis can process complex concentrates and optimize its concentrate mixes. For Koenig, the advantages for both the mines and Aurubis are clear: "We enable our mining partners to unlock the value of their complex metal concentrates, and Aurubis benefits from a higher margin for the solution they provide.” This expertise makes Aurubis an in-demand partner for developing specific answers to the needs of the mining industry, for instance when it comes to concentrate quality. Furthermore, the topic of sustainability is gaining more traction. “Not only consumers are becoming more aware of environmental and social issues. Our mining partners now also increasingly value a responsible and environmentally sound business approach. We at Aurubis pride ourselves on setting benchmarks in the industry!”

Aurubis enters into long-term supply contracts with its mine partners to ensure the capacity utilization of its assets and provide planning security. This is also a way of committing to its partners: “We are committed to our long-term partnerships and we favor mine partners that demonstrate the same dedication to sustainability in their downstream value chain as we do. Sustainability is not only a topic of environmental protection and social responsibility, it also means that we value partners who have a long-term view and are not only seeking to maximize short-term margins.”



Precious cargo: at our site in Pirdop, Bulgaria, we transport copper concentrates from the storage facility to the primary smelter by conveyor belt.

Find out more about how KFW IPEX-Bank and Aurubis work together to develop solutions for mine projects.
www.kfw-ipex-bank.com

RE /

RECYCLING BUSINESS: THE CIRCULAR ECONOMY DRIVES EARNINGS

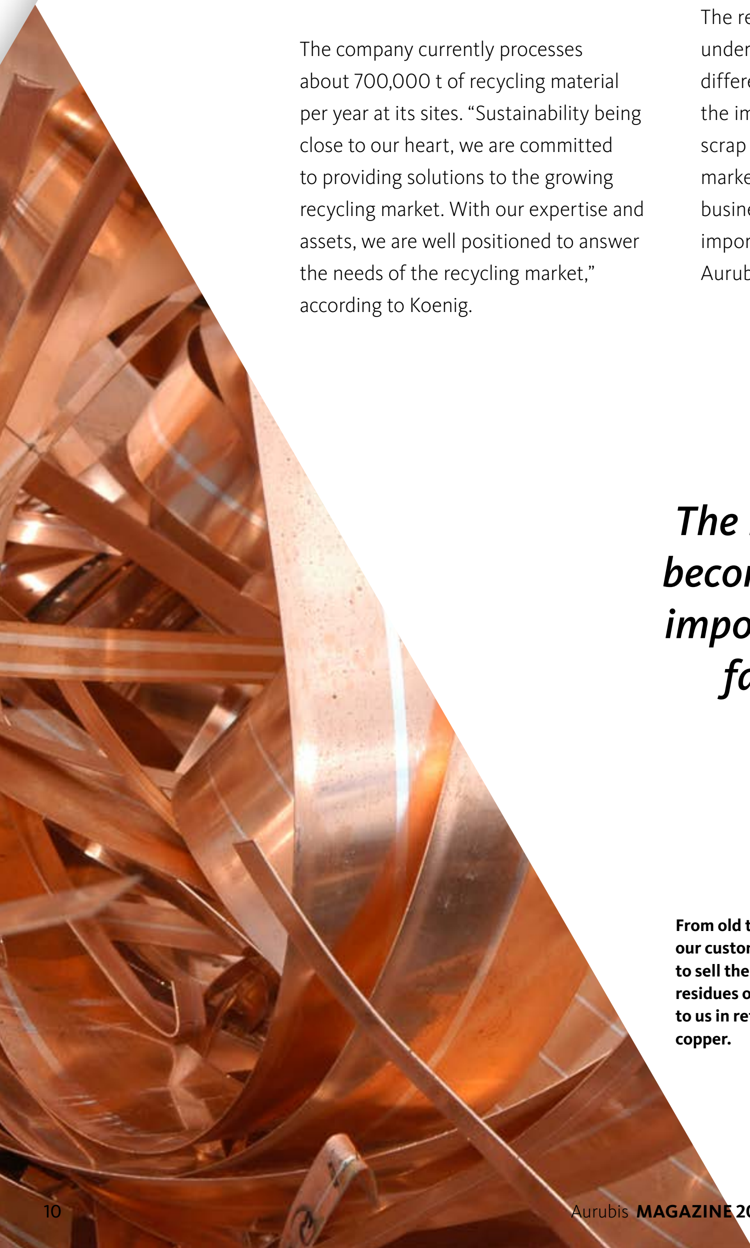
The recycling business has established itself as an additional key earnings driver at Aurubis. “From high-copper scrap to industrial residues and end-of-life electronics that make their way back to us, we are one of the leading copper recyclers in the world,” says Koenig.

The company currently processes about 700,000 t of recycling material per year at its sites. “Sustainability being close to our heart, we are committed to providing solutions to the growing recycling market. With our expertise and assets, we are well positioned to answer the needs of the recycling market,” according to Koenig.

Aurubis also offers to purchase production residues or scrap from its customers to then, if required, deliver refined copper back to them. This is done mostly through longer-term contracts and thus dampens fluctuating availability of scrap in the short term. These “closing-the-loop” contracts provide Aurubis with additional planning security.

The recycling market is currently undergoing various developments: different national regulations, such as the import restrictions on certain copper scrap qualities in China, are causing global market streams to shift. “The recycling business is becoming more and more important as an earnings factor for Aurubis,” says Koenig.

> *“The recycling business is becoming more and more important as an earnings factor for Aurubis.”*
>
> CHRISTOPHE KOENIG



From old to new: we offer our customers the option to sell their production residues or copper scrap to us in return for refined copper.

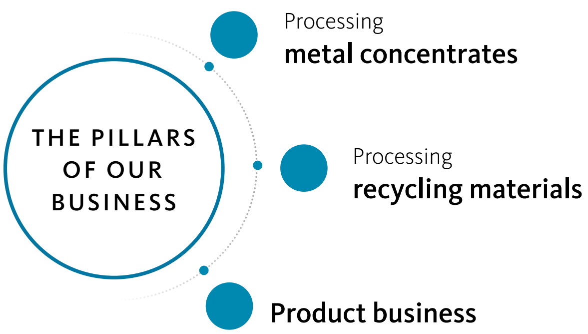
PRODUCT BUSINESS: AN IMPORTANT OUTLET FOR METAL OUTPUT AND AN EAR TO THE MARKET

The product business combines several earnings factors: in particular, the manufacturing and marketing of various copper products and other metals, sales of sulfuric acid, and sales of by-products. According to Koenig, the product business is not only an important earnings driver. It also allows the company to stay in continuous contact with its copper consumption markets and the downstream industry.

Aurubis processes most of its refined copper output into copper products such as wire rod and shapes. "We at Aurubis are involved in an ongoing dialogue with our customers and discuss a wide range of issues such as material specifications, future trends, and aspects of sustainability," says Koenig.

Another earnings component in the product business is sulfuric acid, which is mainly sold to the chemical and fertilizer industry as a by-product of concentrate processing. "In good years, the sulfuric acid business is an attractive earnings contributor." Depending on the contents of the copper concentrates and recycling materials Aurubis processes, the company also increasingly recovers additional metals and sells them on a number of metal and precious metal markets. "Aurubis specialists regularly check whether the company should develop its intermediate products further to ensure marketability and the best positioning in the value chain at attractive margins."

Koenig summarizes: "The strength of our business model lies in the fact that the main features that drive earnings balance each other out in some cases, allowing us to handle the volatility of different market prices relatively well. And by developing our recycling business, we are working on the big societal challenges of our time."



RE / CYCLING

RECYCLING QUALITIES

Our credo: the more complex, the better

Slags, electronic scrap, and filter dust – Andreas Nolte recognizes the intrinsic value of things that most people would consider waste material. He knows where the real treasures can be found in recycling – and how to recover them.

Up to 80 trucks make it to the Lünen site on a normal day. This is where Aurubis processes the lion's share of its recycling raw materials. Each year, the entire Aurubis Group receives a total of about 28,000 truckloads of 25 t each. Roughly 30 to 40 % of the material is simple copper scrap, while the rest is made up of complex compositions. The latter is increasing steadily. While this development entails challenges in processing, it also provides opportunities on the earnings side.

Andreas Nolte oversees Integrated Management Systems, Security & Risk, and Public Recycling Affairs at the Lünen site.

Aurubis processes recycling materials that couldn't be any more different or complex.

SCRAP METAL: MADE IN EUROPE

Aurubis sources most of its recycling raw materials directly from Europe. The metal processor relies on a network of specialized companies that concentrate on collecting, sorting, and preprocessing these materials. Aurubis also obtains materials directly from its industrial customers. “Our supplier portfolio comprises companies numbering in the mid-triple-digit range,” says Nolte. “They all undergo our Business Partner Screening process. We don’t buy anything from anyone we don’t know.”

The suppliers receive the delivered material directly from consumers in some cases – from recycling centers, community waste collection points, or scrapyards. Metal that lands in the normal garbage by mistake also makes its way to Aurubis in the form of metallic residues in ashes from waste incineration. Likewise, metallic remnants and waste products that collect in production processes are also redirected to the value cycle through different recycling methods. This cyclical approach doesn’t just make good business sense, it’s also part of the Aurubis Sustainability Strategy.

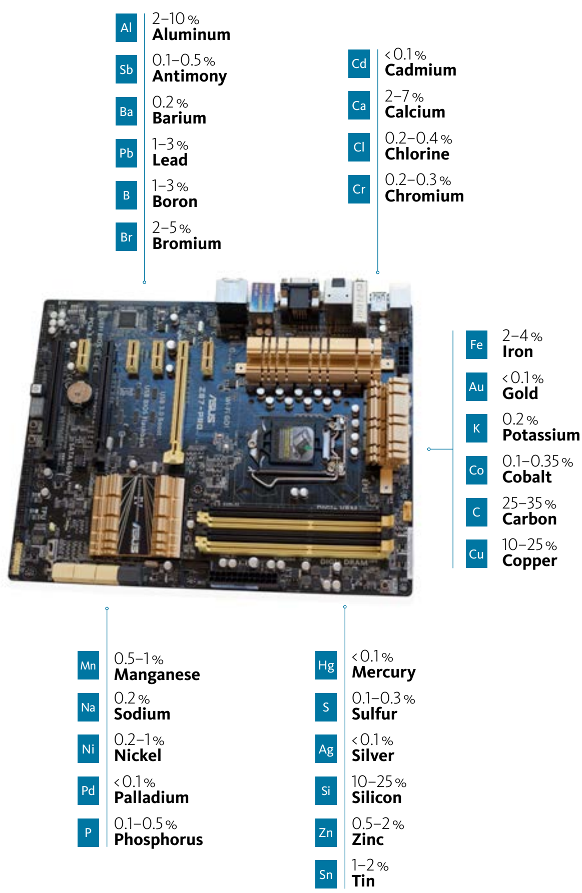
FROM SAMPLING TO PRODUCTION

Every day, an unknown value of raw materials is delivered to Aurubis. The processing steps such raw materials have to undergo depend on their unique material properties. The company’s Sampling department first determines what these properties are. Depending on the material at hand, employees from the department take representative subsamples, which they analyze to establish the metal content. Only then can they assess the actual value of the raw materials.

About 65 employees in Lünen alone are involved in accepting, weighing, examining, and, ultimately, accurately analyzing and sampling raw materials. “Our credo: the more complex, the better – because we’re particularly good at that,” says Nolte. Take memory cards, for example: while the first hard drives were as big as wardrobes and just as heavy, modern memory chips are the size of a fingernail. The tiny components are made of a combination of different metals – a growing challenge for sampling and, subsequently, recycling.

HIDDEN TREASURES

E-scrap contains many substances –
a typical analysis of circuit boards



Sampling is followed up by the material preparation step. For example, electronic scrap is initially preprocessed – that is, shredded and sorted. Aurubis operates a special plant at the Lünen site for this material preparation. “This allows us to remove substances such as aluminum or some plastics – large volumes of which disrupt our recycling process – immediately at the beginning of the process,” says Nolte. “It’s important that we put together the right mixture of recycling raw materials early on in the process.”

FROM “A” AS IN ALLOYS TO “Z” AS IN ZINC SCRAP

Aurubis processes recycling materials that couldn’t be any more different or complex. These include various qualities of copper scrap, from production waste to gutters to alloyed scrap. The company processes industrial residues such as slags; lead, electroplating, and wastewater slimes; catalysts; filter dust; shredder materials; complex metal concentrates; and precious metal-bearing residues. More and more, Aurubis is also being offered complex electronic scrap such as circuit boards and old appliances from external preparation processes in the recycling industry.

SITE SPECIALIZATIONS

Every Aurubis smelter site has a different focus: while Lünen handles and processes slimes, dust, and complex electrical scrap, the Bulgarian site in Pirdop primarily uses pure copper scrap as cooling scrap. The facility in Olen inputs copper scrap as one of the three main components in the smelting process. In contrast, Hamburg recycles both electrical scrap and pure scrap metals. Recycling is thus a topic at every site in different ways. “Thanks to this integrated smelter network, we can recover metals like gold, silver, tin, and lead from supposed waste materials. For example, a ton of cell phone scrap contains up to 300 grams of gold,” says Nolte. “In light of declining resources and growing mountains of waste, our expertise is now in higher demand than ever. And we don’t just deal with our main metal, copper, but use its property as a collector of many other accompanying metals to recover a total of 19 metals and metal compounds."

HIGHEST-LEVEL CERTIFICATION

"Our multi-metal recycling is also multi-certified," says Nolte. For outsiders, some of these certifications sound cryptic: certification in accordance with the German Waste Management Facility Directive in connection with the Electrical and Electronic Equipment Act, for instance, or processor and end user audits pursuant to WEEELABEX/CENELEC. But they can be summed up as follows: Aurubis works reliably according to the highest standards in Europe – from material acceptance to production.

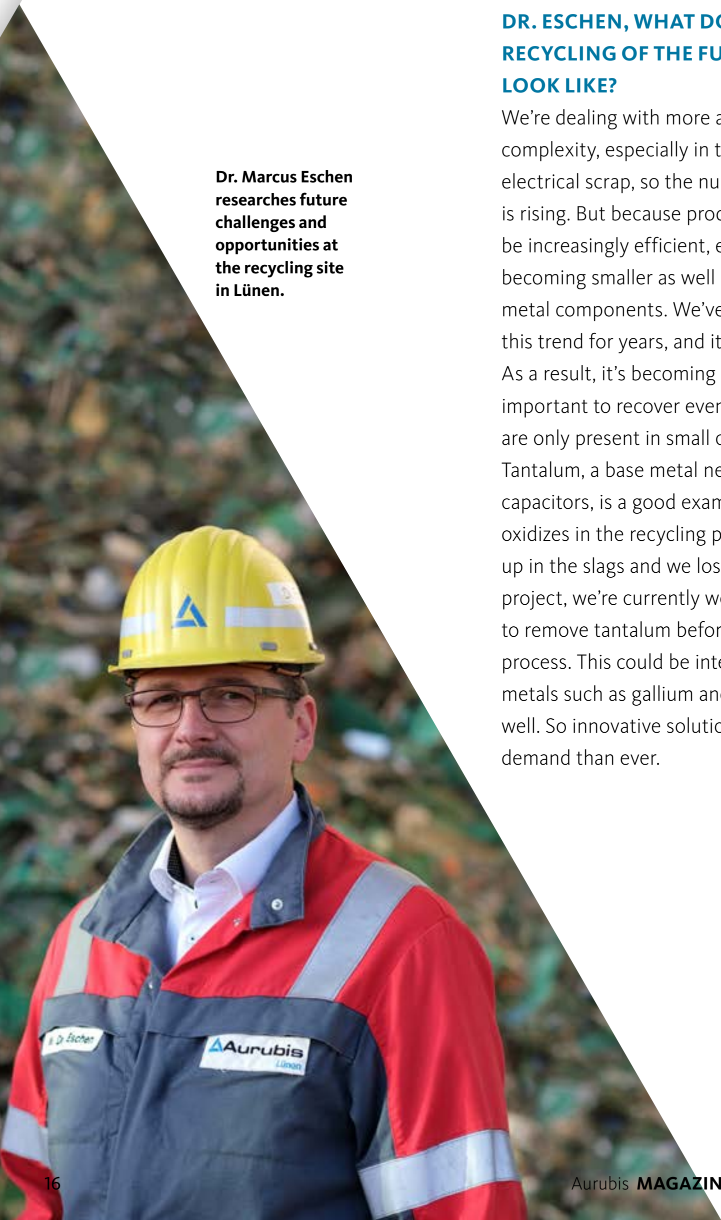
A huge shredder dismantles complex materials such as computer parts in Lünen. A misting machine controls the ensuing dust.

RE /

RESEARCH & DEVELOPMENT

"Lithium-ion batteries are more electrical scrap than battery"

What will be the scrap of tomorrow? Dr. Marcus Eschen, recycling expert in the Research & Development department, tackles this and other questions. An interview about challenges in recycling, lithium-ion batteries, and why he's on the lookout for the unusual.



Dr. Marcus Eschen researches future challenges and opportunities at the recycling site in Lünen.

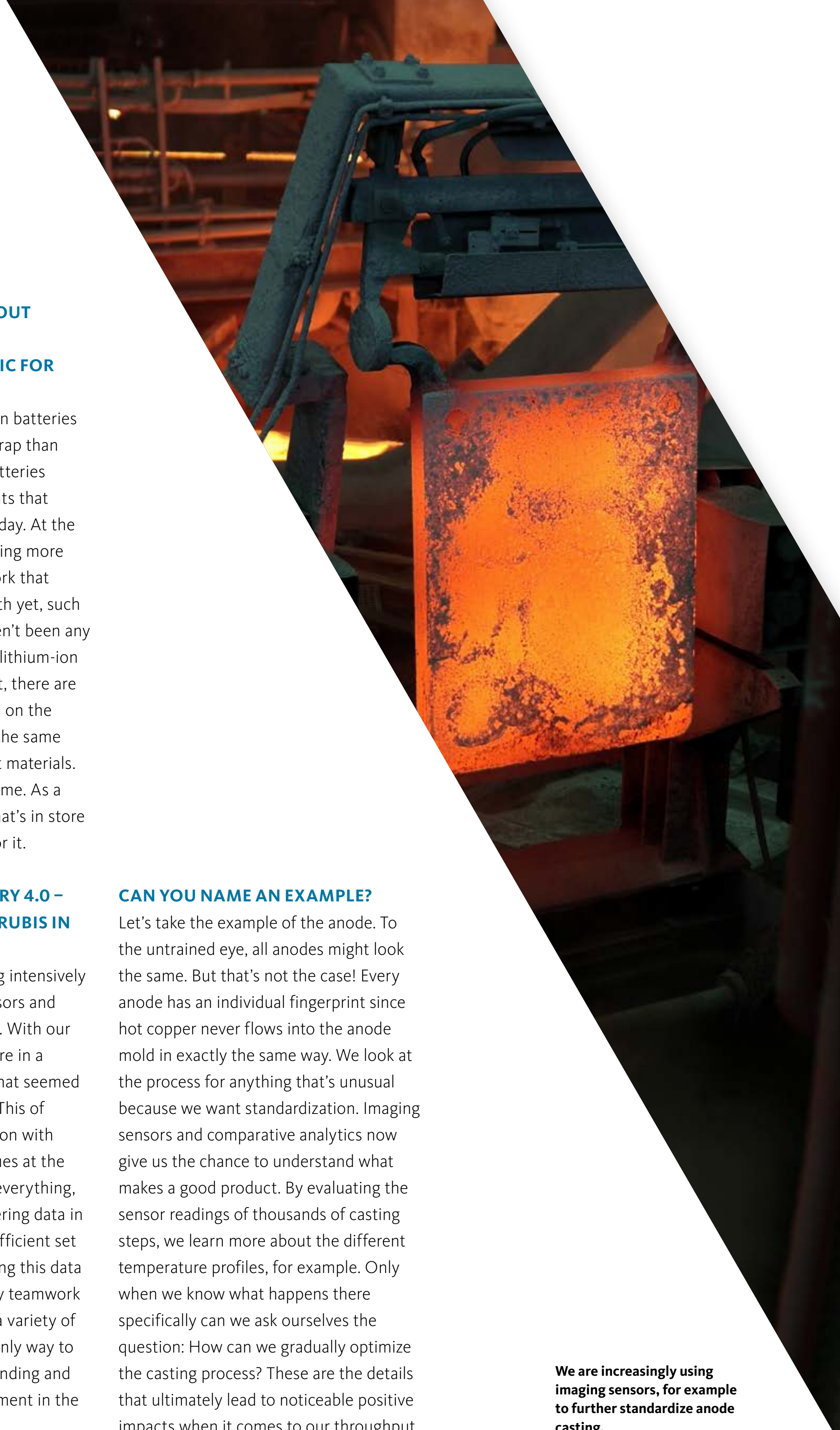
DR. ESCHEN, WHAT DOES THE RECYCLING OF THE FUTURE LOOK LIKE?

We're dealing with more and more complexity, especially in the recycling of electrical scrap, so the number of metals is rising. But because products have to be increasingly efficient, everything's becoming smaller as well – including the metal components. We've experienced this trend for years, and it will continue. As a result, it's becoming increasingly important to recover even the metals that are only present in small concentrations. Tantalum, a base metal needed for building capacitors, is a good example. Currently, it oxidizes in the recycling process, so it ends up in the slags and we lose it. In a research project, we're currently working on ways to remove tantalum before the melting process. This could be interesting for other metals such as gallium and indium as well. So innovative solutions are more in demand than ever.

THE PROPORTION OF PLASTIC IN ELECTRICAL SCRAP IS GROWING, WHILE THE PROPORTION OF METAL IS FALLING. WHAT DOES THAT MEAN FOR AURUBIS?

For one, we have to process larger and larger raw material volumes to recover the same amount of metal. This confronts us with multiple challenges: separating the plastic from the electrical scrap will become more important than it already is. We have to work on the existing systems and improve detection rates.

At the same time, however, there's the question of: What do we do with all of the plastic? There are plastic recyclers, but not enough of them for the volumes that accumulate in Europe alone. We're therefore considering what feasible and efficient solutions could look like – in some cases, together with industrial and research partners. One possible idea is to recover oil from the plastic, which could then ideally be used by the chemical industry, for instance.



EVERYONE'S TALKING ABOUT RECYCLING LITHIUM-ION BATTERIES. IS THAT A TOPIC FOR AURUBIS AS WELL?

Of course! After all, lithium-ion batteries are actually more electrical scrap than classic battery. Lithium-ion batteries consist of different components that Aurubis can already handle today. At the same time, they would also bring more metals into our smelter network that we're not quite as involved with yet, such as nickel. However, there haven't been any reliable volumes for recycling lithium-ion batteries so far. On top of that, there are very different battery systems on the market that aren't processed the same way and that contain different materials. And they're changing all the time. As a result, we can't exactly say what's in store for us – but we're preparing for it.

ON THE TOPIC OF INDUSTRY 4.0 – WHAT'S GOING ON AT AURUBIS IN THIS REGARD?

Needless to say, we're working intensively with the possibilities that sensors and data analysis provide us today. With our current computing power, we're in a position to implement ideas that seemed a long way off five years ago. This of course only works in connection with the knowledge of our colleagues at the furnace. Collecting data isn't everything, after all. It's more about gathering data in a targeted way with a highly efficient set of sensors and then interpreting this data correctly. And interdisciplinary teamwork is key here. We have to bring a variety of skills to the table. This is the only way to improve our process understanding and optimize our process management in the medium term.

CAN YOU NAME AN EXAMPLE?

Let's take the example of the anode. To the untrained eye, all anodes might look the same. But that's not the case! Every anode has an individual fingerprint since hot copper never flows into the anode mold in exactly the same way. We look at the process for anything that's unusual because we want standardization. Imaging sensors and comparative analytics now give us the chance to understand what makes a good product. By evaluating the sensor readings of thousands of casting steps, we learn more about the different temperature profiles, for example. Only when we know what happens there specifically can we ask ourselves the question: How can we gradually optimize the casting process? These are the details that ultimately lead to noticeable positive impacts when it comes to our throughput.

We are increasingly using imaging sensors, for example to further standardize anode casting.

RE /

RECYCLING MARKETS & MARKET DRIVERS

Recycling materials as raw materials

Today, nearly 50 % of European copper demand is covered by metal recycling. And tomorrow? Vice President Recycling Raw Materials Lars Radowitz provides an overview of the most important market drivers and explains why recycling is the future.

Lars Radowitz, Vice President Recycling Raw Materials, is familiar with the dynamics of the global recycling markets and has an eye on future trends.

> *"There's huge potential for recycling: the global anthropogenic metal warehouse for copper amounts to about 400 million t."*
>
> LARS RADOWITZ

MORE METALS FOR A MODERN WORLD

While it used to be the G8 nations that discussed the challenges of the global economy, the G20 brings a much more varied group of players to the table. Continued industrialization is the primary goal of many emerging countries, which are encouraged by the promise of growth and prosperity. This goes hand in hand with increased migration to metropolitan areas, as well as a growing global middle class. These developments spur infrastructure expansions and demand for products using metals, particularly copper. "To make it more concrete: while the per capita consumption of copper is 6 kg in an industrialized country, it's not even 2 kg in a developing country," states Radowitz. "There's a lot of catch-up potential."

But the hunger for metals hasn't been satisfied in industrialized nations, either. Trends like digitalization, electric vehicles, and smart homes drive demand. Copper plays a special role in all of this. It's the metal of the energy transition. According to the German Copper Institute, renewable energy systems need up to twelve times more of the energy-efficient metal than traditional energy systems.

These trends will drive global metal demand and use. Annual growth rates of between 1.5 and 4 % are expected for copper, tin, nickel, and zinc. This growth comes from electronics, industry, and the automotive sector in particular and supports higher metal prices. Ultimately, a higher level of processed metal means that larger and larger volumes are available for recycling.

THE ANTHROPOGENIC METAL WAREHOUSE IS GROWING

These volumes boost the so-called anthropogenic metal warehouse, which consists of all of the metals that humans have removed from their natural deposits and used in our surroundings in the form of infrastructure, buildings, and everyday items. For copper, the German Federal Environment Agency assumes that the global anthropogenic warehouse reaches up to 400 million t and thus encompasses about 50 % of the current geological copper reserves. Or to provide another comparison: around two-thirds of the copper produced since 1900 is still in use today. Depending on how it's used, it will be available for recycling again at some point. But one thing's for sure: the volumes are growing.

RISING PRICES, MORE RECYCLING POSSIBILITIES

The attractiveness of recycling increases with the price, for both traders and smelters. Many metal prices are notably higher today than they were in the early 2000s. Copper, for example, was quoted below the US$ 2,000 mark back then. Today, a ton of the red gold is traded on the London Metal Exchange for nearly US$ 6,000. "Higher metal prices mean rising incentives to collect the materials and direct them to recycling," stresses Radowitz.

RE /

With higher metal prices expected over the long term, the supply of recycling materials should grow.

OUR WORLD IS BECOMING INCREASINGLY COMPLEX

The life cycles of today's products are becoming shorter and shorter. This is especially apparent in consumer electronics – how many TVs are older than ten years anymore? According to a study by the German Öko-Institut, however, more than half of all TVs that are replaced still work. The reasons are attributed to things like too few functions, energy consumption, or simply not liking the current model. Each product generation has a different composition of materials as newer, more efficient production processes and alloys come into use.

Society is becoming ever more digitalized, prompting industry to release a number of innovative products. For instance, the more widespread use of electronic steering systems in vehicles will lead to a higher accumulation of precious metals, tin, and nickel in vehicle recycling. "Our consumer society is producing more and more recycling materials, which are becoming increasingly complex at the same time. Specifically, they contain a growing variety of elements and compounds," states Radowitz. "This presents Aurubis with both challenges and opportunities."

LOCAL PREPROCESSING

End-of-life products and residues from Western industrialized countries will have to be processed locally to a greater extent in the future. Many developing countries where end-of-life products have been manually disassembled up to now are reducing their imports. Apart from that, processing in these countries rarely fulfills the high standards of the EU. Consequently, recycling capacities in Europe have to be expanded and exports of end-of-life products have to be reduced. "Former export regions like Europe and North America need more of their own efficient, sustainable recycling solutions down the road. The political framework in this context is also extremely important," asserts Radowitz. "We at Aurubis want to be part of the solution."

Aurubis processes electrical and electronic devices. High-performance processors, connectors, and electronic resistors in particular include a high proportion of gold.

RESPONSIBILITY MOVES INTO FOCUS

Environmental protection is one of our society's central issues for the future. This is evident not just in people's increasing awareness but also in stricter legislation such as the WEEE directive, a standard for copper and precious metal processing that also regulates electrical and electronic waste. The directive positively impacts collection systems as well, which leads to rising volumes of electronic scrap. Nevertheless, the collection rate of around 45 % for this type of scrap indicates that there's still a great deal of potential.

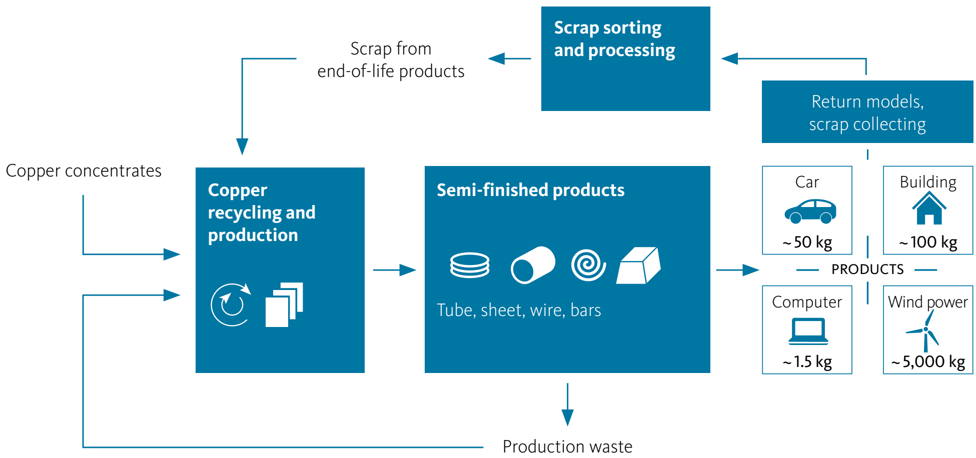
The consumer goods industry and original equipment manufacturers (OEMs) are also showing heightened interest in recycling. They're all placing a stronger emphasis on closing the loop. Moreover, they're pushing for transparent and efficient waste management systems. After all, the social and political pressure impacts every economic actor and calls for sustainable joint solutions that will positively influence the entire recycling market in the long term.

> ***"Former export regions like Europe and North America need more of their own efficient, sustainable recycling solutions."***
>
> LARS RADOWITZ

For Aurubis, growing quantities of increasingly complex recycling materials open up a great deal of potential for growth in recycling. "With our technical processing expertise, first-class environmental standards, and strong metal recovery rates, the market conditions in recycling reveal attractive opportunities for long-term business success," says Radowitz.

THE COPPER VALUE CHAIN

Copper recycling includes material from end-of-life products such as cable, wire, and electronic devices, as well as from melting down production waste.



Source: based on Glöser, 2013, Deutsches Kupferinstitut

RE / THINK

DESIGN FOR RECYCLING

Inconvenient truths of the circular economy

Everyone's talking about recycling. It feels like Europe is the global leader in this area. "Unfortunately, that's not always the case," says metallurgy and recycling expert Prof. Dr. Dr. h.c. mult. Markus Reuter. He's been researching and implementing system methods and technology in this field both in academia and industry for over 35 years, sometimes drawing attention to inconvenient truths and challenges – but also pointing out opportunities for a better future.

Prof. Dr. Dr. h.c. mult. Markus Reuter has been director at the Helmholtz Institute Freiberg for Resource Technology (HIF) since 2015. He is involved in the topics of recycling, recycling-friendly product design, resource efficiency, and process metallurgy.

PROF. REUTER, EUROPE IS NOW RECYCLING MORE THAN EVER. ISN'T THAT ENOUGH?

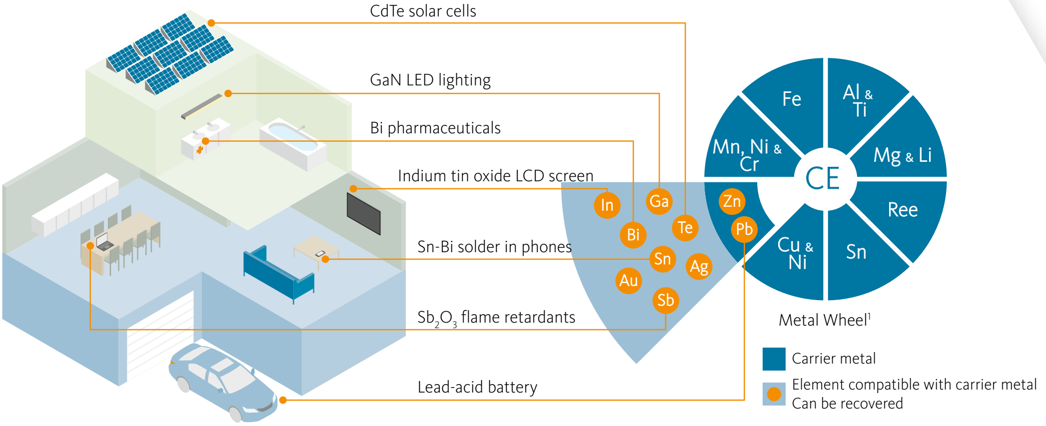
Recycling doesn't end when dropping something into the garbage can. True recycling recovers and produces valuable, high-purity raw materials from old products for reuse in high-tech products. Consider your smartphone: it is a complex functional mix of metals, plastics, and glass. One does not require much of an imagination to picture how complex it is to physically and chemically separate these components again to ultimately retrieve the metals. It's just about as difficult as recycling your morning cup of coffee into its ingredients, so pure water, sugar, milk, and coffee. There are no simple answers here – at some point, the amount of effort also outweighs the value of the metal content. This knowledge should prompt a consciousness shift in our utilization of our limited resources.

THAT'S WHY THE EU IS PRESSING AHEAD WITH THE CIRCULAR ECONOMY (CE), RIGHT?

The image of the closed loop of the CE is a convenient one. It conveys the impression that everything that enters the cycle also emerges in a way that can ultimately be used again without the use of energy. The inconvenient truth is that closing the loop is impossible! Therefore, an honest discussion involves speaking transparently about losses in the process: in the form of energy, metals, and dust, for example. There are technological and economic limits to closing the loop. As a result, policy conditions are necessary that promote recycling instead of hindering it.

NO LEAD, NO CIRCULAR ECONOMY

Lead – like copper – functions as a key metal collector in multi-metal recycling. Lead makes the circular economy (CE) possible in the first place by helping recover metals such as gold, silver, bismuth, and antimony.



[1] Simplified version from the SOCRATES EU MSCA-ETN project in which only the elements that dissolve in the carrier metal in metallic state and which can be recovered are shown. Full version: Verhoef et al., (2004): Process knowledge, system dynamics and metal ecology. Journal of Industrial Ecology, 8(1-2), 23-43

WHAT DO YOU MEAN BY HINDERING?

Consider the example of lead. Yes, lead is unfortunately toxic, and this is prompting the EU to consider banning its use. But it is also a fact that lead – like copper – is crucial as a metal collector in multi-metal metallurgical recycling. It is a key enabler of the CE, as it recovers metals such as gold, silver, bismuth, and antimony. Therefore, the circular economy paradigm is in danger without lead. This is often forgotten and overlooked in today's contentious and often unfortunately superficial discussions on circularity. The result of premature policy decisions and bans of metals opens up the risk of metal production migrating away from Europe. This would severely disrupt our control of metal production and recycling.

ARE THERE ANY POSITIVE EXAMPLES?

Absolutely. For instance, there are the collection systems for recycling materials in Europe, where we've already made a great deal of progress when compared internationally – this would be inconceivable without European standards and approaches. Gains can also be achieved by considering recycling during product design.

AND WHAT COULD THAT LOOK LIKE?

As stated, one can never recycle 100 % of any given product; those are the laws of Mother Nature. But we can optimize a lot if we link product design with metallurgy

> *“True recycling means recovering and producing valuable, high-purity raw materials from old products for reuse in high-tech products.”*
>
> PROF. DR. DR. H.C. MULT. MARKUS REUTER

RE /

knowledge and calculate in detail in advance what can be recycled later. If a product is manufactured smartly into different modules, for example, the raw materials could be distributed in such a way that each module could be directly processed with suitable technology when metallurgically processed. This would render the recycling of many valuable metals easier, while also maximizing energy efficiency.

ARE MANUFACTURERS ALREADY DOING THIS?

Fairphone takes this into account, for instance, but they are still an exception. While there's a lot of talk, the imperative isn't there yet. This is why we're working on a recycling label to provide information about products' actual recyclability to the consumer. We have developed simulation models that digitally twin the entire extremely large value chain, allowing products' actual recyclability to be calculated and improved. This enhances transparency for the consumers to assist them in making choices, a key step to precipitating change.

WHAT CAN THE SMELTER INDUSTRY CONTRIBUTE?

Smelters are a key enabler of the material cycle within the CE, as they are familiar with technical and economic limits. Routine communication with product manufacturers is just as important as dialogue with the public about what is feasible and what is not; existing digital twins help with this.

For Europe, we need multi-metal recovery solutions in the CE. We speak about the metallurgical infrastructure's criticality for the CE. In this context, smelters are the drivers to agilely manage the extraction of different metals simultaneously and maximize their respective recovery.

MODULAR DESIGN OF A FAIRPHONE

Thanks to its modular design, the Fairphone is recyclable to a great extent. www.fairphone.com

I'LL CLOSE WITH THE CRUCIAL QUESTION: WHO SHOULD ULTIMATELY PAY FOR THIS?

I believe there is a growing understanding in today's society that both manufacturers and consumers have to contribute to responsible resource consumption. However, this always comes at a cost. And this cost has to factor in the ability to disassemble the product at the end of its life cycle. In the Netherlands, for example, the costs for the collection and recycling of waste electrical and electronic equipment are borne by the producers and importers. This begs the question: Should the recycling fees that are incorporated in the product price become significantly larger? As metallurgists, we know what refining charges are necessary for processing such complex materials. Therefore, we could play a key role in transparently informing society about what is possible and what isn't.

Improved product design and metal recycling have to be the solution. There is a growing understanding in today's society that both manufacturers and consumers have to contribute to the responsible use of resources.

RE /

POLITICS & SOCIETY

Showing up for metal recycling

With metal recycling we tap new raw material sources, right at our doorstep. We want to give quality recycling a face and to nudge it more strongly into focus in the political discussion. Head of External Affairs Marie-Christine von Hahn on the current discussions, how Aurubis participates in them, and why we take recycling personally.

MS. VON HAHN, WHERE DOES THE TOPIC OF RECYCLING STAND IN THE PUBLIC DISCUSSION?

It's everywhere at the moment. The topic has a number of facets, extending from the European battery directive to the ecodesign directive to the European Union's higher environmental ambitions, which have been discussed under the buzzword "Green Deal." Nevertheless, there are no one-size-fits-all solutions, and the quality recycling of metals isn't enough of a political priority, unfortunately. We want to change this! We advocate political regulations that ensure that technologies in use are as recyclable as possible.

AND WHERE DO YOU SEE THE BIGGEST CHALLENGES?

Without a doubt, metal recycling is a complex process that requires some explanation, and it also requires a large amount of energy – a point that hasn't been considered in its entirety across the value chain thus far. We're therefore in regular contact with representatives in Berlin and Brussels when it comes to issues such as CO_2 price development, renewable energy reallocation charges, and grid charges. At the end of the day, it comes down to whether there are long-term, reliable conditions for metal recycling and the downstream metal processing industry here in Europe. Another challenge is illegal scrap exports from Europe, for example to Africa.

HOW CAN THIS BE PREVENTED?

It's clear that prohibiting it isn't enough, as the appliances and devices are usually exported as "functional electrical and electronic waste." However, we advocate against the dismantling or burning of scrap and recycling materials to recover the metals under poor conditions for humans and the environment. Ultimately, it's imperative that high European standards serve as a benchmark. Based on international agreements and regulations, all kinds of recycling materials can be, and are being, traded legally around the world. However, everyone needs to abide by this system.

WHERE CAN AURUBIS MAKE THE GREATEST CONTRIBUTION TO THE POLITICAL DISCUSSION, IN YOUR OPINION?

Metal recycling means actively securing raw materials for Europe, which makes

Head of External Affairs Marie-Christine von Hahn speaking at our parliamentary evening in Berlin in October 2019.

> *“Our goal is to direct the political focus to quality metal recycling.”*
>
> MARIE-CHRISTINE VON HAHN

us less dependent on imports from other regions in global competition. At the same time, we tap raw material sources, right at our doorstep. Apart from the discussion on these kinds of strategic issues, we at Aurubis also see ourselves as the ones who carry out the practical tests for laws regarding metal recycling. After all, ideas that sound promising in theory have to be feasible in practice as well. As one of the largest copper recyclers, we stand for more than 150 years of expertise and process knowledge. We foster political and public debate with this experience. In this way, we also enable pragmatic, functional, and rapid solutions for the circular economy. In the end, everyone benefits from these solutions.

HOW DO YOU DO THIS CONCRETELY?

We of course actively work in different associations on topics involving metal recycling. We publish positions on relevant draft laws because we want to continue strengthening the voice of the metals industry in the public perception. A clear example of our involvement is our parliamentary evening, which we held in Berlin in October 2019. Under the slogan “Urban Mining – Metal Recycling as a Future Source of Raw Materials,” about 130 guests from politics, associations, and business accepted our invitation to the event.

AND WHAT WAS THE OBJECTIVE OF THE EVENT?

Our objective with the event in October was not only to present ourselves as a valuable recycling industry actor in the political center of Berlin but also to provide the invited experts with a high-level platform for dialogue. The growing significance of recycling and the circular economy was highlighted in various speeches, including those from Christoph Dammermann, state secretary of the Ministry of Economic Affairs, Innovation, Digitalization, and Energy of the state of North Rhine-Westphalia, and Oliver Wittke, former parliamentary state secretary of the Federal Ministry for Economic Affairs and Energy. Moreover, representatives from politics and business discussed the topic of the circular economy and agreed in the end that industry and politics both have to contribute to a functioning circular economy. Aurubis Executive Board Chairman Roland Harings also spoke about issues such as recycling, climate protection, and environmental conservation during the evening. These issues are close to his heart, which is why he likes to get involved personally and show up for metal recycling!

Under the slogan “Urban Mining – Metal Recycling as a Future Source of Raw Materials,” Aurubis invited about 130 guests from politics, associations, and business to Berlin.

RE / SPECT

SUSTAINABILITY & PRODUCTS

Multi-metal recycling is active resource conservation

Some challenges are easier to overcome with partners in the value chain. Sustainability Manager Kirsten Kück and Vice President Product Sales & Marketing Commercial Stefan Gröner, both of Aurubis, and Purchasing Manager Daan Kuipers of the Dutch cable manufacturer TKF met for a stakeholder dialogue and discussed CO_2 emissions, closing the loop, and why copper is here to stay.

Sustainability Manager Kirsten Kück is proud that Aurubis is one of the most environmentally friendly metal producers in the world.

RECYCLING: MORE COPPER, LESS CO_2

The topic of copper recycling includes some interesting figures. The fact that recycling saves up to 85 % of the energy and about 60 % of the CO_2 emissions that arise in copper production from primary raw materials is especially exciting.[1] Worldwide, the reduction amounts to around 100 million MWh of energy and approximately 40 million t of CO_2 emissions, according to the International Copper Association.

"To put it plainly, if we're able to continue boosting recycling rates, the copper industry has the possibility to reduce energy consumption and the resulting CO_2 emissions," says Kirsten Kück. "We have developed progressive technologies in the European copper industry that enable us to process a broad range of copper scrap while adhering to increasingly strict energy and environmental standards." Aurubis alone hopes to reduce its CO_2 emissions by 100,000 t, compared to fiscal year 2012/13, by implementing projects until 2023.

During the reporting year, Aurubis reached about 74 % of this goal, which is part of its Sustainability Strategy.

UP TO 85 %

LESS ENERGY
IS REQUIRED FOR COPPER RECYCLING COMPARED TO PRIMARY PRODUCTION.[1]

“

If we’re able to continue boosting recycling rates, the copper industry has the possibility to reduce energy consumption and the resulting CO_2 emissions.

”

KIRSTEN KÜCK

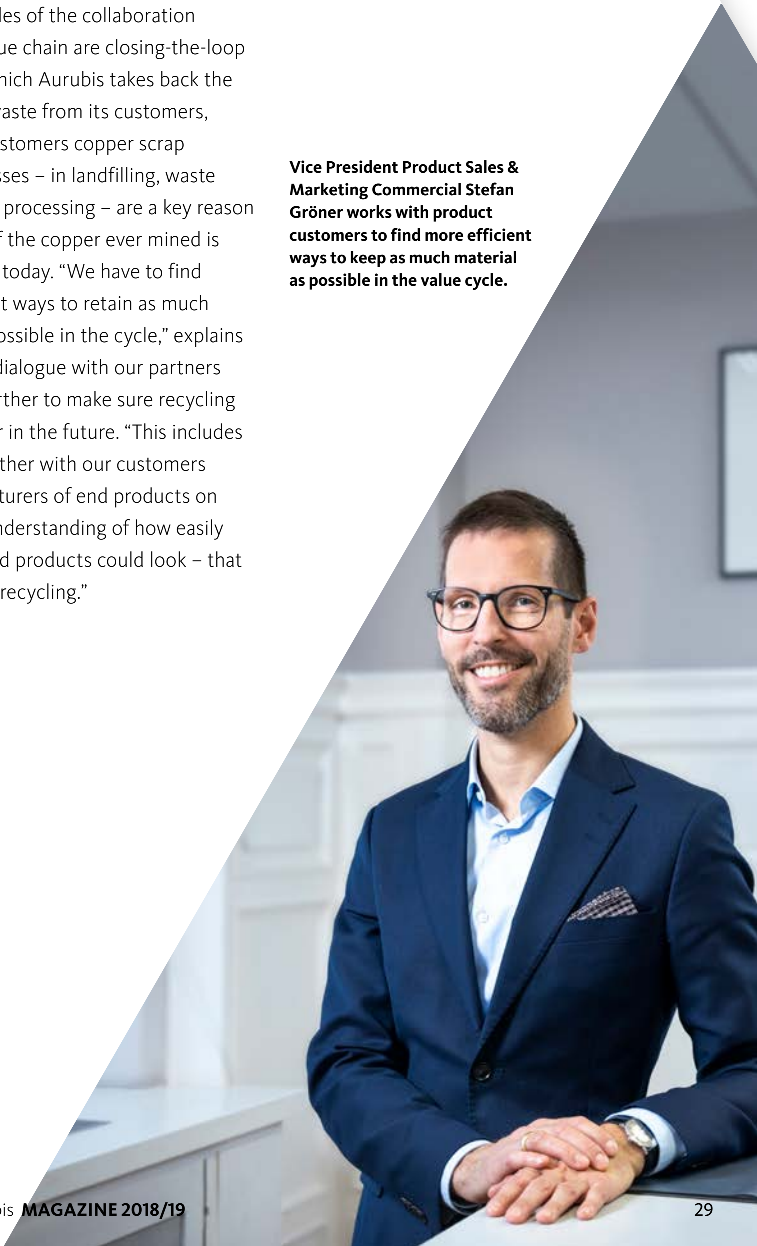
COPPER: A LOYAL COMPANION OVER THE CENTURIES

Aurubis’ main metal is predestined for recycling thanks to its unique qualities. Copper is here to stay. Once it’s mined from the earth, it’s available for an infinite amount of time, from a metallurgical perspective. Between 70 and 80 % of all of the copper ever produced is still in circulation today.[1] “Copper can be reprocessed over and over without a loss of quality or a decline in performance,” says Stefan Gröner. The product expert from Aurubis is convinced: “With our multi-metal recycling, we actively conserve resources and make ourselves less dependent on raw material imports from non-EU countries.”

RESPONSIBILITY: A TASK FOR THE ENTIRE VALUE CHAIN

The sustainable use of resources is a challenge for the entire value chain. “We can only take on this task with a concerted effort,” stresses Kück. Aurubis is developing individual logistical and technical concepts with its industry partners for this purpose. The goal: to reuse production waste or, even better, to avoid it altogether. Stefan Gröner believes that this is the responsibility of both the upstream and the downstream side: “The downstream industry has to be involved in this equation, for example when it comes to product design to enable recycling and when we’re talking about industry standards.”

Some examples of the collaboration along the value chain are closing-the-loop projects in which Aurubis takes back the production waste from its customers, making its customers copper scrap suppliers. Losses – in landfilling, waste collection, or processing – are a key reason why not all of the copper ever mined is in circulation today. “We have to find more efficient ways to retain as much material as possible in the cycle,” explains Gröner. The dialogue with our partners goes even further to make sure recycling is even better in the future. “This includes working together with our customers and manufacturers of end products on a common understanding of how easily recyclable end products could look – that is, design for recycling.”



Vice President Product Sales & Marketing Commercial Stefan Gröner works with product customers to find more efficient ways to keep as much material as possible in the value cycle.

[1] According to the Copper Alliance/ International Copper Association.

RE /

> “We can rely on Aurubis 100 %. And we consider Aurubis an industry leader when it comes to sustainability.”
>
> DAAN KUIPERS, TKF

PARTNERSHIPS: COLLABORATING WITH OUR CUSTOMERS

One of our partners on the customer side is cable manufacturer TKF in Haaksbergen in the Netherlands. Focusing on innovative, high-end technologies in the telecommunications, construction, and industrial solutions sectors, the company discusses topics such as the use of renewable energies and responsible consumption with Aurubis within the scope of stakeholder dialogues. TKF and Aurubis work together to identify ways to contribute to the UN Sustainable Development Goals (SDGs), which TKF has also used as a basis for its reporting since 2017. “Environmental, social, and corporate governance criteria are fully incorporated in our strategy,” explains Purchasing Manager Daan Kuipers from TKF. “Together with our partners in the supply chain, we look for opportunities to make a joint contribution to the UN Sustainable Development Goals.” He values this dialogue and the collaboration with Aurubis a great deal.

Purchasing Manager Daan Kuipers of the Dutch cable manufacturer TKF values the dialogue and collaboration with Aurubis.

“Our stakeholders can directly or indirectly influence our activities. Being in constant dialogue with them enables us to share and test our vision, our strategy, and our expectations with them. This always gives us very valuable feedback that we use for further improvements,” says Kuipers. “We can rely on Aurubis 100 % when it comes to fulfilling its obligations. And we consider Aurubis an industry leader when it comes to sustainability. Our discussions have proven that environmental topics are very important to Aurubis. We like these open discussions and the way we do business together.”

One key element of the collaboration between Aurubis and TKF is a closing-the-loop project. “We try to establish closing-the-loop systems with as many of our customers as possible,” says Gröner. “Bringing these loops full circle needs to be the norm in the industry. Ultimately, everyone benefits.”

RISING DEMAND: RED GOLD WITH A GREEN CONSCIENCE

“As an integrated copper producer, Aurubis has set the objective of producing even more copper from secondary materials, especially complex recycling raw materials,” says Gröner. “We already produce more than one out of three cathodes from recycling materials, and the trend is rising.” Gröner can imagine copper products made completely of recycled material creating a new market for sustainably produced metals and metal products at some point down the road. “Industry still has trouble paying a surcharge on a metal that’s traded as a commodity on the exchange. However, the trend towards a sustainable, transparent value chain, which is evident in some industries and driven by consumers, can’t be overlooked.” Kuipers also believes that demand for recycled copper could increase and that the market could

TKF processes the copper it sources from Aurubis into medium- and high-voltage cables, for example. The company provides connectivity solutions and an extensive portfolio of cables, systems, and services.

RE /

ultimately honor this development. “Yes, this demand will grow for sure. Our customers’ mindset is also changing with regard to using primary materials. At TKF, we have set clear targets for the recycling of different materials, including copper.”

The interior of an onshore wind turbine, which requires about 5,000 kg of copper.

COMING FULL CIRCLE: USING COPPER TO REDUCE CO_2

The market’s influence on the responsible use of resources is also apparent in megatrends such as electromobility and renewable energies. In this context, Aurubis contributes to reducing future CO_2 emissions not only by producing metals with recycling materials, but also with its finished products. For instance, copper plays a key role when it comes to renewable energies and thus the energy shift as a whole. “According to the Deutsches Kupferinstitut, energy systems for renewable energies require up to twelve times more copper than conventional energy systems,” says Kück, “because copper typically improves energy efficiency.” As an example, a ton of copper used in rotating machinery – such as an electric engine or a wind turbine – saves up to 7,500 t of CO_2 emissions during its life cycle. That’s a pretty interesting figure, too.

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~ 700,000 t

RECYCLING MATERIALS

was our throughput in fiscal year 2018/19.

~ 25,000 t

CO_2 REDUCTION

annually thanks to the Industrial Heat and Power-to-Steam projects

~ 100,000 t

CO_2 EMISSIONS

is what we plan to reduce through projects until 2023 – compared to 2012/13. We had achieved 74 % of this goal as at September 30, 2019.

70 – 80 %

OF ALL COPPER EVER PRODUCED

is still in circulation. One car alone includes ~50 kg of copper.

~ 85 million t

COPPER IN CIRCULATION

is available for recycling between 2030 and 2040 (overall theoretical potential).

Additional environmental measures

Eco-ink: The printing ink we use in conventional offset printing is produced on the basis of renewable raw materials and is therefore free of cobalt and mineral oil.
Foil: The foil lamination on the report and the magazine is ECO foil from Achilles.

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ANNUAL REPORT 2018/19

We want to work toward a successful future by improving a little more each day. We didn't always achieve this objective during the past fiscal year. This gives us that much more motivation to play up our strengths and successfully shape our future.

Our multi-metal strategy is a good basis, the right foundation for sustainable success. More and more, our recycling business is making an important contribution to this success. With our technology and our knowledge, we're able to draw out new value from used materials. The recycling business isn't just a reflection of our responsible approach to limited resources but has meanwhile also developed into a key driver of earnings, in addition to the concentrate and product business.

The idea of the circular economy guides us in everything we do. Taking what's tried and true, rethinking it, changing it, and improving it: that's what Aurubis stands for.

RESHAPE THE FUTURE

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CONDENSED VERSION

This report is a condensed version of the Aurubis Group Annual Report 2018/19. The full report is available as an online version or in PDF format at the following address: **annualreport2018-19.aurubis.com**
The notes to the consolidated financial statements are only provided in the online version.

LETTER FROM THE EXECUTIVE BOARD

Dear shareholders and friends of the company,

Following a turbulent fiscal year with its fair share of bumps, we have nevertheless achieved some important milestones.

Such milestones include the acquisition of the Metallo Group, which is still subject to approval by the European Commission. The acquisition is an important step in our development into a multi-metal company, as it will boost our metal portfolio, particularly in nickel, zinc, tin, and lead. At the same time, we intend to strengthen our recycling business, an increasingly important driver of earnings for us, with the integration of the Metallo Group. The magazine accompanying our Annual Report provides deeper insights into our recycling activities – the challenges, opportunities, and successes.

In addition to the recycling business and a broad portfolio of non-ferrous metals, Aurubis and Metallo have another important feature in common: their efforts to bring their production processes in line with our environment and the society in which we live and work. With production sites in the heart of Europe, we already fulfill the highest environmental standards in the world. Nevertheless, we continue to set the bar a little higher. We have ideas for new technologies and processes to use hydrogen and renewable energies in production, for example, as well as for intelligent and lasting measures to reduce CO_2. And not just within our plant boundaries, but beyond them as well. We want to make our contribution to the European vision of a CO_2-neutral continent. This is a feat that can only be managed together – with policymakers and our partners in our value chain.

> *“We want to make our contribution to the European vision of a CO_2-neutral continent.”*
>
> ROLAND HARINGS

Fiscal year 2018/19 showed us once again that, despite careful preparations, reality sometimes develops differently than originally planned. After the European Commission prohibited the sale of our Segment Flat Rolled Products (FRP) in February 2019, we are now reviewing additional strategic options for a future sale.

From left to right:

DR. THOMAS BÜNGER
Chief Operations Officer

RAINER VERHOEVEN
Chief Financial Officer

ROLAND HARINGS
Executive Board Chairman

> *“We have to focus on further developing preventive maintenance.”*
>
> DR. THOMAS BÜNGER

Moreover, the Executive Board and Supervisory Board made the decision to stop the internal growth project Future Complex Metallurgy – FCM for short – in its original form in June 2019. This wasn’t an easy decision for us, but it was necessary. It became clear at that point in time that the project would require much higher investments than planned. FCM was thus no longer as profitable as originally expected. A key focus of the project was to increase the throughput of complex raw materials in the Group. We have now fully documented FCM. It’s important for us to emphasize that the discontinuation of FCM does not mean that there will be a change in strategy.

Another thing that didn’t develop as we had expected was the operating performance of our production facilities. Unplanned shutdowns at three important sites impacted our earnings. We subsequently established different initiatives and working groups to address this issue, not only to analyze the reasons for the downtimes to develop incremental improvements, but to go one step further and rethink maintenance as a whole. Preventive maintenance needs to be a stronger focus. In addition, we’re taking a look at whether the materials and designs of the facilities concerned are fit for the future. We see an opportunity to learn from the setbacks of the past fiscal year, to draw the right conclusions to do things better in the future.

It’s no surprise that these effects are reflected in the development of our operating result. After having one of the best fiscal years in Aurubis' history in 2017/18, operating earnings before taxes (EBT) during the reporting year amounted to € 192 million. Operating ROCE, or return on capital employed, developed similarly to earnings and reached 8.6 % at the end of fiscal year 2018/19.

During fiscal year 2018/19, significant influencing factors for the operating result included the shutdowns at our smelter sites. These in particular led to an over 300,000 t reduction in concentrate throughput, to 2.2 million t, and thus to lower income from treatment charges. Higher energy costs and weaker demand for shapes and flat rolled products due to a decline in demand from the automotive industry weighed on the operating earnings situation as well.

One exceptional factor was a change in the definition of our operating result that we made during the reporting year, which led to a permanent impairment loss on copper inventories in the Group. An impairment loss recognized against Segment FRP's non-current assets as well as expenses in the course of the termination of FCM were similar. A receivable from Wieland-Werke AG arising from the prohibited sale of Segment FRP had a counteracting impact. These four effects had a total impact of about € 60 million on the operating result.

In contrast to these factors, a good metal gain had a positive influence in the fourth fiscal year quarter. Besides taking advantage of the high precious metal prices and selling more precious metals, we also benefited from higher sulfuric acid revenues during the reporting year: despite lower production volumes due to our shutdowns, we profited from good demand overall, with higher prices compared to the previous fiscal year.

Our existing efficiency improvement program contributed positively to the operating results, though weaker market conditions compared to the base year 2014/15 caused stronger headwinds. For this reason, we will transfer the current program, which focuses on leveraging efficiency across the Group, to a new program focusing on cost reduction in 2019/20. As before, our goal is to counteract inflation and to prevent the risks of weaker economic and market conditions. We will of course do this with the necessary sense of proportion to allow room for growth.

Even with a challenging fiscal year behind us, Aurubis remains robust: at the end of the past fiscal year, we had an operating equity ratio of about 55 %, net surplus financial funds of around € 140 million, and a good net cash flow of € 272 million. We want to continue allowing you to participate in the company's development and will therefore recommend the payout of a dividend of € 1.25 per share to the shareholders. As at the reporting date of September 30, 2019, this would correspond to an attractive dividend yield of 3.1 %. This equates to a payout ratio of 41 %, which considerably exceeds our dividend policy of paying out at least 25 % of the operating consolidated net income. The recommendation also takes into consideration the fact that we don't want to burden our shareholders with the adjustment of our definition of the operating result.

> ***"With a payout ratio of more than 40 %, we would considerably exceed our dividend policy."***
>
> RAINER VERHOEVEN

Ladies and gentlemen, we can't be satisfied with the business performance of the reporting year. To reiterate, we see an opportunity for improvement here. We are proud to see how Aurubis' employees stand together even in challenging times during which we, the Executive Board, have to make hard decisions. We are facing an increasingly difficult economic environment as a team and are driving the transformation of our company together. At this juncture, the entire Executive Board would like to express its sincere gratitude to all employees for their high commitment and hard work.

Some of this work during the past fiscal year involved the further implementation of our digital strategy. In defined project teams, we pushed forward with the harmonization of software solutions, processes, and approaches throughout the Group, reaching important milestones in the process. For example, we're taking stronger advantage of the options that sensors and data analysis provide to gain an even better understanding of the processes in our plants. We condense this knowledge in interdisciplinary teams from divisions such as Research & Development, Supply Chain Management, and Production to ultimately optimize process management in the plants.

We want to get back on track for success in fiscal year 2019/20. With the successful planned maintenance shutdowns in Pirdop, Lünen, and Hamburg, we created important conditions for more reliable production in our plants in the future. However, we won't be able to return to our earlier results immediately in fiscal year 2019/20, due also to the fact that the situation on our purchasing and sales markets has dampened and poses new challenges for us in fiscal year 2019/20.

In light of these challenges, we are confident that with our multi-metal approach and the targeted expansion of our international recycling business, we have the right strategy to successfully guide Aurubis into the future. This includes continued growth through acquisitions. We have sufficient financial leeway for this. We're confident that we can make this path a reality together with our employees.

We would like to thank all of our employees, shareholders, customers, and suppliers for their continued trust in our company. We hope that you will continue to accompany us on our path into the future.

Sincerely,

Roland Harings Dr. Thomas Bünger Rainer Verhoeven

THE EXECUTIVE BOARD

ROLAND HARINGS
Executive Board Chairman

After earning his mechanical engineering degree, Roland Harings began his career at Webasto AG. Following a number of international assignments, he switched to Alcan in 1995, where he held various positions. He most recently oversaw automotive sales for Alcan in Europe. Starting in 2005, Mr. Harings managed the integrated aluminum rolling mill of Novelis in Switzerland. He was in charge of Novelis' global automotive business as of 2010. Prior to his appointment to the Aurubis AG Executive Board, he was CEO/managing director of Mansfelder Kupfer und Messing GmbH starting from 2014.

DR. THOMAS BÜNGER
Chief Operations Officer

Dr. Bünger studied non-ferrous metallurgy. He initially worked as a research fellow at the TU Bergakademie Freiberg and, starting in 1996, as an R&D engineer at Freiberger Compound Materials GmbH. In 2005, Dr. Bünger switched to Norddeutsche Affinerie (Aurubis since 2009), where he started out as a production engineer in the secondary smelter and subsequently held various positions, most recently, senior vice president of operations. He is also chairman of the Board of Directors at the Bulgarian site.

RAINER VERHOEVEN
Chief Financial Officer

After studying business management, Rainer Verhoeven started his career with what is now thyssenkrupp AG. He initially worked in finance and accounting at company headquarters. Starting in 2005, he held various managerial positions for thyssenkrupp outside of Germany. Before joining Aurubis, Rainer Verhoeven was chief financial officer of thyssenkrupp Electrical Steel GmbH.

Executive Board

Roland Harings, Hamburg, since May 20, 2019
Born: June 28, 1963, German citizen
Executive Board Chairman and Director of Industrial Relations since July 1, 2019
Segment Metal Refining & Processing
Deputy Executive Board Chairman from May 20, 2019 until June 30, 2019
Appointed from May 20, 2019 to June 30, 2022

Dr. Thomas Bünger, Lüneburg
Born: July 2, 1968, German citizen
Chief Operations Officer
Appointed from October 1, 2018 until September 30, 2021

- Aurubis Belgium NV/SA, Brussels, Belgium
  Director
- Aurubis Bulgaria AD, Pirdop, Bulgaria
  Board of Directors
- Aurubis Italia Srl, Avellino, Italy
  Chairman of the Board of Directors

Rainer Verhoeven, Hamburg
Born: December 2, 1968, German citizen
Chief Financial Officer
Segment Flat Rolled Products
Appointed from January 1, 2018 until December 31, 2020

- Aurubis Belgium NV/SA, Brussels, Belgium
  Chairman of the Board of Directors

Jürgen Schachler, Hamburg, until June 30, 2019
Born: July 31, 1954, German citizen
Executive Board Chairman and Director of Industrial Relations
Segment Metal Refining & Processing
Appointed from July 1, 2016 until June 30, 2019

Report of the Supervisory Board

PROF. DR. FRITZ VAHRENHOLT
Aurubis AG
Supervisory Board
Chairman

Dear Shareholders,

The Aurubis Group generated operating earnings before taxes (operating EBT Glossary, page 195) of € 192 million in fiscal year 2018/19. The accomplishments of the Executive Board, the management, and our employees across all departments deserve our acknowledgement once again.

The development of operating EBT was significantly impacted by planned and unplanned shutdowns at our smelter sites. Furthermore, a change in the definition of our operating result led to recognition of an ongoing impairment loss against copper inventories held within the Group. An impairment on the non-current assets of Segment Flat Rolled Products and expenses after halting our investment project Future Complex Metallurgy had additional negative effects. Higher energy costs and weaker demand for shapes and flat rolled products weighed on the earnings situation during the reporting year as well.

Positive impacts on the operating result in fiscal year 2018/19 included a good metal gain Glossary, page 194 in Q4 and precious metal sales that allowed us to take advantage of the high current precious metal prices. There were also higher sulfuric acid revenues due to substantially higher prices, despite lower production volumes owing to the shutdowns, as well as positive contributions from our efficiency improvement program and a receivable from Wieland-Werke AG from the prohibited sale of Segment Flat Rolled Products.

COLLABORATION BETWEEN THE SUPERVISORY BOARD AND EXECUTIVE BOARD

The joint target of the Executive Board and Supervisory Board is to increase the enterprise value of Aurubis AG and its Group companies over the long term.

With respect to company management, the Supervisory Board and its committees also closely supervised, carefully monitored, and advised the Executive Board in 2018/19, and performed the functions incumbent upon it by law, the Articles of Association, and rules of procedure. The Supervisory Board is confident that the company was managed lawfully and appropriately. The Supervisory Board was included in all decisions of fundamental importance for the company, as explained in more detail below.

The Supervisory Board was continuously informed in detail about the Group's earnings and employment developments, the individual segments, and the company's financial position. The Executive Board provided comprehensive explanations for any deviations from planned business performance and discussed the corresponding measures with the Supervisory Board.

In a written monthly report, the Executive Board informed the Supervisory Board about the corporate strategy, the planning process, important business transactions in the company and the Group, the associated opportunities and risks, and issues of compliance Glossary, page 194.

The Supervisory Board discussed all the transactions that were of importance for the Group in detail on the basis of the Executive Board's reports.

The Supervisory Board passed the Executive Board's proposed resolutions after thorough review and consultation.

The chairman of the Supervisory Board was also in contact with the Executive Board, notably the Executive Board chairman, outside of the meetings and communicated with them about current developments.

CONSULTATIONS IN THE SUPERVISORY BOARD

There were four scheduled and three extraordinary Supervisory Board meetings in fiscal year 2018/19. Three resolutions were adopted by written consent in lieu of a meeting. The participation rate for the Supervisory Board members in Supervisory Board meetings was 92.4 %. The Executive Board was absent for part of three Supervisory Board meetings and for two full meetings.

Karl-Heinz Hamacher was absent from one scheduled meeting, as well as a Personnel Committee meeting, due to illness; Andrea Bauer was excused from one Supervisory Board meeting. The following tables show the members' participation rate for Supervisory Board meetings and for the respective committees.

Individual disclosure for meeting participation

	Number of meetings attended	Percentage of meetings attended
Supervisory Board members	4 scheduled/ 3 extraordinary meetings	
Prof. Dr. Fritz Vahrenholt (Chairman)	7/7	100 %
Renate Hold-Yilmaz (Deputy Chairwoman until April 19, 2019)	4/4	100 %
Stefan Schmidt (Deputy Chairman since June 12, 2019)	7/7	100 %
Deniz Filiz Acar (since May 3, 2019)	3/3	100 %
Andrea Bauer	6/7	86 %
Christian Ehrentraut (since May 3, 2019)	3/3	100 %
Prof. Dr.-Ing. Heinz Jörg Fuhrmann	7/7	100 %
Karl-Heinz Hamacher (until December 31, 2018)[1]	0/1	0 %
Prof. Dr. Karl Friedrich Jakob	7/7	100 %
Jan Koltze	7/7	100 %
Dr. Stephan Krümmer	7/7	100 %
Dr. Elke Lossin	7/7	100 %

[1] Absent due to illness.

	Number of meetings attended	Percentage of meetings attended
Dr. Sandra Reich	7/7	100 %
Melf Singer	7/7	100 %
Ralf Winterfeldt (January 1, 2019 to April 30, 2019)	3/3	100 %
Personnel Committee	2 meetings	
Prof. Dr. Fritz Vahrenholt (Chairman)	2/2	100 %
Deniz Filiz Acar (since June 12, 2019)	0/0	–
Andrea Bauer (since June 12, 2019)	0/0	–
Prof. Dr.-Ing. Heinz Jörg Fuhrmann	2/2	100 %
Karl-Heinz Hamacher (until December 31, 2018)[1]	0/1	0 %
Renate Hold-Yilmaz (until April 19, 2019)	2/2	100 %
Prof. Dr. Karl Friedrich Jakob (until June 12, 2019)	2/2	100 %
Jan Koltze (since June 12, 2019)	0/0	–
Stefan Schmidt	2/2	100 %
Ralf Winterfeldt (January 30, 2019 to April 30, 2019)	0/0	–
Audit Committee	4 meetings	
Dr. Stephan Krümmer (Chairman)	4/4	100 %
Prof. Dr.-Ing. Heinz Jörg Fuhrmann	4/4	100 %
Renate Hold-Yilmaz (until April 19, 2019)	2/2	100 %
Jan Koltze	4/4	100 %
Dr. Elke Lossin	4/4	100 %
Dr. Sandra Reich	4/4	100 %
Melf Singer (since June 12, 2019)	1/1	100 %
Nomination Committee	Did not meet during the fiscal year	
Technology Committee (since June 12, 2019)	2 meetings	
Prof. Dr. Karl Friedrich Jakob (Chairman)	2/2	100 %
Christian Ehrentraut	2/2	100 %
Dr. Stephan Krümmer	2/2	100 %
Stefan Schmidt	2/2	100 %
Conciliation Committee	Did not meet during the fiscal year	

[1] Absent due to illness.

The topics regularly covered in Supervisory Board meetings included the business performance, human resources in the Group, as well as the development of the results, the raw material markets, and the foreign exchange markets. The Supervisory Board also dealt with the financial situation and the status of capital expenditure. The Supervisory Board oversaw the acquisition of the Metallo Group and the FCM project until it was stopped. After the European Commission prohibited the sale of Segment Flat Rolled Products (FRP) to Wieland-Werke AG, strategic options for this segment were discussed in the Supervisory Board meetings. During the meetings, the chairmen of the Personnel, Audit, and Nomination Committees reported on their work, the suggestions made, and the results achieved.

In the meeting on December 10, 2018, the Supervisory Board determined the compensation for the Executive Board members for fiscal year 2017/18 contingent on the established objectives. The details are explained in the Compensation Report. In the same meeting, consultations focused on the approval of the consolidated financial statements and the separate financial statements for Aurubis AG for 2017/18, including the Corporate Governance Report, and the preparations for the 2018 Annual General Meeting, which included the election of Andrea Bauer to the Supervisory Board. The Supervisory Board addressed the status of the merger control proceedings and the European Commission's concerns. Furthermore, the Supervisory Board passed a resolution not to extend the contract of Executive Board Chairman Jürgen Schachler and to let it expire on June 30, 2019.

In the extraordinary meeting on January 30, 2019, the Supervisory Board unanimously passed a resolution to appoint Roland Harings as the new Executive Board chairman effective July 1, 2019.

In the meeting on February 27, 2019, the Executive Board reported on the current business and the FCM project. Moreover, the Supervisory Board dealt with site-specific topics. Following the European Commission's prohibition of the sale of Segment FRP to Wieland-Werke AG on February 6, 2019, the Executive Board explained different strategic options for the segment.

In the extraordinary meeting on April 16, 2019, the Supervisory Board passed a resolution to appoint Roland Harings deputy Executive Board chairman from May 20, 2019 to June 30, 2019.

In the extraordinary meeting on May 13, 2019, the Supervisory Board issued its approval for the acquisition of the Metallo Group from TowerBrook Capital Partners with an underlying enterprise value of € 380 million, as well as for the arrangement of a syndicated bridging loan.

In the meeting on June 12, 2019, the Supervisory Board focused on the status of the FCM project, whose total planned investment amount had been approximately € 320 million. The Supervisory Board reported that according to precise analyses, significantly higher investment costs were to be expected for the ongoing project. The project was therefore no longer as cost-effective as originally planned. After an extensive discussion, the Executive Board and Supervisory Board decided during the meeting to document the current status of the project as well as to end the overall project. Subsequently, the Supervisory Board unanimously decided to release Jürgen Schachler from the position of Executive Board chairman. Because the strategic considerations related to the project are still valid, however, they will contribute to the multi-metal strategy. The Supervisory Board also dealt with the status of new investments and passed a resolution on the appointment of a Technology Committee.

On August 1, 2019, the Supervisory Board approved a subproject to reduce emissions in the primary smelter (RWO) at the Hamburg site and an increase in the budget for the planned maintenance shutdown in Hamburg by written consent in lieu of a meeting.

In the meeting on September 11, 2019, the Executive Board reported on steps taken to document the FCM project. The Supervisory Board approved the budget and investment plans for 2019/20. The Executive Board presented the new division of business responsibilities and the partial organizational adjustment, which the Supervisory Board approved. The Supervisory Board established the individual targets for the Executive Board for fiscal year 2019/20 and the target values for the performance cash plan.

COMMITTEES

The Supervisory Board set up a total of five committees to fulfill its duties in fiscal year 2018/19. These effectively supported the Supervisory Board's work in the meetings. The committees prepared the Supervisory Board's resolutions and topics to be considered in the meetings. The Conciliation Committee formed in accordance with Section 27 (3) of the German Codetermination Act (MitbestG) did not meet during the reporting year.

General statements on the composition and working procedures of the Supervisory Board and its committees can also be found in this year's declaration on corporate governance.

WORK WITHIN THE PERSONNEL COMMITTEE

The Personnel Committee met twice during the reporting period. It addressed the search for a successor for the position of Executive Board chairman. In the meeting on January 24, 2019, the Personnel Committee passed a resolution to recommend the appointment of Roland Harings as Executive Board chairman.

WORK ON THE TECHNOLOGY COMMITTEE

The Technology Committee met twice during the reporting period. In addition to overseeing various optimization and development projects, the committee was primarily involved with the project to reduce fugitive emissions in the primary smelter (RWO) at the Hamburg site.

WORK ON THE AUDIT COMMITTEE

The Audit Committee met four times during the reporting period. In all of its meetings, the Audit Committee reviewed the quarterly reports, the separate financial statements, and the consolidated financial statements for the past fiscal year and discussed them with the Executive Board. The Audit Committee also addressed the accounting audit; the monitoring of the accounting process; the effectiveness of the internal control system, risk management system, and internal auditing system; and compliance in the Group.

The Audit Committee addressed the tendering process for the annual and Group financial statements for fiscal year 2018/19 because PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Hamburg, audited these financial statements for the tenth consecutive time in fiscal year 2017/18 – the longest period permitted without a tendering process.

The Audit Committee recommended the auditing firm Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Hamburg, to the Supervisory Board as auditor for fiscal year 2018/19. The Audit Committee authorized the Executive Board to also commission the auditors with additional non-audit services to a limited extent starting October 1, 2018.

The Audit Committee chairman, Dr. Stephan Krümmer, has special expertise and experience in the application of accounting principles and internal control procedures. He is independent and not a former member of the company's Executive Board.

Apart from the appointment of the auditors and the agreement of the fee with the auditors, the committee established focal areas of the annual 2018/19 audit, specifically:

- » A review of the balance sheet presentation of the discontinued operations of Segment Flat Rolled Products
- » A financial depiction of the FCM project broken down by focus areas and amounts
- » The effect of new IFRS standards on accounting

The last focal area is also an audit focus of the German Financial Reporting Enforcement Panel for 2019.

The Audit Committee furthermore monitored the independence of the auditors, obtained the declaration of their independence recommended by the German Corporate Governance Code, and addressed the additional services performed by the auditors. The auditors were obligated to inform the chairman of the Audit Committee without delay about any possible grounds for exclusion or lack of impartiality arising during the audit.

The auditors' representatives attended two Audit Committee meetings and reported on the audit of the consolidated and separate annual financial statements.

CORPORATE GOVERNANCE AND DECLARATION OF CONFORMITY

The regular efficiency review was performed by the Supervisory Board at its meeting on September 11, 2019. Following a detailed discussion of an extensive catalogue of questions answered in advance, the Supervisory Board declared its efficiency.

The Executive Board reports on corporate governance at Aurubis AG, also on behalf of the Supervisory Board, in accordance with Section 3.10 of the February 7, 2017 version of the German Corporate Governance Code, in the declaration and report on corporate governance, which are both part of the Management Report.

On November 4, 2019, the Executive Board and Supervisory Board of Aurubis AG issued the updated Declaration of Conformity to the German Corporate Governance Code (DCGK) in accordance with Section 161 of the German Stock Corporation Act (AktG) and made it permanently accessible to the public at www.aurubis.com. Aurubis AG complies with the Code recommendations with two exceptions. Additional information can be found in the Declaration of Conformity.

CONFLICTS OF INTEREST

There were no conflicts of interest among Executive Board or Supervisory Board members that should have been disclosed to the Supervisory Board or announced at the Annual General Meeting. There were no significant transactions with an Executive Board member or parties related to an Executive Board member.

AUDIT OF THE SEPARATE FINANCIAL STATEMENTS OF AURUBIS AG AND THE CONSOLIDATED FINANCIAL STATEMENTS OF THE GROUP

The company's financial statements prepared by the Executive Board in accordance with the German Commercial Code (HGB), the consolidated financial statements prepared in accordance with IFRS (International Financial Reporting Standards) for the fiscal year from October 1, 2018 to September 30, 2019, and the Combined Management Report for the company and the Group have been audited by the auditing firm Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Hamburg, for the first time in accordance with the resolution passed at the company's Annual General Meeting on February 28, 2019 and the subsequent appointment of Deloitte GmbH Wirtschaftsprüfungsgesellschaft as auditors by the Supervisory Board. Annika Deutsch oversaw the audit of the Group and the company for the first time accordingly. The auditors have issued an unqualified auditors' report. Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Hamburg, has been the appointed auditor since fiscal year 2018/19 and audited Aurubis for the first time.

The meeting of the Supervisory Board to approve the financial statements was held on December 10, 2019. All members of the Supervisory Board received copies of the financial statements and audit reports, as well as the Executive Board's recommendation on the appropriation of the net earnings and all other documents in good time before this meeting. These documents were discussed in detail at the Supervisory Board meeting to approve the financial statements. The auditors participated in this meeting, reported in detail on how the audit had been performed and what their main audit findings were, and were available to provide the Supervisory Board with further information, discuss the documents, and make additional comments.

The Supervisory Board concurred with the results of the audit. This agreement was reached following a detailed discussion on the auditors' findings, and thorough consideration of the auditors' report and of the Executive Board's recommendation regarding the appropriation of the net income. It was also based on the Supervisory Board's own review of the separate financial statements of Aurubis AG, the consolidated financial statements, and the Combined Management Report for the company and the Group. The Supervisory Board concluded that no objections needed to be raised and, in accordance with the recommendations of the Audit Committee, approved the separate financial statements of Aurubis AG, which were thus adopted, as well as the consolidated financial statements and the Combined Management Report at the meeting on the financial statements. The Supervisory Board concurred with the Executive Board's recommendation on the utilization of the unappropriated earnings.

AUDIT OF THE SEPARATE NON-FINANCIAL REPORT

On behalf of the Supervisory Board, KPMG AG conducted a substantive audit of the separate Non-Financial Report for Aurubis AG.

On the basis of their audit, the auditors did not raise any objections to the reporting and the satisfaction of the relevant statutory requirements, and provided an unqualified audit opinion with limited assurance that the separate Non-Financial Report is in accordance with Sections 315b and 315c in connection with Sections 289b to 289e of the German Commercial Code (HGB).

CHANGES IN THE SUPERVISORY BOARD AND EXECUTIVE BOARD

Dr. Thomas Bünger was appointed chief operations officer effective October 1, 2018. The Supervisory Board passed a resolution on June 12, 2019 to release Mr. Jürgen Schachler from his duties with immediate effect. He left the company on June 30, 2019 at the end of his appointment. Roland Harings was appointed deputy Executive Board chairman as of May 20, 2019. Roland Harings assumed the position of Executive Board chairman on July 1, 2019 as planned.

Renate Hold-Yilmaz, Karl-Heinz Hamacher, and Ralf Winterfeldt resigned from the Supervisory Board in fiscal year 2018/19. Dr. Ernst J. Wortberg, Supervisory Board member, long-standing Supervisory Board chairman, and Audit Committee chairman, had resigned at the close of the Annual General Meeting on March 1, 2018.

We would like to thank Dr. Ernst J. Wortberg and all of the members who left the Supervisory Board and Executive Board during the past fiscal year for their many years of successful work for the benefit of the Aurubis Group.

Andrea Bauer was confirmed as Supervisory Board member by the participants of the Annual General Meeting on February 28, 2019, after she had been court-appointed as Supervisory Board member by the Hamburg District Court effective June 22, 2018. At the request of the Executive Board, the District Court of Hamburg appointed Deniz Filiz Acar and Christian Ehrentraut as new Supervisory Board members effective May 3, 2019.

Hamburg, December 2019

The Supervisory Board

Fritz Vahrenholt

Prof. Dr. Fritz Vahrenholt
Chairman

Supervisory Board

Prof. Dr. Fritz Vahrenholt, Hamburg
Chairman of the Supervisory Board
Chairman of the Deutsche Wildtier Stiftung, Hamburg
» Encavis AG (formerly Capital Stage AG), Hamburg[1]
Member of the Supervisory Board

Stefan Schmidt, Lüdinghausen[2]
Deputy Chairman of the Supervisory Board since June 12, 2019
Head of Services/Production Manager of Smelting Operations at Aurubis AG, Lünen

Deniz Filiz Acar, Hamburg, since May 3, 2019[2]
Instructor for Commercial Trainees
Deputy Head of Training in the HR Training department, Hamburg

Andrea Bauer, Dortmund
Currently no professional occupation
» IFA Holding GmbH, Haldensleben, since July 1, 2019
Member of the Advisory Council

Christian Ehrentraut, Lünen, since May 3, 2019[2]
Deputy Shift Leader in Smelting Operations, KRS/MZO
Works Council member in Lünen, relieved of duty
Deputy Chairman of the General Works Council

Prof. Dr.-Ing. Heinz Jörg Fuhrmann, Salzgitter
Chairman of the Executive Board of Salzgitter AG, Salzgitter[1]
» Hüttenwerke Krupp Mannesmann GmbH, Duisburg[3]
Chairman of the Supervisory Board
» Ilsenburger Grobblech GmbH, Ilsenburg[3]
Chairman of the Supervisory Board
» Ilsenburger Grobblech GmbH, Ilsenburg, and Salzgitter Mannesmann Grobblech GmbH, Mühlheim/Ruhr
Chairman of the Joint Advisory Committee
» KHS GmbH, Dortmund[3]
Chairman of the Supervisory Board
» Mannesmann Precision Tubes GmbH, Mülheim/Ruhr[3]
Chairman of the Supervisory Board
» Peiner Träger GmbH, Peine[3]
Chairman of the Supervisory Board
» Salzgitter Flachstahl GmbH, Salzgitter[3]
Chairman of the Supervisory Board
» Salzgitter Mannesmann Grobblech GmbH, Mülheim/Ruhr[3]
Chairman of the Supervisory Board
» Salzgitter Mannesmann Handel GmbH, Düsseldorf[3]
Chairman of the Supervisory Board
» Öffentliche Lebensversicherung Braunschweig, Braunschweig
Member of the Supervisory Board
» Öffentliche Sachversicherung Braunschweig, Braunschweig
Member of the Supervisory Board
» TÜV Nord AG, Hanover
Member of the Supervisory Board

Prof. Dr. Karl Friedrich Jakob, Dinslaken
Chairman of the Executive Board of RWTÜV e.V., Essen
» Albert-Schweitzer-Einrichtungen für Behinderte gGmbH, Dinslaken
Member of the Supervisory Board
» RWTÜV GmbH, Essen
Chairman of the Supervisory Board
» TÜV Nord AG, Hanover
Chairman of the Supervisory Board
» Van Ameyde International BV, Rijswijk, Netherlands
Member of the Board of Supervisory Directors
» Universitätsklinikum Essen, Essen
Member of the Supervisory Board
» Knappschaft Kliniken GmbH, Bochum
Chairman of the Supervisory Board

Jan Koltze, Hamburg[2]
District Manager of the Mining, Chemical, and Energy Industrial Union Hamburg/Harburg
» Beiersdorf AG, Hamburg, since April 17, 2019
Member of the Supervisory Board
» ESSO Deutschland GmbH, Hamburg, until April 30, 2019
Member of the Supervisory Board
» ExxonMobil Central Europe Holding GmbH, Hamburg
Member of the Supervisory Board
» Maxingvest AG, Hamburg, since April 26, 2019
Member of the Supervisory Board

[1] Stock exchange-listed company.
[2] Elected by the employees.
[3] Group companies of Salzgitter AG.

Dr. Stephan Krümmer, Hamburg
Currently no professional occupation

Dr. Elke Lossin, Buchholz in der Nordheide [2]
Manager of the Analytical Laboratory at Aurubis AG, Hamburg

Dr. Sandra Reich, Gräfelfing
Independent business consultant
» Chancen eG, Berlin
Member of the Supervisory Board

Melf Singer, Schwarzenbek [2]
Day shift foreman of the Acid Plant at Aurubis AG, Hamburg

Former Supervisory Board members

Karl-Heinz Hamacher, Stolberg, until December 31, 2018 [2]
Employee of Aurubis Stolberg GmbH & Co. KG, Stolberg
Chairman of the Works Council

Renate Hold-Yilmaz, Hamburg, until April 19, 2019 [2]
Deputy Chairwoman of the Supervisory Board until April 19, 2019
Commercial employee
Previously Chairwoman of the Works Council of Aurubis AG, Hamburg

Ralf Winterfeldt, Hamburg, from January 1, 2019 until April 30, 2019 [2]
Power electronics technician
Former Chairman of the General Works Council of Aurubis AG
Former Deputy Chairman of the Works Council of Aurubis AG, Hamburg

Supervisory Board committees

Conciliation Committee in accordance with Section 27 (3) of the German Codetermination Act
Prof. Dr. Fritz Vahrenholt (Chairman)
Stefan Schmidt (Deputy Chairman) since June 12, 2019
Andrea Bauer
Christian Ehrentraut since June 12, 2019

Former Supervisory Board members
Renate Hold-Yilmaz (Deputy Chairwoman) until April 19, 2019
Melf Singer until June 12, 2019

Audit Committee
Dr. Stephan Krümmer (Chairman)
Prof. Dr.-Ing. Heinz Jörg Fuhrmann
Jan Koltze
Dr. Elke Lossin
Dr. Sandra Reich
Melf Singer since June 12, 2019

Former Supervisory Board members
Renate Hold-Yilmaz until April 19, 2019

Personnel Committee
Prof. Dr. Fritz Vahrenholt (Chairman)
Deniz Filiz Acar since June 12, 2019
Andrea Bauer since June 12, 2019
Prof. Dr.-Ing. Heinz Jörg Fuhrmann
Jan Koltze since June 12, 2019
Stefan Schmidt

Former Supervisory Board members
Karl-Heinz Hamacher until December 31, 2018
Renate Hold-Yilmaz until April 19, 2019
Prof. Dr. Karl Friedrich Jakob until June 12, 2019
Ralf Winterfeldt from January 30, 2019 until April 30, 2019

Nomination Committee
Prof. Dr. Fritz Vahrenholt (Chairman)
Prof. Dr.-Ing. Heinz Jörg Fuhrmann
Prof. Dr. Karl Friedrich Jakob
Dr. Stephan Krümmer

Technology Committee since June 12, 2019
Prof. Dr. Karl Friedrich Jakob (Chairman)
Christian Ehrentraut
Dr. Stephan Krümmer
Stefan Schmidt

[2] Elected by the employees.

Corporate Governance

Report and declaration on corporate governance (part of the Combined Management Report)

The principles of responsible and sustainable corporate governance determine the actions of the management and controlling bodies of Aurubis AG. In this declaration, the Executive Board reports – also for the Supervisory Board – on corporate governance pursuant to Section 3.10 of the February 7, 2017 version of the German Corporate Governance Code, as well as Sections 289f and 315d of the German Commercial Code (HGB[1]).

DECLARATION OF CONFORMITY AND REPORTING ON CORPORATE GOVERNANCE

In accordance with Section 161 of the German Stock Corporation Act (AktG[2]), the Executive Board and Supervisory Board of a company listed in Germany must issue an annual declaration stating that the recommendations of the Government Commission on the German Corporate Governance Code published by the Federal Ministry of Justice and Consumer Protection in the official section of the Federal Gazette (Bundesanzeiger) were/are being complied with, or list the recommendations that were/are not being applied and explain why.

The Executive Board and the Supervisory Board dealt with the topic of corporate governance on several occasions in fiscal year 2018/19 and, on November 4, 2019, jointly issued the annual Declaration of Conformity in accordance with Section 161 of the German Stock Corporation Act (AktG). The declaration is permanently accessible to the public at www.aurubis.com/en/about-aurubis/distribution-page-corporate-governance. The Declarations of Conformity from the past five years and the details regarding fulfillment of the Code's requirements are also permanently accessible there.

TEXT OF THE DECLARATION OF CONFORMITY

"In accordance with Section 161 of the German Stock Corporation Act, the Executive Board and Supervisory Board of Aurubis AG declare that, since the issue of the last Declaration of Conformity dated November 5, 2018, the recommendations of the Government Commission on the German Corporate Governance Code in the version dated February 7, 2017 have been applied and will be applied with the following exceptions for the reasons given:

» Section 4.2.3 (2) sentence 3 and (4)
(Executive Board remuneration)
The compensation structure for the Executive Board includes variable components whose calculation is based on several years and is essentially forward-looking, as well as a cap on severance pay. However, this did not apply to the contract of Mr. Schachler, whose appointment ended on June 30, 2019, as the status quo was preserved for his contract in this respect.

» Section 5.4.1 (2)
(term limit for Supervisory Board membership)
When proposing candidates at the Annual General Meeting, the Supervisory Board has focused and will continue to focus on the professional and personal qualifications of the candidates, taking the skills profile into consideration and within the framework of the applicable legal regulations, in particular with respect to the German Gender Equality Act. It is naturally very relevant that, within the framework of the company-specific situation, the company's international activities, potential conflicts of interest, the number of independent Supervisory Board members established by the Supervisory Board, the age limit also established by the Supervisory Board, and diversity are taken into account. In doing so, it is not necessary to establish a regulatory limit to Supervisory Board members' term of office.

Hamburg, November 4, 2019

For the Executive Board

Roland Harings
Chairman

Rainer Verhoeven
Member

For the Supervisory Board

Prof. Dr. Fritz Vahrenholt
Chairman"

[1] Sections of the HGB referenced in the following refer to the version applicable as at September 30, 2019.
[2] Sections of the AktG referenced in the following refer to the version applicable as at September 30, 2019.

DISCLOSURES ON RELEVANT CORPORATE GOVERNANCE PRACTICES

For Aurubis AG, the applicable legal regulations, especially stock market law, codetermination law, capital market law, the Articles of Association, the German Corporate Governance Code, and the rules of procedure of the Supervisory Board and the Executive Board provide the basis for the structure of management and controlling in the company. Above and beyond its legal obligations, Aurubis has defined values and derived a Code of Conduct from them that establishes a framework for behavior and decisions and provides orientation for corporate activities. The values and the Code of Conduct are published on the company's homepage. Each employee is briefed on these Group-wide values and the Code of Conduct, as well as on the corporate guidelines stemming from them. Employees whose roles require them to deal more closely with certain legal regulations (e.g., antitrust law, anti-corruption, environmental protection, occupational safety) will be provided with corresponding mandatory training.

LEADERSHIP STRUCTURE

Aurubis AG is a company subject to German law, which is also the basis of the German Corporate Governance Code. A basic principle of German stock corporation law is the dual management system with the two bodies of the Executive Board and Supervisory Board, which are strictly separated as regards personnel between the Executive Board as the board of management and the Supervisory Board as the monitoring organ and each assigned independent responsibilities. The Executive Board and Supervisory Board of Aurubis AG work together closely and in a spirit of trust in the governance and supervision of the company for the benefit of the company.

WORKING PROCEDURES, COMPOSITION, AND OBJECTIVES OF THE EXECUTIVE BOARD AND SUPERVISORY BOARD

THE EXECUTIVE BOARD

WORKING PROCEDURES

The Executive Board is responsible for running the company without instructions from third parties in accordance with the law, the Articles of Association, and the Executive Board's rules of procedure, taking into account the resolutions passed at the Annual General Meeting. The Executive Board represents the company in dealings with third parties.

As the management body, the Executive Board runs the company's business in the interests of the company and with the aim of achieving long-term value added, while taking the needs of all stakeholders into account. The principle of overall responsibility applies, meaning that the members of the Executive Board together bear responsibility for the management of the entire company. They work together in a spirit of cooperation and inform one another continuously about important measures and occurrences in their areas of responsibility. The overall responsibility of all Executive Board members notwithstanding, the individual members of the Executive Board oversee the areas of responsibility assigned to them in the Executive Board resolutions on their own responsibility. The principles of the cooperation between Aurubis AG's Executive Board members are stated in the rules of procedure for the Executive Board issued by the Supervisory Board. These regulate, above all, the allocation of responsibilities between the individual Executive Board members, matters reserved for the full Executive Board, the passing of resolutions, the required majority for resolutions, and the rights and obligations of the chief executive officer.

Certain Executive Board decisions of particular importance require the approval of the Supervisory Board. They are stipulated in a catalogue. For example, the Supervisory Board makes decisions about investments in other companies if the measure is of great significance for the Group, as well as about substantial capital expenditure measures.

The Executive Board keeps the Supervisory Board informed promptly and comprehensively, in written and verbal reports, as well as in the scheduled meetings, about the strategy, planning, business development, important business transactions, and the Group's risk situation, including risk management and compliance, i.e., the measures to comply with legal requirements and the internal corporate guidelines. The Executive Board discusses in detail and provides reasons for deviations in the business performance from previously prepared budgets and targets.

COMPOSITION AND OBJECTIVES (DIVERSITY CONCEPT)

The Executive Board of Aurubis AG initially consisted of Chairman Mr. Jürgen Schachler, Mr. Rainer Verhoeven, and Dr. Thomas Bünger, who was appointed chief operations officer as of October 1, 2018. Mr. Roland Harings was appointed deputy Executive Board chairman as of May 20, 2019.

The Supervisory Board passed a resolution on June 12, 2019 to release Mr. Jürgen Schachler, whose contract was set to expire on June 30, 2019, from his duties with immediate effect. Mr. Roland Harings took office as Executive Board chairman of Aurubis AG effective July 1, 2019.

When it comes to selecting the members of the Executive Board, the Supervisory Board focuses first and foremost on the members' specialist knowledge and personal qualities. On the basis of their knowledge, skills, and professional experience, the Executive Board members must be able to fulfill their duties in a company operating within the copper/metal sector and to safeguard and promote the Aurubis Group's reputation in the public sphere.

Furthermore, the Supervisory Board adopted a diversity concept for the Executive Board on September 11, 2018. According to this concept, the Supervisory Board must, by taking into account aspects such as age, gender, education, and professional background, strive to put together an Executive Board that boasts a broad spectrum of skills, experience, and educational and professional backgrounds, as well as the requisite personal and specialist skills. As an additional criterion of the diversity concept, the Executive Board as a whole should exhibit a balanced age structure and thus include younger individuals who have experience with newer technical knowledge and leadership methods, as well as older individuals who have more professional, life, and management experience. With the same level of personal and professional suitability, both women and men should be represented in the Executive Board if possible. Pursuant to Section 111 (5) of the German Stock Corporation Act (AktG), the Supervisory Board passed a minimum target quota of 25 % for the proportion of women in the Executive Board by June 30, 2022.

With this diversity concept for the composition of the Executive Board, the Supervisory Board pursues the objective of achieving the highest level of diversity with respect to age, gender, education, and professional background. In this way, a variety of perspectives should be included in the management of the company, in addition to the high individual suitability of each of the members.

The Supervisory Board decides on the personality that should fill each concrete Executive Board position in the interest of the company, taking all of the circumstances of the individual case into account.

STATUS OF TARGET IMPLEMENTATION

The Supervisory Board dealt intensively with the topic of diversity in the Executive Board in general and in the case of personnel changes in the Executive Board. The diversity concept was implemented as far as possible in the process. For example, the composition of the Executive Board reflects different age groups, taking professional knowledge and personal suitability into consideration. The Executive Board members possess a broad spectrum of skills, experience, and educational and professional backgrounds, with some members holding business degrees and others, qualifications of a more technical nature.

However, it has not been possible so far to achieve the target for the proportion of female members in the Executive Board. There were no female applicants for the position of chief executive officer. When filling the position, the candidate who in the Supervisory Board's opinion was best qualified for the position was ultimately chosen.

The Supervisory Board's efforts to ensure that women are adequately represented in the Executive Board are ongoing.

In accordance with the legal stipulations of Section 76 (4) of the German Stock Corporation Act (AktG), there are also targets for the proportion of female employees in the first and second management levels under the Executive Board. With a resolution dated June 12, 2017, the Executive Board set a target of 20 % female employees for the first management level and a target of 25 % for the second management level. These targets should be achieved by June 30, 2022. Further increasing the number of women in management positions independently of legal regulations is an important goal for the Group.

As at the reporting date (September 30, 2019), the proportion of women was 24 % (previous year: about 12 %) for the first management level below the Executive Board and 19 % (previous year: about 20 %) for the second management level below the Executive Board. The proportion of women in the first management level therefore decreased slightly as at the reporting date, while the percentage in the second level was nearly the same.

The Executive Board continues to strive for a suitable consideration of women in the first and second management levels and maintains its targets.

The Executive Board did not form any committees in fiscal year 2018/19.

THE SUPERVISORY BOARD

WORKING PROCEDURES

The Supervisory Board advises and monitors the Executive Board in the management of the company. It appoints and rescinds the contracts of Executive Board members, decides on the compensation system for Executive Board members, and specifies their respective total compensation. In the process, the Supervisory Board takes into account the relationship between Executive Board compensation and the compensation of the higher management level and the relevant workforce, as well as the market position of the company. It also defines the target pension level for Executive Board members. The Personnel Committee submits corresponding suggestions to the Supervisory Board.

The Supervisory Board is involved in strategy and planning work, and in all aspects of major significance for the company. The Supervisory Board has defined rights of veto in favor of the Supervisory Board for transactions of fundamental importance, particularly those that would significantly change the company's net assets, financial position, and results of operations. In the case of important events, an extraordinary Supervisory Board meeting is convened if deemed necessary. The chairman of the Supervisory Board coordinates the work within the Supervisory Board, chairs its meetings, and attends to the affairs of the Supervisory Board externally. The Supervisory Board meets without the Executive Board as necessary.

The Supervisory Board has defined rules of procedure for its work. Shareholder and employee representatives generally meet separately to prepare for the meetings.

COMPOSITION AND OBJECTIVES (DIVERSITY CONCEPT AND SKILLS PROFILE)

The Supervisory Board of Aurubis AG, which exercises the codetermination principle, has twelve members in accordance with the Articles of Association. Six of these members are elected by the shareholders and six by the employees in accordance with the German Codetermination Act. The periods of office are identical. In accordance with the recommendations of the German Corporate Governance Code, the shareholders' representatives were elected individually to the Supervisory Board in the last election at the Annual General Meeting on March 1, 2018 and in the follow-up election on February 28, 2019. The Supervisory Board's term of office amounts to five years; the current term of office ends at the close of the Annual General Meeting during which the resolution regarding the approval of the Supervisory Board members is passed for fiscal year 2021/22.

The Supervisory Board has designated concrete targets for its composition and compiled a skills profile for the entire Supervisory Board in alignment with the recommendations of the February 7, 2017 version of the German Corporate Governance Code. The targets and the skills profile have been made permanently accessible at www.aurubis.com/en/about-aurubis/company/supervisory-board.

Furthermore, the Supervisory Board established a diversity concept for its composition on September 11, 2018. It considers aspects such as age, gender, education, and professional background. In this way, the Supervisory Board as a whole should exhibit a balanced age structure and thus include both younger individuals and older individuals with professional and life experience.

During Supervisory Board elections, care must be taken to ensure not only that Supervisory Board members possess the requisite personal and professional skills, but also that the Board comprises at least 30 % women and 30 % men, in accordance with the legal requirements.

The diversity concept stipulates that the Supervisory Board be composed of personalities that are suitable for office based not only on their personal and specialist skills but also on their educational and professional backgrounds (the Supervisory Board should ideally comprise a broad range of educational and professional backgrounds).

With these targets for its composition, the Supervisory Board pursues the objective of achieving the highest possible level of diversity with respect to age, gender, education, and professional background. This should enable diverse perspectives, knowledge, and experience to be included in the work of Aurubis AG's Supervisory Board.

The Supervisory Board strives to implement its diversity concept by considering the corresponding diversity aspects when making recommendations for the election of Supervisory Board members representing the shareholders. The Aurubis AG shareholders at the Annual General Meeting are responsible for the final decision on the composition of the Supervisory Board.

STATUS OF TARGET IMPLEMENTATION

The Supervisory Board and the Nomination Committee took the criteria of the skills profile into consideration in the recommendations regarding the Supervisory Board elections at the Annual General Meeting in 2018 and 2019.

The diversity concept was implemented to the extent possible. In the Supervisory Board's view, the side representing the shareholders demonstrates a balanced age structure that includes younger and older individuals. The Supervisory Board is composed of at least 30 % women and men, respectively, in accordance with the legal requirements. The Supervisory Board members have different educational and professional backgrounds. Additional information regarding the Supervisory Board members' personal and specialist skills is available in their résumés, which are permanently accessible at www.aurubis.com/en/about-aurubis/company/supervisory-board.

In the Supervisory Board's estimate, Prof. Dr. Karl Friedrich Jakob, Dr. Stephan Krümmer, Dr. Sandra Reich, Ms. Andrea Bauer, and Prof. Dr. Fritz Vahrenholt were seen as independent shareholder members during fiscal year 2018/19 pursuant to Section 5.4.2 of the February 7, 2017 version of the German Corporate Governance Code.

Taking into account the ownership structure, the Supervisory Board, with its five independent shareholder members, has a sufficient number of independent members who have no personal or professional relationships with the company, with its Supervisory Board or Executive Board, with a controlling shareholder, or with someone connected with an associated company that could be cause for a significant conflict of interest that is not merely temporary.

SUPERVISORY BOARD COMMITTEES

The Supervisory Board has formed five committees for its members to prepare and complement its work: the Personnel Committee, the Audit Committee, the Nomination Committee, the Technology Committee (since June 12, 2019), and the Conciliation Committee. Some of the committees' tasks, as well as their composition and work, are specified in the rules of procedure of the Supervisory Board. The committees' compositions during the fiscal year are outlined in this Annual Report. The mandates of the Supervisory Board members in other legally formed Supervisory Boards and comparable German and foreign controlling bodies are also specified in this Annual Report.

Personnel Committee

The six-member Personnel Committee has equal numbers of shareholder and employee representatives. It considers the structure and level of compensation paid to all members of the Executive Board, prepares Executive Board contracts, and selects qualified candidates for Executive Board positions when preparing necessary Supervisory Board resolutions. The chairman of the Personnel Committee is the chairman of the Supervisory Board.

Audit Committee

The six-member Audit Committee with equal representation has the main task of monitoring the accounting process and overseeing the effectiveness of the internal control system, the risk management system, the internal auditing system, the annual audit, and compliance.

The Audit Committee submits a preference and a justified recommendation for the choice of an auditor to the Supervisory Board. Where the auditing mandate is subject to an invitation to tender, at least two candidates are put forward. The Audit Committee monitors the independence of the auditors and furthermore concerns itself with the additional services performed by the auditors, the appointment of the auditors, the determination of the audit's focus areas, and the agreement of the fee.

The Audit Committee chairman during the fiscal year, Dr. Stephan Krümmer, has special expertise and experience in the application of accounting principles and internal control procedures, which he has gathered over the course of his career. He is not a former member of the company's Executive Board whose appointment ended less than two years ago.

Nomination Committee

The Nomination Committee has only shareholder representatives in accordance with the German Corporate Governance Code. The Nomination Committee has the duty of suggesting suitable candidates for the Supervisory Board to propose for election to the Supervisory Board at the Annual General Meeting.

Conciliation Committee

The Conciliation Committee did not meet during the reporting year.

Technology Committee

The Supervisory Board formed a Technology Committee effective June 12, 2019. The four-member committee has equal numbers of shareholder and employee representatives. The Technology Committee's duty, among other things, is to strategically support and monitor the Executive Board in the implementation of significant capital expenditure projects. Prof. Dr. Karl Friedrich Jakob chairs the committee.

SHAREHOLDERS AND THE ANNUAL GENERAL MEETING

The shareholders of Aurubis AG exercise their codetermination and supervisory rights at the Annual General Meeting, which occurs at least once a year. Resolutions are passed at the Annual General Meeting on all matters defined by law that are binding for all shareholders and the company. Each share grants the holder one vote in the Annual General Meeting voting processes. There are no different categories of shares.

The Annual General Meeting elects the members of the Supervisory Board, who are chosen by the shareholders without obligation to a particular nomination, and passes a resolution on the approval of the members of the Executive Board and Supervisory Board. It decides on the utilization of the unappropriated earnings and on capital measures and gives approval to company agreements. Furthermore, it makes decisions about the compensation of the Supervisory Board and amendments to the company's Articles of Association. In special cases, the German Stock Corporation Act (AktG) stipulates that an extraordinary General Meeting can be convened and/or the German Corporate Governance Code recommends that such a meeting be convened.

Each shareholder who has registered in good time and can duly provide proof of their entitlement to participate in the Annual General Meeting and exercise their voting rights is entitled to attend the Annual General Meeting. Shareholders who cannot or do not wish to attend the Annual General Meeting in person may authorize a bank, a shareholders' association, the proxies designated by Aurubis AG (who are under obligation to follow the shareholders' instructions), or another person of their choice to exercise their voting rights. The shareholders also have the option of submitting their votes online before the Annual General Meeting. Aurubis AG will give further details in the invitation to the Annual General Meeting.

The invitation to the Annual General Meeting and the relevant reports and information for the resolutions are published in accordance with German stock corporation and capital market law and made available in English and German on the Aurubis AG website.

CONTROLLING/RISK MANAGEMENT AND COMPLIANCE

The company's responsible handling of risks is also part of good corporate governance. As part of our value-oriented Group management, adequate risk management ensures that risks are identified early on and risk positions are minimized. Risk management reports regularly to the Executive Board and the Supervisory Board's Audit Committee. Details of risk management at Aurubis AG are given in the Risk Report. This includes the report on the accounting-related internal control and risk management system required pursuant to Section 289 (4) and Section 315 (4) of the German Commercial Code (HGB).

The Executive Board ensures adherence to legal requirements and the internal company guidelines, and works toward compliance across all Group companies. The compliance management system was expanded further again during fiscal year 2018/19 so as to comply with the requirements resulting from the legal stipulations and the Code of Conduct.

Compliance is ensured in the company by means of prevention, controls, and sanctions. Preventive measures include internal regulations, guidance, and particularly the training of employees. In the event that violations of laws or internal regulations are detected, labor, civil, or criminal penalties are imposed.

The company's chief compliance officer is the central point of contact for all compliance-relevant issues. He reports regularly to the Executive Board and the Supervisory Board's Audit Committee. At the individual Group sites, local compliance officers are available as a point of contact for employees.

Employees are also given the opportunity to provide anonymous tips regarding legal violations in the company by means of a whistle-blower hotline operated by an external service provider. This option can also be used by third parties.

DIRECTORS' DEALINGS

Pursuant to Article 19 of the Market Abuse Regulation (EU 596/2014), the members of Aurubis AG's Executive and Supervisory Boards, certain employees in management positions, and people closely associated with them are required to disclose acquisitions and sales of company shares and related financial instruments. This does not apply if the total transactions per person do not exceed € 5,000 per calendar year.

One member of the Supervisory Board informed the company that he had acquired or sold no-par-value shares in the company in the period from October 1, 2018 to September 30, 2019:

» Prof. Dr. Fritz Vahrenholt purchased 2,500 no-par-value shares

One member of the Executive Board informed the company that he had acquired or sold no-par-value shares in the company in the period from October 1, 2018 to September 30, 2019:

» Mr. Roland Harings purchased 10,000 no-par-value shares

FINANCIAL REPORTING AND ANNUAL AUDIT

Aurubis AG prepares its consolidated financial statements and Combined Management Report, as well as the consolidated interim reports, in accordance with International Financial Reporting Standards (IFRS) as they should be applied in the European Union. The financial statements of Aurubis AG are issued in compliance with the German Commercial Code (HGB) and the German Stock Corporation Act (AktG). The financial statements of Aurubis AG and the consolidated financial statements, as well as the Combined Management Report, are compiled by the Executive Board and examined by the auditors and the Supervisory Board. Aurubis AG released a Combined Management Report for Aurubis AG and the Aurubis Group for fiscal year 2018/19. The interim report and the quarterly reports are discussed by the Audit Committee and the Executive Board before publication.

The company's auditor was elected at the Annual General Meeting in compliance with the provisions of the German Stock Corporation Act. Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Hamburg, was appointed auditor of the 2018/19 consolidated financial statements and the Combined Management Report, as well as the 2018/19 HGB financial statements of Aurubis AG. Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Hamburg, has been the appointed auditor since fiscal year 2018/19. The fiscal year 2018/19 audit therefore marked the first time it had audited Aurubis.

Accordingly, auditor Annika Deutsch oversaw the audit of the Group and the company for the first time.

Before submitting the proposal for the election of the auditors, the Supervisory Board obtained the declaration from Deloitte GmbH Wirtschaftsprüfungsgesellschaft on their independence as specified by the German Corporate Governance Code. The audits were performed in accordance with German auditing regulations, taking into account the generally accepted standards for the audit of financial statements promulgated by the German Institute of Public Auditors (IDW); in addition, the International Standards on Auditing were also observed. The audits also covered risk management and compliance with reporting obligations on corporate governance in accordance with Section 161 of the German Stock Corporation Act (AktG).

Furthermore, it was also agreed with the auditors that they would inform the Supervisory Board without delay about any possible grounds for exclusion or lack of impartiality and about the main findings and incidents arising during the audit.

Hamburg, December 2019

For the Executive Board

Roland Harings Chairman	Rainer Verhoeven Member

Compensation Report for the Executive Board and the Supervisory Board of Aurubis AG

The following Compensation Report is part of the Combined Management Report. It outlines the structure and level of the Aurubis AG's Executive Board and Supervisory Board compensation.

COMPENSATION FOR THE EXECUTIVE BOARD

The Supervisory Board defines the total compensation of the individual Executive Board members on the basis of proposals from the Personnel Committee and decides on and reviews the compensation system for the Executive Board at regular intervals.

In 2017, the Supervisory Board fundamentally revised the compensation system, working together with an independent external compensation expert. The new compensation system complies with the requirements of the German Stock Corporation Act (AktG) and the February 7, 2017 version of the German Corporate Governance Code, particularly Section 4.2.3 of the German Corporate Governance Code. The participants of the Annual General Meeting approved the new compensation system pursuant to Section 120 (4) of the German Stock Corporation Act (AktG[1]) on March 1, 2018.

Due to the responses of some investors, the Supervisory Board decided to change the composition of the annual bonus. The Supervisory Board passed a resolution on this adjustment on September 11, 2018.

Specifically, as of October 1, 2018, the annual bonus is calculated with a higher weighting of 60 % (previously 50 %) according to the target set for the fiscal year for the operating EBT components, and a lower weighting of 40 % (previously 50 %) according to the assessment of the Executive Board member's individual performance for the respective fiscal year.

[1] Sections of the AktG referenced in the following refer to the version applicable as at September 30, 2019.

In light of the fundamental revision of the German Corporate Governance Code and the German draft bill on transposing the second EU Shareholder Rights Directive (EU 2017/828, SRD II), the Supervisory Board is currently refraining from further revision of the compensation system. Both the draft of the German Corporate Governance Code and the German draft bill on transposing SRD II include extensive regulations on compensation for the advisory bodies of exchange-listed companies. As at the balance sheet date of September 30, 2019, neither the German Corporate Governance Code in the version passed on May 9, 2019 nor the SRD II had gone into effect.

The new compensation system applies to Mr. Roland Harings, appointed deputy Executive Board chairman as of May 20, 2019 (Executive Board chairman since July 1, 2019), as well as Chief Financial Officer Mr. Rainer Verhoeven and Chief Operations Officer Dr. Thomas Bünger, the latter of whom was appointed on October 1, 2018. The previous compensation system applied to former Executive Board Chairman Jürgen Schachler (appointed until June 30, 2019).

PREVIOUS COMPENSATION SYSTEM FOR THE EXECUTIVE BOARD

The compensation is defined in the employment contracts and consists of a series of coordinated compensation components.

Specifically, these components are fixed compensation, variable compensation, fringe benefits, and pension plans.

Fixed components

The fixed portion consists of fixed compensation, fringe benefits, and pension plans. The annual fixed compensation amounted to € 600,000 for former Executive Board Chairman Mr. Schachler and was paid out monthly in equal installments until his departure.

Additionally, Mr. Schachler received fringe benefits in the form of benefits in kind, which primarily consist of insurance premiums and company car use and are assessed according to tax guidelines.

Mr. Schachler was granted a defined contribution pension plan from the company. An annual contribution in the amount of € 140,000 was paid to an insurance company.

Mr. Schachler additionally received a defined contribution company pension plan. The pension plan is designed as a capital commitment. At the end of every fiscal year, € 120,000 was paid into liability insurances for the former chief executive officer.

Variable components

The old system of variable compensation includes two components, which are paid out annually. The first component (Component I) is dependent on achieving an annual target related to adjusted average consolidated EBT (earnings before taxes) for the Group for three years, and in each case relating to the current fiscal year and to the two fiscal years preceding it. The target is EBT derived from ROCE (return on capital employed) Glossary, page 195 of 15 %. If the EBT is less than 40 % of the target, Component I is not paid. The target bonus from Component I can reach a maximum of 100 % (cap). The maximum amount that can be reached from these components in the case of 100 % target achievement is € 750,000 for the former chief executive officer.

Component II stipulates an annual assessment of the joint (Component II a) and individual (Component II b) performance of the Executive Board by the Supervisory Board. Both components are based on a qualitative, criteria-supported assessment of sustainable company management. The target bonus from Component II can reach a maximum of 100 % (cap). A payout of a minimum of 50 % of the target bonus always occurs unless this is unreasonable within the meaning of Section 87 (2) of the German Stock Corporation Act (AktG). The maximum amount that can be reached from each of the Components II a and II b is € 250,000 for the former chief executive officer.

The target bonus for Component I amounts to 60 % of the total variable compensation; the target bonus for Component II, 40 %.

Premature termination
Mr. Schachler's employment contract did not contain change of control clauses.

EXPLANATION OF THE NEW COMPENSATION SYSTEM FOR THE EXECUTIVE BOARD

The new compensation system also consists of fixed and variable components. The compensation structure includes maximum limits, both overall and with regard to its variable compensation components. The new compensation system applies to Executive Board Chairman Mr. Roland Harings, Chief Financial Officer Mr. Verhoeven, and Chief Operations Officer Dr. Thomas Bünger, the latter of whom was appointed on October 1, 2018.

Pursuant to the employment contract, Dr. Bünger's total compensation will be adjusted to match the level of Mr. Verhoeven's as of April 1, 2020.

The variable compensation components contain annual and multiannual components. The details of the various compensation components are as follows:

Fixed components
The fixed compensation components consist of the fixed compensation, the pension plans, and the fringe benefits.

The annual fixed compensation amounts to € 600,000 for Mr. Harings, € 420,000 for Mr. Verhoeven, and € 340,000 for Dr. Bünger and is paid out monthly in equal installments.

All Executive Board members receive an entitlement for the company pension plan in the form of a pension commitment. Aurubis AG's contribution amounts to € 140,000 per year for the Executive Board chairman and € 100,000 per year for ordinary Executive Board members. The contributions are paid into liability insurances.

All members of the Executive Board also have a defined contribution company pension plan in the form of a capital commitment. Aurubis AG's contribution amounts to € 120,000 per year for the Executive Board chairman and € 80,000 per year for ordinary Executive Board members. The respective Executive Board member can use the accumulated capital after reaching the age of 62 at the earliest, however not before ceasing to be employed by the company.

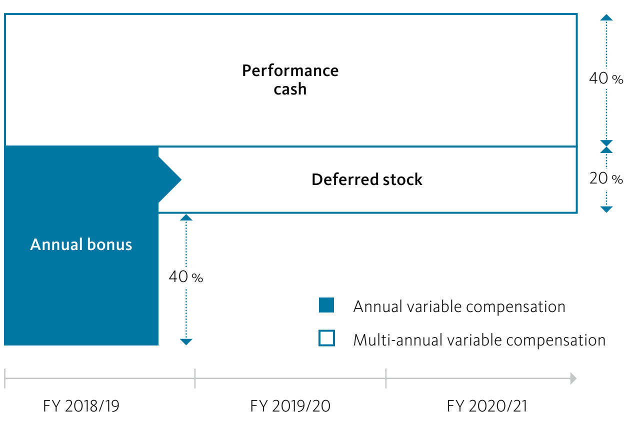
Additionally, the Executive Board members receive fringe benefits in the form of benefits in kind, which primarily consist of insurance premiums and company car use and are assessed according to tax guidelines.

At its discretion, the Supervisory Board can grant special compensation for exceptional performance that is not covered by the regular compensation. This is stipulated in the employment contract. However, the total cap may not be exceeded. No special compensation was granted in fiscal year 2018/19. The Supervisory Board most recently granted one-time special compensation in fiscal year 2015/16. With this, the Supervisory Board compensated the interim assumption of additional duties in the Executive Board by Mr. Faust, as Executive Board spokesman, and Dr. Boel, until Mr. Schachler filled the vacant position of Executive Board chairman on July 1, 2016.

Variable components

The system for variable compensation includes both annual variable compensation (annual bonus) and multiannual variable compensation, which is forward-looking. The multiannual, forward-looking variable compensation consists of both a performance cash plan over three fiscal years and stock deferred over two fiscal years (virtual stock). The ratio of multiannual to annual variable compensation is 60:40, so the former exceeds the latter.

Variable compensation

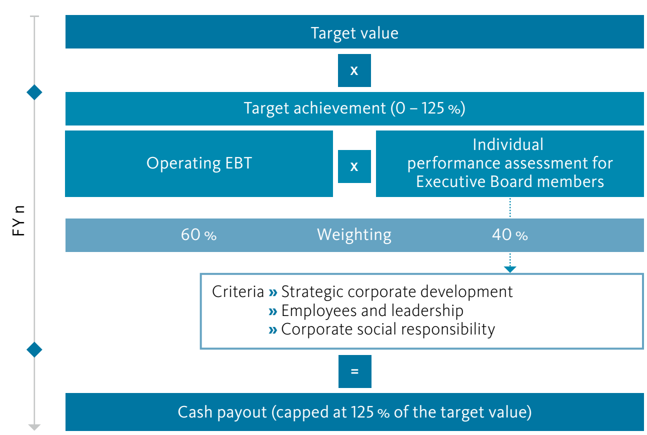


Annual bonus

Two-thirds of the annual variable compensation (the annual bonus) is paid out after the end of the fiscal year and amounts to € 400,000 (max. € 500,000) for Mr. Harings in the case of 100 % target achievement, € 272,000 (max. € 340,000) for Mr. Verhoeven in the case of 100 % target achievement, and € 220,000 (max. € 275,000) for Dr. Bünger in the case of 100 % target achievement. The remaining one-third of the annual bonus is transferred to a virtual two-year stock deferral plan.

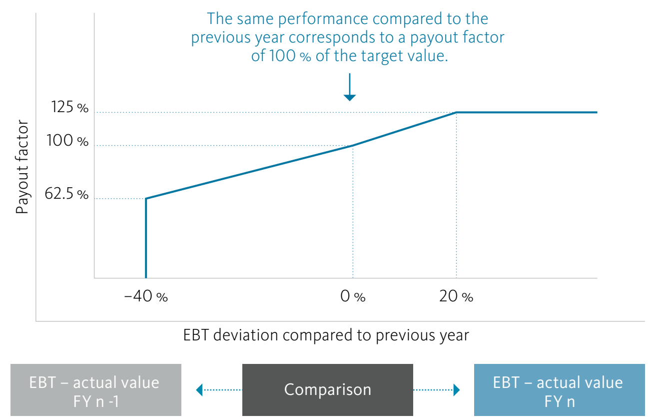
The annual bonus is calculated with a weighting of 60 % according to the target set for the fiscal year for the operating EBT components, and a weighting of 40 % according to the assessment of the Executive Board member's individual performance for the respective fiscal year, both multiplied by the target value defined in the Executive Board contract.

Annual bonus operating principle



The target achievement for the operating EBT is determined on the basis of an actual/actual comparison. The actual value of the operating EBT in the respective fiscal year is compared with the actual value of the operating EBT of the fiscal year preceding the current fiscal year (previous year). For an unchanged operating EBT compared to the previous year, the target attainment is 100 %. If the operating EBT is increased by 20 %, the maximum value of 125 % target achievement is reached. For an operating EBT of -40 % compared to the previous year, the minimum value of 62.5 % target achievement is reached. The target achievement between these points (62.5 %, 100 %, 125 %) is interpolated in a linear manner. If the maximum value is reached, further increases to the operating EBT do not lead to an additional increase in the target attainment. If the minimum value is not reached, the target attainment is 0 %. If the operating EBT is negative for both the previous year and the respective fiscal year, the Supervisory Board is authorized to set the target attainment according to its discretion. If a positive operating EBT was achieved in the previous year and a negative EBT in the respective fiscal year, the target attainment amounts to 0 %. The annual bonus rewards operating consolidated earnings growth and thereby a strengthening of the company's profitability as compared with the previous year's EBT.

Calibrating the performance targets – EBT



Individual performance is evaluated by the Supervisory Board and is based on criteria previously defined in the employment contract or in corresponding follow-up agreements. Currently, strategic company development, employees and leadership, as well as corporate social responsibility, are designated as criteria for assessing individual performance. Improvement in the result is being added as a fourth criterion for fiscal year 2019/20. The Supervisory Board can set the degree of target attainment between 0 % and 125 %. Furthermore, the Supervisory Board can, at its discretion, reduce the annual bonus in the event of extraordinary, unforeseeable developments (Section 87 (1) sentence 3 (second half of the sentence) of the German Stock Corporation Act).

The annual bonus stipulates a target value cap of 125 % for Executive Board members. The annual bonus can therefore amount to a maximum of € 750,000 for Mr. Harings, a maximum of € 510,000 for Mr. Verhoeven, and a maximum of € 412,500 for Dr. Bünger.

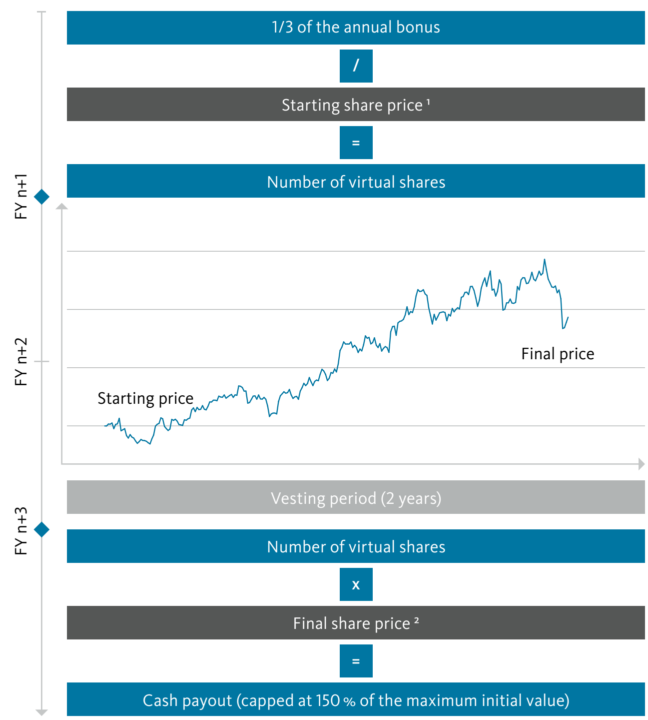
Two-thirds of the annual bonus is paid out directly after the end of the fiscal year. The last third is paid into the stock deferral, which is explained below. There is also a cap on the deferred stock payout.

Deferred stock

In order to guarantee a focus on stock for the variable compensation, one-third of the annual bonus flows into a virtual stock deferral plan. The stock deferral plan stipulates a two-year, forward-looking assessment basis and amounts to € 200,000 for Mr. Harings in the case of 100 % target attainment, € 136,000 for Mr. Verhoeven in the case of 100 % target attainment, and € 110,000 for Dr. Bünger in the case of 100 % target attainment.

The number of virtual shares at the beginning of the two-year vesting period is calculated by dividing one-third of the annual bonus by the starting share price. The starting share price is designated by the arithmetic average of the Xetra closing price for Aurubis shares on the Frankfurt Stock Exchange over the last 30 trading days before the beginning of the two-year deferral term.

Deferred stock operating principle



[1] Arithmetic average of the Xetra closing price for Aurubis shares on the Frankfurt Stock Exchange over the last 30 trading days before the beginning of the vesting period.
[2] Arithmetic average of the Xetra closing price for Aurubis shares on the Frankfurt Stock Exchange over the last 30 trading days before the end of the vesting period.

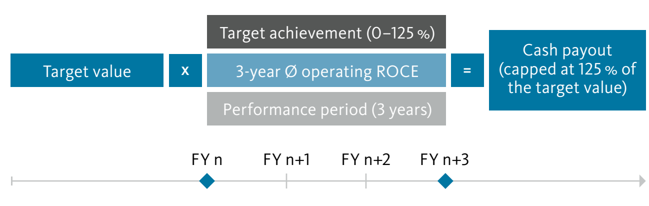
At the end of the two-year term, the number of virtual shares is multiplied by the closing share price. The closing share price also results from the arithmetic average of the Xetra closing price for Aurubis shares on the Frankfurt Stock Exchange over the last 30 trading days, this time before the end of the term. The resulting amount is paid out to the Executive Board members in cash at the end of the two-year term. However, the amount of the payout is limited to 150 % of the initial value (corresponding to one-third of the annual bonus). The payout from the stock deferral plan is limited to € 375,000 for Mr. Harings, to € 255,000 for Mr. Verhoeven, and to € 206,250 for Dr. Bünger.

Performance cash plan
The performance cash plan stipulates a three-year, forward-looking assessment basis. The relevant performance target is the average operating return on capital employed (ROCE) over the three-year period, as identified in the Annual Report. The amount paid out is calculated by multiplying the target set at the end of the three-year period for the operating ROCE by the target value of the performance cash plan specified in the Executive Board contract. The target value currently amounts to € 400,000 for Mr. Harings, € 272,000 for Mr. Verhoeven, and € 220,000 for Dr. Bünger. The calculated amount to be paid out is limited to 125 % of the target and can therefore reach a maximum of € 500,000 for Mr. Harings, a maximum of € 340,000 for Mr. Verhoeven, and € 275,000 for Dr. Bünger. Furthermore, the Supervisory Board can, at its discretion, reduce the performance cash bonus in the event of extraordinary, unforeseeable developments (Section 87 (1) sentence 3 (second half of the sentence) of the German Stock Corporation Act).

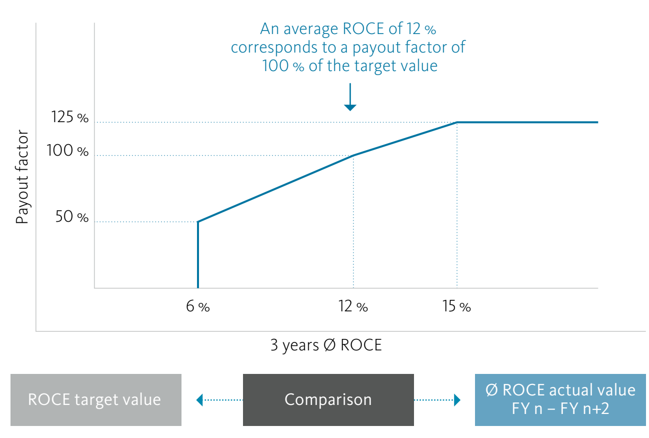
In order to determine the final target achievement for the performance cash plan, the average operating ROCE achieved during the period (calculated annually after the respective fiscal years) is calculated at the end of the three-year period. The Supervisory Board determines an amount for 100 % target achievement ("target value") for the average operating ROCE, as well as amounts for 50 % target achievement ("minimum value") and 125 % target achievement ("maximum value"). The target value of the average operating ROCE for the three-year time periods for the fiscal years from 2017/18 up to and including 2019/20, and 2018/19 up to and including 2020/21 amounts to 12 %, with the minimum value being 6 % and the maximum value 15 %.

The same target values also apply for the next three-year period from 2019/20 up to and including 2021/22. The target achievement between these points (50 %, 100 %, 125 %) is interpolated in a linear manner. If the minimum value is not reached, there is no payout from the Performance Cash Plan. If the maximum value is reached, further increases to the average operating ROCE do not lead to an additional increase in the target achievement. The performance cash plan incentivizes the generation of a positive value contribution by means of an ambitious ROCE target range. The payout takes place at the end of the respective three-year period in cash.

Performance cash plan operating principle



Calibrating the performance targets – ROCE



Total cap

In total (fixed and variable components), compensation is limited to an amount of € 1,975,000 for Mr. Harings, to an amount of € 1,355,000 for Mr. Verhoeven, and to € 1,096,250 for Dr. Bünger. Fringe benefits and benefit contributions from pension commitments do not fall under the total cap.

Premature termination

In the event of a premature termination of an Executive Board position without good cause, a severance payment will be made within the scope of the new compensation system. Such payment is limited to two years' total annual compensation in accordance with the German Corporate Governance Code recommendations, and does not provide compensation for any period longer than the remaining term of the employment contract. The employment contracts for the Executive Board members do not contain Change of Control clauses.

AMOUNT OF COMPENSATION FOR THE EXECUTIVE BOARD IN FISCAL YEAR 2018/19

In total, compensation for active Executive Board members for activities in fiscal year 2018/19 amounted to € 3,441,845, including pension expenses (€ 560,165) and expenses for the virtual stock deferral plan (€ 117,392).

The operating EBT for the fiscal year taken as a basis for calculating the EBT component was adjusted by a non-recurring special item with an effect of € 31 million. The adjustment is connected with the change in the derivation of the operating earnings parameter.

The Supervisory Board passed a resolution on June 12, 2019 to release Mr. Jürgen Schachler, whose contract was set to expire on June 30, 2019, from his duties with immediate effect. His compensation was guaranteed until the end of the contract. The contributions to the defined contribution pension commitment and the defined contribution company pension plan for Mr. Schachler were paid in advance in fiscal year 2017/18 and were therefore settled in full.

The company has set up pension provisions on the basis of IFRS for the Executive Board members. In the reporting year, allocations to pension provisions for the active Executive Board members amounted to € 560,165. This amount comprises contributions to an external pension fund.

Former members of the Executive Board and their surviving dependents received a total of € 2,237,067 in fiscal year 2018/19, while € 27,789,965 (in accordance with HGB) and € 34,537,696 (in accordance with IAS) has been provided for their pension entitlements.

Individual details can be found in the following tables:

Benefits granted

in €		Fixed compensation	Fringe benefits	**Total**
Roland Harings[2] Deputy Executive Board chairman from May 20, 2019 to June 30, 2019 Executive Board chairman since July 1, 2019	2017/18			
	2018/19	221,739	6,334	**228,073**
	Min.	221,739	6,334	228,073
	Max.	221,739	6,334	228,073
Dr. Thomas Bünger Executive Board member since October 1, 2018	2017/18			
	2018/19	340,000	30,439	**370,439**
	Min.	340,000	30,439	370,439
	Max.	340,000	30,439	370,439
Rainer Verhoeven Executive Board member since January 1, 2018	2017/18	315,000	10,754	**325,754**
	2018/19	420,000	15,935	**435,935**
	Min.	420,000	15,935	435,935
	Max.	420,000	15,935	435,935
Jürgen Schachler[3] Executive Board chairman from July 1, 2016 to June 30, 2019	2017/18	600,000	22,474	**622,474**
	2018/19	450,000	17,922	**467,922**
	Min.	450,000	17,922	467,922
	Max.	450,000	17,922	467,922
Dr. Stefan Boel[4] Executive Board member from April 19, 2008 to July 31, 2018	2017/18	350,000	15,651	**365,651**
	2018/19			
Total	**2017/18**	**1,265,000**	**48,879**	**1,313,879**
	2018/19	**1,431,739**	**70,630**	**1,502,369**

Inflow

in €		Fixed compensation	Fringe benefits	**Total**
Roland Harings[2] Deputy Executive Board chairman from May 20, 2019 to June 30, 2019 Executive Board chairman since July 1, 2019	2017/18			
	2018/19	**221,739**	**6,334**	**228,073**
Dr. Thomas Bünger Executive Board member since October 1, 2018	2017/18			
	2018/19	**340,000**	**30,439**	**370,439**
Rainer Verhoeven Executive Board member since January 1, 2018	2017/18	315,000	10,754	**325,754**
	2018/19	**420,000**	**15,935**	**435,935**
Jürgen Schachler[3] Executive Board Chairman from July 1, 2016 to June 30, 2019	2017/18	600,000	22,474	**622,474**
	2018/19	**450,000**	**17,922**	**467,922**
Dr. Stefan Boel[4] Executive Board member from April 19, 2008 to July 31, 2018	2017/18	350,000	15,651	**365,651**
	2018/19			
Total	**2017/18**	**1,265,000**	**48,879**	**1,313,879**
	2018/19	**1,431,739**	**70,630**	**1,502,369**

[1] Pension expenses in accordance with the German Commercial Code (HGB) amounted to € 200,165 for Roland Harings, € 180,000 (previous year: € 160,000) for Rainer Verhoeven, € 180,000 for Dr. Thomas Bünger, and € 260,000 (previous year: € 260,000) for Jürgen Schachler.
[2] Refers to compensation for the time period from May 20, 2019 to September 30, 2019.
[3] Refers to compensation for the time period from October 1, 2018 to June 30, 2019.
[4] Refers to compensation for FY 2017/18 for the period October 1, 2017 to July 31, 2018.
[5] In contrast to the previous year, in FY 2018/19 for the first time, the actual inflows (payout amounts) are provided independently of the point in time when the entitlements arise.
[6] The fair value based on planning data amounts to € 117,392. The subscription right for deferred stock in 2018/19 applies to 1,516 virtual shares for Roland Harings, 2,741 virtual shares for Rainer Verhoeven, and 1,784 virtual shares for Dr. Thomas Bünger.

The variable multiannual compensation in the previous Executive Board compensation system (Jürgen Schachler) for FY 2018/2019 is determined according to the ratio of the operating actual-to-target EBT relating to the Aurubis Group and the average of the fiscal years 2016/17, 2017/18, and 2018/19. The average actual EBT is approximately € 283 million and represents a target achievement of about 62 %.

Variable compensation for one year	Variable compensation for several years	Variable compensation for several years: deferred stock	Variable compensation for several years: performance cash plan	**Total**	Pension expenses[1]	**Total compensation**
139,123		69,562	112,584	**549,342**	200,165	**749,507**
0		0	0	228,073	200,165	428,238
183,562		137,671	183,562	732,867	200,165	933,032
208,426		104,213	168,667	**851,744**	180,000	**1,031,744**
0		0	0	370,439	180,000	550,439
275,000		206,250	275,000	1,126,689	180,000	1,306,689
199,594		99,797	240,720	**865,865**	160,000	**1,025,865**
257,690		128,845	208,533	**1,031,003**	180,000	**1,211,003**
0		0	0	435,935	180,000	615,935
340,000		255,000	340,000	1,370,935	180,000	1,550,935
500,000	504,750			**1,627,224**	260,000	**1,887,224**
375,000	410,063			**1,252,985**	0	**1,252,985**
187,500	0			655,422	0	655,422
375,000	562,500			1,405,422	0	1,405,422
291,667	280,417			**937,735**	150,000	**1,087,735**
991,261	**785,167**	**99,797**	**240,720**	**3,430,824**	**570,000**	**4,000,824**
980,239	**410,063**	**302,619**	**489,784**	**3,685,075**	**560,165**	**4,245,240**

Variable compensation for one year[5]	Variable compensation for several years[5]	Variable compensation for several years: deferred stock[6]	Variable compensation for several years: performance cash plan	**Total**	Pension expenses[1]	**Total compensation**
0				**0**	0	**0**
0	0	0	0	**228,073**	200,165	**428,238**
0				**0**	0	**0**
0	0	0	0	**370,439**	180,000	**550,439**
227,419				**553,173**	160,000	**713,173**
227,419	0	0	0	**663,354**	180,000	**843,354**
475,000	559,500			**1,656,974**	260,000	**1,916,974**
475,000	559,500			**1,502,422**	0	**1,502,422**
262,500	310,833			**938,984**	150,000	**1,088,984**
964,919	**870,333**	**0**	**0**	**3,149,131**	**570,000**	**3,719,131**
702,419	**559,500**	**0**	**0**	**2,764,288**	**560,165**	**3,324,453**

COMPENSATION FOR THE SUPERVISORY BOARD

Supervisory Board compensation for fiscal year 2018/19

in €

Name		Fixed compensation	Compensation for committee membership	Attendance fees	Total
Prof. Dr. Fritz Vahrenholt	2017/18	162,945	44,489	17,000	**224,434**
	2018/19	225,000	50,000	10,000	**285,000**
Renate Hold-Yilmaz	2017/18	150,000	25,000	18,000	**193,000**
	2018/19	82,603	20,651	9,000	**112,254**
Deniz Filiz Acar	2017/18				
	2018/19	31,027	4,562	3,000	**38,589**
Andrea Bauer	2017/18	20,753	1,706	2,000	**24,459**
	2018/19	75,000	12,062	7,000	**94,062**
Burkhard Becker	2017/18	31,233	9,370	10,000	**50,603**
	2018/19				
Dr. Bernd Drouven	2017/18	31,233	12,494	6,000	**49,727**
	2018/19				
Christian Ehrentraut	2017/18				
	2018/19	31,027	4,562	5,000	**40,589**
Dr.-Ing. Joachim Faubel	2017/18	31,233	0	6,000	**37,233**
	2018/19				
Prof. Dr.-Ing. Heinz Jörg Fuhrmann	2017/18	137,466	46,911	19,000	**203,377**
	2018/19	75,000	25,000	14,000	**114,000**
Karl-Heinz Hamacher	2017/18	43,973	8,795	5,000	**57,768**
	2018/19	18,904	3,781	0	**22,685**
Prof. Dr. Karl Friedrich Jakob	2017/18	43,973	13,192	9,000	**66,165**
	2018/19	75,000	22,541	12,000	**109,541**
Jan Koltze	2017/18	75,000	15,000	14,000	**104,000**
	2018/19	75,000	19,562	12,000	**106,562**
Dr. Stephan Krümmer	2017/18	43,973	21,986	8,000	**73,959**
	2018/19	75,000	39,781	14,000	**128,781**
Dr. Elke Lossin	2017/18	43,973	8,795	7,000	**59,768**
	2018/19	75,000	15,000	12,000	**102,000**
Dr. Sandra Reich	2017/18	75,000	11,898	13,000	**99,898**
	2018/19	75,000	15,000	12,000	**102,000**
Stefan Schmidt	2017/18	43,973	8,795	8,000	**60,768**
	2018/19	97,808	19,562	12,000	**129,370**
Edna Schöne	2017/18	21,986	2,199	1,000	**25,185**
	2018/19				
Dr. med. Dipl.-Chem. Thomas Schultek	2017/18	31,233	9,370	6,000	**46,603**
	2018/19				
Rolf Schwertz	2017/18	31,233	0	6,000	**37,233**
	2018/19				
Melf Singer	2017/18	43,973	4,397	5,000	**53,370**
	2018/19	75,000	9,801	9,000	**93,801**
Ralf Winterfeldt	2017/18	31,233	9,370	6,000	**46,603**
	2018/19	24,658	3,740	4,000	**32,398**
Dr.-Ing. Ernst J. Wortberg	2017/18	31,233	15,616	10,000	**56,849**
	2018/19				
Total	**2017/18**	**1,125,619**	**269,383**	**176,000**	**1,571,002**
	2018/19	**1,111,027**	**265,603**	**135,000**	**1,511,630**

The compensation for the Supervisory Board was redefined at the Annual General Meeting with effect from October 1, 2015 and is governed by Section 2 of Aurubis AG's Articles of Association. It is oriented towards the various demands of the Supervisory Board and its committees.

All Supervisory Board members receive fixed compensation of € 75,000 per fiscal year each, in addition to the reimbursement of expenses incurred while performing their duties. The Supervisory Board chairman receives three times, the deputy chairman two times that amount.

Supervisory Board members who serve on the Personnel and/or Audit Committee additionally receive fixed compensation in the amount of € 15,000/fiscal year per committee. Supervisory Board members who serve on the other Supervisory Board committees additionally receive fixed compensation of € 7,500 per fiscal year per committee. Supervisory Board members who chair a Supervisory Board committee receive twice that amount per fiscal year for each committee chairmanship.

The fixed compensation for committee activity is limited to € 25,000 per fiscal year for each Supervisory Board member, in accordance with Section 12 (2) of the Articles of Association. The limit for every committee chairmanship is € 50,000 per fiscal year.

Supervisory Board members who do not belong to the Supervisory Board or one of its committees for a full fiscal year receive compensation commensurate with the duration of their service.

Furthermore, Supervisory Board members receive an attendance fee in the amount of € 1,000 for each meeting of the Supervisory Board and of its committees attended.

On this basis, the Supervisory Board members received a total of € 1,511,630 Supervisory Board compensation for fiscal year 2018/19, page 34.

Hamburg, December 10, 2019

For the Executive Board

Roland Harings
Chairman

Rainer Verhoeven
Member

For the Supervisory Board

Prof. Dr. Fritz Vahrenholt
Chairman

Sustainability

NON-FINANCIAL REPORT

Introduction

With this separate consolidated Non-Financial Report (NFR), Aurubis fulfills its obligation to disclose non-financial information for fiscal year 2018/19 pursuant to Sections 315b and 315c in conjunction with Sections 289c to 289e of the German Commercial Code (HGB).

At Aurubis, sustainability is a significant part of our conduct and therefore plays a key role in our activities. A responsible approach to employees, suppliers, customers, and neighbors is a matter of course for us, whether in direct business operations or in the surrounding areas. The same applies to our environment, as we are aware of the limits of natural resources and want to keep negative impacts from our business activities to a minimum.

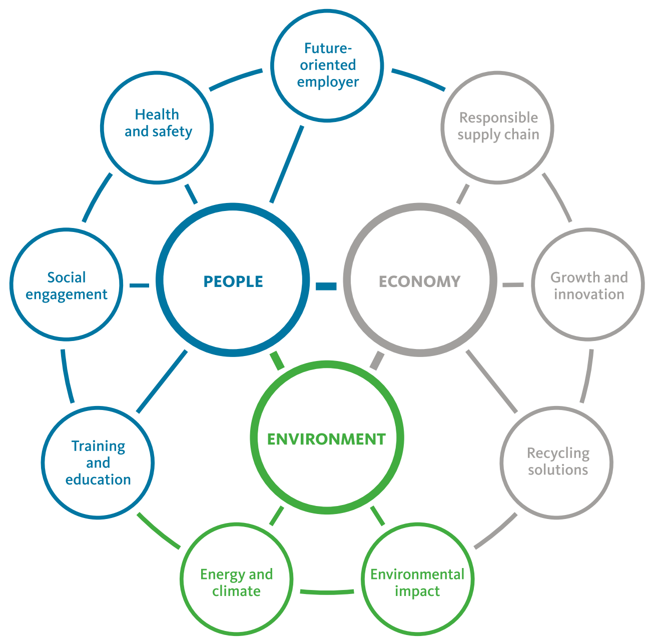
When introducing our company vision in 2017, we established the objective of developing Aurubis from a copper producer to a multi-metal group by 2025, and we enshrined this transformation in our Group strategy. Sustainability is an integral part of this Group strategy, which illustrates the high priority placed on responsible corporate governance at Aurubis.

We aim to enhance our sustainability achievements continuously, beyond the legal requirements. One contribution to this goal is the implementation of the Aurubis Sustainability Strategy, which outlines the action areas for the coming years.

Aurubis Sustainability Strategy

In 2018, the Aurubis Executive Board and Supervisory Board passed the Sustainability Strategy 2018–2023. Based on the aspects "People – Environment – Economy," it comprises nine key action areas for a period of five years (see illustration). In turn, these areas include a total of 27 measures and nine targets. We established deadlines and key performance indicators (KPIs) for their implementation so that our sustainable company development can be measured and guided. The individual measures of the Sustainability Strategy 2018–2023 and the status of their implementation are in this report at the end of the description of each action area.

Aurubis Sustainability Strategy



The Sustainability Strategy 2018–2023 is the continuation of our first Sustainability Strategy, which was passed in 2013 and expired in 2018. In 2015, the main action areas of this first Aurubis Sustainability Strategy were reviewed to determine their relevance, refined, and developed in the course of a materiality analysis. The materiality analysis was based on a survey of internal and external stakeholders, as well as an analysis carried out by supervisors from all areas of the company. In the course of drafting the Sustainability Strategy 2018–2023, internal and external requirements and current developments were once again analyzed, and then the strategic action areas and accompanying targets and measures were established with the relevant departments in workshops.

As part of our responsible corporate governance, the topics of compliance and human rights also play a key role in addition to the nine actions areas, complementing the aspects "People – Environment – Economy."

Aspects relevant for Aurubis

When selecting the aspects for the Non-Financial Report, we were guided by both the main action areas of the company's Sustainability Strategy and the non-financial topics that are required to understand the business development, the business result, the company's position, and the impacts of our activities on these aspects.

In summer 2019, the topics were reviewed again with regard to the materiality requirements of the CSR Directive Implementation Act Glossary, page 194. Managers from four Aurubis divisions (Corporate Accounting & Consolidation, Investor Relations, Risk Management, and Sustainability) evaluated whether the topic clusters identified in 2015 and updated in the Sustainability Strategy 2018–2023 are material according to the CSR Implementation Act as well. This was also confirmed by the Executive Board. The topics identified as material in this process are assigned to the action areas of the Aurubis Sustainability Strategy in this Non-Financial Report. We present topics that have the same management approach in a consolidated format.

Overview of material topics

		Material according to CSR Directive Implementation Act	Material for Aurubis	Page in NFR
Employee-related matters	Future-oriented employer	√	√	39
	Training and education	√	√	41
	Health and safety	√	√	43
Environmental matters	Energy and climate	√	√	45
	Environmental impact	√	√	47
	Recycling solutions	√	√	50
Social matters	Social engagement		√	51
Human rights	Responsible supply chain	√	√	53
Anti-corruption	Anti-corruption	√	√	54

We also assume corporate responsibility in those instances in which the topics have no direct impact on our business development but are of considerable importance for us and our stakeholders. This is why the topic of social matters is part of our report and labeled as such.

Sustainability management

From an organizational perspective, the Sustainability department is part of the Investor Relations & Corporate Communications division; the vice president overseeing Investor Relations & Corporate Communications reports directly to the Executive Board chairman. The Sustainability department serves as the interface between the departments relevant for the topic of sustainability and coordinates all of the related processes in the Group, serving as a contact for the sites. At the same time, it is also responsible for continuously reviewing and developing the sustainability targets. In the process, the department supports the relevant divisions in the operational implementation of the measures.

We make our sustainability achievements transparent in a variety of ways. These include participation in sustainability rankings, involvement in the CDP (formerly the Carbon Disclosure Project) Glossary, page 194, and the voluntary reporting of the past several years. This reporting is oriented to the standards of the Global Reporting Initiative (GRI) Glossary, page 194. In this separate Non-Financial Report, we use the GRI Sustainability Reporting Standards as a guide in describing the concepts and selected KPIs. The GRI report is published every two years, most recently for fiscal year 2017/18. The KPIs are updated annually and released in a consolidated form.

We communicate regularly with our key stakeholders about sustainability-related topics. We believe it is important to maintain a dialogue with employees, customers, suppliers, politicians and society, capital market participants, the media, non-governmental organizations, and the scientific community.

Description of the business model and presentation of the Group structure

We are continuing to develop our business model consistently in alignment with the company vision. Today, Aurubis' main focus is on the production and processing of copper. Aurubis primarily processes copper concentrates Glossary, page 194 that are mined from ores and sourced on the global market. The company purchases the necessary raw materials, as it doesn't have its own mines or stakes in mines. The processing of secondary raw materials plays an important role as well. Moreover, we are currently expanding our business model beyond copper and increasingly implementing a multi-metal approach. This means that, in addition to copper, other metals will be extracted from systematically purchased raw materials and intermediate products and then processed into marketable products with added value.

More information is available in the "Business model" Pages 64–67 section of the Combined Management Report.

Aurubis AG is the parent company of the Aurubis Group and is based in Hamburg, with production sites in Hamburg and Lünen. For us, sustainability applies to the entire Group. Consequently, the action areas and measures are relevant for the Group and for Aurubis AG. The key indicators mentioned in this report are recorded at Aurubis in the individual departments, consolidated at Group level, and ultimately evaluated. When the following report mentions copper production, this refers to primary and secondary copper production Glossary, page 195 at the Hamburg, Lünen, Olen, and Pirdop sites. Significant differences between Aurubis AG KPIs and Group KPIs are explained.

The main external factors influencing business development are described in the Risk and Opportunity Report, page 96–103 of the Combined Management Report Explanation of relevant risks, pages 97–100. Risks related to non-financial aspects beyond the company boundaries are also mentioned there. Risks were assessed in accordance with the German CSR Directive Implementation Act (CSR-RUG) Glossary, page 194. In the process, no non-financial risks were identified that were very likely to cause a serious negative impact on employee and environmental matters, on respect for human rights, on the prevention of corruption and bribery, or on social matters within the meaning of Section 289c (3) of the German Commercial Code (HGB). Nevertheless, it is important to us to handle non-financial risks even if they are evaluated as non-material according to the strict definition of the CSR Directive Implementation Act. We have developed and implemented related management approaches to address these non-financial risks.

Employee-related matters

FUTURE-ORIENTED EMPLOYER

Competent, productive, and enthusiastic employees form the basis of the Aurubis Group's commercial success and further development.

We have set the target of creating a work environment for good, close cooperation and promoting involvement and creativity. We form a team that passionately works toward the company's progress.

All overarching activities related to our employees are managed at Group level by Human Resources (HR), whose management reports directly to the CEO. HR is particularly involved with the HR strategy of the entire Group, as well as the implementation and monitoring of the resulting strategic HR instruments, especially those related to organizational and staff development, compensation and fringe benefits, employer branding, and supporting change processes. The work of the local HR departments is oriented toward the standards of the central HR division and local conditions.

Our HR strategy is derived from the Group strategy and is based on the corporate values. It is developed continuously and takes changes, especially in the labor markets and in society, as well as trends that influence HR work into account. One particular focus is on the lack of qualified workers due to the demographic shift, as well as the search for young employees and apprentices, which is becoming more and more difficult.

To address these challenges, we offer our employees an attractive work environment and pay attention to the balance between work and leisure time. We enable modern and flexible working-time arrangements, as long as this is consistent with the individual work area. We regularly identify our employees' needs to develop modern and sensible working-time models. We prioritize good cooperation between all stakeholders in the company and offer attractive, gender-neutral compensation in line with the market. Our employees' compensation and fringe benefits are regulated in collective wage agreements. Our employees' social security is regulated by law to a great extent because most of our production sites are located in Europe. At our only production site outside of Europe, Aurubis Buffalo, we assume 85 % of the employees' health insurance contributions.

Compliance with the internationally recognized core labor standards of the International Labour Organization (ILO Glossary, page 194) is of fundamental importance. We also refer to them in our Group-wide Code of Conduct, which each employee receives with his or her employment contract. Our participation in the UN Global Compact Glossary, page 195 underlines our commitment to the ILO core labor standards.

Strong collaboration between our employees and the company management is the basis for the Group's success. Close, constructive cooperation with the unions active in the company and the elected works council members is thus an established principle for us. Our employees are informed regularly and promptly about current developments. We are committed to employee participation in decision-making. On the corporate level, the Executive Board and Supervisory Board, which also includes employee representatives, work closely together as the highest governing bodies. On the plant level, the interests of the employees are represented by works councils/unions according to country-specific regulations. An elected European Works Council has been in place at Aurubis since 2009 and represents all of the European sites.

In the United States, working conditions are subject to state and national labor laws. Because of the close cooperation between our site in Buffalo and the union active there (United Steelworkers International Union), an exclusively negotiated collective agreement specifies the working conditions.

Diversity in the personnel structure is important to us. We consider diversity to include not only cultural aspects and international representation, but also diversity in terms of specialized skills and age groups, as well as a gender balance.

The Code of Conduct and our corporate values serve as the basis for respectful cooperation.

Staff development and feedback are key elements of our leadership culture, which we are constantly working to improve. We concluded our 360° feedback program in 2018. Personal developmental targets and measures were derived from this program and documented in personal action plans in order to sustainably improve managerial performance. The personal plans are monitored in direct dialogue between employees and supervisors.

Key measures of the Sustainability Strategy 2018–2023 and their status in fiscal year 2018/19

» *Improving the "health" (OHI[1]) of the organization with strategically aligned HR instruments and services, as well as individual development tools*
The Transformation and Business Improvement department was set up in early 2017. The department's Business Improvement Guides support internal projects and the implementation of the Aurubis Operating System (AOS) Glossary, page 194 as internal consultants. Starting in fiscal year 2019/20, this department will be divided into the departments AOS and Group Process Management. AOS is a management system designed to improve processes continuously and sustainably. Programs introduced in the last several years, such as a workshop series to develop managers' skills, continued during the reporting period. Within the scope of AOS, we are introducing so-called qualification matrices in different pilot areas to record required expertise and qualification needs in a structured manner. This will enable us to recognize potential for structural improvement in the training and continuing education of our employees and translate this into defined training programs.

» *Regularly identifying employees' needs with respect to working-time arrangements*
The flextime program was developed further during the reporting period. Furthermore, a new shift model was initiated. A new planning process for personnel placement enables better shift planning. The home office and mobile work options, among other things, were expanded with the intention of improving the balance between work and family life. Overall, our working-time models are becoming progressively more flexible and modern. In the process, we are taking new laws, such as those regarding temporary part-time work in Germany, into account and training our supervisors accordingly. The proportion of part-time workers, including in production, is rising continuously and is supported by Aurubis as an employer.

» *Developing a diversity policy*
International teams are already working together as part of the reorganization and AOS. The development of a diversity policy (including age structure, international character, and gender distribution) is planned for the coming years. As the labor market is becoming increasingly international and globalized, we are recruiting employees from all over the world, leading to a broad representation of different nationalities at Aurubis that enriches our everyday work.

[1] The OHI indicates the "health" of a company, e.g., how well a company is equipped to react to changes in the market and thus to achieve economic success sustainably. Key influencing variables include leadership skills, innovation, and willingness to learn, as well as company culture and climate.

KPIs:

Aurubis Group personnel structure (as at the reporting date September 30)[1]

	Employees		Female		Male	
	2018/19	2017/18	**2018/19**	2017/18	**2018/19**	2017/18
Aurubis Group	6,853	6,673	12 %	12 %	88 %	88 %
Blue collar	4,214	4,130	4 %	4 %	96 %	96 %
White collar	2,350	2,256	28 %	28 %	72 %	72 %
Apprentices	289	287	13 %	10 %	87 %	90 %

Employee fluctuation in the Aurubis Group (as at the reporting date September 30)[1, 2]

	2018/19	2017/18
Fluctuation rate	7.8 %	6.6 %
Average length of employment in the company (in years)	14.2	15.3

Age structure (as at the reporting date September 30)[1, 2]

	2018/19	2017/18
< 20	15	14
20–29	999	984
30–39	1,647	1,515
40–49	1,471	1,452
50–59	1,832	1,820
60–69	586	585
> 69	14	16

TRAINING AND EDUCATION

In order to achieve our vision and advance our strategy, we rely on a learning organization. The targeted personal development of our employees has high priority.

HR Development is responsible for staff development. It supports the other departments, in close coordination with the local HR managers, in building employees' skills in a directed way tailored to their needs. The objective is to meet current and future requirements and challenges. HR Development and vocational training are part of the HR Group department.

To fulfill future personnel requirements, we regularly assess demand for specific skills and trades, and offer apprenticeships accordingly. We also identify the demand for employee qualifications and successors for different positions in annual talks and in the yearly personnel planning process in order to develop and expand specialized skills and management expertise in a purposeful way.

[1] Permanent and temporary employment arrangements. In addition to the fully consolidated companies, the numbers include the employees of the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), and Aurubis Turkey Kimya Anonim Sirketi (Istanbul), which had a combined total of ten employees in fiscal year 2018/19. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50 % stake. It also includes ten independent sales employees at international sites Sites and employees, page 65.
[2] Excluding apprentices.

We have developed and adjusted the training offerings in our leadership and qualification program according to the Group's needs. In particular, options for managers at the foreman level were a top priority. Employees are offered a number of technical training measures.

In addition to qualification and development programs geared to necessary skills, for example in the areas of the AOS and in project management, we also rely on platforms for networking and discussing best practices (e.g., expert panels and online learning groups). We have established a variety of new qualification offers: in our one- to two-hour micro-learning units, called “Learning Nuggets,” participants learn and test new skills. The “Aurubis Essentials” series of short seminars presents important overarching topics to interested employees to promote a comprehensive understanding of the company.

We are proud of our high training and retention rate. This ensures that we have a sufficient number of qualified employees. At our site in Pirdop, Bulgaria, we have implemented a vocational training program based on the Swiss training model.

Aurubis Hamburg has been participating in the internship model AV 10-Plus since 2007. The model supports young people from a range of occupational groups, helping them to gain the qualifications required to begin apprenticeships. In 2018/19, five of the ten participants took on an apprenticeship at Aurubis. The remaining participants started external apprenticeships or have now gone on to higher education.

Recently, we invested in the construction of two modern vocational training centers in Lünen and Hamburg. In Lünen, the building next to the training workshop will also be home to the Occupational Safety and Technology divisions, while in Hamburg, Training and Research & Development (R&D) will be located in the Innovation and Training Center. The shared building emphasizes the even stronger cooperation expected between R&D and vocational training in the future.

Furthermore, we cooperate with partner universities, offer internships to students in Germany, and provide thesis projects and scholarships.

Key measures of the Sustainability Strategy 2018–2023 and their status in fiscal year 2018/19

» *Regularly identifying qualification needs to expand project, process, and management expertise in a targeted way*
In fiscal year 2018/19, the Aurubis Leadership Behaviors were developed and introduced by bringing managers together in peer groups. To foster young talent, development centers were created to identify potential and thus select participants for the talent development program. Project management training is offered at an international standard including certification, and a “community of practice” – a group for employee dialogue focusing on project management – is under development.

» *Starting the Group-wide introduction of the AOS pillar “Education and Training”*
During the reporting year, additional AOS basic training sessions took place and the pilot for AOS e-learning was concluded. Currently, three pilot projects are underway to introduce the qualification matrix in different areas within the Operations division. The pilot projects ran until September 30, 2019 and are now being evaluated. The modular training course to become an AOS Expert started at the Hamburg plant, and by the end of fiscal year 2019/20, a total of 5% of employees will have completed the entire training course and be AOS Experts. Equivalent AOS Expert qualifications are being planned at other plants and will be carried out locally according to the plants’ specific needs.

» *Establishing Group-wide knowledge management to identify, preserve, transfer, and enhance knowledge across functions*
The necessary personnel resources were provided during the reporting period. A structured process was drafted and the pilot phase for Group-wide knowledge management started.

KPIs:
Training and education

	2018/19	2017/18
Apprenticeship rate in Germany	7.3 %	6.3 %
Apprentice retention rate in Germany	78.4 %	80 %
Average number of training hours per employee[1]		
Aurubis Group	15.2	11.5
Blue collar	13.6	9.7
White collar	18.3	15.1
Percentage of employees receiving training		
Aurubis Group	76 %	–[2]
Blue collar	73 %	–[2]
White collar	79 %	–[2]

[1] Permanent and temporary employment arrangements. In addition to the fully consolidated companies, the numbers include the employees of the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), and Aurubis Turkey Kimya Anonim Sirketi (Istanbul), which had a combined total of ten employees in fiscal year 2018/19. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50 % stake. It also includes ten independent sales employees at international sites Sites and employees, page 65.
[2] We did not record this KPI in fiscal year 2017/18.

HEALTH AND SAFETY

As a responsible employer, it is a matter of course for Aurubis to take measures to maintain our employees' health and performance and to protect them from accidents and illness.

The responsibility of Group Health & Safety is to create conditions that prevent all work-related accidents and illnesses. In the long term, we want to achieve our Vision Zero, that is, to reduce work-related accidents, injuries, and illnesses to zero. Our goal for the medium term is to reduce the number of work-related accidents with at least one lost shift per one million hours worked (lost time injury frequency rate, LTIFR) Glossary, page 194 to ≤ 1.0 by 2022.

The corporate department Group Health & Safety manages occupational health and safety and reports directly to the Executive Board. The department establishes minimum occupational safety standards for the entire Group by issuing process instructions in addition to the Corporate Policy on Occupational Health and Safety. Occupational safety management at the sites is currently being developed to conform to ISO 45001. Five sites (Avellino, Dolný Kubín, Pirdop[1], Pori, and Schwermetall Halbzeugwerk GmbH & Co. KG) are certified in accordance with OHSAS 18001 or ISO 45001. Our occupational safety approach applies to our employees, temporary workers, and external service providers.

The site managers play a central role in occupational health and safety. They are responsible for complying with applicable laws and ordinances on occupational health and safety, the relevant corporate policy, and the current process instructions. Furthermore, they gather and evaluate health risks and help implement suitable measures to protect employees.

The sites are in contact with each other via an organized network facilitated by Group Health & Safety. In this way, existing specialist knowledge can be used across the Group. Moreover, employee representatives are included in the topic of occupational health and safety: through the reporting line to the Executive Board, Group Health & Safety also reports to the general Works Council committee and the European Works Council. Group Health & Safety is directly invited to their committee meetings.

Our risk assessments include both current and future work processes in the company, including maintenance and repair procedures in addition to operations. Our risk assessments cover hazards in normal operations, special work assignments, and abnormal incidents.

Health hazards and individual requirements in the work area are systematically collected, evaluated, and documented. The risk assessment is guided by the current knowledge available, taking the type, extent, and probability or duration of the effect into account.

[1] The certificate for Pirdop is valid as of October 1, 2019.

Accidents are systematically investigated to determine their technical, organizational, and conduct-based causes. The key findings of accident investigations, the causes, and the measures derived from them are communicated throughout the Group. Furthermore, we strive to report and investigate every incident, even those that don't result in injury.

Smelter operations (heat, metal melt), hazardous substances in the production process, industrial machines, and internal logistics present the greatest accident risks. However, analyses show that accidents connected with these risks are rare. The most common causes of accidents are mechanical influences, mainly stumbles, slips, falls, and working with hand-operated tools.

As preventive measures to further avoid accidents, the 10 Golden Rules program was established and a Behavior-Based Safety (BBS) program was initiated in Pori, Emmerich, and Stolberg.

At least once per year, employees are informed about hazards in the workplace and are instructed about necessary preventive and protective measures, enhancing their awareness of these topics. Safety talks sensitize employees to current occupational safety issues and encourage them to use this knowledge safely in practice. External service providers are instructed about hazards, protective measures, and rules of conduct at the specific site before they start working.

Health checks are offered when new employees are hired, with routine occupational health checks provided thereafter.

In addition, we support employees in taking preventive measures to maintain their health. Our offerings in this respect extend from flu vaccinations and medical checks to addiction prevention, as well as supporting measures for the heart and circulatory system.

Key measures of the Sustainability Strategy 2018–2023 and their status in fiscal year 2018/19

» *Preparing all sites for the introduction of the ISO 45001 standard for occupational health and safety (by fiscal year 2019/20)*
  Our sites in Avellino and Pirdop were certified in accordance with ISO 45001 in early 2019 and September 2019, respectively, and our Pori, Dolný Kubín, and Schwermetall Halbzeugwerk sites are already certified in accordance with OHSAS 18001. To prepare for the introduction of ISO 45001 at the other sites, the requirements of ISO 45001 are being explained in workshops and gap analyses are being carried out to determine the current deviations from the requirements of the standard.
» *Implementing Behavior-Based Safety across the Group (by fiscal year 2020/21)*
  Behavior-Based Safety was initiated at our sites in Emmerich, Hamburg, Pori, and Stolberg in the reporting period. The campaign to introduce the 10 Golden Rules planned for October 2019 will support us in the process.

KPIs:

Occupational health and safety KPIs[1]

	2018/19	2017/18	2016/17	2015/16	2014/15
Absolute number of accidents	59	60	47	45	63
LTIFR	5.8	6.1	4.8	4.6	6.3
Number of work-related fatalities	0	0	0	0	0
Number of work-related fatalities of third parties at our sites	0	0	0	1	0

[1] KPIs for consolidated sites with ten or more employees Sites and employees, page 65. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50 % stake.

Environmental matters

ENERGY AND CLIMATE

The individual production steps in our value chain are energy-intensive. For us, the efficient use of energy is thus an issue of ecological and economic responsibility. Energy consumption is the main source of CO_2 emissions in the Group. Taking the entire value chain into consideration, about half of the CO_2 emissions are upstream and downstream, i.e., they originate from our suppliers, customers, and service providers (Scope 3 emissions). Most of the Scope 3 emissions originate from the activities of mining companies.

At the same time, the products we manufacture contribute to reducing CO_2 emissions. They play a key role when it comes to renewable energies and e-mobility: electric cars contain significantly more copper than vehicles with conventional combustion engines, and building and connecting an offshore wind turbine to the energy grid requires up to 30 t of copper.

In our Corporate Energy & Climate Policy, we describe how we secure and optimize the supply and consumption of energy at Aurubis, and we explain the roles and responsibilities of the sites and Group departments in this area.

The Energy & Climate Affairs department coordinates the development of the energy management and monitoring systems across the Group, providing for a uniform approach and facilitating the exchange of expertise regarding best practice examples – for instance in the form of an internal energy efficiency network. The management of Corporate Energy & Climate Affairs develops and implements the Group-wide energy strategy and reports directly to the Executive Board chairman.

To prevent CO_2 emissions, we primarily focus on energy efficiency measures. We have also introduced energy management systems at our large production sites. Currently, eight sites are certified Table, page 49 in accordance with ISO 50001 Glossary, page 194. The plan is to introduce these systems across the Group as a measure of our Sustainability Strategy. The management systems contribute to efficiently managing energy consumption and identifying energy savings potential. During the reporting period, the certifications were confirmed through routine surveillance visits or recertification. The energy management system at the Hamburg and Lünen sites is part of the integrated management system for quality, environmental protection, energy, and occupational safety.

The more steps that have already been implemented in energy efficiency in the past, the more challenging a further optimization is. Moreover, because there are limits to reducing energy consumption and emissions, the improvements being achieved today within the plant boundaries are only marginal compared to previous years. This is despite continued high levels of investment. For example, the use of complex recycling raw materials with comparably low metal contents requires more energy to be processed. Environmental protection already accounts for a large part of the energy consumption at Aurubis today. This includes the operation of facilities such as filters with fans and other suctioning equipment. For Aurubis, it is important to align environmental protection, resource conservation, and energy efficiency.

The use of renewable energies is a challenge for us since generating them is associated with energy supply fluctuations. However, our production processes require a constant energy supply. We are working on initiatives to make our energy needs more flexible in order to enable the use of renewables.

We also cover a portion of our energy needs with electricity we generate internally using excess heat from our processes. We installed steam turbines for this purpose in Hamburg, Lünen, and Pirdop. On top of that, we use waste heat from the production processes to secure the heat and process steam supply at the Pirdop, Lünen, and Hamburg sites. Demand there is largely covered by waste heat.

We report our CO_2 emissions on a voluntary basis each year as part of the CDP climate change program. This includes Scope 3 emissions, or emissions caused by services provided by third parties, for example transport, raw material mining, or the production of purchased materials. CDP gathers and evaluates data and information about companies' CO_2 emissions, climate risks, and reduction targets and strategies, and assesses their responsibility in the supply chain Page 53.

Key measures of the Sustainability Strategy 2018–2023 and their status in fiscal year 2018/19

- *Introducing the ISO 50001 standard for energy management across the Group*
  In the reporting period, eight sites were certified in accordance with ISO 50001. At the other sites, the substance and scope of the energy management system (EMS) in accordance with ISO 50001 were introduced in an internal workshop. A project plan for introducing the EMS has already been developed for the Pirdop site. Certifications by site, page 49
- *Increasing flexibility in electricity purchasing (10 % target by FY 2022/23)*
  To enable the use of renewable energies, we are arranging a more flexible electricity feed-in to be able to react to fluctuating availability. We are participating in the project NEW 4.0, among others, which is funded by the German Federal Ministry for Economic Affairs and Energy. The goal of the project is to supply the entire region of Hamburg and Schleswig-Holstein with regenerative electricity in a safe, cost-effective, and environmentally sound manner. This calls for a flexible and intelligent network of electricity producers and consumers. As part of NEW 4.0, Aurubis commissioned a study to demonstrate the limits and the potential of making electricity consumption more flexible at the Hamburg plant. Furthermore, a power-to-steam facility (electrode boiler) was installed at the Hamburg plant. During periods of surplus renewable energy in the grid, the facility converts the energy into steam for internal processes. Over 10 % flexibility has been achieved for the Hamburg plant already.
- *Reducing CO_2 emissions by 100,000 t through energy efficiency projects and internal electricity projects by 2022/23 (compared to FY 2012/13)*
  Target achievement is at 74 %.
- *Energy efficiency projects*
  In October 2018, Hamburg's HafenCity East neighborhood began receiving CO_2-free industrial heat from the Aurubis plant in Hamburg. Each year, about 160 million kWh of heat is extracted from the processes, equivalent to a more than 20,000 t reduction in CO_2 annually. Roughly half of this reduction comes from saving the natural gas that was previously required to produce steam on the plant premises. The other half of the CO_2 reduction comes from the transmission of external heat to the HafenCity East neighborhood, which replaces the conventional fuels used to generate district heating. The Industrial Heat project has already garnered a great deal of recognition among expert circles, receiving the following honors in the past year:
  - Energy Efficiency Award 2018 from the German Energy Agency, in the category "Energy Transition 2.0"
  - German Renewables Award 2018 from the Renewable Energy Hamburg Cluster, in the category "Project of the Year"
  - Flagship Project for Energy-Efficient Waste Heat for the German Energy Agency since 2017
  - ener.CON Europe Award 2019 from we.CONECT
  - First prize in the 2019 Responsible Care competition of the northern German branch of the Chemical Industry Association (VCI Nord)
  - EU Sustainable Energy Award 2019 finalist
- *Investigating processes and electricity consumption in relation to the German government's Climate Action Plan 2050 and analyzing the requirements for new investments (starting fiscal year 2018/19)*
  Studies at association level and at company level have been commissioned and are currently underway.

KPIs:

Energy consumption[1]

in million MWh	2018	2017	2016
Primary energy consumption	1.75	1.66	1.72
Secondary energy consumption	1.77	1.88	1.73
Total energy consumption	3.51	3.54	3.45

CO_2 emissions[1]

in 1,000 t CO_2	2018	2017	2016
Scope 1 (emissions produced as a direct result of burning fuels in the company's own facilities)[2]	522	517	508
Scope 2 (emissions related to purchased energy, e.g., electricity)	936	1,048	1,014
Total (Scope 1+2)	1,459	1,565	1,522

[1] Aurubis reports the energy KPIs and CO_2 emissions for the production sites that are majority-owned (> 50 %) by Aurubis Sites and employees, page 65. This reflects most of the energy consumption because the volume at the sales offices is negligible in comparison. In contrast to the Non-Financial Report for fiscal year 2017/18, the KPIs reported this year don't include Schwermetall Halbzeugwerk GmbH & Co. KG, in which Aurubis holds a 50 % stake.

[2] Emissions from diesel vehicles in accordance with the emission trading system are not included in the direct CO_2 emissions. However, they make up a very small percentage compared to other sources.

PROTECTION FROM ENVIRONMENTAL IMPACT

As a producer of copper and other metals, we are aware of our environmental responsibility. We have therefore set ourselves the target of conserving resources and maintaining a clean environment for future generations. This applies not only to our own processes but to those along the value chain as well Human rights, pages 52–53.

The chief operations officer and Corporate Environmental Protection management are responsible for the strategic positioning of environmental protection in the Group. Environmental officers oversee the environmental protection duties at the individual production sites Sites and employees, page 65.

The principles of our Corporate Environmental Protection Guidelines provide a framework for safeguarding our uniform, Group-wide environmental standards. They are enshrined in the Corporate Policy on Environmental Protection. We have set Group-wide targets in environmental protection. We implement corresponding local measures at the production sites to achieve these targets. Environmental performance is monitored and controlled using key environmental parameters, which are regularly recorded at the production sites and verified by external inspectors.

The main standards for our production processes are outlined in the permits issued by the governmental authorities. The baseline includes European regulations on immissions, emissions, water, waste, and disruptions, as well as their implementation in national law, plus the European chemical regulation REACH.

Most of our sites have environmental management systems in accordance with ISO 14001/EMAS Glossary, page 194 Certifications by site, page 49. At the Hamburg and Lünen sites, these are part of the integrated management system for quality, environmental protection, energy, and occupational safety. During the reporting period, the certifications were confirmed through routine surveillance visits or recertification.

In addition to fulfilling legal requirements, the management systems help us improve our environmental performance. They assist us in recognizing potential improvements and, in the case of deviations from specified targets, in initiating corrective actions. We continuously inform our employees about environmental and energy-related topics and train them accordingly. Moreover, emergency drills are carried out regularly, which we document and evaluate.

Our efforts are paying off, with specific dust emissions for primary and secondary copper production Glossary, page 195 having been reduced by 95 % compared to the reference year 2000. The emission reduction programs of the last few years will continue. In addition to reducing emissions to air, we have also made significant improvements in water pollution control. We have reduced metal emissions to water in copper production processes from 7.2 to 1.1 g per t of copper output since 2000. This is a decline of 85 %.

In early 2019, the Hamburg Environmental Authority published that measurements taken at the Veddel measuring station in 2018 exceeded the target for arsenic in particulate matter in the ambient air. As in past years, our Hamburg plant adhered to and fell significantly below the legal limits prescribed for all of the emissions permitted for the operation of our facilities. Nevertheless, we will continue to actively implement additional emission reduction measures to ensure that the measurements at the Veddel measuring station continue to fall below the targets, even in unfavorable climate conditions (as in 2018).

Dialogue with governmental authorities and the public is important to us, which is why we are involved in public projects. For example, since 2013 we have participated in the EU projects OrganisationEnvironmental Footprint and Product Environmental Footprint, which seek to achieve an environmental balance in organizations and products. In 2018, the two pilot projects we participated in were successfully concluded when the results were accepted by the official supervisory bodies. We plan to take part in the next phase of the Environmental Footprint as well and contribute our experience in this area. Furthermore, we carried out a life cycle analysis for copper cathodes and published the results in the Aurubis AG Environmental Statement. The numbers show that the footprint of the Aurubis cathodes is smaller than the average cathode produced by the members of the International Copper Association (ICA)[1].

Key measures of the Sustainability Strategy 2018–2023 and their status in FY 2018/19

- *Introducing the ISO 14001 standard for environmental management systems across the Group*
  Twelve sites were certified in accordance with ISO 14001 in fiscal year 2018/19 Certifications by site, page 49.
- *Reducing specific metal emissions to water in multi-metal production with site-specific projects and individual measures*
  Status in 2018: 52 % reduction (target: 40 % by 2022, base year: 2012)
  One measure to reduce metal emissions to water was to install a new sand filter in the existing treatment plant for industrial wastewater at the Pirdop site. Commissioning is expected in late 2019. This should reduce emissions from undissolved substances.
- *Reducing specific dust emissions to air in multi-metal production with site-specific projects and individual measures*
  Status in 2018: 13.4 % reduction (target: 15 % by 2022, base year: 2012)
  For example, a new facility for cooling converter slag in pots was built at the site in Pirdop, Bulgaria. Commissioning is expected in late 2019. This project contributes to a further reduction in fugitive emissions.
- *Reducing specific SO_2 emissions to air with planned site-specific projects and individual measures*
  The new facility for cooling converter slag mentioned above also contributes to reducing SO_2 emissions.

[1] ICA – International Copper Association: Copper Environmental Profile, Sept. 2017.

KPIs:

Specific emissions from copper production

in g/t of copper output	**2018**	2017	2016	2015	2014	2013
Dust emissions[1]	63	56	60	55	55	52
Metal emissions to water[2]	1.1	1	1.1	1	1.3	1.8

[1] The KPIs relate to the copper production sites, i.e., to primary and secondary copper production at the Hamburg, Lünen, Olen, and Pirdop sites.
[2] In our reporting, we refer to the copper production sites that discharge directly into water. These sites are Hamburg, Olen, and Pirdop. In Lünen, wastewater is directed to the public sewer system after being treated on the plant premises.

Certifications by site

Site	EMAS	ISO 14001	ISO 50001	ISO 9001	IATF 16949	EfbV	ISO 45001/ OHSAS 18001[3]
Hamburg, headquarters (DE)	√	√	√	√			
Lünen (DE)	√	√	√	√		√	
Pirdop (BG)		√		√			√[4]
Olen (BE)		√		√			
Emmerich, Deutsche Giessdraht (DE)		√	√	√			
Avellino (IT)	√	√		√			√
Fehrbellin, CABLO (DE)		√	√	√		√	
Nersingen, Strass, CABLO (DE)		√	√	√		√	
Hamburg, E.R.N. (DE)		√	√	√		√	
Röthenbach, RETORTE (DE)				√			
Hamburg, Peute Baustoff (DE)				√[1]			
Buffalo (USA)				√	√		
Zutphen (NL)		√		√	√		
Pori (FI)		√		√			√
Stolberg (DE)			√	√	√		
Stolberg, Schwermetall (DE)[2]	√	√	√	√			√

[1] For the sale of iron silicate granules used to produce blasting abrasives.
[2] Not majority-owned by Aurubis (50 % stake).
[3] The slitting center in Dolný Kubín is also certified in accordance with OHSAS 18001.
[4] Valid starting October 1, 2019.

Explanation:
EMAS: system of specifications for environmental management systems.
ISO 14001: standard for environmental management systems.
ISO 50001: standard for energy management systems.
ISO 9001: standard for quality management systems.
IATF 16949: standard for quality management systems in the automotive industry, based on ISO 9001.
EfbV: Ordinance on Specialized Waste Management Companies (German certificate).
ISO 45001: standard for occupational safety management systems.
OHSAS 18001: standard for occupational safety management systems.

RECYCLING SOLUTIONS

We invest in our multi-metal recycling and, in this way, contribute to a circular economy and thus to the conservation of natural resources beyond our key expertise in copper recycling.

In addition to the processing of copper concentrates, the recycling of copper scrap, copper alloy scrap, and other secondary raw materials is a key business area at Aurubis. Copper is a metal that can be recycled as often as desired without a loss of quality. This means that copper of the highest purity can be produced from recycling materials Glossary, page 195 again and again. Furthermore, copper is one of the base metals used to recover or extract a number of other accompanying elements such as gold, silver, nickel, tin, lead, or zinc.

Among the secondary raw materials we process are complex materials Glossary, page 194 from end-of-life products. These come from sources such as electronic devices, vehicles, and other items used daily and consist of material combinations that include plastics, ceramic, or glass. Separating them into material and product streams by type in order to reuse them is a significant challenge. We utilize highly developed mechanical, physical, and metallurgical separating and refining processes in different combinations for this purpose as part of our multi-metal recycling.

Our Commercial division is responsible for sourcing recycling materials for the Group. This is divided into the areas Recycling Raw Materials (which handles the material supply for the smelters), Marketing Cathodes (which supplies the production facilities with cathodes and “direct melt” raw materials), and Product Sales & Marketing with the function Customer Scrap Solutions.

This organization aligns with our recycling approach: we use secondary materials from production and from end-of-life products as raw materials. Especially in the marketing of our products and in our customer relationships, we include the return of the metals in our thinking. We provide individualized solutions for taking back recycling materials that accumulate in the processing of our copper products as well as other metals in the different value-added stages that take place with our product customers and their customers. Depending on the value-added stage, materials are accumulated with very high copper contents, such as Millberry scrap, which can be immediately directed to the copper production process, or more complex or alloyed recycling raw materials that can also be smelted, such as copper- and precious metal-bearing stamping waste, alloy scrap, slags from foundries, and other industrial residues like used catalysts and galvanic slimes.

As part of our “closing-the-loop” activities, we build up partnerships through which we not only sell our products but also take back recycling raw materials customers accumulate, in addition to other service offerings.

Aurubis processes recycling materials at different sites. The managers of these sites report to the chief operations officer. Smaller subsidiaries such as CABLO, Elektro-Recycling Nord (E.R.N.) and RETORTE report to the management of the Recycling Raw Materials and/or Precious & Minor Metals departments in the Commercial division.

Our sites in Lünen (Germany) and Olen (Belgium) specialize in processing recycling raw materials, which are the primary feedstock at our largest recycling plant, the Aurubis recycling center in Lünen.

The plant in Lünen was certified by TÜV Nord in accordance with the WEEE End Processor Standard in 2015 (WEEE = Waste Electrical and Electronic Equipment Glossary, page 195). This is a voluntary standard for the processing of WEEE materials containing copper and precious metals, such as circuit boards. We helped develop the standard and thus support the installation of organized recycling and disposal processes through compulsory standards. Since December 2018, the plant has been certified through WEEELABEX in accordance with the related European series of standards EN 50625.

Moreover, we have two companies with unique recycling expertise within the Group: our subsidiary CABLO specializes in recycling cable production waste and end-of-life cable scrap, while E.R.N. focuses on recycling electrical appliances and electronic devices of all kinds.

The Hamburg and Pirdop sites also process recycling raw materials to produce cathode copper and precious metals. Though the primary smelters utilize copper concentrates as their main feed material, they also use copper scrap to a certain extent because it is ideal for process cooling and therefore enables particularly energy-efficient processing.

We and 22 national and international partners are participating in the European research project FORCE – Cities Cooperating for Circular Economy. The project's goal is to develop new concepts to avoid and treat waste, specifically when it comes to the material streams related to plastic, biomass, end-of-life electrical appliances, and wood. As a multi-metal recycler, Aurubis supports the project with its expertise for the purpose of improving the recycling of strategic metals (e.g., copper and gold) through the best possible collection and dismantling system for waste electrical and electronic equipment.

Key measures of the Sustainability Strategy 2018–2023 and their status in fiscal year 2018/19

- *Increasing the volume of complex recycling materials sourced*
  Raw material sourcing and processing are changing due to the rising complexity of the raw materials; we consider this fact both a challenge and an opportunity and address it with our own preparation techniques and collaboration with partners who operate their own processes to enrich metals in raw materials.
- *Establishing and developing "closing-the-loop" systems as a result of new or intensified cooperation with original equipment manufacturers (OEMs), retailers, or copper product customers*
  We integrated this target in our strategic approach in the Product Sales & Marketing department in the past fiscal year Magazine 2018/19, pages 28–32.

Social matters

SOCIAL ENGAGEMENT[1]

Social engagement is a fixed component of our company identity. We fulfill our responsibility within society – as an employer, as a business partner, as a neighbor, and as a member of society – throughout the entire value chain.

We have set the target of contributing to a livable environment for future generations, focusing on areas of action that are linked with Aurubis' key areas of expertise. We want to promote enthusiasm for our company and for our work and present ourselves as a responsible, committed company.

Projects and partners are selected according to established criteria outlined in our Sponsoring Policy, which also defines responsibilities in the Group. The Event Management & Sponsoring division is responsible for our social engagement and reports to the vice president overseeing Investor Relations & Corporate Communications. This function then reports directly to the Executive Board chairman so that he is included in our social activities and related budget decisions. A Sponsoring Committee made up of appointed members from Event Management & Sponsoring, Communications, Sustainability, and Corporate Compliance makes decisions about project support that exceeds a certain level set internally.

Apart from projects at Group level, our sites also get involved at the local level using their own budgets. Our Sponsoring Policy applies to these projects as well, which, in addition to the three Group-wide focuses, also concentrate on culture, sports, or our core business.

[1] Topic not material for Aurubis within the meaning of the CSR Implementation Act.

Key measures of the Sustainability Strategy 2018–2023

» *Developing and implementing the sponsoring concept "together we care" for social engagement at Group level (by fiscal year 2018/19)*
In fiscal year 2018/19, we adopted and released our new strategy for social engagement, called "together we care." We are focusing our involvement on the areas of knowledge, the environment, and participation, in line with our company strategy. www.aurubis.com/togetherwecare

Project examples in the reporting period

In Hamburg, we support the project Bridge & Tunnel. A key aspect of the project is the recycling of reusable materials. Old textiles and leftover material are processed into accessories, clothing, and home textiles in Hamburg-Wilhelmsburg. Bridge & Tunnel creates permanent jobs for people who are not employed on the primary labor market for various reasons and for individuals with an immigration background. www.bridgeandtunnel.de/en

Aurubis Bulgaria supported the renovation of a convent in Zlatitsa during the reporting period. The support provided is part of Aurubis Bulgaria's local sponsoring strategy of helping restore cultural and historic places in the region in order to develop a local network of tourist destinations. The purpose of this network is to promote regional development.

Aurubis Belgium supports the local social organizations Welzijnsschakels and Sociale dienst Olen, which have the shared goal of providing assistance to prevent poverty in Belgium, particularly among older people and families.
www.welzijnsschakels.be/regios/groepen/antwerpen/welzijnsschakel-olen
www.desocialekaart.be/ocmw-olen-sociale-dienst-525670

Starting in the past fiscal year, Aurubis has also been involved in key supply countries in South America, especially Peru and Chile.

In Peru, Aurubis supports a holistic education program of the foundation Fundación Niños del Arco Iris in the Urubamba District. In addition to conveying knowledge and directly including the families involved, the project also focuses on health issues.
www.ninosdelarcoiris.com/en

Near Arequipa in Peru, Aurubis supports a water project in the Salinas y Aguada Blanca National Reserve. The goal of the project is to use natural resources sustainably and to maintain and protect biodiversity with the direct involvement of local citizens.
www.descosur.org.pe/rnsab/

In Chile, Aurubis supports the development of dual occupational training for agriculture following the German model at the Liceo Jean Buchanan school in the O'Higgins Region (Chile).
chile.ahk.de/es/infocenter/noticias/noticias/aurubis-ag-firma-acuerdo-con-camchal-para-fomentar-la-capacitacion-tecnica-en-liceo-de-peumo/

Human rights

Aurubis respects human rights and advocates for their protection. We reject any form of discrimination, forced labor, or child labor. We respect the rights of indigenous populations. Compliance with the internationally recognized core labor standards of the International Labour Organization (ILO) are of fundamental significance. This is enshrined in our Code of Conduct. The entire Executive Board bears responsibility for the respect of human rights in our business activities.

We have been committed to the United Nations Global Compact since 2014 and thus to working on implementing its Ten Principles related to human rights, labor, the environment, and anti-corruption. These Ten Principles are derived from the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention against Corruption.

Our Code of Conduct and the company values, PRIMA Glossary, page 195 are the basis for our responsible conduct, including with regard to human rights. PRIMA stands for Performance, Responsibility, Integrity, Mutability, and Appreciation. We call on all employees to report cases of discrimination to their HR departments or the chief compliance officer. Our employees and business partners can report these types of cases anonymously through our whistle-blower hotline as well.

Our efforts regarding respect for human rights focus on our supply chain.

RESPONSIBLE SUPPLY CHAIN

In our view, our responsibility to uphold human rights extends to the supply chain. Aurubis sources metal-bearing raw materials worldwide. In some cases, our metals come from countries with a higher risk of human rights violations, non-compliance with social and environmental standards, or corruption. One of our objectives is to manage our global sourcing of primary and secondary raw materials responsibly, taking the respective impact on the social environment, the natural environment, and economic aspects into account.

We have implemented Aurubis Business Partner Screening to fulfill our due diligence obligation. This tool enables us to analyze our business partners' integrity in relation to social and ecological criteria. The focus of the process is on the topics of compliance, corruption, human rights violations, and the environment. Based on this assessment, management decides on possible contracts or restrictions. For existing business partnerships, the analysis is repeated regularly depending on the original risk. The screening is based on the principles of the OECD. Since 2013, Aurubis' gold production has been annually certified as conflict-free according to the standards of the London Bullion Market Association (LBMA). The certificate verifies the effectiveness of our due diligence process with regard to gold production. Suppliers of other raw materials go through a comparable process as those who supply gold-bearing raw materials.

Key measures of the Sustainability Strategy 2018–2023 and their status in FY 2018/19

» *Introducing the Aurubis Business Partner Code of Conduct across the Group (by FY 2018/19)*
  The Code of Conduct was introduced.
» *Implementing Aurubis Business Partner Screening across the Group*
  The screening has already been expanded to include the key sites Olen and Pirdop.
» *Including human rights, environmental protection, and safety clauses[1] in supply contracts for primary raw materials*
  During fiscal year 2018/19, the percentage of contracts with primary raw material suppliers including the corresponding clause was over 80 % (target: 100 % by FY 2022/23).
» *Identifying a suitable sector solution*
  Aurubis is a member of the International Copper Association (ICA). In 2019, the ICA introduced the concept of the Copper Mark, which will entail a review of the sustainability standards of copper production sites including mines, smelters, and refineries. We support the initiative and are actively monitoring the development process as a member of the ICA.

[1] We expect our suppliers of primary raw materials to follow not only local laws but also UN sanctions and trade restrictions, as well as UN conventions related to human rights, environmental protection, and safety.

Anti-corruption

Corporate governance and the principles of responsible and sustainable company management determine Aurubis' actions. More information is available in the section Corporate Governance, pages 17–35.

Anti-corruption measures are established in Aurubis' compliance management. Compliance management forms the basis for observing legal regulations. Compliance with all legal and company guidelines and policies is our objective. Violating the law can have serious consequences – for our employees, for Aurubis as a group, and for our business partners. For us, compliance also means that we act in accordance with ethical principles and our defined company values, as well as with internal corporate policies.

Together with the Executive Board, our compliance employees promote a compliance culture and actively strive to strengthen awareness for following rules and laws in the Group. Compliance management establishes the main targets, develops the corresponding organization, and identifies, analyzes, and communicates significant compliance risks. Our compliance program introduces principles and measures to limit risks and prevent violations. The chief compliance officer reports regularly (and as the circumstances may require) to the Executive Board and Audit Committee with regard to the compliance management system, compliance violations, and compliance-related measures. He works together closely with the employees responsible for Risk Management and Internal Audit. Within Aurubis' internal control system, the chief compliance officer reviews potential compliance risks together with the Executive Board, the plant managers, and the heads of corporate and central functions.

The company's chief compliance officer is the central point of contact for all compliance-relevant questions and reports directly to the Executive Board. At the larger Group sites, local compliance officers are available as a point of contact for employees.

Measures include prevention, monitoring, and sanctions. Preventive measures at Aurubis comprise internal policies, guidance, and particularly the training of employees.

One of the central topics in our compliance activities is preventing corruption in our business activities. The anti-corruption measures are also established in our compliance management. The Corporate Anti-Corruption Compliance Policy and the Code of Conduct for employees, both of which apply Group-wide, are at the core of the anti-corruption efforts in our business activities.

The Aurubis Code of Conduct is given to every employee. They all confirm that they have received the Code of Conduct by signing the employment contract. Training on anti-corruption and antitrust law is carried out regularly throughout the Group. As part of compliance management, the corruption risks at our sites are identified and documented by Risk Management.

Employees and business partners can make anonymous reports regarding legal violations via a whistle-blower hotline. It is also open to all of our external stakeholders. This hotline is operated by external, independent attorneys. Any tips they receive, for example regarding possible cases of corruption, discrimination, or incidents in the supply chain, are investigated. If any wrongful acts are actually proven, they can lead to warnings, dismissals, and/or damage claims. The hotline is available in English, German, and Spanish.

Key measures

» *Providing employees for whom the topics of anti-corruption and antitrust law are relevant due to their responsibilities with training on these topics about every three years, regardless of their level in the company hierarchy*
In the past few years, this applied to 730 employees for anti-corruption training and to around 320 employees for antitrust law training.

KPI

We are not aware of any antitrust or corruption cases in the reporting period.

Limited Assurance Report of the Independent Auditor regarding the Separate Non-financial Report[1]

To the Supervisory Board of Aurubis AG, Hamburg

We have performed an independent limited assurance engagement on the non-financial report of Aurubis AG, Hamburg (further „Aurubis“) as well as the by reference qualified parts ”Foundations of the Group” and “Risk and Opportunity Report” of the Combined Management Report (further: „Report“) according to §§ 315b and 315c in conjunction with 289c to 289e German Commercial Code (HGB) for the business year from October 1, 2018 to September 30, 2019.

MANAGEMENT’S RESPONSIBILITY

The legal representatives of Aurubis are responsible for the preparation of the Report in accordance with §§ 315b and 315c in conjunction with 289c to 289e HGB.

This responsibility of the legal representatives includes the selection and application of appropriate methods to prepare the Report and the use of assumptions and estimates for individual disclosures which are reasonable under the given circumstances. Furthermore, this responsibility includes designing, implementing and maintaining systems and processes relevant for the preparation of the Report in a way that is free of – intended or unintended – material misstatements.

[1] Our engagement applied to the German version of the Report. This text is a translation of the Independent Assurance Report issued in the German, whereas the German text is authoritative.

INDEPENDENCE AND QUALITY ASSURANCE ON THE PART OF THE AUDITING FIRM

We are independent from the entity in accordance with the requirements of independence and quality assurance set out in legal provisions and professional pronouncements and have fulfilled our additional professional obligations in accordance with these requirements.

Our audit firm applies the national statutory provisions and professional pronouncements for quality assurance, in particular the Professional Code for German Public Auditors and Chartered Accountants (in Germany) and the quality assurance standard of the German Institute of Public Auditors (Institut der Wirtschaftsprüfer, IDW) regarding quality assurance requirements in audit practice (IDW QS 1).

PRACTITIONER'S RESPONSIBILITY

Our responsibility is to express a conclusion on the Report based on our work performed within our limited assurance engagement.

We conducted our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information" published by IAASB. This Standard requires that we plan and perform the assurance engagement to obtain limited assurance whether any matters have come to our attention that cause us to believe that the Report of the entity for the business year October 1, 2018 to September 30, 2019 has not been prepared, in all material respects, in accordance with §§ 315b and 315c in conjunction with 289c to 289e HGB. We do not, however, provide a separate conclusion for each disclosure. In a limited assurance engagement the evidence gathering procedures are more limited than in a reasonable assurance engagement and therefore significantly less assurance is obtained than in a reasonable assurance engagement. The choice of audit procedures is subject to the auditor's own judgement.

Within the scope of our engagement, we performed amongst others the following assurance procedures:

- Inquiries of personnel on corporate level, who are responsible for the materiality analysis, in order to gain an understanding of the processes for determining material sustainability topics and respective reporting boundaries of Aurubis
- A risk analysis, including a media search, to identify relevant information on Aurubis sustainability performance in the reporting period
- Reviewing the suitability of internally developed Reporting Criteria
- Evaluation of the design and implementation of the systems and processes for determining, processing and monitoring disclosures relating to environmental, employee and social matters, respect for human rights, and combating corruption and bribery, including the consolidation of the data
- Inquiries of personnel on corporate level who are responsible for determining disclosures on concepts, due diligence processes, results and risks, for conducting internal controls and consolidation of the disclosures
- Evaluation of selected internal and external documentation
- Analytical evaluation of data and trends of quantitative information which are reported by all sites for consolidation on corporate level
- Evaluation of local data collection, validation and reporting processes as well as the reliability of reported data based on a sample of the site in Lünen (Germany)
- Assessment of the overall presentation of the disclosures

CONCLUSION

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the Report of Aurubis for the business year from October 1, 2018 to September 30, 2019 is not prepared, in all material respects, in accordance with §§ 315b and 315c in conjunction with 289c to 289e HGB.

RESTRICTION OF USE/CLAUSE ON GENERAL ENGAGEMENT TERMS

This report is issued for purposes of the Supervisory Board of Aurubis AG, Hamburg, only. We assume no responsibility with regard to any third parties.

Our assignment for the Supervisory Board of Aurubis AG, Hamburg and professional liability is governed by the General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften (Allgemeine Auftragsbedingungen für Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften) in the version dated January 1, 2017 www.kpmg.de/bescheinigungen/lib/aab_english.pdf. By reading and using the information contained in this report, each recipient confirms notice of provisions of the General Engagement Terms (including the limitation of our liability for negligence to EUR 4 million as stipulated in No. 9) and accepts the validity of the General Engagement Terms with respect to us.

Hamburg, 10.12.2019

KPMG AG
Wirtschaftsprüfungsgesellschaft

Laue	ppa. Mathias
Wirtschaftsprüfer	
(German Public Auditor)	

Aurubis Shares on the Capital Market

Stock markets influenced by political developments

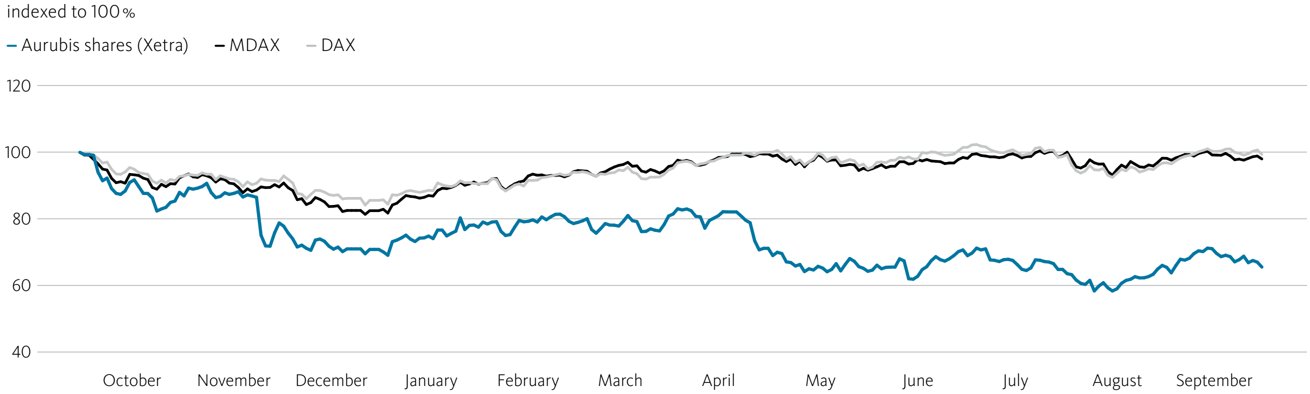
The driving factors behind the stock markets in fiscal year 2018/19 were largely political. The developments in the trade conflict between the US and China, as well as in the Brexit negotiations, considerably impacted share price developments during the entire reporting period. In combination with economic weakness in China and the US, and fear of the US Federal Reserve increasing interest rates, this led to a significant slump on the stock markets at the end of 2018: the DAX fell from 12,339 points at the start of the fiscal year to 10,559 points at the end of the calendar year – after a low of 10,382 points on December 27, 2018. Nevertheless, this was followed by a distinct recovery phase in the new year, which corrected the pessimistic expectations of the preceding months. The strong surge in key US indices supported this development. In mid-April, the DAX climbed above the 12,000-point mark again. Afterward, more announcements of tariffs in the ongoing trade conflict and stagnating Brexit negotiations caused investors to get nervous again. The prospect of easing monetary policy in the US and Europe more than compensated for this, however, and the DAX reached a fiscal-year high of 12,630 points on July 4, 2019. Driven by the political developments described, the capital markets were volatile until the end of the fiscal year: the DAX fell to an interim low of 11,413 points in mid-August but rose again, closing the fiscal year at 12,428 points, due to signals that the trade conflict could be easing up, the prospect that a no-deal Brexit might be avoided, and looser monetary policy from the European Central Bank (ECB).

Aurubis shares showed a volatile trend due to internal and external factors

The performance of Aurubis shares was also significantly impacted by internal factors, in addition to the uncertain mood on the capital market. The shares started at their fiscal-year high (closing price) of € 61.02 on October 1, 2018 and declined in Q1 of the fiscal year in line with the international stock markets. In particular following the ad hoc announcement on November 26, 2018, stating that the 2018/19 forecast for the operating result would be reduced to “moderately” (-5 % to -15 %) below the previous year, the shares lost considerable ground and closed 2018 at € 43.22. Stock markets recovered at the start of 2019, and Aurubis shares also exceeded the € 50 mark in early April before the announcement on April 26, 2019 regarding the further reduction in the full-year forecast for 2018/19 to “significantly” (>-15 %) below the previous year strained the share price once again. The shares continued to decline and hit their fiscal-year low of € 35.60 in mid-August after the release of the nine-month results, in a nervous capital market environment. In a more positive market environment, the shares

Aurubis share performance compared with the MDAX and DAX from October 1, 2018 to September 30, 2019

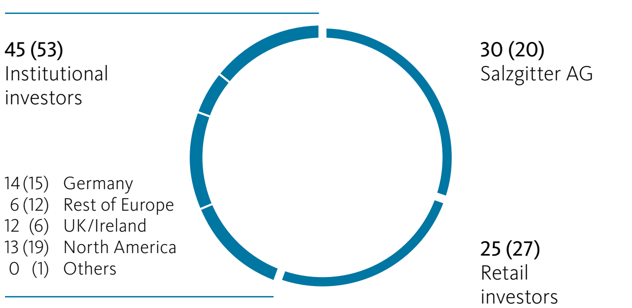
indexed to 100 %



rose 22 % until mid-September, nevertheless closing the fiscal year lower at € 40.89 on September 30, 2019. With a performance of -32 % for the fiscal year overall, the shares were considerably behind the development of the DAX (1 %), the MDAX (0 %), and the STOXX Europe 600 (3 %). Market capitalization was € 1,838 million as at fiscal year-end (previous year: € 2,708 million). Since June 24, 2019, the shares have not been part of the STOXX Europe 600.

Shareholder structure

in % (prior-year figures in parentheses)



Aurubis shares remain an attractive long-term investment. Shareholders who, for example, invested € 1,000 at the end of September 2009 and reinvested the dividends they received (without a tax deduction) into Aurubis shares had a portfolio value of € 1,789 on September 30, 2019. This is an 84.91 % increase in value, or a total annual return of 5.99 %.

Trading volume of Aurubis shares exceeds previous year

The volatility in the Aurubis share price was also reflected in the daily average Xetra trading volume, which, at 221,144 shares, exceeded the prior-year level (217,736 shares).

Aurubis has a well-diversified shareholder structure

Aurubis maintained its stable and well-diversified shareholder structure in fiscal year 2018/19. Salzgitter Mannesmann GmbH increased its shareholding, according to a voting rights notification dated December 13, 2018, from 20 % to 25 %. In its analyst conference on the first half of 2019, Salzgitter announced that the stake in Aurubis AG had been increased to 30 % minus one share. An analysis carried out in September/October 2019 indicated that the proportion of institutional investors decreased slightly to 45 % (previous year: 53 %). The proportions in the rest

Key figures of Aurubis shares

		2018/19[2]	2017/18[2]	2016/17[2]	2015/16[2]	2014/15[2]
Closing price as at fiscal year-end[1]	in €	40.89	60.24	68.54	49.88	56.90
Year high (close)[1]	in €	61.02	86.12	78.47	61.68	59.68
Year low (close)[1]	in €	35.60	55.44	46.79	37.54	36.43
Market capitalization as at fiscal year-end[1]	in € million	1,838	2,708	3,081	2,242	2,558
Number of shares as at fiscal year-end	in '000	44,956.70	44,956.70	44,956.70	44,956.70	44,956.70
Dividend or recommended dividend	in €	1.25	1.55	1.45	1.25	1.35
Payout ratio[3]	in %	41	26	28	34	24
Dividend yield	in %	3.1	2.6	2.1	2.5	2.4
Operating earnings per share	in €	3.08	5.87	5.21	3.64	5.68
Operating price/earnings ratio as at fiscal year-end		13.28	10.26	13.16	13.70	10.02

[1] Xetra disclosures.
[2] Values have been "operationally" adjusted for measurement effects deriving from the use of the average cost method in accordance with IAS 2. In consequence, metal price fluctuations resulting from the use of the average cost method are also eliminated, as are the non-permanent write-downs or write-ups of copper inventories as at the reporting date. Fixed assets are adjusted by non-cash-effective impacts deriving from purchase price allocations.
[3] In FY 2016/17, the payout ratio definition was changed compared to the previous year. The new basis is the operating net result and no longer Aurubis AG's unappropriated earnings.

of Europe and North America declined, while substantial increases were recorded in the UK/Ireland. London-based Silchester International Investors LLP holds a 10.03 % stake, according to a voting rights notification dated October 9, 2019. Rossmann Beteiligungs GmbH, Burgwedel, holds a 5.005 % stake in Aurubis AG, according to a voting rights notification dated August 23, 2019. The majority of institutional investors are located outside of Germany. The proportion of shares held by retail investors decreased to 25 % (previous year: 27 %).

Executive Board and Supervisory Board suggest a dividend of € 1.25

The objective of our dividend policy is to allow our shareholders to participate in the company's success adequately and continuously. The Executive Board and Supervisory Board will recommend a dividend of € 1.25 at the Annual General Meeting on February 27, 2020. This corresponds to a payout ratio of 41 % of the operating consolidated net income (previous year: 26 %). The dividend yield based on the closing price as at September 30, 2019 amounts to 3.1 % (previous year: 2.6 %).

Prompt, targeted capital market communication

Our capital market communication in fiscal year 2018/19 focused intensively on our reduced operating performance due to planned and unplanned shutdowns, on the appointment of a new Executive Board chairman, and on external and internal growth projects. Furthermore, the volatile market environment, the varying developments on our submarkets, and the company's resulting earnings trend led to a high demand for information among capital market participants. We met this need with proactive, prompt communication tailored to our target groups. We informed our private and institutional investors about the Aurubis Group's current business performance and potential through different channels. Dialogue with institutional investors was once again a significant pillar of our capital market communication. The Executive Board and the Investor Relations department discussed the current business situation and the Aurubis Group strategy at many investor conferences and roadshows at the main financial centers in Europe and North America, in conference calls, and in a number of individual meetings. Webcasts on the release dates of our quarterly reports enabled investors and analysts to communicate with the Executive Board and management representatives. Moreover, many investors were informed about our processes, operating facilities, and products during visits to our Hamburg site.

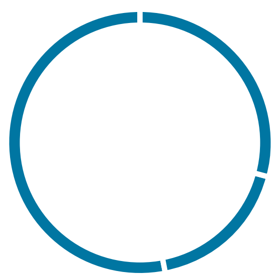
We informed the capital markets about extraordinary developments in the form of ad hoc announcements, which were as follows:

- Announcement on October 10, 2018: The European Commission expressed reservations, from the perspective of merger control law, regarding the approval of the sale of Segment FRP
- Announcement on November 1, 2018: According to preliminary figures, Aurubis AG generated operating earnings before taxes (EBT) of € 63 million in Q4 of fiscal year 2017/18 (previous year: € 87 million), which is below current market expectations (€ 73 million)
- Announcement on November 26, 2018: Aurubis AG expects its operating result for fiscal year 2018/19 to be moderately below the previous year
- Announcement on December 10, 2018: Change in Executive Board chairmanship in mid-2019
- Announcement on January 30, 2019: Roland Harings to become new CEO of Aurubis AG
- Announcement on April 26, 2019: Aurubis AG generates preliminary quarterly earnings of € 63 million and reduces full-year forecast
- Announcement on May 22, 2019: Aurubis acquires the Metallo Group
- Announcement on June 12, 2019: Executive Board Chairman Jürgen Schachler relieved from his duties, effective immediately, and FCM investment project halted

A total of 17 financial analysts from national and international research firms regularly published recommendations and analyses about Aurubis' shares during fiscal year 2018/19. Deutsche Bank resumed coverage again in July 2019 after a change in analysts. Coverage at Macquarie is currently suspended. The ratings were as follows at the end of the fiscal year:

Overview of analyst recommendations

Number as at September 30, 2019



Security Identification Number	676650
International Securities Identification Number (ISIN)	DE 000 67 66 504
Stock market segment	MDAX
Stock exchanges	Regulated market: Frankfurt am Main and Hamburg; unofficial market: Berlin, Düsseldorf, Hanover, Munich, Stuttgart, Tradegate
Market segment	Prime Standard
Issue price	€ 12.78
Average daily trading volume	221,144 shares in Xetra trading
Ticker symbol	NDA
Reuters code	NAFG
Bloomberg code	NDA_GR

We held four dialogue events for our retail shareholders this year. At our Hamburg site and our recycling site in Lünen, around 300 shareholders gathered extensive information about the current development of the Group and its economic environment and had the opportunity to speak with Aurubis managers and employees. We held presentations for retail investors at events organized by private shareholder associations as well. The high level of interest in our shares was also evident at our well-attended Annual General Meeting on February 28, 2019, in which over 1,000 shareholders participated. Shareholders were also able to follow the Executive Board chairman's speech live online, where it was also made available after the event.

Current information on the development of the company is available at www.aurubis.com. We provide financial reports, analyst presentations, and additional publications in our download center.

Analyst coverage 2018/19

Baader Bank	Christian Obst
Bankhaus Lampe	Marc Gabriel
Bank of America Merrill Lynch	Olivia Du
Commerzbank	Ingo-Martin Schachel
Deutsche Bank	Bastian Synagowitz (since July 2019)
DZ Bank	Dirk Schlamp
Exane BNP Paribas	Jatinder Goel
Goldman Sachs	Eugene King
Hauck & Aufhäuser	Henning Breiter
Independent Research GmbH	Sven Diermeier
Kepler Cheuvreux	Rochus Brauneiser
LBBW	Jens Münstermann
Macquarie Research[1]	Ioannis Masvoulas
Morgan Stanley	Dan Shaw
NordLB	Holger Fechner
Quirin Bank AG	Klaus Soer
M.M. Warburg	Eggert Kuls

[1] Coverage currently suspended due to a change in analyst.

COMBINED MANAGEMENT REPORT

Foundations of the Group

Business model of the Group

BUSINESS ACTIVITIES

Aurubis AG is a provider of non-ferrous metals that operates worldwide. As an integrated group, we process complex metal concentrates, scrap metals, and metal-bearing recycling raw materials into metals of the highest purity. In addition to our main metal, copper, our metal portfolio also includes gold, silver, lead, nickel, tin, minor metals such as tellurium and selenium, and platinum group metals.

The company is based in Hamburg, Germany, where its headquarters and key production facilities are located. Most of its other sites are located in Europe, with larger production centers in Germany, Belgium, and Bulgaria. Outside Europe, Aurubis also has a production site in the US, and a global sales and service network.

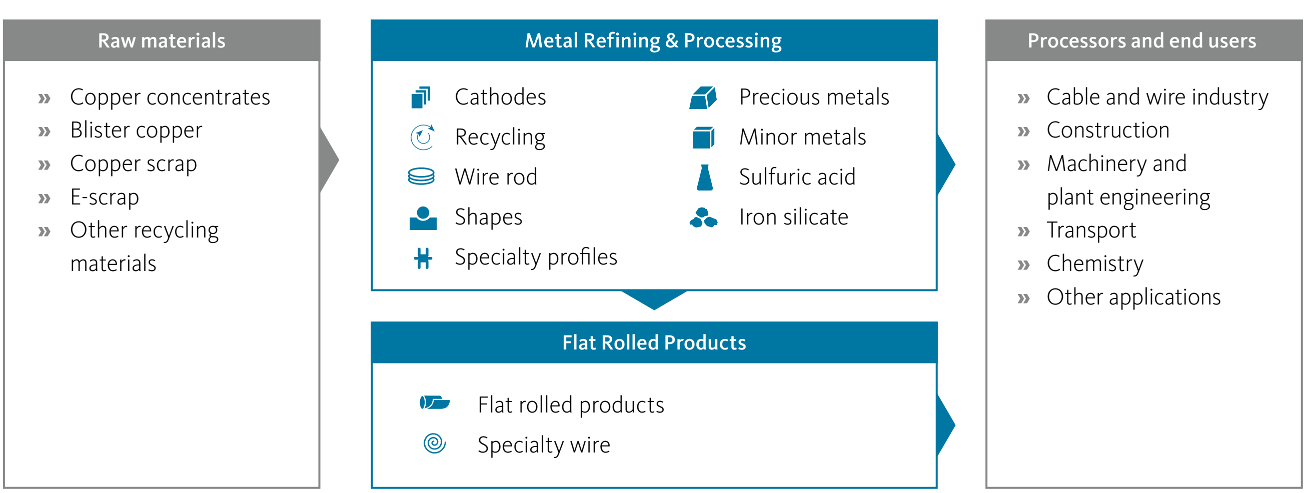
BUSINESS MODEL

In accordance with our Vision 2025, we will consistently expand our current copper-focused business model to encompass a broader multi-metal approach in the future. This means that, in addition to copper, other metals will be extracted from systematically purchased raw materials and intermediate products and then processed into value-added sales products. We use both copper concentrates and recycling materials as raw materials.

We process copper concentrates that are obtained from ores and offered by mining and trading companies on the global market. Because we have no stakes in mines, we have to buy the necessary raw materials for our two primary smelters in Hamburg and Pirdop on the international market. Aurubis has a global, diversified supplier portfolio; we source a significant portion of our copper concentrates from South American countries such as Peru, Chile, and Brazil. We also purchase raw materials from other countries like Bulgaria, Georgia, and Canada. As a buyer, Aurubis competes with other primary copper smelters, most of which are located in China and Japan. Copper concentrates for the Hamburg site reach us primarily by waterway and are transshipped via the port terminal in Brunsbüttel. There, the different copper concentrates are also premixed in accordance with the requirements of our production processes. At the site in Pirdop, Bulgaria, concentrates reach us by land and sea via the port of Burgas.

We use copper concentrates, copper scrap, other metal-bearing recycling materials, and bought-in intermediates as feed material. Most of the copper scrap and metal-bearing recycling raw materials for our two secondary smelters in Lünen (Germany) and Olen (Belgium) are sourced in Europe. Furthermore, we use copper scrap with high copper contents for cooling purposes in both of our primary smelters.

Business model in fiscal year 2018/19



Sites and employees

Europe				
DE	Hamburg	Headquarters Aurubis AG	2,575	
		E. R. N. Elektro-Recycling NORD GmbH	13	
		Peute Baustoff GmbH	13	
	Lünen	Aurubis AG	664	
	Stolberg	Aurubis Stolberg GmbH & Co. KG	433	
	Emmerich	Deutsche Giessdraht GmbH	120	
	Fehrbellin	CABLO Metall-Recycling & Handel GmbH	50	
	Röthenbach	RETORTE GmbH Selenium Chemicals & Metals	41	
	Nersingen/ Strass	CABLO Metall-Recycling & Handel GmbH	20	
	Berlin	Aurubis AG	2	Group headquarters
	Hanau	Aurubis AG	2	
BG	Pirdop	Aurubis Bulgaria AD	882	
BE	Olen	Aurubis Belgium NV/SA	630	
	Brussels	Aurubis Belgium NV/SA	27	
NL	Zutphen	Aurubis Netherlands BV	295	
FI	Pori	Aurubis Finland Oy	256	
IT	Avellino	Aurubis Italia Srl	103	
	Mortara	Aurubis Mortara S. p. A.	28	
UK	Smethwick/ Birmingham	Aurubis UK Ltd.	23	
SK	Dolný Kubín	Aurubis Slovakia s. r. o.	15	
SE	Finspång	Aurubis Sweden AB	6	–
FR	Lyon/ Septème	Aurubis Product Sales GmbH	3	
RU	St. Petersburg	Aurubis Rus LLC[1]	2	
ES	Barcelona	Aurubis Product Sales GmbH	1	
TR	Istanbul	Aurubis Turkey Kimya Anonim Sirketi[1]	1	
Employees in Europe			**6,205**	

US				
US	Buffalo	Aurubis Buffalo Inc.	624	
	Chicago	Aurubis Buffalo Inc.	5	
	Tampa	Aurubis Tampa LLC[1]	2	
Employees in the US			**631**	

Asia				
CN	Shanghai	Aurubis Metal Products (Shanghai) Co., Ltd.[1]	4	
	Hong Kong	[2]	1	
	Beijing	[2]	1	
UAE	Dubai	Aurubis Middle East FZE[1]	3	
SG	Singapore	[2]	3	
TH	Bangkok	[2]	3	
JP	Tokyo	[2]	1	
KR	Seoul	[2]	1	
Employees in Asia			**17**	

Total employees	**6,853**

If not otherwise indicated, the KPIs relate to permanent and temporary employment arrangements as at the reporting date of September 30, 2019. Excluding Schwermetall Halbzeugwerk GmbH & Co. KG, Stolberg (DE), in which Aurubis holds a 50 % stake, as well as Ampashield NV/SA (BE). In addition to the fully consolidated companies, the numbers include the employees of the non-consolidated companies Aurubis Metal Products (Shanghai) Co., Ltd., Aurubis Rus LLC (St. Petersburg), Aurubis Middle East FZE (Dubai), and Aurubis Turkey Kimya Anonim Sirketi (Istanbul), which had a combined total of ten employees in fiscal year 2018/19. They also include ten independent sales employees at international sites.

[1] Non-consolidated companies.
[2] Agency/self-employed sales employee, non-consolidated.

Raw materials
Concentrates and recycling materials are the raw materials from which copper is produced.

Sales and distribution network
An international sales and distribution network markets our products.

Products
The copper is processed into products. Some products are already the result of copper production.

- Cathodes
- Iron silicate
- Wire rod
- Sulfuric acid
- Shapes
- Specialty profiles
- Specialty wire
- Strip/foil
- Precious metals
- Minor metals

Slitting centers
Service centers located near our customers slit strip to the desired dimensions.

Status: September 30, 2019

Metal trading companies are the main actors on the supply side, though some recycling materials also reach us directly from product manufacturers. On the demand side, our main competitors are other copper and metal smelters, as well as metal processors that also utilize recycling materials. Copper scrap tends to reach us by land.

In the course of our production processes, we convert copper concentrates and copper scrap into copper cathodes Glossary, page 194. This is the standardized product format that is traded on the international metal exchanges. Copper cathodes are the starting product for fabricating additional copper products, but they can also be sold directly. Our product portfolio mainly comprises standard and specialty products made of copper and copper alloys. When it comes to processing, we have manufacturing capabilities for continuous cast copper wire rod, continuous cast shapes Glossary, page 194, rolled products, strip, specialty wire, and profiles.

Additional products result from processing the elements that accompany copper in the feed materials. In particular, these include different metals such as gold, silver, lead, nickel, tin, minor metals like tellurium and selenium, and platinum group metals. We also produce iron silicate Glossary, page 194 and sulfuric acid, the latter of which forms as a by-product of copper concentrate processing. Sulfuric acid customers and competitors are very diverse: customers include companies from the chemical, fertilizer, and metal processing industries.

The sales markets for our products are varied and international. Aurubis' direct customers include companies from the copper semis industry, the cable and wire industry, the electrical and electronics sector, and the chemical industry, as well as suppliers from the renewable energies, construction, and automotive sectors.

To close the value chain for copper and other metals, we place a high priority on the "closing-the-loop" approach. The focus of this approach is on materials such as production waste and residues that accumulate along the copper value chain in production, for example with our customers. The materials range from copper scrap with very high copper content, which we can directly feed into the copper fabrication process, to stamping waste containing precious metals and high levels of copper, alloyed scrap, slags from foundries, and other industrial residues.

GROUP STRUCTURE

In fiscal year 2018/19, the Aurubis Group's organizational framework was based on the underlying business model. The Group's structure is made up of two operating segments, which are the basis of segment reporting pursuant to IFRS 8 for fiscal year 2018/19: Segment Metal Refining & Processing and Segment Flat Rolled Products.

- Segment Metal Refining & Processing (MRP) processes complex metal concentrates, copper scrap, and metal-bearing recycling materials into metals of the highest quality. Segment MRP includes the Commercial and Operations divisions. The Commercial division combines all market-relevant organizational units and is therefore responsible for purchasing feed materials and selling products. The Operations division is responsible for the production of all basic products and metals, as well as for their further processing into other products, such as continuous cast wire rod and shapes. The sites in Hamburg (Germany), Pirdop (Bulgaria), Olen (Belgium), and Lünen (Germany) manufacture copper cathodes, among other products. These cathodes are processed further into wire rod and shapes at the Hamburg (Germany), Olen (Belgium), Emmerich (Germany), and Avellino (Italy) sites.
- The second segment, Segment Flat Rolled Products (FRP), processes copper and copper alloys – primarily brass, bronze, and high-performance alloys – into flat rolled products and specialty wire, which it then markets. The main production sites for this are Zutphen (Netherlands), Buffalo (USA), Stolberg (Germany), and Pori (Finland). Furthermore, the segment also includes slitting and service centers in Birmingham (UK), Dolný Kubín (Slovakia), and Mortara (Italy), as well as sales offices worldwide.
  The European Commission blocked the sale of Segment FRP in February 2019. Aurubis AG is currently reviewing other strategic options for the segment. The segment thus continues to fulfill the conditions for presentation as discontinued operations pursuant to IFRS 5.

A list of shareholdings pursuant to Section 313 (2) of the German Commercial Code (HGB) as at September 30, 2019 is provided in the notes to the financial statements.

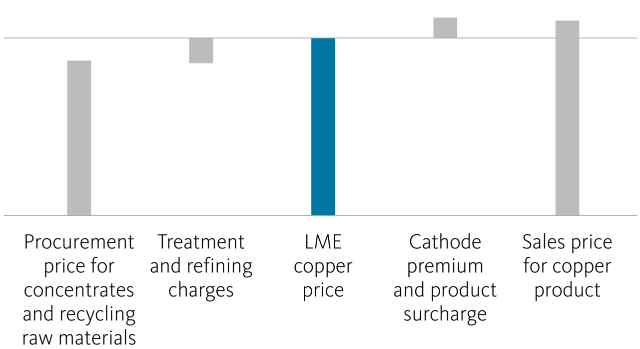
SIGNIFICANT INFLUENCING FACTORS RELEVANT TO THE BUSINESS

The significant factors specific to the business are the treatment and refining charges Glossary, page 195 for copper concentrates and recycling materials, the metal prices, the Aurubis copper premium Glossary, page 194, and product surcharges Glossary, page 195 for copper products, as well as sales revenues for sulfuric acid. Furthermore, efficient metal gains in our plants lead to effects on earnings.

Copper is priced first and foremost on the London Metal Exchange (LME www.lme.com) Glossary, page 194, which facilitates physical transactions, hedging, and investment business. The price is not just a benchmark for exchange trading but serves as the basis for pricing in the raw material and product business.

Pricing along the value chain

Schematic illustration



Treatment and refining charges are negotiated with suppliers when purchasing copper-bearing raw materials. The TC/RC trend depends on the current supply and demand structure on the global markets. Essentially, these charges are discounts on the purchase price for turning raw materials into copper cathodes (the commodity exchange product) and other metals and metal compounds.

The metal exchange and market quotation for copper serves as the price basis for our copper product sales. The premium and product surcharges, which are charged for converting cathodes into copper products, are also part of the sales price.

Our business development is also influenced by external factors. These include the economic performance in key countries and activities on the international financial markets; the political, legal, and social conditions; changes in the exchange rate and interest rate level; and the situation on our relevant markets.

Corporate control

CONTROL SYSTEM

The management control system's main objective is to increase the Aurubis Group's corporate value. Concretely, the company should generate value beyond the costs of capital.

CORPORATE CONTROL PARAMETERS

In order to measure financial success for the medium and long term within the scope of value-oriented corporate control, Aurubis uses the following central control parameters:

- Operating consolidated earnings before taxes = operating EBT
- Operating ROCE (return on capital employed) Glossary, page 195 of the Group

These parameters are regularly presented to the Executive Board and are utilized for internal control purposes. The variable compensation of the Executive Board and the management is also based on these parameters.

The Aurubis Group reports in accordance with International Financial Reporting Standards (IFRS). For internal management purposes, it does not comply with the past amendment to IAS 2 that requires exclusive application of the FIFO or average cost method. This is to avoid earnings volatilities due to metal price fluctuations resulting from measurement according to the average cost method. Such measurement effects, in our opinion, are not necessary to gain an understanding of the Aurubis Group's business activities and results from an operational perspective and need to be eliminated. Furthermore, one-time effects from purchase price allocations were eliminated that otherwise would have led to a distortion in the Aurubis Group's presentation of the results of operations, financial position, and net assets.

The internal reporting and management of the Group are carried out on the basis of the operating result in order to present the Aurubis Group's success independently of these measurement effects for internal management purposes.

The operating result is derived from the IFRS results of operations by:

- Adjusting by effects deriving from the application of IFRS 5
- Adjusting for measurement impacts deriving from the application of IAS 2. In this context, the metal price fluctuations resulting from the application of the average cost method are eliminated. Likewise, non-permanent write-downs or write-ups of the value of copper inventories as at the reporting date are eliminated
- Elimination of non-cash effects deriving from purchase price allocations

Compared to the previous year, the reconciliation was changed to eliminate only non-permanent write-downs and write-ups of copper inventories as at the reporting date.

Any permanent impairment losses or reversals of imparment losses are recognized as part of the operating result from this reporting year onwards and serve to better depict the results of operations, net assets, and financial position. This amendment to the reconciliation resulted in the recognition of a permanent impairment loss of € 31 million as at the reporting date. An equivalent amendment in the previous year wouldn't have resulted in the recognition of an impairment loss in the income statement.

The purely theoretical amendment to the requirement to eliminate effects deriving from purchase price allocations did not lead to any changes to figures in the year reported or to those of the previous year.

Operating return on capital employed (ROCE)

in € million	9/30/2019	9/30/2018
Fixed assets excluding financial fixed assets[1]	1,485	1,450
Inventories	1,532	1,549
Trade accounts receivable	390	374
Other receivables and assets	196	191
– Trade accounts payable	-818	-904
– Provisions and other liabilities	-367	-371
Capital employed as at the reporting date	**2,418**	**2,290**
Earnings before taxes (EBT)	192	329
Financial result	16	3
Earnings before interest and taxes (EBIT)	**208**	**332**
Investments accounted for using the equity method[1]	0	11
Earnings before interest and taxes (EBIT) – adjusted	**208**	**342**
Return on capital employed (operating ROCE)	**8.6%**	**15.0%**

[1] The shares of Schwermetall Halbzeugwerk GmbH & Co. KG accounted for using the equity method have been included for this reporting year. This adjustment should improve the depiction of Segment FRP's profitability. Prior-year figures have been adjusted accordingly.

Operating ROCE defines the relationship between operating earnings before interest and taxes (EBIT Glossary, page 195) together with the operating result from investments measured using the equity method and the operating capital employed as at the reporting date and depicts the return on capital employed.

In a manner corresponding to the calculation of the operating result, operating capital employed is derived by adjusting the IFRS-based balance sheet items by the effects as previously mentioned.

A reconciliation of the balance sheet and income statement from IFRS to operating figures is provided in the Economic Report section of the Combined Management Report.

Research & Development

In the Research & Development department, we developed new methods, researched future products, and optimized production processes in the reporting period 2018/19. For us, research and development serve as a crucial foundation to continue improving our competitive edge and the company's growth.

Until the middle of calendar year 2019, our work focused on further developing metallurgical processes, especially with respect to the flexibility and productivity of the complex raw materials and recycling materials we use. We carried out extensive trials on a pilot scale and worked on process models for future plant equipment.

These development results and the basic engineering subprojects we completed as part of the internal growth project Future Complex Metallurgy (FCM) form the foundation for future investments and internal growth as part of our multi-metal strategy.

On June 12, 2019, the Executive Board and Supervisory Board passed a resolution to stop the FCM project. The basic engineering results indicated significantly higher investment costs than anticipated. The project was thus no longer as cost-effective as originally expected.

In the past fiscal year, we also worked on improving metal recovery from iron silicate slag as well as the product quality of the slag itself by carrying out trials in our pilot facility and validating the metallurgical process. The results provided the basis for the technical plant engineering.

In coordination with Raw Material Purchasing and in close collaboration with leading companies from the mining industry, we are developing solutions for processing future feed materials, particularly complex concentrates from new mine projects. Our goal is to develop corresponding processing facilities so that Aurubis can utilize these concentrates in its smelter network.

Apart from the projects that are part of our growth strategy, the optimization of existing core processes played an important role as well. We're working on improving the efficiency of primary copper production Glossary, page 195 in Hamburg and Pirdop. In this context, we installed and tested various sensors, for example to continuously record the "bath level" in the flash smelter and the quality of copper matte and iron silicate stone. We use this basic data to better understand and optimize the impacts of different factors on production. With model calculations, we improved the input materials in the smelting furnace and the converter's mode of operation.

In fiscal year 2018/19, we also investigated waste heat boiler leakages in the primary smelters and in the KRS in Lünen Glossary, page 194. The objective of this work is to develop a deeper understanding of the reasons for the leakages in the past fiscal year and how we can prevent them in the future. An interdepartmental team identified the reasons and is currently working on solutions to substantially reduce the frequency of these leakages.

Another significant work area during the reporting period was the optimization of the copper tankhouse Glossary, page 195. Through systematic analyses of the operating data and lab trials, we improved the electricity yield in this production area. We developed an IT-supported program that compiles the vast amount of data and presents it in a clear way, which enables us to monitor the performance of the individual tankhouse cells more easily.

In light of rising demands related to the reliability of automotive connectors, we researched modern coating technologies during the reporting period, which are currently being tested by suppliers. Moreover, we worked on new low-alloyed, high-conductivity copper alloys in the same area of application.

When it comes to lead-free machining materials (the BlueBrass family), we have primarily concentrated on semi-finished wire products in the last several years. During the past fiscal year, the focus shifted to expanding the BlueBrass strip portfolio.

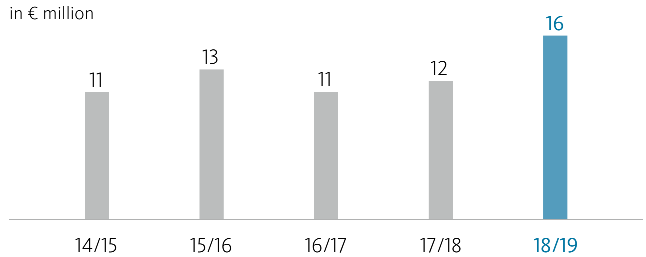
In the area of power electronics, we introduced a new material with a longer lifespan to the market, for use in power modules. We also continued our other research activities in this business sector with academic and industrial partners. Our goal is to develop state-of-the-art material solutions especially for electric vehicles.

For the future, we plan to continue sharpening the focus of our research and development activities, placing an even stronger emphasis on optimizing production and developing products further.

The entire Aurubis Group's R&D expenditures in fiscal year 2018/19 amounted to € 16 million, compared to € 12 million in reporting year 2017/18. We have a total of 84 employees in this area (previous year: 78 employees), who are located at our sites in Buffalo, Finspång, Hamburg, Lünen, Olen, Pirdop, Pori, Stolberg, and Zutphen.

R&D expenditure

in € million

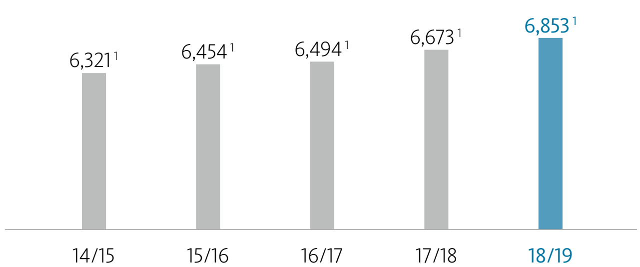


Human resources

A total of 6,853 employees worked in the Aurubis Group worldwide as at September 30, 2019 (previous year: 6,673). Of this number, 57.4 % were employed at German sites and 42.6 % worked in other countries. Aurubis Group personnel are mainly dispersed among the following countries: Germany (3,933), Bulgaria (882), Belgium (657), USA (631), the Netherlands (295), Finland (256), and Italy (131).

Aurubis Group employees

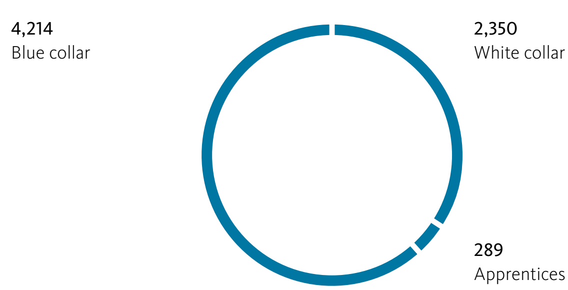
Number as at 9/30



[1] Excluding Schwermetall Halbzeugwerk GmbH & Co. KG.

Aurubis Group personnel structure

Number as at 9/30/2019



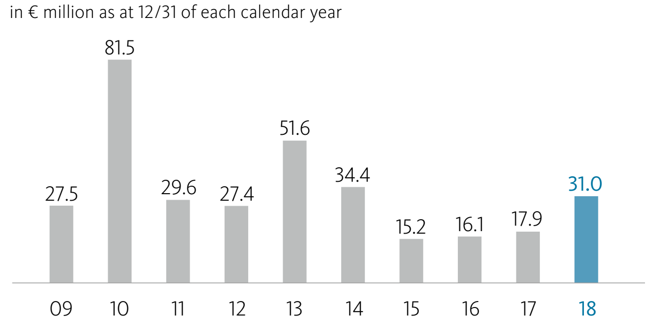
Environmental protection and occupational health

ENVIRONMENTAL PROTECTION IN THE GROUP

We take responsibility for protecting our environment and our climate. Our production facilities therefore use modern and energy-efficient plant technology that also complies with very high environmental standards. In this way, we conserve natural resources and aim to maintain a clean environment for future generations. We have set targets in environmental protection, defined corresponding KPIs, and established measures to achieve the targets across the Group. The effectiveness of these targets and measures is reviewed continuously.

Capital expenditure for environmental protection in copper production and processing

in € million as at 12/31 of each calendar year



The continuous improvement of water pollution control, soil conservation, climate protection, and emission prevention is key to achieving sustainable environmental protection. For this reason, Aurubis has invested more than € 600 million in environmental protection measures in the Group since 2000.

OCCUPATIONAL HEALTH AND SAFETY IN THE GROUP

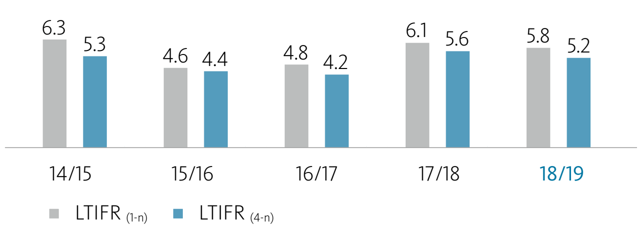
Group Health and Safety is responsible for creating the technical, organizational, and personal conditions in the company to prevent work-related accidents, injuries, and illnesses.

The acronym LTIFR (lost time injury frequency rate) indicates the accident rate in the company. This KPI describes the number of work-related accidents with at least one lost shift per one million hours worked (related to Aurubis employees).

After declining for several years, the accident frequency figure rose again in fiscal years 2016/17 and 2017/18. LTIFR decreased to 5.8 in fiscal year 2018/19 (previous year: 6.1). In absolute terms, this equated to 59 (previous year: 60).

Accident frequency

LTIFR = lost time injury frequency rate



LTIFR (1-n) – accidents with lost time of at least one whole shift
LTIFR (4-n) – accidents with lost time of more than three whole shifts

A new communication concept, 10forZero, will support the company in achieving its long-term objective, referred to as Vision Zero, meaning zero accidents, injuries, and illnesses. This concept combines new communication tools together with new training units to implement the 10 Golden Rules of occupational health and safety.

Additional goals will be set to achieve our vision as well, including the development of occupational health and safety management systems pursuant to ISO 45001, the introduction of new, optimized procedures for recording and handling near-misses, and the implementation of health and safety (H&S) audits and cross-site checks.

Furthermore, efforts will be made to optimize risk assessments, near-miss reports, and Group-wide reporting through IT systems.

Separate Non-Financial Report

The section Sustainability, pages 36–55 provides additional information on the topics of sustainability, environmental protection, energy, the climate, and occupational health, as does our website www.aurubis.com/download-center/all. Aurubis AG reports on both the Aurubis Group and Aurubis AG in the form of a consolidated, separate Non-Financial Report, whose content is also available in the Sustainability section of this report and on the website.

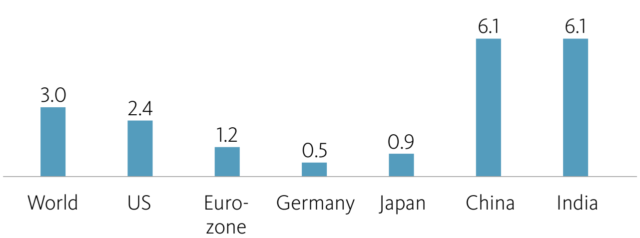
Economic Report

General economic conditions

Development in the global economy remained positive in fiscal year 2018/19, if somewhat subdued compared to the previous year. In its October forecast, the International Monetary Fund (IMF, www.imf.org) expects an increase of 3.0 % (previous year: 3.6 %). The lower growth has largely been attributed to the sustained trade conflict between the US and China, a conflict which, from a macroeconomic perspective, remains one of the dominant themes of fiscal year 2018/19. Added to this, Brexit discussions and various other geopolitical tensions have led to greater uncertainty.

Expected GDP growth in 2019

in %



Source: International Monetary Fund, October 2019

For the eurozone, the IMF forecasts a growth rate of 1.2 % (previous year: 1.9 %). Having played a driving role in this trend last year, Germany can expect its economic momentum to slow to a comparatively low 0.5 % (previous year: 1.5 %) in 2019. The IMF identifies cautious foreign demand, decreased stock due to weaker industrial output, and regional factors such as falling sales figures for the automobile industry in Germany, uncertainties relating to Brexit in the UK, and weaker domestic demand in Italy as the primary causes of weaker growth in Europe.

For the US, the IMF is predicting economic growth of 2.4 % for 2019 (previous year: 2.9 %). The main drivers of this stable growth continue to be current fiscal policy, as well as low unemployment figures and promising levels of domestic consumption. It views the course of the US government, particularly in light of the current state of bilateral relations with China, as posing a potential risk to the US economy.

The Chinese economy is expected to follow a course of continued growth with considerable momentum in 2019. At a predicted 6.1 %, however, progress is unlikely to match that of the previous year (6.6 %). Once again, the effects of the economic conflict and of weakened foreign demand are being felt clearly here.

Global finance markets were largely favorable in 2019. In the US, the Federal Reserve decreased the federal funds rate in July, September, and October, resulting in a rate of between 1.50 and 1.75 % on October 31, 2019. In Europe meanwhile, the European Central Bank has maintained its zero interest rate policy.

Conditions specific to the industry

We are mainly active on the international copper market and its submarkets. These witnessed the following developments in fiscal year 2018/19:

The international copper concentrate market was characterized by high mining output and thus good concentrate availability. The quota of production losses – due to factors such as extreme weather, strikes, or technological or legislative issues – remained relatively small. Research company Wood Mackenzie estimates this quota at 1.6 % for copper concentrates in 2019 (previous year: 3.1 %) (estimate in October). Mine expansions and reactivations had a positive effect on the availability of concentrate. All told, the 2019 figure for copper mining output should, according to Wood Mackenzie, match that of last year, which amounted to 20.7 million t (copper content).

Turning to the smelter industry, there were numerous production shutdowns in Asia and South America, chiefly due to tighter environmental regulations at local level. Despite this, demand for copper, particularly among Asian smelters, increased due to further expansion in capacity. As a result both of planned and unplanned shutdowns, Aurubis' activities on the spot market Glossary, page 195 remained minimal throughout the entire duration of fiscal year 2018/19.

Once again, the European market for recycling raw materials has proved favorable, even though the supply volumes of copper scrap in the first half of the year in particular did not match the record high of the previous year. The relatively stable copper price in fiscal year 2018/19 ensured a high volume flow from collection and treatment activities in the metal trade. On the demand side, this trend was complemented by a good supply situation for smelters and other consumers of copper scrap. At the beginning of fiscal year 2018/19, restrictions introduced by China on the import of high-purity copper scrap led to shortages in the European scrap market. As a reaction to the stricter import restrictions in China, some Asian countries increased their processing capacity for copper scrap with low metal contents. As a result, copper scrap exports from Europe to these countries increased temporarily. The situation did, however, ease noticeably in the second half of the fiscal year. Contributing factors here include the Chinese government's imposition of an import quota on high-purity copper scrap, and the consequent decline in demand among Chinese smelters for European scrap. Simultaneously, the supply of recycling materials from the US increased, since the trade dispute between the US and China and associated tariffs have made the shipment of copper scrap from the US to Asia less attractive. Having begun the year considerably below the previous year's level, the refining charges for copper scrap in Europe (published by the research firm CRU) recovered, surpassing both the previous year's comparative value and the multiyear average by March 2019. Complex recycling raw materials such as electrical and electronic scrap were also available in sufficient quantities on the market.

Refined copper output was affected, as in the year prior, by two main factors in fiscal year 2018/19. The first of these was the proliferation of planned and unplanned production shutdowns that took place primarily across Asia, affecting operations in India, China, and Japan, among others. Interruptions to production also occurred in Europe and in Chile. In contrast to these developments, Chinese capacity was expanded, and global refining capacity was utilized well on the whole. According to ICSG, this was at 83 % in the first half-year (previous year: 87 %). Overall, Wood Mackenzie forecasts that global output of refined copper for 2019 will reach a level around 0.3 % above that of the previous year, bringing it to roughly 23.5 million t.

For refined copper demand, Wood Mackenzie expects a level of 23.6 million to be achieved for 2019, a value which only slightly exceeds that of the previous year. Chinese demand for copper is difficult to calculate at present, owing to the uncertainties associated with the current trade dispute and its impact on global growth.

Exchange inventories of copper cathodes remained at comparatively low levels in 2019. After beginning the fiscal year 2018/19 at around 445,000 t, reserves held by the metal exchanges LME, COMEX, and SHFE had reached approximately 424,000 t at its close.

Wood Mackenzie expects a largely balanced global market for refined copper in 2019.

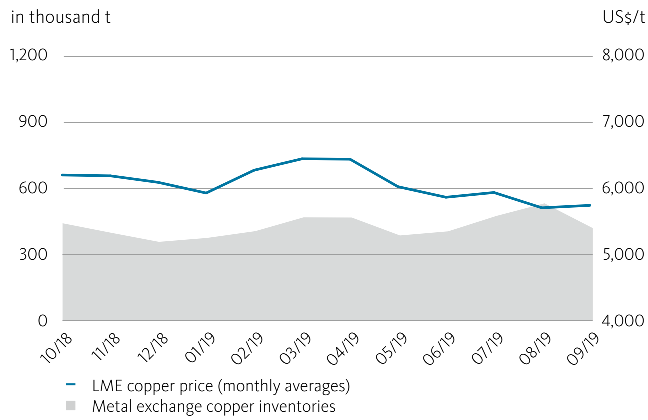
The international market for continuous cast wire rod, which accounts for about 75 % of global cathode output, should continue to grow in 2019 at a rate of 1.7 %, according to CRU. We deliver most of our wire rod to Europe, where an output volume slightly below that of the previous year is forecast for 2019. While the demand from manufacturers of enameled wire reduced considerably during the course of 2019, as, to some extent, did the demand from manufacturers of cable for the automotive industry, there was a steady development of demand from the construction and energy sectors.

The global market for sulfuric acid developed satisfactorily in fiscal year 2018/19. High demand as well as production shutdowns led to a tightening of the market and consequently to high prices over long stretches of the reporting period. However, by the end of the third quarter, the market had cooled noticeably. This development could also be seen in Europe, where gliding averages were less volatile than on the international markets throughout the reporting period, as market information provider ICIS reported.

The LME copper price was characterized by sustained volatility during fiscal year 2018/19, arising primarily from uncertainties related to the continued economic dispute between the US and China. Following a copper price of US$ 6,180/t (settlement, Glossary, page 195) at the beginning of October 2018, the fiscal year closed with an LME copper price of US$ 5,728 (settlement). The lowest price of the year was US$ 5,537 (September 3, 2019). Almost six months prior, the high was US$ 6,572 (March 1, 2019). The average price for the fiscal year was US$ 6,070 (previous year: US$ 6,684).

Copper price and metal exchange copper inventories

from 10/1/2018 to 9/30/2019



Economic development within the Aurubis Group

RESULTS OF OPERATIONS, NET ASSETS, AND FINANCIAL POSITION OF THE AURUBIS GROUP

In order to portray the Aurubis Group's operating success independently of measurement influences for internal management purposes, the presentation of the IFRS results of operations, net assets, and financial position is supplemented by the results of operations and net assets explained on the basis of operating values.

Aurubis has intended to sell Segment FRP since fiscal year 2017/18. Therefore, the special presentation and measurement requirements specified in IFRS 5 must continue to be applied for Segment FRP, as they were in the previous year. These include, among other things, a separate, aggregated disclosure of the consolidated net income/loss deriving from discontinued operations in the consolidated income statement, as well as a separate, aggregated disclosure of assets and liabilities held for sale for the discontinued operations in the consolidated statement of financial position. Furthermore, additional disclosures must be made in the notes to the financial statements Notes to the Consolidated Financial Statements. With respect to measurement in accordance with IFRS 5, among other things, any impact on income deriving from scheduled depreciation and amortization in Segment FRP, or from the application of equity accounting for the purpose of consolidating the investment in the joint venture Schwermetall Halbzeugwerk GmbH & Co. KG, must be discontinued in the IFRS consolidated financial statements.

The Executive Board continues to treat Segment FRP as an operating reporting segment and, consequently, the financial reporting for operating purposes will remain unchanged until the sales transaction is finalized.

As a result, the accounting impacts deriving from IFRS 5 in the financial statements are reversed in the reconciliation between IFRS reporting and operating reporting.

As regards the reconciliation of the consolidated income statement, the items reported as discontinued operations are again shown separately. For purposes of measurement, the impacts on income deriving from scheduled depreciation and amortization of fixed assets, or from the application of equity accounting for the purpose of consolidating the investment, are accounted for, as in the past. In order to demonstrate the Aurubis Group's operating success, subsequent adjustments are also made to inventories and non-current assets.

In order to adjust the measurement impacts in inventories resulting from the application of IAS 2, metal price fluctuations resulting from the application of the average cost method are eliminated in the same manner as any non-permanent write-downs or appreciation in value for copper inventories at the reporting date. Furthermore, fixed assets have been adjusted for non-cash-effective impacts deriving from purchase price allocations.

As regards the reconciliation of the consolidated statement of financial position, assets and liabilities held for sale as discontinued operations are again disclosed in a disaggregated form and the measurement effects on the relevant items in the statement of financial position are recognized as they have been in the past.

The following table shows how the respective operating results for the 2018/19 fiscal year and for the comparative prior-year period have been determined.

Reconciliation of the consolidated income statement

in € million	12 months 2018/19: IFRS from continuing operations	12 months 2018/19: Adjustment effects: Discontinued operations	12 months 2018/19: Adjustment effects: Inventories	12 months 2018/19: Adjustment effects: PPA	12 months 2018/19: Operating	12 months 2017/18: IFRS from continuing operations	12 months 2017/18: Adjustment effects: Discontinued operations	12 months 2017/18: Adjustment effects: Inventories	12 months 2017/18: Adjustment effects: PPA	12 months 2017/18: Operating
Revenues	**10,763**	**1,134**	**0**	**0**	**11,897**	**10,424**	**1,270**	**0**	**0**	**11,694**
Changes in inventories of finished goods and work in process	180	-7	-94	0	79	0	-1	-7	0	-8
Own work capitalized	20	0	0	0	20	19	0	0	0	19
Other operating income	61	1	0	0	62	43	2	0	0	45
Cost of materials	-9,997	-931	38	0	-10,890	-9,464	-1,039	-33	0	-10,536
Gross profit	**1,027**	**197**	**-56**	**0**	**1,168**	**1,022**	**232**	**-40**	**0**	**1,214**
Personnel expenses	-374	-131	0	0	-505	-352	-132	0	0	-484
Depreciation of property, plant, and equipment and amortization of intangible assets	-125	-28	0	2	-151	-119	-14	0	3	-130
Other operating expenses	-254	-50	0	0	-304	-217	-51	0	0	-268
Operational result (EBIT)	**274**	**-12**	**-56**	**2**	**208**	**334**	**35**	**-40**	**3**	**332**
Result from investments measured using the equity method	0	-2	2	0	0	0	13	-2	0	11
Interest income	4	0	0	0	4	3	0	0	0	3
Interest expense	-18	-2	0	0	-20	-16	-2	0	0	-18
Other financial income	0	0	0	0	0	1	0	0	0	1
Earnings before taxes (EBT)	**260**	**-16**	**-54**	**2**	**192**	**322**	**46**	**-42**	**3**	**329**
Income taxes	-69	-2	19	-2	-54	-59	-16	14	-3	-64
Consolidated net income	**191**	**-18**	**-35**	**0**	**138**	**263**	**30**	**-28**	**0**	**265**

Explanation of the presentation and the adjustment effects in Results of operations, net assets, and financial position of the Aurubis Group, page 76.

RESULTS OF OPERATIONS (OPERATING)

Operating EBT in fiscal year 2018/19 amounts to € 192 million (previous year: € 329 million) and is derived from continuing and discontinued operations of the IFRS result before income taxes, as follows:

The Aurubis Group generated IFRS earnings before taxes of € 260 million from continuing operations in fiscal year 2018/19 (previous year: € 322 million). IFRS earnings before taxes from discontinued operations amount to € -16 million (previous year: € 46 million).

The accounting impacts of IFRS 5 were reversed to derive the operating result. Accordingly, scheduled depreciation and amortization (€ -14 million) and the recognition in income of the shares of Schwermetall Halbzeugwerk GmbH & Co. KG consolidated using the equity method (€ -2 million) were taken into account in the reconciliation to the operating result, as in the past.

Moreover, to derive the operating result, the IFRS result was adjusted for inventory measurement effects of € -54 million (previous year: € -42 million) (the total of the following positions: “Changes in inventories of finished goods and work in process,” “Cost of materials,” and “Result from investments measured using the equity method”), as well as for impacts of € 2 million (previous year: € 3 million) deriving from allocations of the purchase price, resulting in operating earnings before taxes of € 192 million (previous year: € 329 million).

Operating EBT was negatively influenced by:

- Planned and unplanned maintenance shutdowns at smelter sites, which led in particular to considerably lower concentrate throughput and thus to lower revenues from treatment and refining charges
- The change in the definition of our operating result, which led to recognition of an ongoing impairment loss of € 31 million against copper inventories held within the Group
- A € 20 million impairment loss recognized against Segment FRP’s non-current assets
- Higher energy costs
- Expenses after the termination of our internal investment project Future Complex Metallurgy (FCM)
- Weaker demand for shapes and flat rolled products

Positive effects on operating EBT included:

- A good metal gain in Q4
- Precious metal sales, taking advantage of high precious metal prices
- Higher sulfuric acid revenues due to considerably higher prices, despite lower output volumes resulting from the shutdowns
- Positive contributions from our efficiency improvement program
- A receivable from Wieland-Werke AG arising from the prohibited sale of Segment Flat Rolled Products

The Group’s revenues increased by € 203 million to € 11,897 million (previous year: € 11,694 million) during the reporting period. This development was primarily due to higher precious metal prices and higher precious metal sales volumes. Lower sales volumes of copper products had a counteracting impact.

Breakdown of revenues

in %	2018/19	2017/18
Germany	40	34
European Union	33	37
Rest of Europe	4	4
Other countries	23	25
Total	**100**	**100**

The inventory change of € 79 million (previous year: € -8 million) was due to a build-up of copper and precious metal inventories.

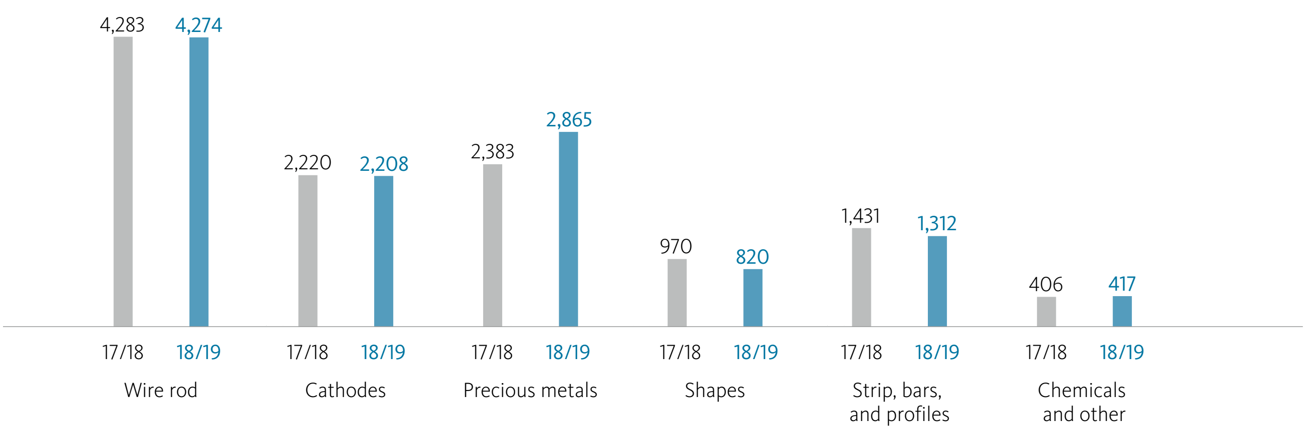
In a manner corresponding to the development for revenues and inventory changes, the cost of materials increased by € 354 million, from € 10,536 million in the previous year to € 10,890 million.

At a level of € 20 million (previous year: € 19 million), own work capitalized was slightly above that of the previous year.

Other operating income increased by € 17 million to € 62 million (previous year: € 45 million). This includes income from the recognition of a receivable from Wieland-Werke AG, amounting to € 20 million, which derived from the rejected sale of Segment FRP.

Development of revenues by products

in € million



Consequently, gross profit was slightly lower at € 1,168 million (previous year: € 1,214 million).

Personnel expenses increased from € 484 million in the previous year to € 505 million. The increase was due to wage tariff increases and a higher number of employees. We particularly strengthened our personnel resources in order to address certain future issues.

At a level of € 151 million, depreciation and amortization of fixed assets was significantly above that of the previous year (€ 130 million). The figure includes impairment losses of € 13.5 million recognized against Segment FRP's fixed assets.

Other operating expenses rose by € 36 million, from € 268 million in the previous year to € 304 million. This figure includes some € 30 million in previously capitalized project costs relating to the terminated FCM project, which were recognized as an expense.

Earnings before interest and taxes (EBIT) therefore amounted in total to € 208 million (previous year: € 332 million).

The reduction in the result from investments measured using the equity method mainly derives from the recognition of an impairment loss, amounting to € 6.5 million.

At a level of € 16 million, the net interest expense was slightly above that of the previous year (€ 15 million).

After taking the financial result into account, operating earnings before taxes (EBT) were € 192 million (previous year: € 329 million).

Operating consolidated net income of € 138 million remained after tax (previous year: € 265 million). Operating earnings per share amounted to € 3.08 (previous year: € 5.87).

RESULTS OF OPERATIONS (IFRS) FROM CONTINUING OPERATIONS

The Aurubis Group generated consolidated net income of € 191 million in fiscal year 2018/19 (previous year: € 263 million).

Consolidated income statement

in € million	2018/19 IFRS	2017/18 IFRS
Revenues	**10,763**	**10,424**
Changes in inventories/ own work capitalized	200	19
Other operating income	61	43
Cost of materials	-9,997	-9,464
Gross profit	**1,027**	**1,022**
Personnel expenses	-374	-352
Depreciation of property, plant, and equipment and amortization of intangible assets	-125	-119
Other operating expenses	-254	-217
Operational result (EBIT)	**274**	**334**
Financial result	-14	-12
Earnings before taxes (EBT)	**260**	**322**
Income taxes	-69	-59
Consolidated net income	**191**	**263**

The Group's revenues increased by € 339 million to € 10,763 million (previous year: € 10,424 million) during the reporting period. This development was primarily due to higher precious metal prices and higher precious metal sales volumes. Lower sales volumes of copper products had a counteracting impact.

The inventory change of € 180 million (previous year: € 0 million) was due to a build-up of copper and precious metal inventories. Furthermore, measurement effects from the use of the average cost method had an impact.

At a level of € 20 million (previous year: € 19 million), own work capitalized was slightly above that of the previous year.

In a manner corresponding to the development for revenues and inventory changes, the cost of materials increased by € 533 million, from € 9,464 million in the previous year to € 9,997 million.

Other operating income increased by € 18 million to € 61 million (previous year: € 43 million). This includes income from the recognition of a receivable from Wieland-Werke AG, amounting to € 20 million, which derived from the prohibited sale of Segment FRP.

Gross profit was slightly higher at € 1,027 million (previous year: € 1,022 million).

In addition to the effects on earnings already described in the explanation of the operating results of operations, the change in gross profit was also due to metal price developments. The use of the average cost method leads to metal price valuations that are close to market prices. Metal price volatility therefore has direct effects on changes in inventories/the cost of materials and hence on the IFRS gross profit. The depiction of this volatility in the IFRS gross profit is not relevant to the cash flow and does not reflect Aurubis' operating development.

Personnel expenses rose from € 352 million in the previous year to € 374 million. The increase was due to wage tariff increases and a higher number of employees. We particularly strengthened our personnel resources in order to address certain future issues.

At a level of € 125 million, depreciation and amortization of fixed assets was above that of the previous year (€ 119 million) in keeping with higher investments in fixed assets.

Other operating expenses increased by € 37 million, from € 217 million in the previous year to € 254 million. This includes some € 30 million in previously capitalized project costs relating to the terminated FCM project, which were recognized as an expense.

Earnings before interest and taxes (EBIT) therefore amounted to a total of € 274 million (previous year: € 334 million).

At a level of € 14 million, the net interest expense was slightly above that of the previous year (€ 12 million).

After taking the financial result into account, earnings before taxes were € 260 million (previous year: € 322 million).

Consolidated net income of € 191 million from continuing operations remained after tax (previous year: € 263 million). Earnings per share from continuing operations amounted to € 4.25 (previous year: € 5.81).

NET ASSETS (OPERATING)

The table Reconciliation of the consolidated statement of financial position, page 82 shows the derivation of the operating statement of financial position as at September 30, 2019 and as at September 30, 2018.

Total assets decreased slightly from € 4,077 million as at September 30, 2018 to € 4,059 million as at September 30, 2019. Among other factors, cash and cash equivalents decreased by € 38 million compared to the previous year, from € 479 million to € 441 million.

The Group's equity fell by € 27 million, from € 2,261 million as at the end of the previous last fiscal year to € 2,234 million as at September 30, 2019. The decline was due to the dividend payment of € 70 million and the remeasurement of pension obligations amounting to € 94 million, included in other comprehensive income. The operating consolidated net income of € 138 million had a positive effect.

Overall, the operating equity ratio (the ratio of equity to total assets) was therefore 55.0 % compared to 55.5 % as at the end of the previous fiscal year.

Current liabilities from trade accounts payable decreased by € 86 million for reasons relating to the reporting date, from € 904 million to € 818 million. At a level of € 302 million as at September 30, 2019, borrowings were also slightly below those at the end of the previous fiscal year-end (€ 314 million). A bonded loan (Schuldscheindarlehen) of € 127 million is due in February 2020 and is thus classified under current liabilities.

The following table shows the development of borrowings:

Development of borrowings

in € million	**9/30/2019**	9/30/2018
Non-current bank borrowings	116	248
Non-current liabilities under finance leases	33	33
Non-current borrowings	**149**	**281**
Current bank borrowings	150	30
Current liabilities under finance leases	3	3
Current borrowings	**153**	**33**
Borrowings	**302**	**314**

Reconciliation of the consolidated statement of financial position

in € million	9/30/2019 IFRS from continuing operations	9/30/2019 Adjustment effects: Discontinued operations	9/30/2019 Adjustment effects: Inventories	9/30/2019 Adjustment effects: PPA	9/30/2019 Operating	9/30/2018 IFRS from continuing operations	9/30/2018 Adjustment effects: Discontinued operations	9/30/2018 Adjustment effects: Inventories	9/30/2018 Adjustment effects: PPA	9/30/2018 Operating
ASSETS										
Fixed assets	1,384	156	-11	-30	1,499	1,354	174	-13	-32	1,483
Deferred tax assets	4	4	46	0	54	3	1	25	0	29
Non-current receivables and other assets	29	2	0	0	31	28	2	0	0	30
Inventories	1,728	265	-461	0	1,532	1,681	274	-406	0	1,549
Current receivables and other assets	405	97	0	0	502	385	122	0	0	507
Cash and cash equivalents	421	20	0	0	441	461	18	0	0	479
Assets held for sale	561	-561	0	0	0	590	-590	0	0	0
Total assets	**4,532**	**-17**	**-426**	**-30**	**4,059**	**4,502**	**1**	**-394**	**-32**	**4,077**
EQUITY AND LIABILITIES										
Equity	2,593	-17	-316	-26	2,234	2,566	1	-281	-25	2,261
Deferred tax liabilities	170	14	-110	-4	70	188	16	-113	-7	84
Non-current provisions	356	46	0	0	402	254	34	0	0	288
Non-current liabilities	153	1	0	0	154	281	1	0	0	282
Current provisions	43	8	0	0	51	34	8	0	0	42
Current liabilities	1,057	91	0	0	1,148	1,017	103	0	0	1,120
Liabilities deriving from assets held for sale	160	-160	0	0	0	162	-162	0	0	0
Total equity and liabilities	**4,532**	**-17**	**-426**	**-30**	**4,059**	**4,502**	**1**	**-394**	**-32**	**4,077**

Explanation of the presentation and the adjustment effects in Results of operations, net assets, and financial position of the Aurubis Group, pages 76–77.

RETURN ON CAPITAL (OPERATING)

The return on capital employed (ROCE) shows the return on the capital employed in the operating business or for an investment. It was determined taking the operating EBIT of the last four quarters into consideration.

The substantial decline in operating ROCE, from 15.0 % in the previous reporting year to 8.6 %, is primarily due to the lower earnings for the fiscal year.

Operating return on capital employed (ROCE)

in € million	9/30/2019	9/30/2018
Fixed assets excluding financial fixed assets[1]	1,485	1,450
Inventories	1,532	1,549
Trade accounts receivable	390	374
Other receivables and assets	196	191
– Trade accounts payable	-818	-904
– Provisions and other liabilities	-367	-371
Capital employed as at the reporting date	**2,418**	**2,290**
Earnings before taxes (EBT)	192	329
Financial result	16	3
Earnings before interest and taxes (EBIT)	**208**	**332**
Investments accounted for using the equity method[1]	0	11
Earnings before interest and taxes (EBIT) – adjusted	**208**	**342**
Return on capital employed (operating ROCE)	**8.6 %**	**15.0 %**

[1] The shares of Schwermetall Halbzeugwerk GmbH & Co. KG accounted for using the equity method have been included for this reporting year. This adjustment should improve the depiction of Segment FRP's profitability. Prior-year figures have been adjusted accordingly.

NET ASSETS (IFRS)

Total assets increased from € 4,502 million as at the end of the previous fiscal year to € 4,532 million as at September 30, 2019. In addition to the effects already described in the explanation on the operating net assets, measurement effects from the use of the average cost method increased the figure for inventories.

Structure of the statement of financial position of the Group

in %	9/30/2019	9/30/2018
Fixed assets	31	30
Inventories	38	37
Receivables, etc.	10	10
Cash and cash equivalents	9	10
Assets held for sale	12	13
	100	**100**
Equity	57	57
Provisions	12	10
Liabilities	27	29
Liabilities deriving from assets held for sale	4	4
	100	**100**

The Group's equity rose by € 27 million, from € 2,566 million as at the end of the previous fiscal year to € 2,593 million as at September 30, 2019. This was largely due to the consolidated net income of € 191 million from continuing operations. The dividend payment of € 70 million and the remeasurement of pension obligations amounting to € 94 million included in other comprehensive income had a counteracting effect.

Overall, the equity ratio is 57.2 % compared to 57.0 % as at the end of the previous fiscal year.

The following table shows the development of borrowings for continuing operations:

Development of borrowings

in € million	9/30/2019	9/30/2018
Non-current bank borrowings	116	248
Non-current liabilities under finance leases	33	33
Non-current borrowings	**149**	**281**
Current bank borrowings	150	30
Current liabilities under finance leases	3	3
Current borrowings	**153**	**33**
Borrowings	**302**	**314**

At a level of € 302 million as at September 30, 2019, borrowings were slightly below those at the end of the previous fiscal year (€ 314 million). A bonded loan (Schuldscheindarlehen) of € 127 million is due in February 2020 and is thus classified under current liabilities.

RETURN ON CAPITAL (IFRS)

The operating result is used for control purposes within the Group. Operating ROCE is explained under Return on capital (operating), page 83.

FINANCIAL POSITION OF THE AURUBIS GROUP

The following comments include both continuing and discontinued operations.

The Group's liquidity sourcing is secured through a combination of the Group's cash flow, short-term and long-term borrowings, as well as lines of credit available from our banks. Existing credit facilities and lines of credit can be utilized to compensate for fluctuations in the cash flow development at any time. These fluctuations result from operating business in particular and primarily serve to finance net working capital.

The development of the Aurubis Group's liquidity position is monitored regularly on a timely basis. Control and monitoring are carried out on the basis of defined key ratios.

The main key financial ratio for controlling debt is debt coverage, which calculates the ratio of net borrowings Glossary, page 195 (borrowings less cash and cash equivalents) to earnings before interest, taxes, depreciation, and amortization (EBITDA Glossary, page 195) and shows the number of periods required to redeem the existing borrowings from the Group's income – assuming an unchanged earnings situation.

The interest coverage ratio expresses how the net interest expense is covered by EBITDA.

Our long-term objective is to achieve a well-balanced debt structure. In this context, we consider debt coverage <3 and interest coverage >5 to be well balanced.

We use the operating result for control purposes within the Group. Accordingly, the Group's key operating financial ratios are presented as follows:

Operating Group financial ratios

	9/30/2019	9/30/2018
Debt coverage = net borrowings/EBITDA	-0.4	-0.4
Interest coverage = EBITDA/net interest	21.9	32.3

Additional control measures related to liquidity risks are outlined in the Risk and Opportunity Report in the Combined Management Report pages 96 – 103.

ANALYSIS OF LIQUIDITY AND FUNDING

The cash flow statement shows the cash flows within the Group. It highlights how funds are generated and used.

The Aurubis Group continued to generate a good operating net cash flow Glossary, page 195 of € 272 million in fiscal year 2018/19 (previous year: € 203 million). This was due in particular to sales of precious metals at higher prices.

The cash outflow from investing activities totaled € 208 million (previous year: € 143 million). The higher investment in fixed assets in the fiscal year included payments for the now terminated Future Complex Metallurgy project, for the planned maintenance shutdown in Pirdop, for preparations made for the planned maintenance shutdown in Hamburg (October 2019), and for the construction of a new Innovation and Training Center at the Hamburg site. Furthermore, the sale of investment property had a positive effect of some € 8 million on the cash flow from investment activities in the previous year.

After deducting the cash outflow from investing activities of € 208 million from the net cash flow of € 272 million from operating activities, the free cash flow Glossary, page 195 amounts to € 64 million (previous year: € 60 million).

The cash outflow from financing activities amounted to € 102 million (previous year: € 151 million) and, in fiscal year 2018/19, mainly comprised the € 70 million dividend distribution.

Cash and cash equivalents of € 441 million from continuing and discontinued operations were available to the Group as at September 30, 2019 (€ 479 million as at September 30, 2018). Cash and cash equivalents are utilized for operating business activities, investing activities, and the redemption of borrowings.

Net surplus financial funds amounted to € 139 million as at September 30, 2019 (previous year: € 165 million).

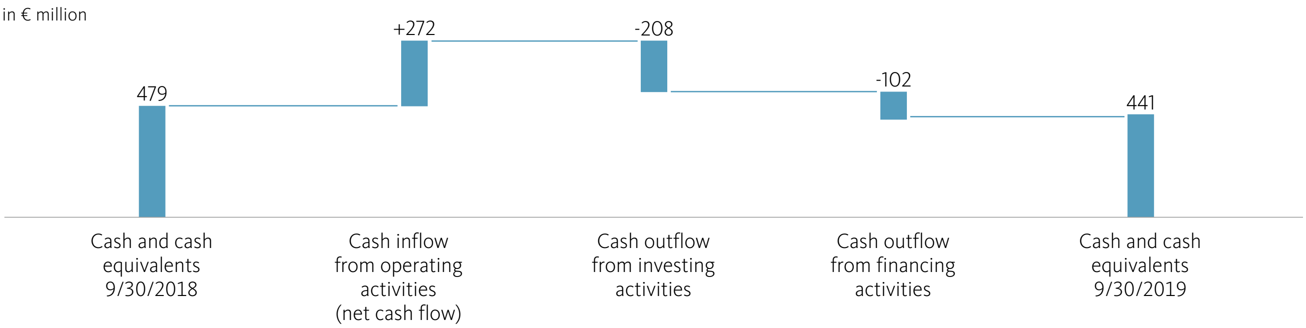
Net borrowings in the Group

in € million	**9/30/2019**	9/30/2018
Borrowings	302	314
– Cash and cash equivalents	441	479
Net borrowings (minus = assets)	**-139**	**-165**

In addition to cash and cash equivalents, the Aurubis Group has unutilized credit line facilities and thus has adequate liquidity reserves. Parallel to this, within the context of factoring agreements, the Group makes use of the sale of receivables without recourse as an off-balance-sheet financial instrument.

Source and application of funds

in € million



Business performance in the segments

SEGMENT METAL REFINING & PROCESSING

Key figures

in € million	2018/19 operating	2017/18 operating
Revenues	10,742	10,407
EBIT	311	359
EBT	304	353
Capital expenditure	203	152
Depreciation and amortization	-123	-118
Operating ROCE	15.5 %	19.4 %
Capital employed	2,013	1,852
Number of employees (average)	4,628	4,473

BUSINESS PERFORMANCE AND EARNINGS TREND

The main factors driving earnings in Segment Metal Refining & Processing (MRP) are treatment and refining charges (TC/RCs) that are negotiated as deductions from the purchase price of the metals for converting raw materials and recycling materials into the exchange product – copper cathodes – and other metals. Additional earnings components include revenues from precious metal and sulfuric acid sales, as well as the metal gain. Furthermore, the Aurubis copper premium and the so-called product surcharge charged for processing copper cathodes into copper products are also significant earnings components.

Segment MRP generated total revenues of € 10,742 million during the reporting period (previous year: € 10,407 million). This development was primarily due to the higher average copper price and higher precious metal prices. Lower sales volumes of copper products had a countereffect.

Operating EBT for Segment MRP amounted to € 304 million during the reporting period, down significantly on the very good previous year (€ 353 million). The development of operating EBT was substantially influenced by planned and unplanned shutdowns at our smelter sites, which led in particular to considerably lower concentrate throughput and thus to lower revenues from treatment and refining charges. At the start of the fiscal year, unplanned shutdowns at our Hamburg, Pirdop, and Lünen sites led to an impact of approximately € 25 million on earnings. A scheduled maintenance shutdown at our Pirdop site in May/June had a negative effect of € 15 million. Higher processing volumes compensated for significantly lower refining charges for copper scrap compared to the previous year. Higher energy costs weighed on the operating result. Furthermore, a weakening economic environment led to significantly weaker demand for shapes products, driven by the flat rolled products sector especially.

Positive impacts included a good metal gain in Q4 with increased metal prices, higher sulfuric acid revenues due to considerably higher prices despite lower production volumes stemming from the shutdown, and contributions from our efficiency improvement program.

Overall, at € 304 million, Segment MRP's operating result was 14 % below the prior-year level (€ 353 million). At 15.5 % (previous year: 19.4 %), the segment's operating ROCE was less than the previous year, due primarily to the lower result of the fiscal year. The full-year forecast for operating EBT and operating ROCE from the Annual Report 2017/18 was reduced accordingly in the Interim Report published for the first half of 2018/19.

RAW MATERIAL MARKETS

Satisfactory treatment and refining charges for copper concentrates

In fiscal year 2018/19, good mine output was met by rising demand among smelters, especially in China, despite isolated smelter shutdowns. The copper price level served as an incentive for the mining industry to fully utilize its production capacity, a development that also benefited from the absence of any significant production disruptions. While TC/RCs for standard copper concentrates on the spot market were above the benchmark of US$ 80.8/t and 8.08 cents/lb at the start of the fiscal year, stronger demand for standard copper concentrates starting in March 2019 led to a substantial reduction in spot TC/RCs, down to levels of US$ 55/t and 5.50 cents/lb in August 2019, according to Wood Mackenzie. Due to planned and unplanned shutdowns, Aurubis was hardly active on the spot market during the fiscal year.

Generally speaking, we are only marginally dependent on the spot market thanks to our long-term supply strategy.

Refining charges for copper scrap remain at a good level
During fiscal year 2018/19, the copper scrap market was characterized by a good supply due to relatively constant metal prices and a stable economic situation throughout longer periods of the fiscal year. The trade conflict between the US and China and the introduction of import quotas for high-quality scrap (referred to as category 6 scrap) led to a shift in metal flows from the US towards Europe, among other regions. Because of the good availability, refining charges for copper scrap were at a good level, though much lower than in the very good previous year.

The availability of complex recycling materials, including industrial residues and electrical and electronic scrap, was stable with good refining charges, positively influenced in part by China's import ban on copper scrap with higher levels of impurities (referred to as category 7 scrap), which started in early 2019.

Due to different import and export restrictions, global material streams are changing steadily on the market for recycling materials. Aurubis is actively adjusting to the changes in market circumstances and was able to supply the production facilities with recycling materials at good conditions in the reporting period.

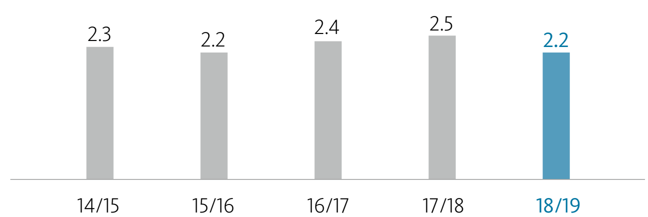
PRODUCTION

Throughput significantly below the very good previous year due to shutdowns
Concentrate throughput was 2,225,000 t in fiscal year 2018/19 due to the smelters' restricted performance, which was 12 % less than the very good previous year (2,522,000 t). Unplanned shutdowns due to boiler damage at our Hamburg and Pirdop sites affected production in Q1 2018/19. A scheduled maintenance shutdown carried out at our Pirdop site in May/June 2019 negatively impacted concentrate throughput as well.

Concentrate throughput in the previous year was negatively influenced by a scheduled repair shutdown in the anode furnace in Hamburg in Q3 2017/18 as well as unplanned shutdowns at the Hamburg and Lünen production site in Q4 2017/18.

Concentrate throughput

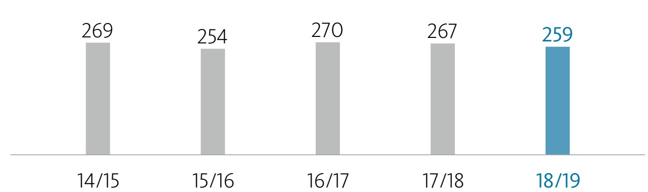
in million t



With 259,000 t, our recycling plant in Lünen was unable to achieve the good throughput level of the previous year in its Kayser Recycling System (KRS) due to various maintenance and repair shutdowns.

KRS throughput

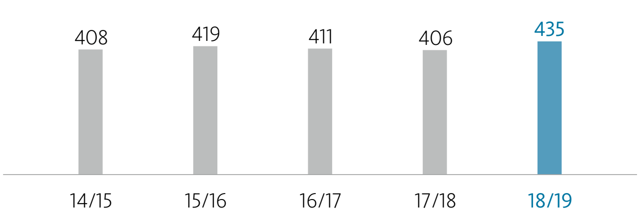
in thousand t



The Olen site also has recycling facilities and a tankhouse for the production of copper cathodes. During the reporting year, both recycling sites benefited from a good supply of copper scrap, blister copper Glossary, page 194, and other recycling materials. Overall, the Group-wide input of copper scrap and blister copper in fiscal year 2018/19 was slightly above the good prior-year level.

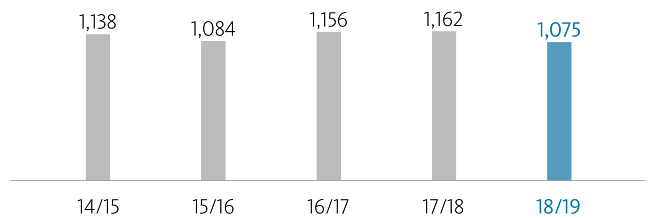
Copper scrap and blister copper input in the Group

in thousand t



Cathode output in the Group

in thousand t



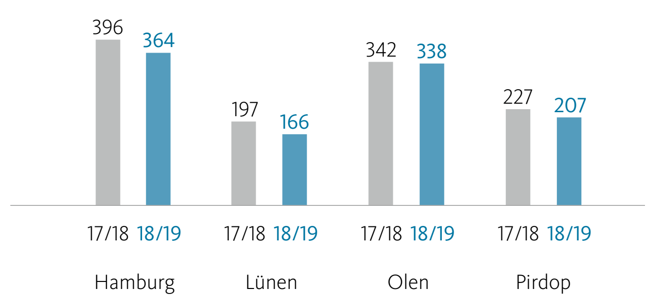
Sulfuric acid output considerably below prior-year level
Corresponding to the concentrate throughput, the sulfuric acid output was 2,101,000 t, considerably below the prior-year level. Consistently high demand on the global market for sulfuric acid led to correspondingly high prices until April 2019. The supply of sulfuric acid was limited, a situation that was reinforced by isolated smelter shutdowns, especially in South America and Asia. Toward the end of Q3, sulfuric acid demand from the chemical and fertilizer industries cooled off noticeably and led to a significant price decline on the spot market.

Cathode output down on prior-year level due to shutdowns
The cathode markets recorded good ongoing demand in reporting year 2018/19. While spot premiums in Europe were relatively stable, the quotation in Shanghai remained substantially lower than the very high level of the previous year. At US$ 96/t, the Aurubis copper premium for calendar year 2019 is US$ 10/t higher than the previous year. We were generally able to implement this premium for our products in the reporting period.

Copper cathode output in Segment Metal Refining & Processing was 1,075,000 t in 2018/19, below the prior-year level (1,162,000 t).

Cathode output in the Group by sites

in thousand t



Processing of complex input materials rises again
Within the scope of our multi-metal strategy, we have been reporting sales volumes for lead, nickel, tin, minor metals, and platinum group metals since the start of fiscal year 2017/18, in addition to gold and silver.

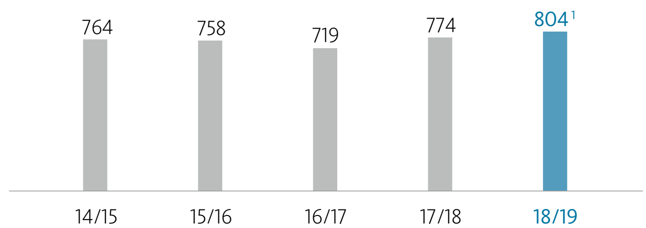
The recovery of our metals depends on the metal contents in the processed copper concentrates and recycling materials. Lower concentrate throughputs due to shutdowns therefore impact the volumes that are recovered. A portion of the metals is sold in the form of intermediate products.

Sales volumes of other metals

		2018/19	2017/18
Gold	t	51	48
Silver	t	861	877
Lead	t	19,038	19,527
Nickel	t	3,067	3,022
Tin	t	1,631	1,851
Minor metals	t	943	918
Platinum group metals (PGMs)	kg	9,771	8,821

Continuous cast rod output

in thousand t



[1] Taking the full integration of Deutsche Giessdraht GmbH into account.

Rod output slightly above prior-year level

Continuous cast wire rod is used as a preliminary product for processing, especially in the cable and wire industry, as well as for special semi-finished products. Following robust demand for rod in the first half of 2018/19, the level cooled off considerably in the second half of the fiscal year. Rod demand in the individual sectors developed differently. Demand among magnet wire producers declined substantially in particular, while the decrease in demand in the automotive sector caused only a slight reduction for rod. In contrast, demand in both the construction industry and in energy cable was nearly stable.

Taking the full integration of Deutsche Giessdraht GmbH into account since January 1, 2019, rod output was 804,000 t and thus slightly above the prior-year level (774,000 t).

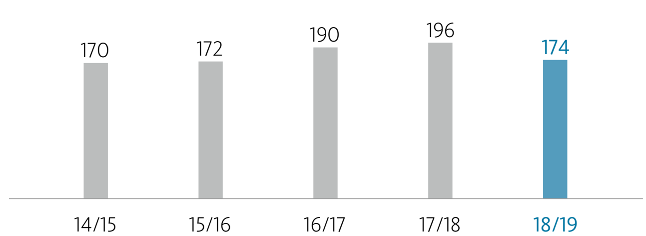
Shapes output considerably below prior-year level

Following stable demand for high-purity shapes at the start of the fiscal year, the situation dampened toward the end of Q2 in light of the general economic trend. Restrained demand from the automotive sector in particular influenced the flat rolled products sector, a key outlet for shapes.

At 174,000 t, continuous cast shapes output in fiscal year 2018/19 was significantly below the previous year (196,000 t).

Continuous cast shapes output

in thousand t



Bars and profiles output stable

The production volume for bars and profiles, which are produced exclusively at the Olen site, were at prior-year level at 14,800 t (previous year: 14,600 t).

Capital expenditure

Capital expenditure in Segment MRP amounted to € 203 million (previous year: € 152 million). Significant individual investments included investments in connection with the maintenance shutdown carried out in Pirdop, investments to prepare for the scheduled maintenance shutdown in Hamburg (October 2019), and investments in the construction of the new Innovation and Training Center at the Hamburg site.

SEGMENT FLAT ROLLED PRODUCTS

Key figures

in € million	**2018/19 operating**	2017/18 operating
Revenues	1,300	1,452
EBIT	-39	18
EBT	-47	21
Capital expenditure	16	17
Depreciation and amortization	-26	-11
Operating ROCE [1]	-10.6	7.4
Capital employed [1]	363	398
Number of employees (average)	1,755	1,768

[1] The shares of Schwermetall Halbzeugwerk GmbH & Co. KG accounted for using the equity method have been included since this reporting year. This adjustment should improve the depiction of Segment FRP's profitability. Prior-year figures have been adjusted accordingly.

BUSINESS PERFORMANCE AND EARNINGS TREND

In Segment Flat Rolled Products (FRP), copper and copper alloys – primarily brass, bronze, and high-performance alloys – are processed into flat rolled products and specialty wire. The main production sites are Stolberg (Germany), Pori (Finland), Zutphen (Netherlands), and Buffalo (USA). Furthermore, the segment also includes slitting and service centers in Birmingham (UK), Dolný Kubín (Slovakia), and Mortara (Italy), as well as sales offices worldwide.

The market situation for Segment FRP cooled off significantly in fiscal year 2018/19 compared to the previous year. This was true for all regions and most sales segments; demand for connector strip for the European automotive industry developed negatively in particular. Revenues in the segment declined considerably in the reporting period as a result, amounting to € 1,300 million (previous year: € 1,452 million).

Segment FRP generated operating earnings before taxes (EBT) of € -47 million (previous year: € 21 million).

Operating EBT was substantially strained due to the change in the definition of the operating result (refer to the explanation in the section "Corporate control"), which led to recognition of an impairment loss of € 31 million against copper inventories. Furthermore, a € 20 million impairment on Segment FRP's non-current assets had a negative impact.

Without these effects, operating earnings before taxes (EBT) would have been slightly positive (€ +4 million) but were instead substantially below the previous year. This was mainly due to a lower sales volume and less favorable conditions on the buying market compared to the very good previous year. We prevented a further drop in earnings with the ongoing efficiency improvement program.

Overall, at € -47 million, Segment FRP's operating result during the reporting year was significantly below the prior-year level (€ 21 million). Operating ROCE (taking the operating EBIT of the last four quarters into consideration) was also well below the previous year at -10.6 % (previous year: 7.4 %). The full-year forecast for operating EBT and operating ROCE from the Annual Report 2017/18 was reduced accordingly in the Interim Report published for the first half of 2018/19.

After the European Commission blocked the sale of Segment FRP in February 2019, we are now reviewing different strategic options for the sale of the segment.

PRODUCT MARKETS

The market for flat rolled products has cooled down distinctly since summer 2018, especially in Europe. Demand for connectors from the European automotive industry was impacted in particular. Individual sales segments in the US market also lagged behind expectations.

RAW MATERIALS

The availability of input materials was good in fiscal year 2018/19. Nevertheless, conditions weakened compared to the very good previous year.

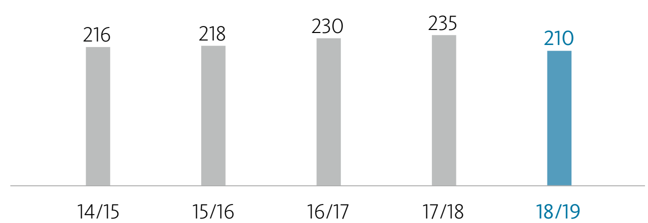
PRODUCTION

Flat rolled products output down due to demand

Output of flat rolled products and specialty wire decreased to 210,000 t due to demand (previous year: 235,000 t). All of the sites continued to work on implementing the programs to improve efficiency and to enhance productivity and quality.

Flat rolled products and specialty wire output

in thousand t



CAPITAL EXPENDITURE

Capital expenditure in Segment FRP amounted to € 16 million (previous year: € 17 million). This was primarily used for replacement investments.

Executive Board assessment of the Aurubis Group during fiscal year 2018/19

Operating earnings before taxes amounted to € 192 million in fiscal year 2018/19. This result is significantly below that of the particularly successful previous year (€ 329 million), in which we achieved one of the best results in the history of the Aurubis Group. By the end of the reporting year, operating ROCE reached a value of 8.6 % (previous year: 15.0 %).

In the Annual Report 2017/18, we published the following forecast: in total, we expected the Aurubis Group to report operating EBT at a level moderately below that of the previous year, and operating ROCE slightly below that of the previous year. On April 26, 2019, we adjusted this forecast: accordingly, from that point on, Aurubis AG expected significantly lower operating EBT compared with the previous year (reduction: > 15.0 %), and significantly lower ROCE (reduction: > 4.0 percentage points). This result means that both operating consolidated EBT and operating ROCE were within the adjusted forecast.

The development of operating EBT was influenced considerably by planned and unplanned shutdowns at our smelter sites. Most notably, these led to substantially lower concentrate throughputs, and consequently to lower refining charges. In addition to this, a redefinition of our operating result led to recognition of an ongoing imparment loss of € 31 million against copper inventories. A € 20 million impairment loss recognized against Segment FRP's non-current assets, as well as the discontinuation of our investment project Future Complex Metallurgy, also had a negative effect on the operating result. Furthermore, increased energy costs and weaker demand for continuous cast and flat rolled products had a detrimental influence on the outcome of the result in the reporting year.

The operating result in fiscal year 2018/19 was affected favorably by increased metal output in Q4 and sales of precious metals, which took advantage of high prices for precious metals. Added to this, significantly higher prices for sulfuric acid resulted in higher sulfuric acid revenues, despite a diminished output due to production shutdowns. Positive contributions from our efficiency improvement program, as well as a receivable from Wieland-Werke AG arising from the prohibited sale of Segment FRP also had a beneficial influence.

At € 304 million, the operating EBT for Segment Metal Refining & Processing (MRP) in the reporting period remained below that of the particularly successful previous year (previous year: € 353 million). The description of the Group business performance also largely applies to that of Segment MRP.

Operating EBT for Segment FRP amounted to € -47 million for the reporting period (previous year: € 21 million). Operating EBT was detrimentally affected both by the redefinition of operating EBT, as previously mentioned in the observations on the Group, and by an impairment loss recognized against Segment FRP's non-current assets. Without these factors, the operating result before taxes would have been marginally positive (€ +4 million).

At € 272 million, the operating net cash flow as at September 30, 2019 exceeded that of the previous year (previous year: € 203 million). This was primarily due to the sales of precious metals at increased prices.

The equity ratio (operating) was 55.0 % as at September 30, 2019 (previous year: 55.5 %). Net surplus financial funds as at September 30, 2019 were at € 139 million (previous year: € 165 million). The Aurubis Group's balance sheet structure thus continues to be very robust.

Results of operations, net assets, and financial position of Aurubis AG

GENERAL INFORMATION

In order to supplement our Aurubis Group reporting, we explain the development of Aurubis AG in the following section. Aurubis AG is the parent company of the Aurubis Group and is based in Hamburg with production sites in Hamburg and Lünen. Apart from managing the Aurubis Group, the business activities of Aurubis AG also particularly include primary copper production and recycling, as well as copper product and precious metal production. The separate financial statements of Aurubis AG have been prepared in accordance with the requirements of the German Commercial Code (Handelsgesetzbuch, HGB) and the German Stock Corporation Act (Aktiengesetz, AktG). The primary differences from the Group financial statements prepared in accordance with IFRS principles are in the accounting treatment of fixed assets, the measurement of inventories, the measurement of financial instruments, and the accounting treatment of pension provisions.

The Aurubis Group is managed across all companies at Group level through Segments, using operating EBT and operating ROCE as the financial performance indicators. These indicators are also used for Aurubis AG's operating activities, which are a significant component of the Group. To this extent, the development and forecast of the financial performance indicators at the Segment and Group levels at the same time represent the development and forecast for Aurubis AG as an individual company.

The analysis of the development for the financial performance indicators outlined above during the fiscal year and the related forecast for the following year are provided in the Economic Report and the Forecast Report for the entire Group. Statements regarding the risk situation and opportunities can be found in the Group's Risk and Opportunity Report pages 96–103.

RESULTS OF OPERATIONS

Income statement

in € million	2018/19	2017/18
Revenues	**8,200**	**7,968**
Changes in inventories/ own work capitalized	79	30
Other operating income	52	82
Cost of materials	-7,774	-7,474
Gross profit	**557**	**606**
Personnel expenses	-265	-245
Depreciation of property, plant, and equipment and amortization of intangible assets	-53	-51
Other operating expenses	-132	-163
Operational result (EBIT)	**107**	**147**
Financial result	50	24
Result of normal business activities (EBT)	**157**	**171**
Taxes	-32	-51
Net income for the year	**125**	**120**

Compared to the previous year, Aurubis AG's business performance in fiscal year 2018/19 was negatively impacted by a lower concentrate throughput accompanied by reduced treatment and refining charges, as well as substantially lower refining charges on the copper scrap markets, for which the supply situation was good. Furthermore, maintenance and repair shutdowns and non-recurring special charges deriving from termination of the Future Complex Metallurgy (FCM) internal investment project had a negative impact on the result. In contrast, a higher metal gain, higher sulfuric acid revenues due to increased sales prices, and robust sales volumes for copper wire rod had a positive influence on the result.

Revenues increased by € 232 million to € 8,200 million during the reporting year (previous year: € 7,968 million). This development was primarily driven by higher sales revenues for copper products due to pricing.

With a higher cost of materials ratio (cost of materials/(revenues + changes in inventories)) due to price factors, and taking into account own work capitalized and other operating income, the gross profit decreased by € 49 million to € 557 million (previous year: € 606 million). Other operating income decreased by € 30 million, from € 82 million to € 52 million, due in particular to lower currency gains. Income of € 20 million, deriving from the prohibited sale of Segment FRP, counteracted this decrease.

Personnel expenses increased in the past fiscal year by € 20 million to € 265 million (previous year: € 245 million). As was the case in the previous year, the increase was especially attributable to wage tariff agreement increases and an increased number of employees.

At € 53 million, depreciation and amortization of fixed assets remained at the prior-year level (previous year: € 51 million). Other operating expenses decreased by € 31 million, from € 163 million to € 132 million, due in particular to the decrease in currency gains. Additionally, impacts of € 23 million were recognized during the fiscal year, which resulted from the discontinuation of the internal investment project Future Complex Metallurgy (FCM). Taking personnel expenses, depreciation and amortization, and other operating expenses into account, the operational result (EBIT) amounted to € 107 million (previous year: € 147 million).

The financial result for the reporting year was € 50 million (previous year: € 24 million). In addition to dividends of € 96 million from subsidiaries (previous year: € 52 million), this included a € 3 million write-up of the carrying amount of the investment in Aurubis Italia, the net interest result of € -30 million (previous year: € -28 million), and write-downs of securities classified as fixed assets amounting to € -19 million as at the reporting date (previous year: write-ups of € 2 million).

After taking a tax expense of € 32 million (previous year: € 51 million) into account, net income for the year amounted to € 125 million (previous year: € 120 million). The decrease in the tax expense resulted primarily from the non-deductible portion of the higher income from participatory investments, which nearly doubled compared to the previous year.

NET ASSETS

Fixed assets increased in the fiscal year by € 32 million to € 2,152 million (previous year: € 2,120 million), especially due to investments in property, plant, and equipment. The investments amounted to € 126 million in total and primarily related to the planned shutdown of primary copper production in Hamburg, to the construction of the new Innovation and Training Center in Hamburg, and to the overhaul of the electrolytic refining facility (tankhouse) at the Lünen site. Investment in the FCM project, amounting to € 14 million in the fiscal year, was derecognized together with the amounts invested in the previous year (€ 23 million in total) after an announcement was made to terminate the project.

Inventories decreased marginally by € 7 million to € 815 million (previous year: € 822 million). Whereas raw material inventories decreased by € 70 million due mainly to a decline in copper-bearing concentrates, inventories of finished goods and work in process increased by € 63 million as at the closing date. This was particularly due to the planned shutdown of primary copper production in Hamburg.

Trade accounts receivable increased by € 77 million compared to the previous year, primarily due to higher receivables in the product areas for precious metals and rod, due to both increases in volumes and prices.

Overall, total assets increased by € 201 million to € 4,010 million compared to the previous year. Therefore, the comparative share attributable to fixed assets was 54 % (previous year: 56 %), while inventories accounted for 20 % (previous year: 22 %) and receivables and other assets accounted for 16 % of total assets (previous year: 12 %).

Equity increased by € 125 million due to the earnings generated for the fiscal year reported. The dividend paid, amounting to € 69 million, had a counteracting effect. Equity therefore amounted to € 1,566 million (previous year: € 1,510 million). The equity ratio was nearly unchanged at a level of 39 % (previous year: 40 %).

Provisions increased in total by € 26 million to € 284 million. The growth was due to higher pension provisions, personnel-related provisions, and accruals for outstanding invoices. The tax provision that had been set up in respect of a completed tax field audit was utilized when the related tax arrears were paid.

Bank borrowings decreased by € 11 million to € 267 million (previous year: € 278 million).

Trade accounts payable increased by € 61 million to € 530 million as at the closing date, primarily due to concentrate deliveries whose due dates for payment were after the closing date. Payables to affiliated companies primarily comprise borrowings, which increased within the context of normal financial transactions, from € 1,129 million to € 1,206 million. Other payables amounted to € 16 million.

Balance sheet structure of Aurubis AG

in %	**9/30/2019**	9/30/2018
Fixed assets	54	56
Inventories	20	22
Receivables, etc.	16	12
Cash and cash equivalents	10	10
	100	**100**
Equity	39	40
Provisions	8	7
Liabilities	53	53
	100	**100**

Aurubis uses assets under the terms of leasing agreements that are not recognized as assets in the balance sheet. Financial commitments deriving from leases amounted to € 16 million.

FINANCIAL POSITION

Net borrowings were at € 737 million as at September 30, 2019 (previous year: € 744 million). They resulted from bank borrowings of € 267 million (previous year: € 278 million), receivables from and payables to subsidiaries of € 882 million deriving from refinancing (previous year: € 890 million), after deducting cash and cash equivalents of € 412 million (previous year: € 424 million).

Cash pooling arrangements exist between Aurubis AG and its subsidiaries. For a further analysis of Aurubis AG's liquidity situation, refer to the explanations concerning the financial position that are included in the Combined Management Report pages 84–85. Aurubis AG's financing was secured at all times.

In addition to cash and cash equivalents, Aurubis AG had access to unutilized credit line facilities and thus has adequate liquidity reserves. Furthermore, within the context of factoring agreements, Aurubis AG sold receivables without recourse as a financing instrument.

Capital expenditure

In the past fiscal year, investments of € 126 million were made at the Hamburg and Lünen sites (previous year: € 111 million). Investments were primarily related to the shutdown of primary copper production in Hamburg, the FCM project, the construction of the new Innovation and Training Center in Hamburg, and the overhaul of the electrolytic refining facility (tankhouse) at the Lünen site. Furthermore, investments were made in various infrastructure and improvement measures at the Hamburg and Lünen plants.

Risk and Opportunity Report

Integrated risk and opportunity management

Risks and opportunities are elements of our business activities and are essential to the company's success. As part of our operating business and our strategic management, we weigh opportunities and risks against one another and ensure that they remain balanced. We aim to identify and evaluate risks and opportunities as early as possible.

Aurubis AG's risk and opportunity situation is inherently closely linked to the Aurubis Group's risk and opportunity situation. In this respect, the statements of the company's management on the overall assessment of risks and opportunities also serve as a summary of Aurubis AG's risks and opportunities.

Risk management system

Our objective in risk management is to manage and monitor the risks associated with our business with the help of a risk management system (RMS) suited to our activities. Identifying and observing risk development early on is of major importance. Furthermore, we strive to limit negative effects on earnings caused by risks by implementing appropriate and economically sound countermeasures.

Risk management is an integral component of the centralized and decentralized planning, management, and monitoring processes and covers all of the Aurubis Group's main sites, business sectors, and central functions. The planning and management system, risk reporting, open communication culture, and risk reviews at the sites create risk awareness and transparency with regard to our risk situation.

Risk management officers have been appointed for all sites, business sectors, and central functions, and they form a network within the Group. The Group headquarters manages the network. The RMS is documented in a corporate policy.

Standard risk reporting takes place bottom-up each quarter using a uniform, Group-wide reporting format. Within this format, the identified risks and risks beyond a defined threshold are explained and evaluated on the basis of their probability of occurrence and their business significance. Measures to manage them are then outlined. The risks registered with Group headquarters are qualitatively aggregated into significant risk clusters by Corporate Risk Management and reported to the entire Executive Board. The report also establishes the basis for the report to the Audit Committee as well as external risk reporting.

Potential effect on earnings

in € million	**> 1**	**> 5**	**> 20**	**> 50**
Likelihood				
high	medium	medium	high	high
medium	low	medium	medium	high
low	low	low	medium	medium
unlikely	low	low	low	medium

In the report to the Executive Board and the Audit Committee, the qualitatively aggregated risk clusters are assessed with due regard to risk management measures (net perspective) based on their probability of occurrence and the potential effect on earnings pursuant to the spreads included in the table, and are classified as low, medium, or high.

Independent monitoring

The RMS is subject to routine monitoring and review. Internal Audit monitors risk management and compliance with the internal control system using systematic audits. As a process-independent authority, it contributes to the correctness and improvement of the business processes, and to the effectiveness of the installed systems and controls.

In addition, the auditors review our early risk detection system to ensure that it adheres to legal requirements. They report the audit results to the Executive Board and the Supervisory Board (Audit Committee).

Furthermore, the Audit Committee deals intensively with risk management issues. The Group risk management officer regularly informs the committee and the Executive Board about current developments.

Explanation of relevant risks

In the following sections, the risks associated with our business are explained according to our risk clusters. The main measures and instruments we use to counter these risks are also described here. We have separately indicated risks and risk-relevant issues that we currently classify as potentially medium to high.

SUPPLY AND PRODUCTION

The ability to keep the production facilities supplied with raw materials and the availability of these facilities are of central importance for the Aurubis Group. We limit the associated risks by implementing a range of specific measures.

To ensure the supply of copper concentrates for our facilities, we have entered into long-term agreements with a number of concentrate suppliers from various countries. In this way, we are able to reduce the risk of production interruptions caused by possible delivery failures. We were able to fully supply our primary smelters with concentrates during the past fiscal year. The risk of volatile treatment and refining charges on the spot market is also limited by the long-term nature of the agreements.

The recycling facilities were fully supplied during the past fiscal year, thanks to our extensive international supplier network. From today's standpoint, we also expect a very good supply situation and full utilization of the facilities for fiscal year 2019/20. There are ongoing refining charge volatilities due to the general metal price trend, the collecting behavior and inventory management of the metal trade, the international economic situation and competition for the secondary raw materials relevant for Aurubis.

A key means of countering supplier-specific risks within the supply chain is Business Partner Screening. This instrument analyzes existing and potential business partners to assess their integrity in relation to social and ecological criteria, among other factors. The focus of our interest is on topics such as compliance, corruption, human rights violations, and environmental aspects. The decision to enter into a contract with business partners with increased risk is only made after extensive review, and in consultation with the Sustainability and Compliance departments.

The material for the facilities producing copper products mainly comes in the form of copper cathodes manufactured within the Group. This allows us to simultaneously generate higher added value and control the quality of copper products during the entire process. We also procured a sufficient volume of copper-bearing raw materials for the production plants belonging to Segment Flat Rolled Products. In this case, we also expect a similar situation for the coming fiscal year.

Overall, plant availability was unsatisfactory. There were multiple unscheduled shutdowns in the course of the fiscal year, especially in Hamburg, Pirdop, and Lünen. We formed an interdepartmental team with the objective of developing a deeper understanding about why the leaks occurred and how we can avoid them in the future. During the reporting year, this team worked on identifying the reasons and developing solutions to significantly reduce the frequency of these leaks.

We also took organizational measures to handle potential incidents that could result from events such as flooding or fire. Among these were emergency plans or regular exercises for the purpose of training our employees. We also addressed the risk of malfunctions by carrying out regular maintenance work and by keeping critical replacement parts on hand.

Taking into account the measures described above, we regard the risk of insufficient supply as "medium." We adjusted the risk of strongly limited availability of our production facilities from "low" to "medium" due to the unscheduled shutdowns.

We deal with logistics risks by implementing a thorough, multi-step selection and evaluation process for service providers, by avoiding single sourcing as far as possible, and by preventively developing backup solutions. We also have an international network of qualified service providers at our disposal. This helps us to prevent weather-related risks in the transport chain, for example, by contractually arranging a selection of appropriate transport alternatives.

SALES

In addition to supply and production risks, the Aurubis Group also faces sales risks, which we classify as "medium."

Generally speaking, risks can arise from negative deviations from our predictions of the markets' economic development, which we have outlined in the Forecast Report. In particular, a weakening of the overall economy in Europe can negatively impact demand for our products. This applies to our sales of copper products such as wire rod, shapes, and the portfolio of Segment Flat Rolled Products, as well as sulfuric acid.

Thanks to economic analyses and estimates regarding economic trends, we are in a position to adjust our individual sales strategies to changing conditions as needed, thus countering any risks that arise.

Cathodes that are not processed further internally by Aurubis are sold on the international copper cathode market.

We are closely monitoring the current discussions about the possibility of additional trade restrictions or tariffs resulting from the trade conflict between the US and China as well as between the US and Europe. The same is true for the Brexit talks, though the possible impacts of that particular issue on the Aurubis Group are of minor importance from the current perspective.

Business partners on the sales side are also assessed using Business Partner Screening. The statements made in the previous section (Supply and production) can be referenced in this regard.

ENERGY AND CLIMATE

Energy prices increased in the past fiscal year. Through an energy supply contract that has been in place since 2010, we have secured most of the electricity our main German sites need at an internationally competitive price. We also deal with fundamental supply security, as well as the potential and limitations of more flexible energy sourcing (for instance, as part of the northern German joint project NEW 4.0), which is becoming increasingly necessary due to the rising, volatile feed-in of renewable energies.

Burdens resulting from changes in potential cost drivers such as the German Renewable Energy Sources Act (EEG), the emissions trade, grid charges, and the eco-tax are generally difficult to quantify reliably because of the ongoing uncertainty of the legal situation and the changing political conditions. We expect costs to rise in the medium term due to the German Energy Collection Act (December 2018) and the Energy Line Extension Act.

The copper production and processing industry is expected to continue receiving free allocations of emission trading allowances for direct CO_2 emissions between 2021 and 2030 due to its carbon leakage status. However, taking into account the political goals of the Paris Agreement, we expect a decline in the free allocation of allowances. The CO_2 price increased substantially again in the past year. The supply of CO_2 certificates is set to be significantly reduced in the coming trading period, which should raise prices considerably. The political decision-making process regarding the form and amount of compensation for indirect CO_2 costs in electricity as of 2021 has started. The copper sector needs to remain eligible for compensation as a matter of principle.

Currently (as of November 12, 2019), the European Commission's Directorate-General for Competition is striving to reduce the number of sectors with carbon leakage status. We are monitoring the process of redefining the state aid guidelines and are advocating for the copper sector to continue receiving electricity price compensation. On the whole, we see a risk of cost increases as a result of the EU emissions trading system.

On the customer side, increasing demands for transparent goals and strategies related to effective production processes, energy, and CO_2 efficiency could influence future copper product sales, particularly when it comes to customer acquisition and retention. We are countering this with steps such as annual climate reporting and evaluations of such reporting conducted by the CDP (formerly the Carbon Disclosure Project).

Aurubis takes the protection of the climate seriously. The company highlights the significance of this issue by publishing Scope 1 and Scope 2 emissions (CO_2) as part of the separate Non-Financial Report CO_2 emissions, page 47. Aurubis counters the risks of climate change with an energy management system at all of the main sites, among other things. The different energy efficiency and CO_2 reduction projects outlined in the Non-Financial Report page 46 have prevented about 74,000 t of CO_2 per year since 2013, contributing to the achievement of climate protection goals, the general shift in heating methods, and the internal CO_2 reduction target of the current Sustainability Strategy. As mentioned previously in the “Supply and production” section, Aurubis is also subject to risks in the transport chain due to extreme weather. The company counters these risks through geographic diversification in the supply chain, the storage of emergency reserves to maintain production, and the availability of alternative logistics service providers, among other things. Furthermore, water levels (flooding/low water) are observed in the key waterways to be able to initiate countermeasures in good time if needed.

In the future, the topic of energy and the associated risks, currently classified as “medium,” will continue to be very important for Aurubis as an energy-intensive company.

FINANCE AND FINANCING

Metal price and exchange rate fluctuations represent a potential risk in the buying and selling of metals. Foreign exchange and metal price hedging substantially reduce this risk. Metal backlogs are hedged daily with financial instruments such as spot and forward contracts. Similarly, spot and forward exchange contracts are used to hedge foreign currencies and, on a daily basis, to minimize foreign exchange risks arising from exchange rate fluctuations affecting foreign currency metal transactions. We only select creditworthy firms as counterparties for hedging transactions to minimize the credit risk.

We hedge expected receipts from foreign currencies, especially the US dollar, with options and forward exchange transactions in some cases. We will continue this in the future as well and expect that we can reduce the risks from metal price and exchange rate fluctuations to a reasonable level with these measures.

Credit risks from trade accounts receivable are largely hedged by commercial credit insurances. Internal risks are only permitted to a very limited extent and after review. The development of the outstanding receivables is monitored closely. During the reporting period, there were no significant bad debts. We also do not foresee any increased risks for the future.

The liquidity supply, which is very important for the Aurubis Group, was secured during the past fiscal year. The credit lines at the banks were also sufficient. The Aurubis Group has a stable financial situation in the new fiscal year as well and can finance possible fluctuations from operating business through its credit lines. Overall, we classify the finance and financing risks as “medium.”

INFORMATION TECHNOLOGY

Aurubis is additionally subject to IT risks that can impact areas such as supply, production, and sales. These risks were taken into consideration in the company’s risk assessment. From the current perspective, however, the risks are classified as “low” due to the risk minimization measures described in the following.

We handle risks related to the availability of our IT systems with continuous monitoring, redundant infrastructure, and ongoing adjustments to the state of the art in IT. We counter the risks of possible incidents or disasters with the redundant design of our IT infrastructure, as well as data recovery and continuity plans. We limit the risks that can result from unauthorized access to company data, as well as cybercrime, by restricting access rights, carrying out security reviews, and using modern security technologies.

ENVIRONMENTAL PROTECTION AND OTHER ASPECTS

There is always a risk that environmental or regulatory provisions could become more stringent, leading to added costs or limitations in product fabrication and marketing. For example, there is a risk that increasingly strict environmental legislation will restrict the marketing of iron silicate stone in certain sales sectors. The German Substitute Building Materials Ordinance, which is intended to create uniform national regulations for the use of substitute building materials, is currently in the planning stage and has a strong influence on the future use of iron silicate in road construction. We want to achieve greater flexibility in marketing iron silicate by expanding our granulation capacities, among other things.

In addition, environmental risks resulting from the possible failure to comply with thresholds and from violations of requirements can have legal consequences. Ensuring the environmentally sound operation of our production facilities helps prevent these situations. We are an international leader in environmental protection, which is confirmed by annual certifications in accordance with DIN EN ISO 14001 and EMAS, for example. We consider ourselves to be well positioned for the future in this regard. Nevertheless, operational incidents that could have an adverse impact on the environment cannot be completely ruled out. Due to the higher level of uncertainty regarding the marketing of iron silicate, we are increasing the risk assessment for environmental protection from “medium" to "high."

In a plant with complex processes, employees’ specialist knowledge is an important factor for ensuring performance quality. We have established different measures that are intertwined with each other so that Aurubis can continue to count on employees’ knowledge. Among these are partnerships with universities, through which we establish ties with qualified young people, and qualification measures, through which we foster the development of professionals and managers within the company.

Occupational safety and health protection are high-priority areas for us. Responsibility for these issues rests with the management, the supervisors, and each individual in the company. Detailed risk assessments, audits, cross-site checks, training, and campaigns to strengthen employees’ safety awareness support our Vision Zero goal, which means zero work-related accidents, injuries, and illnesses.

The violation of laws can have serious consequences for both Aurubis as a group and for its employees and business partners. We therefore consistently follow all legal requirements. Significant compliance risks are identified, analyzed, and addressed by compliance management. We counter legal and tax risks with organizational procedures and clear management structures. We closely follow political discussions on tax issues, for example on the financial transaction tax and capital tax, as well as their possible effects.

Furthermore, selected risks are largely covered by insurance policies. We rely on the expertise of an external insurance broker for this purpose.

NON-FINANCIAL RISKS WITHIN THE SCOPE OF THE SEPARATE NON-FINANCIAL REPORT

Non-financial risks were assessed in accordance with the CSR Directive Implementation Act. In the process, no non-financial risks were identified that were very likely to cause serious negative impacts on employee and environmental matters, on respect for human rights, on the prevention of corruption and bribery, or on social matters within the meaning of Section 289c (3) and Section 315c (2) of the German Commercial Code (HGB). Nevertheless, it is important to us to handle non-financial risks even if they are evaluated as non-material according to the strict definition of the CSR Directive Implementation Act.

We have developed and implemented related management approaches to address these non-financial risks.

Internal control and risk management system relating to the consolidated accounting process

(Report pursuant to Section 289 (4) and Section 315 (4) of the German Commercial Code (HGB))

The objective of the internal control system (ICS) for the accounting process is to ensure that financial statements are prepared in compliance with regulations. Aurubis has an internal control and risk management system in which structures and processes related to the accounting process are defined and implemented in the organization. This ensures that the Group accounting procedures are reliable and performed correctly, that business transactions are thoroughly reported in a timely manner as prescribed by law and the Articles of Association, and that legal norms and internal guidelines on accounting are observed. Amendments to laws and accounting standards are continuously analyzed to establish their relevance for the consolidated financial statements, and resulting changes are incorporated into the Group's internal processes and systems.

PRINCIPLES OF THE INTERNAL CONTROL SYSTEM AS RELATED TO ACCOUNTING POLICIES

As the parent company, Aurubis AG prepares the Aurubis Group's consolidated financial statements. The financial reporting of the consolidated Group companies that are included in the consolidated financial statements takes place prior to this process. These Group companies prepare their financial statements locally and transfer them to the Corporate Accounting department via a defined uniform Group-wide data model. The Group companies are responsible for compliance with the valid Group-wide guidelines and procedures, as well as for the correct and timely execution of the accounting-relevant processes and systems.

The internal control system includes the following main principles:

» Ensuring standardized accounting procedures in the preparation of the separate financial statements of Aurubis AG by systematically implemented controls, which are supported by manual accounting controls and other authorization and approval procedures (separation of functions, access regulations and limitations, the use of the dual control principle, guidelines on payment transactions)
» Ensuring uniform Group accounting procedures in accordance with IFRS through the application of uniform accounting regulations and policies, central audit of reporting packages, analysis of deviations from the budget, and quarterly reporting as part of centralized discussions on earnings
» Compiling external accounting and internal reporting by all Group companies in a uniform consolidation and reporting system
» Overall consolidation of the consolidated financial statements by Corporate Accounting, which is responsible for the centralized consolidation, coordination, and monitoring of the standards related to the schedule and the process
» Giving the Group companies support in accounting procedures by having a central contact person in Corporate Accounting
» Clarifying special technical questions and complex issues related to specific cases with an external consultant

INTERNAL AUDIT AS A PROCESS-INDEPENDENT OBSERVER

Internal Audit examines the reliability of the accounting practices at local and Group level, among other things. In particular, it assesses existing internal process policies and the degree to which they are adhered to in practice. In its audits, Internal Audit provides information about risks that arise from identified deviations, as well as recommendations with regard to the adjustments to be made.

Opportunity management system

In addition to risk management, opportunity assessment is an important element of the Aurubis Group's planning, management, and control processes. Its objective is the early identification of internal and external opportunities that could positively impact our economic success. These opportunities are assessed and weighed against the risks associated with them. The next step is to define initiatives and measures to help tap this potential. The process of identifying and assessing opportunities is part of our annual integrated strategy and planning process.

In order to promptly recognize opportunities that arise, we continually monitor and analyze the supply and demand aspects of our markets, the competitive landscape, and global trends. Identifying potential opportunities is a daily management responsibility – on the level of both the operational areas and the Group.

Explanation of relevant opportunities

RISING GLOBAL DEMAND FOR COPPER AND METALS FOR TECHNOLOGY

Copper is one of the most important metallic raw materials. Demand for copper is aligned with global economic growth, especially in the electrical, electronics, construction, and automotive industries. Global trends such as increasing energy scarcity, rising urbanization, the growth of the world's middle class, digitalization, and electric vehicles will continue to increase not only copper demand in the long term, but also the demand for other metals such as tellurium, nickel, platinum, and palladium. If the economy and the demand for our products develop more favorably than currently expected in the markets relevant to us, this could have a positive influence on the Aurubis Group's earnings.

CHANGES IN TREATMENT AND REFINING CHARGES AND MARKET PRICES FOR OUR PRODUCTS

The Aurubis Group's earnings situation is largely determined by the treatment and refining charges for copper concentrates, copper scrap, and recycling materials, as well as by the market prices for our products, such as wire rod, copper cathodes, and sulfuric acid. If treatment and refining charges and market prices for our products develop more positively than currently forecasted, this could positively impact the Aurubis Group's earnings.

INCREASING SIGNIFICANCE OF SUSTAINABILITY AND RESOURCE EFFICIENCY

Aurubis is the world's leading recycler of copper and complex secondary raw materials. In light of the rising importance of resource efficiency with regard to sustainability, we expect demand for recycling solutions to continue growing. This is also supported and promoted by increasingly strict national and international legislation. Thanks to our multi-metal recycling activities and proximity to our copper product customers, we consider ourselves to be in a position to offer expanded closing-the-loop solutions. Should the acquisition of Metallo be approved by the EU Commission for Competition, Aurubis will be able to extend its recycling capabilities even further. If national and international recycling regulations broaden and demand for recycling solutions in our markets grows more strongly than expected, this could positively affect the Aurubis Group's procurement situation and therefore its earnings.

FURTHER DEVELOPMENT OF EXPERTISE IN COMPLEX RAW MATERIAL PROCESSING

Both primary and secondary raw materials are becoming increasingly complex in that their copper content is decreasing and the concentrations of accompanying elements and impurities in them are rising. One of Aurubis' particular strengths is in processing complex primary and secondary raw materials. Going forward, Aurubis will continue to build on this strength and thereby contribute to achieving efficient and resource-friendly production processes for the raw materials of the future. If we build up additional expertise in this area, this could positively influence the Aurubis Group's earnings.

CONTINUOUSLY IMPROVING PROCESSES AND COST POSITION AND ACHIEVING SYNERGIES

Our markets are globally competitive. Operating excellence is therefore exceedingly important for us. We continuously work on optimizing our processes and improving our cost position. Furthermore, we are always identifying and implementing means to increase the synergy potential within the network of Aurubis plants. If we go beyond the targets connected to initiated improvement measures, this could have a positive impact on the Aurubis Group's earnings.

CAPACITY EXPANSION LINKED WITH INTERNATIONALIZATION

We see additional growth potential in an expansion of our processing capacities in regions with favorable conditions and in proximity to our procurement and sales markets. We will continue investing in our existing sites but will also strive to expand our supplier and production networks further. If we are in a position to expand our capacities even more and, better still, do so with lower capital expenditure than expected, this could positively affect the Aurubis Group's earnings.

DEVELOPMENT OF SOLUTIONS FOR INDUSTRIAL CUSTOMERS AND SUPPLIERS

We work closely with our suppliers and customers at all levels of our value chain. This includes developing products for individual customers, providing additional services, processing specific raw materials, and offering additional closing-the-loop solutions. If the demand of our customers and suppliers for our solutions is stronger than forecast, this could have a positive effect on the Aurubis Group's earnings.

INNOVATIONS FROM FUTURE RESEARCH AND DEVELOPMENT ACTIVITIES

Within the scope of our research and development activities, we work on innovations to create a competitive advantage for ourselves in the future. For example, we are working on more resource-efficient processing of complex material streams in our smelters and refineries.

Assessment of the Aurubis Group's risk and opportunity situation

No risks threatening the company's continued existence arose in the reporting year. There were no particular structural changes in the Group's risks. According to our current assessment, there are no risks that endanger the company's continued existence.

Both the Audit Committee and the auditors ascertained that the Executive Board and Supervisory Board have taken the measures prescribed by Section 91 (2) of the German Stock Corporation Act (AktG) in an appropriate manner and that the legally required early risk detection system fulfills all requirements.

For a complete overview of company activities, the opportunities of the Group have to be considered in addition to the risks. We are confident that we will be able to utilize the opportunities presented by our business portfolio, our expertise, and our ability to innovate. At the same time, these factors put us in a position to counter existing risks successfully. Furthermore, we are convinced that we have the appropriate processes, measures, and instruments in place to identify important opportunities and manage relevant risks.

Forecast Report

The statements made in the Forecast Report are based on our assessments of the overall economic conditions, of global copper market trends, and of Aurubis' raw material and product markets. These assessments are based on analyses by economic research institutes, organizations, and industry associations, as well as on internal market analyses. The forecasts for the future business performance shown here take into account the segment targets, as well as the opportunities and risks posed by the expected market conditions and competitive situations in the forecast period of October 1, 2019 to September 30, 2020. The opportunities and risks affecting the Aurubis Group are explained in detail in the Risk and Opportunity Report. Our forecasts are regularly adjusted. The following statements are based on our knowledge in December 2019.

From our current perspective, there are numerous factors with the potential to influence the Aurubis Group's markets. These include the slowdown in global economic growth and the political situation in the US, where the fiscal policies being pursued and tense trade relations with China could especially affect the markets. In China, this impacts ongoing economic growth in particular. Likewise, in Europe, monetary policy, the fiscal policy of different member states, and Brexit and its side effects could register an effect as well. Increasing protectionism around the world and the political crises in the MENA region (Middle East and North Africa) could also have a bearing on the market situation.

Overall economic development

The IMF estimates that the global economy will grow by 3.4 % in 2020. The organization at the same time suggests that there are continued risks related to the uncertainty of political developments – especially the trade conflict between the US and China. Other factors include increasing protectionism, as well as trends moving away from multilateral trade relations based on fixed rules.

Newly industrialized and developing countries will once again record the strongest growth in 2020. The IMF forecasts a 4.6 % growth rate for this group of countries. The IMF attributes the decline in growth expectations compared to earlier forecasts to the structural decline in Chinese growth in connection with the negative impacts of the trade dispute with the US. Moreover, growth is weaker in Russia and India. The economic outlooks for larger Latin American economies such as Argentina, Brazil, and Chile have also recently dampened. The upward trend in Asian countries may be slightly below the prior-year level in 2020, with 6.0 %, according to the IMF. This trend includes China, which is important for the copper market.

The outlook for developed countries is more subdued overall, which can be seen in a reduced growth forecast of 1.7 %. At 2.1 %, economic growth in the US in 2020 is predicted to be lower than the previous year, due in part to the uncertain outcome of the trade conflicts and the weakening effect of corporate tax breaks from 2017. In the eurozone, the IMF sees 2020 economic growth at prior-year level, forecasting 1.4 %. The IMF estimates that the German economy will grow by 1.2 % in 2020, stronger than the previous year. The concrete impacts of Brexit continue to be a risk factor for economic development in the European Union.

Individual sectors such as the electrotechnical industry, the automotive industry, and the construction sector are important consumers of copper products. The economic developments expected here are as follows:

In its last forecast for the global electrical and electronic products market dated mid-2019, the German Electrical and Electronics Manufacturers' Association predicts 3 % growth for the sector in 2020. This forecast was based on 53 countries, which together comprise approximately 96 % of the global market. Europe accounts for 17 % of the global market. Slight growth of 2 % is expected there for 2020. A somewhat lower growth rate of about 1 % is expected for Germany.

According to the European Automobile Manufacturers' Association, demand for automobiles in the EU decreased by 1.6 % in the first nine months of 2019, with about 11.8 million new car registrations. An initial recovery of the market was evident in fall 2019, as registration figures rose by roughly 15 %. The substantial increase is also related to the lower comparative figure from the same month of the previous year, as car manufacturing declined distinctly in fall 2018 due to the switch to the new WLTP (Worldwide Harmonized Light Vehicle Test Procedure) for cars.

We anticipate recovery in the demand and sales situation for fiscal year 2019/20. We also expect positive growth momentum from the intensifying discussion regarding electric vehicles.

According to the main association of the German construction industry, the economic situation in the sector developed better than expected in 2019. The industry association expects an increase of 5 to 6 % for 2020. All construction categories and regions are supposed to contribute to the positive trend.

Based on these forecasts, we expect fairly stable economic development in 2020 in the three most important sectors for copper applications compared to the previous year. However, political and economic developments may decisively influence the respective market situations.

The effects of European and German energy and environmental policy are important for us but difficult to forecast in detail.

Sector development

The fundamental situation on the copper market offers analysts good reason to assume that a high copper price level similar to 2019 can also be expected for 2020. According to a survey of market experts carried out by Thomson Reuters, the average copper price in 2020 should be at a level of US$ 6,030/t (October 2019).

Much will again depend on the developments in copper smelter production. China is still the central focus. According to the news service CRU, 2020 will see further ramp-ups of smelter projects in China, though some of them will replace older smelting capacities that can't fulfill the rising environmental standards in China. These stricter standards and increasing financing barriers in China also make it more difficult to implement planned local smelter projects. The construction of smelters with a total capacity of over 100,000 t per year for 2020, which CRU expects, is significantly beneath the 2019 level. It should also be noted that the ramp-up phase generally takes a long time before full capacity utilization is achieved.

The International Copper Study Group (ICSG) anticipates a higher increase of 4.0 % in the global output of refined copper for 2020 (2019: 0.5 %). Among other factors, the organization attributes this to the fact that global output was restricted in 2019 due to various smelter shutdowns and points to the capacity expansions in China during the reporting year.

Good demand for refined copper can be expected again for 2020, as the metal is an essential material for economic development in key sectors such as the electrical and automotive industries and construction. Solid economic growth in countries with the strongest demand, among them China, the US, and European countries, sets the agenda in this respect.

China will account for about half of global copper demand in 2020 (50.6 %) (CRU). The majority of this demand will come from investments in infrastructure projects, among them energy grid projects requiring copper. The Chinese government's Belt and Road Initiative (BRI) should be emphasized especially. In the development of the Chinese machinery and transport sector, there is also growth potential for copper applications. CRU expects China's copper demand to increase by around 1.8 % in 2020.

According to the CRU, the global market for refined copper is expected to have a slight production surplus overall in 2020. This should amount to 95,000 t and, against the backdrop of a roughly 24-million-ton market, amounts to a largely balanced situation. As in the past, unforeseen developments can lead to major changes. From today's perspective, however, the expectation of a balanced market appears to be justified in light of foreseeable developments on the production and demand side. Other market experts, such as the ICSG and the research company Wood Mackenzie, also view the 2020 copper market as largely balanced or expect a slight production surplus.

Raw material markets

COPPER CONCENTRATES

On the concentrate markets, new projects are expected to some extent in 2020. Mines will likely continue to utilize their full production capacities, especially on the basis of the forecasts for the average copper price in 2020. Accordingly, we anticipate a good supply of copper concentrates on the global market. There could be uncertainties, however, due to local political tensions and unrest in countries with larger copper deposits.

For 2019 annual contracts, the benchmark treatment and refining charge (TC/RC) for processing standard copper concentrates was US$ 80.8/t and 8.08 cents/lb. Despite a balanced copper concentrate market in 2019 overall, we have anticipated a possible tightening of the market in connection with declining TC/RCs in 2020.

In late November 2019, the first benchmark between a large mining company and several Chinese smelter operators was agreed at US$ 62/t and 6.2 cents/lb for processing standard copper concentrates in 2020. This confirmed our assumption that the market would tighten, in connection with higher pressure on copper concentrate TC/RCs.

Nevertheless, due to our position on the market, our contract structure, and our supplier diversification, we are confident that we will once again secure a good supply.

RECYCLING

The copper scrap market was once again stable at a high level in the course of fiscal year 2018/19. With the same conditions as the last fiscal year, we expect a good supply situation with similar refining charges.

Business in this area, particularly for copper scrap, is conducted with short timelines and is therefore dependent on a variety of influences that are difficult to forecast. For instance, falling metal prices could lead to a market change with declining refining charges in the short term. Our broad market position absorbs supply risks in this case, however. The development of copper scrap and blister copper supply therefore remains difficult to gauge. In Q1 2019/20, we are already supplied with sufficient material with good refining charges.

Product markets

MARKETS FOR COPPER PRODUCTS

Adequate statements about the development of the copper product business in the new fiscal year are only possible to a limited extent since the negotiation season for 2020 sales contracts has not yet ended.

One factor that is already clear is the copper premium Aurubis has established for European wire rod and shapes customers for the coming calendar year. Aurubis kept this premium stable at US$ 96/t for its European customers (2019: US$ 96/t). The stable copper premium reflects positive expectations regarding demand from our European customers in 2020.

Despite the stable economic situation in the relevant sectors and economic growth expectations at prior-year level in Europe in 2020, we expect to conclude the negotiation season for copper products with contracts that are positive for us. Good customer relationships in our key markets support this. We will also continue expanding our business with new customers.

CATHODES

Sales of free cathode volumes on the market are based on the planned processing of our cathode output in the Group.

COPPER WIRE ROD

Wire rod business is generally somewhat weaker in the first quarter of a new fiscal year due to seasonal factors. For 2020, we expect demand in Europe to be at a level similar to 2019. This will depend considerably on the ongoing economic trend, which, from today’s perspective, continues to be influenced by uncertainties in the key customer industries. Only from the construction and infrastructure sector do we still anticipate a good demand level in 2020.

COPPER SHAPES

From the current perspective, demand for oxygen-free materials should remain robust. Demand for our higher-alloyed materials is still strong as well. The latest company mergers in the semifinished product sector in Europe provide market opportunities for higher sales, as do the changes in the trade flows in Asia and North America.

SPECIALTIES

Like the other copper products, our specialties, which include bars and profiles, are dependent on further economic development. For 2020, we anticipate stable demand at prior-year level but continue to expect strong competitive pressure when it comes to standard products.

FLAT ROLLED PRODUCTS

For flat rolled products, we see a few different trends. The US economy, whose development is crucial for our plant there, is expected to remain challenging in 2020.

In the European market for flat rolled products, we expect the tight demand situation of 2019 to continue. The production of connectors in particular is highly dependent on demand from the automotive sector, which has been weakening as of 2019. Although we expect further growth momentum from the increase in electric vehicles in the medium term, we don't anticipate a significant market recovery in the short term.

SULFURIC ACID

Sulfuric acid sales are dependent on short-term developments, a fact that is reflected in the duration of the contracts. In addition, sales opportunities are very different from region to region, with varying conditions accordingly. Aurubis supplies the global sulfuric acid market, with a focus on Europe, North America, and North Africa. The relationship between local sales and exports fluctuates depending on market circumstances. Since fiscal year 2018/19, Aurubis has also had a sales office for sulfuric acid in Tampa, Florida.

Following a considerable tightening of the sulfuric acid market with correspondingly lower prices in fiscal year 2018/19, market observers such as ICIS and CRU expect a balanced market at the end of 2019. The current insights for Q1 2019/20 also signalize a stable situation for Europe, while demand on the international sulfuric acid markets is influenced by uncertainties.

Business and earnings expectations for the Aurubis Group

BUSINESS EXPECTATIONS

In fiscal year 2018/19, we kicked off different initiatives and individual measures within the Group to strengthen Aurubis. We bring them together under the strategy Growth, Efficiency & Responsibility, with which we want to achieve our Vision 2025. Aurubis currently holds leading market positions in many areas – in which we aim to continue developing over the long term.

With the acquisition of the Belgian/Spanish Metallo Group, which is still subject to approval by the European Commission, we want to continue driving external growth. The company specializes in processing non-organic recycling materials and materials with low metal contents. This acquisition would enable us to add to our metals portfolio in areas such as nickel, tin, zinc, and lead in particular. Following approval by the antitrust authority and the closing, we plan to push forward with the integration in fiscal year 2019/20.

The Metallo acquisition would support us on our path to becoming a multi-metal group. In this regard, we have been reporting the sales volumes of gold, silver, lead, nickel, tin, platinum group metals, and minor metals since 2017/18, in addition to information about our copper products. We plan to continue growing through internal and external projects in the future as well.

After the European Commission blocked the sale of Segment FRP in February 2019, we are now reviewing different strategic options for the sale of the segment. The segment thus continues to fulfill the conditions for presentation as discontinued operations pursuant to IFRS 5.

For fiscal year 2019/20, the following maintenance shutdowns are planned or have recently taken place:

At our site in Hamburg (Germany), we carried out a scheduled, legally mandatory maintenance shutdown in October and November 2019. According to our current plans, this will have a roughly € 34 million impact on our result.

At our Lünen site, we will carry out scheduled, legally mandatory maintenance shutdowns in April and September 2020. According to our current plans, this will have a roughly € 11 million impact on our result.

EARNINGS EXPECTATIONS

Our earnings are subject to quarterly fluctuations because of the nature of our business model. This is due to seasonal factors but may also be caused by disruptions in equipment or operating processes. The first quarter of a fiscal year in particular is shaped by seasonal features, including subdued customer orders and changes in raw material deliveries.

The future development and forecast of Aurubis AG coincide with the general statement on the Aurubis Group.

The outlook for fiscal year 2019/20 is based on the following premises:

- » We expect stable copper demand based on industry forecasts. Product demand from the automotive sector is expected to remain subdued.
- » The level for 2020 annual contracts on the copper concentrate market will likely be substantially lower than in 2019 in light of the November 2019 benchmark.
- » In fiscal year 2019/20, the market trend for copper scrap and sulfuric acid is difficult to forecast due to the short-term nature of the business.
- » The Aurubis copper premium for 2020 has been set at US$ 96/t (previous year: US$ 96/t).
- » A significant portion of our revenues is based on the US dollar. We reduce the resulting risks with our hedging strategy.
- » We will transition our efficiency improvement program, which has focused on leveraging efficiency across the Group thus far, to a program with a clear focus on cost savings in 2019/20. The objective is to counteract both inflation and the weaker economic and market conditions that are expected.
- » We expect plant availability for fiscal year 2019/20 to be above that of the previous year overall, especially because of the investments made in our sites within the scope of planned shutdowns.

In fiscal year 2019/20, we are changing the type of our forecast from a qualified comparison to the prior year to an interval forecast. The interval forecast is a bandwidth between two limit values. With this change, we aim at providing a more comprehensive understanding of our expected future performance, while still making room for the inevitable uncertainties and opportunities that the Aurubis Group will face. In light of this new forecast type, we expect the following developments in fiscal year 2019/20:

In total, we expect an operating EBT between € 185 and 250 million and an operating ROCE between 8 and 11 % for fiscal year 2019/20.

In Segment Metal Refining & Processing, we expect an operating EBT between € 230 and 310 million and an operating ROCE between 11 and 16 % for fiscal year 2019/20. The development of the segment's result will be influenced in part by weaker market conditions, especially a tightening copper concentrate market, compared to the previous year.

In Segment Flat Rolled Products, we expect an operating EBT between € 11 and 15 million and an operating ROCE between 5 and 7 % for fiscal year 2019/20. Operating EBT in the reporting period was negatively influenced by a change in the definition of the operating result and an impairment loss recognized against the segment's non-current assets (in total: € 51 million), but these effects aren't expected anymore for fiscal year 2019/20.

Expected financial situation

At the end of fiscal year 2018/19, Aurubis had € 441 million in available cash (September 30, 2018: € 479 million). The company has additional liquidity through lines of credit amounting to € 350 million from a syndicated loan agreement running until 2023. Aurubis therefore has sufficient liquidity that is not at risk from today's perspective. There is also a credit line of € 380 million for the acquisition of Metallo (bridge financing).

We expect the stable financial situation from the operating business to continue in the coming fiscal year. We intend to settle the scheduled payments due during fiscal year 2019/20, including a bonded loan (Schuldscheindarlehen) of € 127 million, with the existing liquidity.

GENERAL STATEMENT ON THE FUTURE DEVELOPMENT OF THE AURUBIS GROUP

The general state of affairs of the Aurubis Group will remain influenced by a number of factors in fiscal year 2019/20: from the specific demand of certain markets we serve, to the balance of supply and demand of our raw materials, to the state of global affairs and economic development. In this respect, the development of international trade relationships remains a significant factor of uncertainty.

Following the transitional year 2018/19, we expect to be able to demonstrate a higher operating EBT in fiscal year 2019/20. Operating ROCE is also expected to improve slightly compared to the previous year.

Forward-looking statements

This document contains forward-looking statements about our current forecasts of future events. Words such as “anticipate,” “assume,” “believe,” “predict,” “expect,” “intend,” “can/could,” “plan,” “project,” “should” and similar terms indicate such forward-looking statements. These statements are subject to a number of risks and uncertainties. Some examples include unfavorable developments in the global economic situation, especially political developments in the US, Europe, and China; a tightening of the raw material supply; and a decline in demand in the main copper sales markets. Further risks include a deterioration of our refinancing options on the credit and finance markets; unavoidable events beyond our control, such as natural disasters, acts of terror, political unrest, and industrial accidents, and their effects on our sales, purchasing, production, and financing activities; changes in exchange rates; a drop in acceptance for our products, resulting in impacts on the establishment of prices and the utilization of processing and production capacities; price increases for energy and raw materials; production interruptions due to material bottlenecks, employee strikes, or supplier bankruptcies; the successful implementation of measures to reduce costs and enhance efficiency; the business outlook for our significant holdings; the successful implementation of strategic cooperation and joint ventures; amendments to laws, ordinances, and official regulations; and the outcomes of legal proceedings and other risks and uncertainties, some of which are described in the Risk and Opportunity Report in this Annual Report. If one of these uncertainties or difficulties occurs, or if the assumptions underlying the forward-looking statements prove to be wrong, the actual results could deviate considerably from the results mentioned or implicitly expressed in these statements. We do not intend, nor do we assume the obligation, to update forward-looking statements continuously, as these statements are based solely on the circumstances on the day of publication.

Legal Disclosures

Declaration on corporate governance pursuant to Section 289f and Section 315d of the German Commercial Code (HGB[1])

The declaration on corporate governance is part of the Combined Management Report page 17, which is printed at the beginning of this Annual Report and is available on the company's website in the "About Aurubis" section under "Corporate Governance."
www.aurubis.com/corporategovernance

Compensation of the Executive Board and Supervisory Board

We explain the basic principles of the compensation system for the Executive Board and Supervisory Board in the Compensation Report of the Corporate Governance Report pages 24–35, which is part of the Combined Management Report. This information is printed in the Annual Report and is available on the company's website in the "About Aurubis" section under "The Group."
www.aurubis.com/en/about-aurubis/distribution-page---group

Takeover-related disclosures and explanations

Explanatory report by the Executive Board of Aurubis AG, Hamburg, in accordance with Section 176 (1) sentence 1 of the German Stock Corporation Act (AktG[2]) on disclosures of takeover provisions pursuant to Section 289a (1) and Section 315a (1) of the German Commercial Code (HGB) as at the balance sheet date of September 30, 2019.
The following disclosures as at September 30, 2019 are presented in accordance with Section 289a (1) and Section 315a (1) of the German Commercial Code (HGB).

COMPOSITION OF THE SUBSCRIBED CAPITAL

The subscribed capital (share capital) of Aurubis AG amounted to € 115,089,210.88 as at the balance sheet date and was divided into 44,956,723 no-par-value bearer shares, each with a notional value of € 2.56 of the subscribed capital.

Each share grants the same rights and one vote at the Annual General Meeting. There are no different classes of shares.

The profit entitlement for any new shares that are issued can deviate from Section 60 of the German Stock Corporation Act (AktG).

LIMITATIONS RELATED TO VOTING RIGHTS OR THE TRANSFER OF SHARES

According to the Executive Board's knowledge, shareholders' voting rights are not subject to any limitations, with the exception of possible legal prohibitions on voting. Pursuant to Section 71b of the German Stock Corporation Act (AktG), the company is not entitled to voting rights from any of its own shares that it holds.

SHAREHOLDINGS EXCEEDING 10 % OF THE VOTING RIGHTS

One indirect shareholding in Aurubis AG exceeds 10 % of the voting rights as at the balance sheet date (September 30, 2019):

Salzgitter AG, Salzgitter, notified the company in accordance with Section 33 (1) of the German Securities Trading Act (WpHG) on December 12, 2018 that its voting interest in Aurubis AG had exceeded the threshold of 25 % of the voting rights on December 12, 2018 and amounted to 25.0000006 % of the voting rights (representing 11,239,181 votes). Of this total, 25.0000006 % of the voting rights (representing 11,239,181 votes) are attributed to Salzgitter AG via Salzgitter Mannesmann GmbH, Salzgitter.

Accordingly, one direct shareholding in Aurubis AG exceeds 10 % of the voting rights as at the balance sheet date (September 30, 2019). According to the notification of Salzgitter AG, Salzgitter, dated December 12, 2018, Salzgitter Mannesmann GmbH, Salzgitter, has held 25.0000006 % of the voting rights (representing 11,239,181 votes) since December 12, 2018.

[1] Sections of the HGB referenced in the following refer to the version applicable as at September 30, 2019.
[2] Sections of the AktG referenced in the following refer to the version applicable as at September 30, 2019.

Since October 4, 2019, another indirect participation in Aurubis AG's capital exists, which exceeds 10 % of the voting rights: Silchester International Investors LLP, London, notified the company in accordance with Section 33 (1) of the German Securities Trading Act (WpHG) on October 8, 2019 that its voting interest in Aurubis AG had exceeded the threshold of 10 % of the voting rights on October 4, 2019 and amounted to 10.03 % of the voting rights (representing 4,508,268 votes). Of this total, 10.03 % of the voting rights (representing 4,508,268 votes) are attributed to Silchester International Investors LLP, London. Silchester International Investors LLP a) functions as an investment manager for five mixed funds, b) holds full voting rights and the full margin of discretion when investing in funds, and c) does not function as a depositary bank, so fund shares are held in the name of the depositary bank of each fund. The reported change in shareholdings is based on a series of transactions on multiple trading days.

APPOINTMENT AND REMOVAL OF EXECUTIVE BOARD MEMBERS AND AMENDMENTS TO THE ARTICLES OF ASSOCIATION

The appointment and removal of members of the Executive Board of Aurubis AG are covered by Sections 84 and 85 of the German Stock Corporation Act (AktG) and Section 31 of the German Codetermination Act (MitbestG) in conjunction with Section 6 (1) of the Articles of Association. Amendments to the Articles of Association are subject to the approval of the shareholders at the Annual General Meeting. The resolution at the Annual General Meeting requires, in addition to a simple majority of votes, a majority that must comprise at least three-quarters of the subscribed capital represented in the vote; Section 179 et seq. of the German Stock Corporation Act (AktG) applies. In accordance with Section 11 (9) of the Articles of Association, the Supervisory Board is authorized to pass amendments to the Articles of Association that only relate to their wording. Furthermore, the Supervisory Board is authorized to adjust Section 4 of the Articles of Association after the complete or partial execution of a subscribed capital increase in accordance with the respective claim to the authorized capital and after the authorization expires. It is also authorized to adjust the wording of Section 4 (1) and (3) of the Articles of Association in accordance with the respective issuing of new no-par-value bearer shares to the holders or creditors of convertible bonds and/or bonds with warrants, profit participation rights, and/or participating bonds (or combinations of these instruments), which are issued by Aurubis or by companies in which it has an indirect or direct majority interest in return for a cash contribution and as a result of the authorization passed at the Annual General Meeting on March 2, 2017 under item 6 of the agenda. It is also authorized to grant a conversion or option right to new no-par-value bearer shares in the company or to establish a conversion obligation. The same applies if the authorization to issue bonds with warrants or convertible bonds is not exercised after the authorization period expires, or if the conditional capital is not utilized after the deadlines for exercising option or conversion rights or for fulfilling conversion or option obligations have expired.

POWER OF THE EXECUTIVE BOARD TO ISSUE SHARES

In accordance with Section 4 (2) of the Articles of Association, the Executive Board is authorized, with the approval of the Supervisory Board, to increase the company's subscribed capital in the period until February 23, 2021 by issuing up to 22,478,361 new no-par-value shares in exchange for a cash contribution and/or a contribution in kind, once or in several installments, by up to € 57,544,604.16. The shareholders shall always be granted a subscription right. The new shares can also be acquired by one or more credit institutions with the obligation of offering them to shareholders for subscription. However, the Executive Board is authorized, subject to the approval of the Supervisory Board, to exclude shareholder subscription rights once or on several occasions. Such exclusion is only possible

a) inasmuch as it is necessary to exclude subscription rights for possible fractional amounts.

b) up to an arithmetical face value totaling € 23,017,840.64 if the new shares are issued for a contribution in kind.

c) for capital increases against cash contributions up to an arithmetical nominal value totaling € 11,508,920.32 or, if this amount is lower, by a total of 10 % of the subscribed capital (the "maximum amount") existing when this authorization was exercised for the first time (in each case taking into account the possible use of other authorizations to exclude the subscription right in accordance with or in commensurate application of Section 186 (3) sentence 4 of the German Stock Corporation Act (AktG)), if the issuing price for the new shares is not significantly lower than the price of company shares with the same terms on the stock exchange at the time when the issuing price is ultimately fixed.

The subscribed capital allotted to the shares that are issued or have to be issued to fulfill convertible bonds and/or bonds with warrants that are issued after February 24, 2016 in commensurate application of Section 186 (3) sentence 4 of the German Stock Corporation Act (AktG), excluding the subscription rights, or that are sold after February 24, 2016 in commensurate application of Section 186 (3) sentence 4 of the German Stock Corporation Act (AktG) must be included in this maximum amount. It shall not be included if authorizations to issue convertible bonds and/or bonds with warrants pursuant to Section 221 (4) sentence 2 and Section 186 (3) sentence 4 of the German Stock Corporation Act or to sell own shares in accordance with Section 71 (1) No. 8 and Section 186 (3) sentence 4 of the German Stock Corporation Act are granted again at the Annual General Meeting after exercising such powers that have led to inclusion.

d) up to an arithmetical face value totaling € 23,017,840.64, inasmuch as it is necessary to grant holders or creditors of bonds with warrants or convertible bonds issued by the company relating to shares a subscription right for new shares to the same extent as they would be entitled after exercising their option or conversion rights.

In the resolution dated February 9, 2016, the Executive Board of Aurubis AG declared within the scope of a voluntary commitment that it would only make use of the authorizations to exclude shareholders' subscription rights for the duration of the authorization provided in Section 4 (2) of the Articles of Association insofar as the shares to be issued may not exceed 20 % of the subscribed capital, neither at the point in time when the authorization becomes effective nor at the time of utilization. At the abovementioned 20 % threshold, hypothetical own shares shall be taken into account until the issue of new stocks, which are sold under exclusion of subscription rights, as well as such shares which are to be issued with a conversion or option right or conversion obligation for the purpose of servicing bonds, provided the bonds are issued excluding the preemptive rights of shareholders. If and to the extent that the shareholders at the Annual General Meeting reissue this authorization to exclude subscription rights after an authorization to exclude subscription rights has been exercised, leading to offsetting against the 20 % limit previously mentioned, the offsetting that has been carried out is no longer included.

This voluntary commitment was made accessible on Aurubis AG's website for the duration of the authorization. www.aurubis.com

POWER OF THE EXECUTIVE BOARD TO REPURCHASE SHARES

With a resolution of the Annual General Meeting on March 1, 2018, the company was authorized until February 28, 2023 to repurchase its own shares up to a total of 10 % of the current subscribed capital. Together with other own shares held by the company or attributable to it in accordance with Section 71a *et seq.* of the German Stock Corporation Act (AktG), the shares acquired by the company based on this authorization shall at no time exceed 10 % of the company's current subscribed capital. The acquisition of shares for the purpose of trading with own shares is excluded. The Executive Board is empowered to use shares in the company that are purchased on account of this power for all legally permitted purposes, and in particular for the following purposes:

a) Own shares that have been acquired can also be sold in a way other than a sale via the stock exchange or by means of an offer to all of the shareholders, if the shares are sold in return for a cash payment at a price that is not materially lower than the stock market price of the company's shares with the same terms at the time of the sale. The definitive trading price for the purpose of the arrangement previously mentioned shall be the average closing price of the company's shares with the same terms in Xetra trading (or a comparable successor system) over the last five trading days of the Frankfurt Stock Exchange before the commitment to sell the shares was entered into. The shareholders' subscription right is excluded. This authorization shall, however, only apply on the condition that the shares sold excluding the subscription right may not, in accordance with Section 186 (3) sentence 4 of the German Stock Corporation Act (AktG), exceed 10 % of the subscribed capital, either at the time this becomes effective or at the time of exercise of this authorization (the "upper limit"). Shares that are issued during the term of this authorization from authorized capital pursuant to Section 186 (3) sentence 4 of the German Stock Corporation Act (AktG), excluding subscription rights, are to be credited towards this upper limit. Furthermore, this upper limit shall take into account those shares that are issued or are to be issued in order to service convertible bonds and/or bonds with warrants (or profit participation rights, or participating bonds with a conversion right, option right, or conversion obligation, or the company's right to offer), which were issued during the term of this authorization due to an authorization to issue convertible bonds and/or bonds with warrants (or profit participation rights, or participating bonds with a conversion right, option right, or conversion obligation, or the company's right to offer) in commensurate application of Section 186 (3) sentence 4 of the German Stock Corporation Act (AktG), excluding subscription rights. An inclusion that has been carried out is canceled if authorizations to issue new shares from authorized capital in accordance with Section 186 (3) sentence 4 of the German Stock Corporation Act (AktG) or to issue convertible bonds and/or bonds with warrants (or profit participation rights, or participating bonds with a conversion right, option right, or conversion obligation, or the company's right to offer) in commensurate application of Section 186 (3) sentence 4 of the German Stock Corporation Act (AktG) are granted again at the Annual General Meeting after exercising such authorizations that have led to inclusion.

b) Own shares that have been acquired can also be sold in a way other than a sale via the stock exchange or by means of an offer to all of the shareholders. This is provided that such sale is carried out in return for a contribution in kind by a third party, especially in conjunction with the acquisition of business entities, parts of business entities, or participating interests in business entities by the company itself or by a business entity dependent on it or majority-owned by it, and in conjunction with business combinations, or to fulfill conversion rights or obligations of holders and/or creditors relating to conversion or option rights issued by the company or Group entities of the company (or profit participation rights, or participating bonds with a conversion right, option right, or conversion obligation, or the company's right to offer), especially – but not exclusively – due to the authorization to issue convertible bonds and/or bonds with warrants, profit participation rights, and/or participating bonds (or combinations of these instruments) decided under item 6 of the agenda for the Annual General Meeting on March 2, 2017. The shareholders' subscription right is excluded in each case.

c) Own shares that have been acquired can be withdrawn entirely or in part without a further resolution at the Annual General Meeting. They can also be withdrawn in a simplified procedure without a reduction in capital by adjusting the proportionate notional share of the remaining no-par-value shares in the subscribed capital of the company. The withdrawal can be limited to a portion of the acquired shares. If the withdrawal takes place using the simplified procedure, the Executive Board is authorized to adjust the number of no-par-value shares in the Articles of Association.

The own shares collectively sold under the authorization mentioned previously, pursuant to items a) and b) and excluding the subscription right, may not exceed 20 % of the share capital, neither at the time the authorization becomes effective nor at the time it is exercised. The 20 % limit must include (i) new shares that are issued, excluding the subscription right, during the term of this authorization up to the sale of the own shares from authorized capital, without subscription rights, and (ii) those shares that are issued in order to service convertible bonds and/or bonds with warrants (or profit participation rights, or participating bonds with a conversion right, option right, or conversion obligation, or the company's right to offer), if the bonds were issued during the term of this authorization up to the sale of the own shares, excluding shareholder subscription rights. If and to the extent that the shareholders at the Annual General Meeting reissue the relevant authorization to exclude subscription rights after the authorization leading to offsetting against the 20 % limit previously mentioned has been exercised, the offsetting that has already been carried out is no longer included.

The complete text of the resolution dated March 1, 2018 has been included under agenda item 8 in the invitation to the Annual General Meeting 2018 published in the German Federal Gazette on January 22, 2018.

POWER OF THE EXECUTIVE BOARD TO ISSUE CONVERTIBLE BONDS AND SHARES FROM CONDITIONAL CAPITAL

The company's subscribed capital shall be conditionally increased by up to € 57,544,604.16 by issuing up to 22,478,361 new bearer shares without a nominal amount (no-par-value shares), each with a notional interest in the subscribed capital of € 2.56 (Conditional Capital 2017). The conditional capital increase will only be carried out to the extent that the holders or creditors of conversion and/or option rights from convertible bonds, bonds with warrants, profit participation rights, or participating bonds (or a combination of these instruments) that are issued against cash by the company or by its affiliates until March 1, 2022 due to the authorization passed by the shareholders at the Annual General Meeting on March 2, 2017 exercise their conversion or option rights, or to the extent that holders or creditors of the convertible bonds (or profit participation rights or participating bonds with a conversion obligation) issued by the company or by its affiliates until March 1, 2022 due to the authorization passed by the shareholders at the Annual General Meeting on March 2, 2017 fulfill their conversion obligation or shares are offered, and to the extent that own shares or other forms of fulfillment are not utilized for this purpose.

The new no-par-value bearer shares shall be entitled to participate in the profits from the beginning of the fiscal year in which they come into existence through the exercise of conversion or option rights, through the fulfillment of conversion or option obligations, or through the exercise of rights to offer. To the extent legally permitted, the Executive Board can, subject to the approval of the Supervisory Board, establish the profit participation of new shares in a way that deviates from Section 60 (2) of the German Stock Corporation Act (AktG).

The complete text of the resolution dated March 2, 2017 has been included under agenda item 6 in the invitation to the Annual General Meeting 2017 published in the German Federal Gazette on January 17, 2017.

SIGNIFICANT CONDITIONAL AGREEMENTS CONCLUDED BY THE COMPANY

Within the scope of various bonds totaling € 229 million, every lender has an extraordinary right of cancellation if control over the borrower changes.

Aurubis intends to initially finance the possible Metallo acquisition through bridge financing of € 380 million. In the event that a single person or a group of persons acting together should acquire more than 50 % of the shares or the voting rights in Aurubis AG, every lender from the agreement with a banking syndicate shall be entitled to cancel his or her participation in the bridge financing and to demand immediate repayment of the amounts owed to him or her.

CONSOLIDATED FINANCIAL STATEMENTS

Consolidated Income Statement

for the period from October 1 to September 30 (IFRS)

in € thousand	Note	12 months 2018/19	12 months 2017/18
Revenues	1	**10,763,299**	**10,423,748**
Changes in inventories of finished goods and work in process	2	180,009	440
Own work capitalized	3	19,695	18,923
Other operating income	4	61,290	43,398
Cost of materials	5	-9,997,211	-9,464,700
Gross profit		**1,027,082**	**1,021,809**
Personnel expenses	6	-374,404	-351,942
Depreciation of property, plant, and equipment and amortization of intangible assets	7	-125,407	-119,470
Other operating expenses	8	-253,672	-216,799
Operational result (EBIT)		**273,599**	**333,598**
Interest income	9	3,904	3,592
Interest expense	9	-17,862	-15,775
Other financial income	10	407	689
Other financial expenses	10	-31	-51
Earnings before taxes (EBT)		**260,017**	**322,053**
Income taxes	11	-68,695	-59,547
Consolidated net income from continuing operations		191,322	262,506
Consolidated net income/net loss (-) from discontinued operations		-613	28,908
Consolidated net income		**190,709**	**291,414**
Consolidated net income attributable to Aurubis AG shareholders	12	190,581	290,253
Consolidated net income attributable to non-controlling interests	12	128	1,161
Basic earnings per share (in €)			
From continuing operations per share (in €)	13	4.25	5.81
From discontinued operations per share (in €)		-0.01	0.65
Diluted earnings per share (in €)			
From continuing operations per share (in €)	13	4.25	5.81
From discontinued operations per share (in €)		-0.01	0.65

Consolidated Statement of Comprehensive Income

for the period from October 1 to September 30 (IFRS)

in € thousand	**12 months 2018/19**	12 months 2017/18
Consolidated net income	**190,709**	**291,414**
Items that will be reclassified to profit or loss in the future		
Measurement at market of cash flow hedges	-5,353	-26,795
Hedging costs	-104	0
Changes deriving from translation of foreign currencies	1,818	-1,050
Income taxes	712	6,107
Share of other comprehensive income attributable to discontinued operations	801	1,347
Items that are not reclassifiable to profit or loss		
Measurement at market of financial investments	-20,187	3,410
Remeasurement of the net liability deriving from defined benefit obligations	-94,340	11,615
Income taxes	30,437	-3,768
Share of other comprehensive income attributable to discontinued operations	-7,601	4,103
Other comprehensive income	**-93,817**	**-5,031**
Consolidated total comprehensive income	**96,892**	**286,383**
Consolidated total comprehensive income attributable to Aurubis AG shareholders	96,764	285,222
Consolidated total comprehensive income attributable to non-controlling interests	128	1,161

Consolidated Statement of Financial Position

(IFRS)

Assets

in € thousand	Note	9/30/2019	9/30/2018
Intangible assets	14	122,025	123,049
Property, plant, and equipment	15	1,248,450	1,198,042
Financial fixed assets	16	14,010	32,929
Deferred tax assets	22	3,965	2,742
Non-current financial assets	19	27,725	27,930
Other non-current non-financial assets	19	506	764
Non-current assets		**1,416,681**	**1,385,456**
Inventories	17	1,728,164	1,680,698
Trade accounts receivable	18	312,224	274,501
Other current financial assets	19	58,031	71,419
Other current non-financial assets	19	34,642	39,850
Cash and cash equivalents	20	421,481	461,045
Assets held for sale		560,711	589,500
Current assets		**3,115,253**	**3,117,013**
Total assets		**4,531,934**	**4,502,469**

Equity and liabilities

in € thousand	Note	9/30/2019	9/30/2018
Subscribed capital	21	115,089	115,089
Additional paid-in capital	21	343,032	343,032
Generated Group equity	21	2,164,969	2,090,677
Accumulated other comprehensive income components	21	-30,328	16,974
Equity attributable to shareholders of Aurubis AG		2,592,762	2,565,772
Non-controlling interests	21	539	556
Equity		**2,593,301**	**2,566,328**
Pension provisions and similar obligations	23	295,071	199,006
Other non-current provisions	24	61,304	55,575
Deferred tax liabilities	22	170,138	187,768
Non-current borrowings	25	149,811	280,864
Other non-current financial liabilities	25	3,145	68
Non-current liabilities		**679,469**	**723,281**
Current provisions	24	42,534	33,776
Trade accounts payable	25	768,695	836,748
Income tax liabilities	25	13,723	9,662
Current borrowings	25	152,887	32,812
Other current financial liabilities	25	100,187	113,950
Other current non-financial liabilities	25	21,098	23,840
Liabilities deriving from assets held for sale		160,040	162,072
Current liabilities		**1,259,164**	**1,212,860**
Total equity and liabilities		**4,531,934**	**4,502,469**

Consolidated Cash Flow Statement

for the period from October 1 to September 30 (IFRS)

in € thousand	Note	12 months 2018/19	12 months 2017/18
Earnings before taxes		**261,195**	**367,439**
Depreciation and amortization of fixed assets	7	132,599	125,408
Change in allowances on receivables and other assets		378	683
Change in non-current provisions		2,736	-1,399
Net gains/losses on disposal of fixed assets		32,123	744
Measurement of derivatives		17,467	-17,735
Other non-cash items		4,589	5,206
Expenses and income included in the financial result		14,784	9,225
Income taxes received/paid		-67,006	-77,593
Gross cash flow		398,865	411,978
Change in receivables and other assets		-15,969	-9,469
Change in inventories (including measurement effects)		-33,227	-200,701
Change in current provisions		8,501	2,946
Change in liabilities (excluding financial liabilities)		-86,496	-2,251
Cash inflow from operating activities (net cash flow)		**271,674**	**202,503**
Payments for investments in fixed assets	14, 15	-221,481	-168,174
Proceeds from the disposal of fixed assets		1,592	1,021
Proceeds from the sale of investment property		0	7,842
Proceeds from the redemption of loans granted to third parties		0	6,529
Interest received		3,932	3,631
Dividends received		8,080	6,374
Cash outflow from investing activities		**-207,877**	**-142,777**
Proceeds deriving from the take-up of financial liabilities		144,464	32,507
Payments for the redemption of bonds and financial liabilities		-160,219	-85,552
Payments for the acquisition of non-controlling interests		0	-19,244
Interest paid		-16,193	-12,278
Dividends paid	21	-69,828	-66,557
Cash outflow from financing activities		**-101,776**	**-151,124**
Net change in cash and cash equivalents		-37,979	-91,398
Changes resulting from movements in exchange rates		217	52
Cash and cash equivalents at beginning of period		479,223	570,569
Cash and cash equivalents at end of period		441,461	479,223
Less cash and cash equivalents from discontinued operations at end of period		19,980	18,178
Cash and cash equivalents at end of period deriving from continuing operations	**20**	**421,481**	**461,045**

Additional information is provided in the Notes to the consolidated cash flow statement, pages 174–175.

Consolidated Statement of Changes in Equity

in € thousand	Subscribed capital	Additional paid-in capital	Generated Group equity	Accumulated other comprehensive income components: Measurement at market of cash flow hedges	Hedging costs	Measurement at market of financial investments	Currency translation differences	Income taxes	Equity attributable to Aurubis AG shareholders	Non-controlling interests	**Total equity**
Balance as at 9/30/2017	**115,089**	**343,032**	**1,870,573**	**19,744**	**0**	**11,820**	**8,745**	**-6,354**	**2,362,649**	**3,097**	**2,365,746**
Dividend payment	0	0	-65,187	0	0	0	0	0	-65,187	-1,370	-66,557
Acquisition of non-controlling interests	0	0	-16,912	0	0	0	0	0	-16,912	-2,332	-19,244
Consolidated total comprehensive income/loss	0	0	302,203	-26,795	0	3,410	297	6,107	285,222	1,161	286,383
of which consolidated net income	0	0	290,253	0	0	0	0	0	290,253	1,161	291,414
of which other comprehensive income/loss	0	0	11,950	-26,795	0	3,410	297	6,107	-5,031	0	-5,031
Balance as at 9/30/2018	**115,089**	**343,032**	**2,090,677**	**-7,051**	**0**	**15,230**	**9,042**	**-247**	**2,565,772**	**556**	**2,566,328**
Change in accounting methods	0	0	24,520	0	-395	-24,593	0	0	-468	0	-468
Balance as at 10/1/2018	**115,089**	**343,032**	**2,115,197**	**-7,051**	**-395**	**-9,363**	**9,042**	**-247**	**2,565,304**	**556**	**2,565,860**
Dividend payment	0	0	-69,683	0	0	0	0	0	-69,683	-145	-69,828
Acquisition of non-controlling interests	0	0	377	0	0	0	0	0	377	0	377
Consolidated total comprehensive income/loss	0	0	119,078	-5,353	-104	-20,188	2,619	712	96,764	128	96,892
of which consolidated net income	0	0	190,581	0	0	0	0	0	190,581	128	190,709
of which other comprehensive income/loss	0	0	-71,503	-5,353	-104	-20,188	2,619	712	-93,817	0	-93,817
Balance as at 9/30/2019	**115,089**	**343,032**	**2,164,969**	**-12,404**	**-499**	**-29,551**	**11,661**	**465**	**2,592,762**	**539**	**2,593,301**

For explanations on equity, see Equity, page 151, subsection 21.

Notes to the Consolidated Financial Statements

General disclosures

Aurubis AG, headquartered in Hamburg, Germany, is a quoted corporate entity registered with the District Court of Hamburg under Commercial Register number HR B No. 1775.

As required by Regulation (EC) No. 1606/2002 of the European Parliament and the Council dated July 19, 2002 on the application of international accounting standards, in conjunction with Section 315e (1) of the German Commercial Code (HGB), the accompanying consolidated financial statements as at September 30, 2019 are prepared in accordance with the International Financial Reporting Standards (IFRS) approved and published by the International Accounting Standards Board (IASB), as adopted by the European Union. The interpretations of the International Financial Reporting Standards Interpretations Committee (IFRIC-IC) have been taken into account.

The consolidated financial statements were released for publication after they were approved on December 10, 2019.

The consolidated financial statements have been prepared in euros. If nothing to the contrary is indicated, all amounts are shown in thousands of currency units.

Current and non-current assets and liabilities are presented as separate categories in the statement of financial position. In this context, current assets and current liabilities are expected to be realized within twelve months of the balance sheet date or are held primarily for trading purposes.

The preparation of consolidated financial statements in accordance with IFRS furthermore requires the Executive Board and authorized employees to make estimates and assumptions in certain significant areas. These have an impact on the measurement and presentation of the assets and liabilities in the statement of financial position, and on related income and expenses.

Sectors that particularly require the application of estimates and assumptions are presented under Significant estimates and assumptions, pages 131–132.

This report may include slight deviations in disclosed totals due to rounding.

Significant accounting principles

SCOPE OF CONSOLIDATION

As in the previous fiscal year, in addition to the parent company, Aurubis AG, Hamburg, 21 further companies in which Aurubis AG, Hamburg, holds the majority of the voting rights either directly or indirectly, and thus has control, were included in the consolidated financial statements as at the reporting date by way of full consolidation. The reporting date for the consolidated financial statements corresponds to the balance sheet date of Aurubis AG, Hamburg, and all consolidated subsidiaries, with the exception of three consolidated companies. The balance sheet date of these subsidiaries is December 31. These companies prepared interim financial statements for consolidation purposes as at the reporting date of the consolidated financial statements.

Accordingly, the financial statements of all significant subsidiaries which Aurubis AG controls are included in these consolidated financial statements.

Pursuant to IFRS 11.24, in conjunction with IAS 28, Schwermetall Halbzeugwerk GmbH & Co. KG, Stolberg, a producer of pre-rolled strip, has been accounted for using the equity method. A 50 % investment is held in this entity, which is managed jointly with another partner (joint venture). This investment is classified as discontinued operations in the fiscal year, as it was in the previous year.

CONSOLIDATION PRINCIPLES

The separate financial statements of all companies included in the consolidation are prepared in accordance with the uniform accounting policies that are applied within the Aurubis Group. The financial statements of the main companies included in the consolidated financial statements have been audited by independent auditors.

Capital consolidation is performed as at the acquisition date using the acquisition method, whereby the acquisition cost of the acquired interest is offset against the fair values of acquired assets and liabilities of the subsidiary at that time. Any unallocated difference on the asset side is recognized as goodwill and tested at least annually for impairment. In accordance with IAS 36, goodwill is not amortized on a scheduled basis. Negative goodwill is recognized immediately in profit or loss following a reassessment of the fair values.

Receivables, liabilities, and contingent liabilities, as well as revenues, other income, and expenses between Group companies are eliminated. Profits resulting from transactions between Group companies are eliminated, if material.

In addition to eight German companies, 14 foreign companies are included in the consolidated financial statements. In accordance with the functional currency concept, the financial statements of subsidiaries prepared in foreign currencies were translated into euros, as the euro is Aurubis AG's reporting currency. Transactions in foreign currencies are converted into the functional currency at the exchange rate at the time of the transaction or, in the case of subsequent measurement, at the time of such measurement. Foreign currency transactions are conducted particularly in US dollars. The average US dollar exchange rate during fiscal year 2018/19 was 1.12808 US$/€. The exchange rate as at September 30, 2019 was 1.08890 US$/€. Gains and losses resulting from the fulfillment of such foreign currency transactions, as well as from the conversion of monetary assets and liabilities designated in a foreign currency as at the reporting date, are recorded in profit and loss in the cost of materials unless they have to be accounted for in equity as qualified cash flow hedges or net investments in foreign business operations. In fiscal year 2018/19, foreign currency conversion differences totaling € 0.2 million (previous year: € -1.1 million) were recognized in profit or loss. In accordance with IAS 21, assets and liabilities in the statements of financial position of subsidiaries reporting in a foreign currency are translated at the mid-market rates applicable at the reporting date and the income statement is translated at the average rates for the fiscal year. Any resultant translation differences are recognized directly in equity until the possible disposal of the subsidiary.

Joint ventures are accounted for in accordance with IFRS 11 using the equity method. Profits deriving from upstream/downstream transactions with Group companies are eliminated proportionally.

RECOGNITION OF REVENUES

Revenues are mainly generated from the sale of metals and copper products and are measured in the amount of the consideration that the Group expects to receive from a contract with a customer. The Group recognizes revenues when the authority to exercise control over a product or a service has been transferred to the customer. Bonuses granted in the fiscal year are deducted from revenues. In the case of transport services that generally relate to a specific time period and represent a separate performance obligation, no separation is made on grounds of materiality. Some contracts include rebates and price reductions that are factored into the transaction price.

SHARE-BASED PAYMENT

The recognition and measurement standards of IFRS 2 are to be applied to this compensation component. The component relates to virtual deferred stock with a two-year, forward-looking assessment basis, which is dependent upon the achievement of targets for the operating EBT component and is also based on individual performance. The virtual deferred stock component does not include dividend payments, and the payout is limited to 150 % of the initial value. To determine the fair value of the limitation of the share price development, the value of a European call option is calculated by applying the Black Scholes formula.

FINANCIAL INSTRUMENTS AND CHANGES WITH EFFECT FROM OCTOBER 1, 2018

A **financial instrument** is a contract that simultaneously gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

In this connection, financial assets particularly comprise cash and cash equivalents, equity instruments held in other entities (e.g., investments or share portfolios), trade accounts receivable, other loans and receivables granted, and primary and derivative financial instruments that are held for trading. Financial liabilities generally establish a contractual obligation to deliver cash or other financial assets. These include in particular bonds and other securitized liabilities, liabilities to banks, trade accounts payable, finance lease liabilities, and derivative financial instruments. Within the Group, regular way purchases and sales of primary financial instruments are generally recorded as at the settlement date, i.e., at the date of delivery and transfer of title. Derivative financial instruments are recognized as at the trade date. Financial assets and financial liabilities are generally reported gross (i.e., without being netted).

In accordance with IFRS 9, financial instruments are classified as either measured "at amortized cost" (AC), "at fair value through other comprehensive income" (FV OCI), or "at fair value through profit or loss" (FV P&L).

A debt instrument is measured at amortized cost if both of the following conditions are fulfilled:

» It is held as part of a business model whose objective is to hold assets to collect contractual cash flows.
» The contract conditions of the financial asset lead to cash flows, at fixed times, that only represent redemption and interest payments on the outstanding amount of capital (cash flow criterion).

A debt instrument is measured at fair value through other comprehensive income if both of the following conditions are fulfilled:

- It is held as part of a business model whose objective is both to collect contractual cash flows and to sell financial assets.
- The contract conditions of the financial asset lead to cash flows, at fixed times, that only represent redemption and interest payments on the outstanding amount of capital (cash flow criterion).

If the criteria mentioned above for classification as AC or FV OCI have not been fulfilled, the debt instruments are measured at fair value through profit or loss (FV P&L).

Notwithstanding the above criteria for classification of debt instruments in the categories AC or FV OCI, a company can irrevocably classify its financial assets as “measured at fair value through profit or loss” upon initial recognition if doing so helps prevent or significantly reduce an accounting anomaly (fair value option). The fair value option is not used for financial assets within the Aurubis Group.

Equity instruments are normally classified and measured at fair value through profit or loss. Deviating from this, there is an irrevocable option, upon initial recognition of primary equity instruments that are not held for trading, to recognize fair value changes in other comprehensive income (OCI option). Aurubis uses the OCI option and classifies equity instruments that are not classified as “held for trading” in the category “fair value through OCI” (FV OCI).

Primary financial liabilities are either measured at amortized cost or at fair value through profit or loss. They are measured at fair value through profit or loss when they are held for trading or have been designated as “fair value through profit or loss” (FV option) – under certain conditions – upon initial recognition. Aurubis makes use of the FV option and irrevocably designates liabilities from supply contracts that are not price-fixed (hybrid contracts) at “fair value through profit or loss.”

No financial instruments were reclassified into other measurement categories either in fiscal year 2018/19 or in fiscal year 2017/18.

Financial assets are recognized if Aurubis has a contractual right to receive cash and cash equivalents or other financial assets from another company. Financial liabilities are always initially recognized at fair value. Thereby, in the case of financial assets that will not be measured subsequently at fair value through profit or loss, the transaction costs directly attributable to the purchase have to be taken into account. The fair values recognized in the statement of financial position represent the market prices of the financial assets to the extent that these can be determined directly by reference to an active market. Otherwise, they are measured using normal market procedures (valuation models), applying the market parameters specific to the instrument. Non-interest-bearing financial assets with a term exceeding one year are discounted. For financial assets with a residual term of less than one year, it is assumed that the fair value corresponds to the nominal value. Financial assets designated in foreign currency are measured on initial recognition with the valid rate applicable at the date of the transaction and as at the reporting date with the then applicable mid-market rate. Financial assets are derecognized if the contractual rights to payments from the financial assets no longer exist or all opportunities and risks are essentially transferred. Any financial assets sold without recourse were derecognized.

The **interests in affiliated companies and investments** that are reported under financial fixed assets are measured at fair value through profit or loss. They are generally measured at fair value, which is derived from the stock market price, provided a price quoted in an active market is available. Subsequent gains and losses resulting from measurement at fair value are recognized as other financial income/expenses in the income statement.

Aurubis makes use of the OCI option for equity instruments and accounts for **securities classified as fixed assets** at fair value through other comprehensive income. When these equity instruments are sold, the profits and losses that are unrealized up to this point in other comprehensive income are transferred to revenue reserves and are not disclosed in the income statement.

The non-current receivables reported as **other financial fixed assets** are measured at amortized cost for subsequent measurement purposes, applying the effective interest method.

Within the Aurubis Group, **trade accounts receivable** resulting from supply contracts that are not price-fixed are measured at fair value through profit or loss for subsequent measurement purposes. Receivables held for sale within the context of factoring arrangements are measured at fair value through other comprehensive income. On account of their short terms to maturity, remaining trade accounts receivable are measured at nominal value, less any expected credit losses.

Expected credit losses on financial assets measured at amortized cost or at fair value through other comprehensive income are recorded as allowances, i.e., as part of the measurement of these assets in the statement of financial position. A simplified approach for the recognition of impairment losses is applied for trade receivables. In this approach, the expected credit losses are calculated using a so-called cohort model, which is based on the data available for the past three fiscal years. The measurement of the outstanding receivables takes actual historical bad debt losses into account, gving consideration to forward-looking information.

Actual defaults result in derecognition of the receivables affected. A financial asset is considered to be in default if contractual payments cannot be collected and are assumed to be irrecoverable. Any adjustments to the balance of allowances due to an increase or decrease in the amount of expected credit losses are recorded in an allowance account. The decision as to whether a credit default risk is recorded using an allowance account or through direct reduction of the receivables depends on how reliable the assessment of the risk situation is. The default risk for trade accounts receivable is limited by the Aurubis Group's existing commercial credit insurance programs.

Derivative financial instruments that are not included in an effective hedging relationship in accordance with IFRS 9 (hedge accounting) and are therefore "held for trading" must be classified as "measured at fair value through profit or loss."

In addition, delivery contracts are concluded in the Aurubis Group for non-ferrous metals to cover the expected requirement for raw materials and also for the sale of finished products. In the process, physical delivery contracts may be terminated by making compensation payments due to changes in demand. Fixed-price metal delivery contracts are therefore also recognized as derivative financial instruments. Since these are not included in an effective hedging relationship in accordance with IFRS 9, they are similarly classified as "measured at fair value through profit or loss."

To the extent that they are non-current, a large porportion of the **other financial assets** are measured at amortized cost for subsequent measurement purposes, applying the effective interest method.

Cash and cash equivalents have a remaining term on initial recognition of up to three months and are measured at nominal value.

For financial assets that are not accounted for at fair value through profit or loss, **allowances for impairment** need to be recognized on the basis of the expected losses. To calculate these allowances, IFRS 9 provides a three-stage model (general approach). Classification to one of the various stages is dependent on the credit default risk of the respective contractual counterparty. The model requires different levels of impairment assessment depending on the stage.

For cash and cash equivalents and other financial assets that fall within the scope of impairment assessment under IFRS 9, the expected credit loss is primarily determined at the time of their acquisition on the basis of credit default swaps for which losses are calculated that are expected from defaults in the next twelve months. In the case of a significant increase in the default risk, the credit losses expected over the asset's respective term are considered. Because of their short-term nature and the counterparties' high level of creditworthiness, the default risk for the financial assets is low as at the reporting date.

Financial liabilities are recognized if there is a contractual obligation to transfer cash and cash equivalents or other financial assets to another company. Financial liabilities are always initially recognized at fair value. Any directly attributable transaction costs are deducted for all financial liabilities that are not subsequently measured at fair value and are amortized over the term of the liability applying the effective interest method. Financial liabilities denominated in foreign currency are measured on initial recognition with the valid rate applicable at the date of the transaction and as at the reporting date with the then applicable mid-market rate.

Primary financial liabilities, which include borrowings, trade accounts payable, and other primary financial liabilities, are generally measured at amortized cost. If the interest effect is not insignificant, non-interest-bearing liabilities, or liabilities bearing low interest rates, with a residual term exceeding one year, are discounted. In the case of liabilities with a residual term of less than a year, it is assumed that the fair value corresponds to the settlement amount. Trade accounts payable resulting from supply contracts that are not price-fixed provide an exception. These are measured at fair value through profit or loss (FV option) for subsequent measurement purposes. The fair value changes resulting from the company's own credit risk are now recognized in other comprehensive income and not in the income statement.

Liabilities under finance leases are recognized on inception of the lease at the lower of the present value of the leasing payments and the fair value of the leased asset. In subsequent periods, the redemption portions included in the leasing payments reduce the corresponding liabilities.

Derivative financial instruments that are not included in effective hedging relationships are recognized at fair value through profit or loss. Negative amounts result in the recognition of a financial liability.

The Aurubis Group uses **derivative financial instruments** to hedge interest rate and foreign currency risks and to hedge commodity price risks.

Derivative financial instruments are measured at fair value. This represents the market value and can be both positive and negative. If the market value is not available, the fair value is calculated utilizing present value and option price models. As far as possible, relevant market prices and interest rates observed at the reporting date, which are derived from recognized sources, are used as the opening parameters for these models.

Changes in the fair values of derivative financial instruments are recognized either through profit or loss in the income statement or in equity as a component of other comprehensive income. The decisive factor hereby is whether or not the derivative financial instrument is included in an effective hedging relationship. If no **cash flow hedge accounting** relationship exists, the changes in fair values are to be recognized immediately in profit or loss. If, on the other hand, an effective cash flow hedging relationship exists, such changes will be recognized in equity as a component of other comprehensive income.

In order to avoid fluctuations in the income statement due to the different measurement of hedged items and hedging instruments, IFRS 9 includes special regulations relating to hedge accounting. The aim of these hedge accounting regulations is to record gains and losses on hedging instruments and hedged items so that they compensate one another as far as possible.

In addition to documentation, as a prerequisite for the application of the regulations of hedge accounting, IFRS 9 requires proof of an effective hedging relationship. Hedge effectiveness means that changes in fair value (for fair value hedges) or changes in cash flow (for cash flow hedges) of the hedged items are compensated by counteracting changes in the fair value or the cash flows of the hedging instruments, in each case relating to the hedged risk.

The purpose of derivatives that are used as hedging instruments in conjunction with a **cash flow hedge** is to hedge future cash flows. A risk with regard to the amount of future cash flows exists in particular for loans with floating interest rates and planned transactions that are highly likely to occur. Derivative financial instruments used in conjunction with cash flow hedge accounting are recognized at fair value. The gain or loss on measurement is split between an effective and an ineffective portion. The effective portion is the portion of the gain or loss on measurement that represents an effective hedge of the cash flow risk. This is recognized directly in equity under a special heading (cash flow hedge reserve), after taking deferred taxes into account. The ineffective portion deriving from measurement is recognized on the other hand in profit or loss in the income statement. The non-designated portion of the derivative is recorded in a separate reserve for hedging costs in other comprehensive income. Within the Aurubis Group, any changes in fair values of foreign currency options are excluded from the hedging relationship. The accounting treatment of the transactions underlying the hedged cash flows remain unchanged. Following the termination of the hedging relationship, the amounts recorded in the reserve are always transferred to the income statement when gains or losses made in connection with the hedged item are recognized in profit or loss or when the underlying transaction is not actually expected to occur anymore.

The Aurubis Group furthermore enters into hedging relationships that do not satisfy the strict requirements of IFRS 9 and cannot therefore be accounted for in accordance with the hedge accounting regulations. Nevertheless, from an economic point of view, these hedging relationships comply with the principles of risk management. Moreover, hedge accounting is also not applied in the case of the monetary assets and liabilities recognized in connection with foreign currency hedging, because the foreign currency translation gains and losses on the hedged items that need to be realized in profit or loss in accordance with IAS 21 are accompanied by gains and losses on the derivative hedging instruments and more or less compensate one another in the income statement.

The **fair value** of financial instruments is determined pursuant to the regulations of IFRS 13 covering measurement at fair value. The fair value of financial instruments quoted in active markets is calculated based on price quotations insofar as these are prices used in routine and current transactions. Where no prices quoted in active markets are available, the Aurubis Group uses measurement procedures to determine the fair value of financial instruments. Consequently, the input parameters applied in measurement procedures are based where possible on observable data derived from the prices of relevant financial instruments traded in active markets. The use of these measurement procedures requires estimates and assumptions on the part of the Aurubis Group, the scope of which depends on the price transparency of the financial instrument and its market, and the complexity of the instrument. Management regularly analyzes the methods and influencing factors used to determine the fair value to ensure that they are appropriate. Additional information about the main estimates and assumptions used to determine the fair value can be found in the section Financial instruments, pages 123–127.

DEVIATING ACCOUNTING AND MEASUREMENT METHODS APPLIED FOR FINANCIAL INSTRUMENTS IN THE PREVIOUS YEAR

Pursuant to IAS 39, financial instruments are divided into the following measurement categories: “at fair value through profit or loss,” “held to maturity,” “loans and receivables,” “available for sale,” and “financial liabilities at amortized cost.” The measurement category “at fair value through profit or loss” is divided further into two subcategories: “held for trading” and “fair value option.”

Financial assets are always initially recognized at fair value. In the case of financial assets that will not be measured subsequently at fair value through profit or loss, the transaction costs directly attributable to the purchase have to be taken into account.

The **other financial fixed assets** are assigned to the category “loans and receivables” and, if significant, are measured at amortized cost, applying the effective interest method.

On account of their short terms to maturity, **trade accounts receivable** are measured at nominal value, less allowances for doubtful debts. The allowances take adequate account of credit default risks, which are determined on the basis of past experience and individual assessments of the risks. Actual defaults result in derecognition of the receivables affected.

Trade accounts receivable resulting from supply contracts that are not price-fixed are measured at fair value through profit or loss.

Financial assets held for trading are measured at fair value. These include derivative financial instruments that are not included in an effective hedging relationship in accordance with IAS 39 and therefore have to be compulsorily classified as “held for trading.”

Gains or losses resulting from the subsequent measurement of “held for trading” financial assets are recognized in profit or loss.

Other financial assets and **cash and cash equivalents** are allocated to the category “loans and receivables” and, to the extent that they are non-current, are measured at amortized cost, applying the effective interest method.

Within the Aurubis Group, the **“available-for-sale”** category represents the residual amount of primary financial assets that fall under IAS 39 and are not assigned to another category. They include the interests in affiliated companies that are reported under financial fixed assets, other investments, and securities classified as fixed assets. They are generally measured at fair value, which is derived from the stock market price, provided a price quoted in an active market is available. Subsequent gains and losses resulting from measurement at fair value are recognized in equity as a component of other comprehensive income. This does not apply if these are permanent or significant impairment losses, which need to be recognized in profit or loss. The accumulated gains or losses deriving from measurement at fair value that are recorded as a component of other comprehensive income are only recognized in profit or loss upon disposal of the financial assets.

Within the Aurubis Group, an impairment loss is recognized if the carrying amount of a financial asset is higher than the present value of the future cash flows. The test of whether impairment exists is carried out at every reporting date. Indications such as considerable financial problems on the part of the debtor are taken into account in order to determine objectively whether evidence of impairment exists.

In order to resolve the question of impairment, the existing credit relationships that are assigned to the category "loans and receivables" need to be analyzed and then measured subsequently at amortized cost. At every reporting date, an investigation is required in order to assess whether there are objective indications of impairment that should be recognized in the financial statements. The amount of the loss is calculated as the difference between the carrying amount of the asset and the present value of the expected future cash flows, discounted with the original effective interest rate of the financial instrument (recoverable amount). In this connection, for the sake of simplicity, cash flows from short-term receivables are not discounted. The carrying amount of the asset is reduced to the recoverable amount by means of a direct write-down or by using an allowance account and the reduction is recognized in profit or loss.

For equity instruments of the "available-for-sale" category, an impairment loss is recognized if there are considerable adverse changes in the issuer's environment or the fair value is significantly lower than the original cost for a long period. The loss is determined as the difference between the current fair value and the carrying amount of the financial instrument. While reversals of impairment losses on debt instruments are to be recognized in profit or loss, in the case of equity instruments they may only be recognized in equity.

Primary financial liabilities are generally measured at amortized cost. If the interest effect is not insignificant, non-interest-bearing liabilities, or liabilities bearing low interest rates, with a residual term exceeding one year, are discounted. In the case of liabilities with a residual term of less than a year, it is assumed that the fair value corresponds to the settlement amount.

Financial assets and financial liabilities that fall under the scope of IAS 39 could under certain circumstances be allocated irrevocably to the subcategory "fair value option" upon initial recognition.

Changes in the fair values of **derivative financial instruments** that form part of an effective cashflow hedge are recognized directly in equity in other comprehensive income. In the context of hedging relationships involving options, the non-designated changes in fair value pursuant to IAS 39 must be recorded in profit or loss. In these consolidated financial statements, however, prior-year figures have been retrospectively adjusted in accordance with the new IFRS 9 regulations. For this reason, these are not disclosed under the consolidated net income but in the reserve for hedging costs. Amounts allocated to other comprehensive income are reclassified to the income statement, and are recognized as income/expense, in the period in which the underlying hedged transaction is recognized.

INTANGIBLE ASSETS

If intangible assets are acquired, they are recognized at acquisition cost. Internally generated intangible assets that provide future economic benefits are recognized at their cost of generation if the criteria for their recognition as an asset are fulfilled. They are amortized on a scheduled, straight-line basis over their expected useful lives of between three and eight years. Scheduled amortization charges relating to investments made in connection with a long-term electricity supply contract are recorded under cost of materials over the term of the contract. An additional license acquired for a consideration exists, which will be amortized on a scheduled basis in the future. With the exception of goodwill, the consolidated financial statements do not include any intangible assets with indefinite useful lives.

PROPERTY, PLANT, AND EQUIPMENT

Items of property, plant, and equipment used in the business operations for more than one year are measured at cost less scheduled depreciation. Such assets also include spare parts and maintenance equipment used for more than one period. Technical minimum stocks are recognized as components of the respective technical equipment and machinery. These stocks are quantities of materials that contain metals and are necessary to establish and ensure a production facility's functionality for its intended use. Minimum stocks are not subject to scheduled depreciation, as they do not deteriorate or age.

Construction costs include all costs that can be directly attributed to the asset. Borrowing costs that can be directly allocated to the purchase, construction, or production of a qualifying asset are capitalized. Borrowing costs of € 234 thousand (previous year: € 288 thousand) were capitalized in the fiscal year reported, applying a financing cost rate of 1.7 % (previous year: 1.7 %). Depreciation is charged using the straight-line method. In this context, depreciation periods used correspond to the expected economic useful lives of the assets, as applicable within the Group. The following main useful lives are applied:

Buildings	25 to 40 years
Site installations	10 to 25 years
Technical equipment and machinery	5 to 20 years
Technical minimum stock	unlimited useful life
Factory and office equipment	3 to 20 years

General overhauls or maintenance measures resulting in the replacement of components are recognized as an asset if it is probable that future economic benefits will flow to the Group and the costs can be measured reliably.

LEASING

Leased assets that satisfy the criteria of IAS 17 for a finance lease are recognized as fixed assets. This is the case if all significant risks and rewards of economic ownership lie with the respective Group company. Such fixed assets are recognized at fair value or, if lower, at the present value of the minimum lease payments, and are amortized/depreciated using the straight-line method over the lease term or, if it is expected that ownership will be obtained at the end of the lease term, over the economic useful life of the respective assets. The future lease installment payment obligations are recognized as a liability at their present value or current market value. The lease installment is divided into an interest component and a redemption component, to ensure that the lease liability bears interest at a constant rate. The noncurrent portion of the leasing obligation is recorded under non-current financial liabilities and the current portion is recorded under current financial liabilities. The interest component of the leasing rate is recognized in the income statement, leading to a constant interest charge over the term of the leasing agreement.

IMPAIRMENT OF NON-FINANCIAL ASSETS

Intangible assets that have an indefinite useful life, such as goodwill, are not amortized on a scheduled basis but are subjected to an annual impairment test. Furthermore, an assessment is made at every reporting date to determine whether there are any indications that the asset could be impaired. In the same way, items of property, plant, and equipment are tested for impairment if there are any indications of such impairment.

Since the metals contained in the minimum stock can be recovered and the utilization potential of the minimum stock is not subject to wear and tear as it is not used in the production process, an unlimited useful life is assumed. The minimum stocks are therefore not depreciated on a scheduled basis but are instead tested for impairment in conjunction with the respective production facilities if there are any indications of such impairment.

Assets that are amortized or depreciated on a scheduled basis are tested for impairment if events or changes in circumstances indicate that the carrying amount might not be recoverable. Impairment losses are recorded in the amount by which the carrying amount exceeds the recoverable amount. The recoverable amount is the higher of the fair value of the asset less costs to sell and its value in use. For impairment testing purposes, assets are combined at the lowest level for which cash flows can be separately identified (cash-generating units). With the exception of goodwill, non-monetary assets on which impairment losses were recognized in the past are reviewed as at each reporting date to ascertain whether the impairment losses possibly need to be reversed.

INVENTORIES

Inventories are measured at acquisition or production cost on initial recognition. Production cost includes all direct costs attributable to the production process, as well as a systematically allocated share of the production-related overheads.

The acquisition costs of copper concentrates and raw materials for recycling are determined by deducting the treatment and refining charges negotiated with the supplier from the purchase value of the metal. Treatment and refining charges are deductions that are made due to the processing of ore concentrates and raw materials for recycling into copper and precious metals.

In the smelters, work in process is measured by initially measuring the metal content. The equivalent cost of the processing that is still required for production of the fine metal is deducted from this figure. In this manner, the costs incurred during the production process are successively recognized as a component of the total production cost. This procedure applies to the production of copper, precious metals, and minor metals.

When it comes to the production of copper products, in addition to the metal components, the incurred costs of further processing copper into special formats such as wire rod, shapes, and rolled products are taken into consideration for the measurement of finished goods by way of a calculation surcharge.

Inventories are measured using the average cost method in accordance with IAS 2. In this context, the amount recognized as at the reporting date is measured at the lower of cost and net realizable value. Net realizable value is determined on the basis of quoted commodity exchange or market prices as at the reporting date.

OTHER NON-FINANCIAL ASSETS

Other non-financial assets are recognized at amortized cost. Write-downs are made to the extent that the assets are at risk.

INCOME TAXES

Income taxes comprise both current and deferred taxes. The tax expense and/or tax credit is recorded in profit or loss. If, however, the related source transactions are recognized directly in equity or in other comprehensive income, then the income taxes attributed to them are also directly accounted for in equity or in other comprehensive income.

The Aurubis Group companies are subject to income taxes in many countries around the world. The tax expense and/or tax credit is calculated by applying the tax regulations of the individual countries that are applicable as at the reporting date.

Deferred tax assets and liabilities result from temporary differences between the tax-based carrying amounts of assets and liabilities and those taken into account in the IFRS financial statements or from tax loss carryforwards and tax credits not yet utilized. The calculation of deferred taxes is based on the tax rates expected in the individual countries at the time of realization. These tax rates are generally based on legislation that is valid, or has been enacted, as at the reporting date.

Deferred tax assets deriving from temporary differences, tax loss carryforwards, and tax credits are recognized by the respective company entities to the extent that deferred tax liabilities exist. If deferred tax assets exceed deferred tax liabilities, they are recognized to the extent that it is probable that sufficient taxable income will be available in the future to ensure the utilization of these tax assets. The recoverability of the recognized deferred tax assets is reviewed on an individual basis each year.

Deferred tax liabilities that arise due to temporary differences in connection with investments in subsidiaries and associated companies are recognized unless the point in time for the reversal of the temporary differences can be determined by the Group and it is likely that the temporary differences will not reverse in the foreseeable future due to this determining influence.

Deferred tax assets and liabilities are offset gainst one another in cases where a legal right of set-off exists and if they relate to income taxes levied on the same company by the same taxation authority.

DISCONTINUED OPERATIONS AND ASSETS HELD FOR SALE

Discontinued operations are disclosed as soon as part of a company is classified as held for sale, the business area is a separate, significant line of business, and it is for sale as part of a coordinated overall plan.

In accordance with IFRS 5, assets held for sale are measured at the lower of their carrying amount and their fair value less costs to sell.

The consolidated result from discontinued operations is reported in the consolidated income statement separately from expenses and income from continued operations; prior-year figures are shown on a comparable basis. In the consolidated cash flow statement, discontinued operations are included in the cash inflows/outflows from operating, investing, and financing activities. Furthermore, assets and liabilities held for sale are separately disclosed in the consolidated statement of financial position in aggregated form.

To the extent that the disclosures in the notes to the financial statements are related to the consolidated income statement, they refer to continuing operations (with the exception of the section covering acquisitions and discontinued operations).

PROVISIONS

Provisions for pensions and similar obligations are determined in accordance with the projected unit credit method prescribed by IAS 19, based on actuarial reports, applying the mortality tables "Heubeck-Richttafeln 2018 G" (previous year: "Richttafeln 2005 G" issued by Heubeck AG). In this connection, the demographic assumptions applied, as well as expected salary and pension trends and the interest rate to be used, are determined on the basis of current estimates as at the reporting date. Accordingly, actuarial gains and losses can result from deviations between the actual parameters as at the reporting date and the assumptions used for the calculation. These actuarial gains and losses – as well as income deriving from plan assets that are not included in net interest – are recognized immediately and completely as they arise and are disclosed as generated Group equity. Past service cost is recognized immediately as an expense in profit or loss.

To determine the net obligation deriving from defined benefit plans, the fair value of the plan assets is deducted from the present value of the pension obligations.

Other provisions are set up for all other uncertain obligations and risks of the Aurubis Group provided that a related obligation to third parties results from a past event, the settlement of which is expected to result in an outflow of cash resources, and the respective amount can be reliably estimated. If the effect of the time value of money is material, non-current provisions are recognized at their present value.

OTHER NON-FINANCIAL LIABILITIES

Other non-financial assets are recognized at amortized cost.

Contractual liabilities are recorded when one of the parties has fulfilled its contractual obligation. This primarily applies to advance payments received in respect of customer orders that are recognized under other non-financial liabilities.

Significant estimates and assumptions

Accounting and measurement in the consolidated financial statements are influenced by a large number of estimates and assumptions, which are based on past experience, as well as additional factors, including expectations about future events. All estimates and assessments are subject to continuous review and re-evaluation. The use of estimates and assumptions is especially necessary in the following areas:

IMPAIRMENT OF GOODWILL AND OF A LICENSE ACQUIRED FOR A CONSIDERATION

An impairment test is carried out at least annually in line with the accounting policies. In this context, the recoverable amount is calculated on the basis of the value in use Intangible assets, page 128. The calculation of the value in use in particular requires estimates of future cash flows on the basis of calculations made for planning purposes.

The impairment test of the Aurubis Hamburg Copper Products cash-generating unit (CGU) resulted in no impairment of goodwill either in the current or past fiscal year. A 10 % reduction in the predicted cash flows or an increase of 0.5 percentage points in the WACC after taxes – from 5.0 % to 5.5 % – would also not result in the requirement to recognize any impairment losses.

As in the previous year, there was no impairment of the license acquired for a consideration.

FAIR VALUES IN CONJUNCTION WITH BUSINESS COMBINATIONS

Acquired assets, liabilities, and contingent liabilities are recognized with their fair values when accounting for business combinations. Discounted cash flow (DCF)-based procedures, the results of which depend on assumed future cash flows and other assumptions, are often used in this context. The measurement of contingent liabilities depends significantly on the assumptions with respect to the future resource outflows and the probability of their occurrence.

FAIR VALUES OF DERIVATIVES AND OTHER FINANCIAL INSTRUMENTS

The fair values of financial instruments for which there are no quoted prices in an active market are determined on the basis of financial calculation procedures and are influenced by assumptions specific to the instrument. Estimates have a particularly significant influence when the fair value needs to be determined for financial instruments for which at least one significant parameter is not based on observable market data (Level 3 of the fair value hierarchy). The selection and application of suitable parameters and assumptions require an assessment by management. Extrapolation and interpolation procedures have to be applied in particular when data are derived from uncommon market transactions. Detailed information can be found in the section Financial instruments, pages 123–127.

ACCOUNTING FOR INVENTORIES

Various estimates have to be made in connection with the accounting treatment of inventories. For example, estimation procedures are applied when quantifying inventories as well as in the determination of the metal yield content.

PENSION PROVISIONS AND OTHER PROVISIONS

Within the Aurubis Group, retirement benefits for employees are provided on the basis of both defined benefit plans and defined contribution plans.

Obligations deriving from defined benefit pension plans are measured in accordance with actuarial procedures. These procedures are based on several actuarial assumptions, such as, for example, the assumed interest rate, expected salary and pension developments, employee fluctuations, and life expectancy. For the purposes of determining the assumed interest rate, high-quality corporate bonds with commensurate terms and currencies are used as a source of reference. Deviations of the actual development from the assumptions at the beginning of the reporting period lead to remeasurement of the net liability.

When recognizing other provisions, assumptions are made with regard to the probability of the occurrence and the amount and timing of the outflow of resources, which by their nature are subject to uncertainty.

Other significant estimates relate to the determination of the useful lives of intangible assets and items of property, plant, and equipment, the collectability of receivables, and the measurement of inventory risks within inventories.

DISCONTINUED OPERATIONS AND ASSETS HELD FOR SALE

In accordance with IFRS 5, discontinued operations are measured at the lower of their carrying amount and their fair value less costs to sell. The fair value couldn't be determined on the basis of a price on the active market (Level 1) and was therefore determined on the basis of comparable transactions on the market (Level 2). In the process, Segment FRP was divided into two disposal groups (FRP Europe and FRP USA).

Changes in accounting and measurement methods due to new standards and interpretations

The following standards were applied for the first time in fiscal year 2018/19.

Standards and interpretations applied for the first time

	Standards/interpretations	Compulsory application in the EU	Adoption by European Commission	Impact
IFRS 9	Financial Instruments – Classification and Measurement	1/1/2018	11/22/2016	A detailed description of the impacts follows the overview in this table
IFRS 15	Revenue from Contracts with Customers	1/1/2018	9/22/2016	A detailed description of the impacts follows the overview in this table
IFRS 15	Amendments: Revenue from Contracts with Customers	1/1/2018	10/31/2017	A detailed description of the impacts follows the overview in this table
IFRS 2	Amendments: Share-based Payment	1/1/2018	2/26/2018	no impacts
IAS 40	Amendments: Investment Property	1/1/2018	3/14/2018	no impacts
IFRS 4	Amendments: Insurance Contracts	1/1/2018	11/3/2017	no impacts
IFRIC 23	Uncertainty over Income Tax Treatments	1/1/2019	10/23/2018	no significant effects
IFRIC 22	Foreign Currency Transactions and Advance Consideration	1/1/2018	3/28/2018	Translation of advance consideration received or paid in a foreign currency into the functional currency at the spot exchange rate on the day of payment. Aurubis does not expect any material effects.
IFRS 1 IAS 28	Annual Improvements to IFRS (2014–16 cycle)	1/1/2018	2/7/2018	no impacts

IFRS 9

In July 2014, the International Accounting Standards Board (IASB) published the final version of IFRS 9 Financial Instruments, which replaces the existing regulations contained in IAS 39 concerning the accounting and measurement of financial instruments.

Aurubis applied IFRS 9 and the resulting changes to other standards for the first time as at October 1, 2018. The transition to IFRS 9 takes place retrospectively on a modified basis without a change in prior-year figures. This comment, however, excludes compliance with the new regulations on the accounting for cash flow hedges under hedge accounting, which are to be applied to the comparative figures retroactively. Explanations of the impact of the standards are outlined below.

The classification and measurement of financial assets (debt instruments) are determined on the basis of the business model in use and the structure of the cash flows. In this connection, a financial asset is initially classified as either measured "at amortized cost," "at fair value through other comprehensive income," or "at fair value through profit or loss."

The classification of the debt instruments is initially based on the allocation of financial assets according to the business model. For this purpose, Aurubis examined the financial assets and determined which of them were held for the purpose of collecting contractual cash and cash equivalents ("held to collect"), which were "held to collect and sell", and which could not be allocated to any of the two categories ("other").

In addition to the classification based on the business model, an analysis was also carried out with regard to the characteristics of the contractual cash flows of the underlying financial assets on the basis of the so-called SPPI criteria (Solely Payment of Principal and Interest). In the case of financial assets, it was therefore examined whether the contractual cash flows solely represent payments of principal and interest on the principal amount outstanding.

As a general rule, equity instruments are classified and measured at fair value through profit or loss.

The impacts on the classification and measurement of financial assets at the time of first application are shown in the following table:

Reconciliation of classification and measurement categories of financial instruments as at October 1, 2018

in € thousand	Category under IAS 39	Measurement under IAS 39	Measurement category under IFRS 9	Carrying amount pursuant to IAS 39 as at 9/30/2018	Carrying amount pursuant to IAS 9 as at 10/1/2018
Assets					
Interests in affiliated companies	AfS	AC	FV P&L	1,321	1,321
Investments	AfS	AC	FV P&L	115	115
Securities classified as fixed assets	AfS	FV OCI	FV OCI	31,448	31,448
Other financial fixed assets					
Other loans	LaR	AC	AC	45	45
Trade accounts receivable	LaR	AC	AC	97,840	97,740
	FV option	FV P&L	FV P&L	176,661	176,661
Other receivables and financial assets					
Receivables from related parties	LaR	AC	AC	2,096	2,096
Other financial assets	LaR	AC	AC	11,380	11,210
	n/a	AC	n/a	16,283	16,283
	LaR	AC	FV P&L	12,188	12,188
Derivative financial assets					
Derivatives without a hedging relationship	FAHfT	FV P&L	FV P&L	55,257	55,257
Derivatives with a hedging relationship (hedge accounting)	n/a	FV OCI	n/a	2,145	2,145
Cash and cash equivalents	LaR	AC	AC	461,045	461,045
Equity and liabilities					
Bank borrowings	FLAC	AC	AC	277,307	277,307
Liabilities under finance leases	n/a	n/a	n/a	36,369	36,369
Trade accounts payable	FLAC	AC	AC	430,002	430,002
	FV option	FV P&L	FV P&L	406,746	406,746
Liabilities to related parties	FLAC	AC	AC	1,136	1,136
Other non-derivative financial liabilities	FLAC	AC	AC	63,266	63,266
	n/a	AC	n/a	13,372	13,372
Derivative financial liabilities					
Derivatives without a hedging relationship	FLHfT	FV P&L	FV P&L	27,179	27,179
Derivatives with a hedging relationship (hedge accounting)	n/a	FV OCI	n/a	9,065	9,065

Trade accounts receivable are accounted for as follows in accordance with IFRS 9. Trade accounts receivable resulting from supply contracts that are not price-fixed are measured at fair value through profit or loss. Receivables held for sale within the context of factoring arrangements will be allocated to the category "measured at fair value through other comprehensive income." The remaining financial assets under the IAS 39 category "Loans and Receivables" are largely accounted for at amortized cost in accordance with IFRS 9. Due to application of the new impairment model under IFRS 9, the respective carrying amounts of the financial assets not accounted for at fair value through profit or loss decreased as at the time of initial application. The resulting effect of € 0.3 million was deducted in the opening statement of financial position and disclosed under generated Group equity.

The securities included in the category "available for sale" (AfS) were measured at fair value in other comprehensive income pursuant to IAS 39 as at September 30, 2018. However, permanent or significant impairment losses were recognized in profit or loss. In accordance with IFRS 9, Aurubis makes use of the option to classify equity instruments as at "fair value through other comprehensive income." The resulting transition effect of € 24.6 million was deducted in the opening statement of financial position as a component of other comprehensive income. Generated Group equity increased by the same amount.

Furthermore, the financial assets available for sale include share interests in affiliated companies that weren't consolidated due to their minor importance for the consolidated financial statements, as well as investments. Until now, these had been measured at acquisition cost pursuant to IAS 39 under application of IAS 39.46(c) and are now classified to the FV P&L category pursuant to IFRS 9. In the process, the acquisition costs of the share interests were taken as an appropriate estimate for the fair value.

IFRS 9 maintains the existing requirements of IAS 39 for the classification of financial liabilities to a great extent. Under IFRS 9, Aurubis irrevocably classifies financial liabilities from supply contracts that are not yet price-fixed as at fair value through profit or loss. The fair value changes resulting from the company's own credit risk are now recognized in other comprehensive income and not in the income statement.

The "incurred credit loss" impairment model under IAS 39 is replaced by a future-oriented "expected credit loss" model with the introduction of IFRS 9. The expected credit loss model is applicable to all financial instruments that are either measured at amortized cost or at fair value through OCI – with the exception of equity instruments held as financial fixed assets.

In this context, a risk provision is established for the entire term of the financial instrument at the time it is acquired. The general approach stipulates a three-stage process for determining risk provisions. Depending on the credit loss risk of the counterparty, risk provisions are set up for expected twelve-month credit losses (Level 1) or for credit losses expected over the full term (Level 2 and 3). The general approach is applied in the Aurubis Group for cash and cash equivalents and other financial assets that fall within the scope of the impairment provisions under IFRS 9.

A simplified approach for the recognition of impairment losses is applied for trade accounts receivable. Under this approach, the expected credit losses are calculated using a so-called cohort model, which is based on the data for the past three fiscal years. The measurement of the outstanding receivables takes historical bad debt losses into account, giving consideration to forward-looking information.

Due to the short-term nature of the financial assets and the counterparties' high level of creditworthiness, the expected credit losses for cash and cash equivalents and other financial assets are insignificant. The default risk for trade accounts receivable is particularly limited because of existing commercial credit insurance programs. Use of the expected model within the Aurubis Group did not lead to any significant effects.

The new regulations covering hedge accounting involve in particular the accounting for hedging costs in cases where only the change in intrinsic value or the change in value of the spot components is designated as a hedging instrument. In accordance with IAS 39, the changes in value of the non-designated components must be directly recognized in the income statement. In accordance with IFRS 9, the change in the fair value has to be recognized in other comprehensive income – in a separate reserve for hedging costs – while a change in the interest component and the foreign currency basis spread of a foreign currency hedge can be recognized in other comprehensive income. The hedging costs amounted to € 0.4 million in the previous year and were deducted in the opening statement of finamcial position as a component of other comprehensive income. Generated Group equity accordingly increased by the same amount.

IFRS 9 also includes new regulations for the designation of risk components in non-financial hedged items. Furthermore, IFRS 9 introduced new requirements regarding the reweighting of hedging relationships and prohibits the voluntary termination of hedge accounting application. The requirements for documentation and disclosure have been broadened.

The application of hedge accounting within Aurubis did not result in any further impacts.

IFRS 15

IFRS 15 regulates the point in time and amount at which revenues from customer contracts are to be recognized and includes the extent of the required disclosures in the notes to the financial statements. The new standard does not differentiate between different types of contracts and activities performed, but establishes uniform criteria for when a performance obligation is to be recognized as revenue. Accordingly, revenue is recognized when the customer obtains control of the agreed goods and services and can derive benefit from them. Revenues are measured at the amount of consideration expected to be received by the company. In this context, the determination of revenues is based on a five-stage model that must be applied to all contracts with customers.

Within Aurubis, the change in accounting treatment under IFRS 15 mainly affects the point in time at which revenue is recognized, this being dependent on the point in time when the authority to exercise control over the goods or services is transferred. Revenues are generally recognized by Aurubis at the point in time they are generated, as the performance obligations entered into primarily relate to the transfer of goods. The point in time for such recognition is later in some cases under the new standard.

The transition to IFRS 15 took place retrospectively without any amendment to prior-year figures as at October 1, 2018 (modified retrospective approach). The conversion effects were therefore cumulatively recognized in the revenue reserves at the time of first application. The transition effect amounts to € 0.5 million. Aurubis makes use of the exemption available under IFRS 15.C5(a) and only applies IFRS 15 retrospectively to contracts that haven't been fulfilled yet at the time of initial application.

IFRS 15 uses the terms "contract asset" and "contract liability" to describe what is generally referred to as prepaid expenses/deferred charges or deferred revenues. Aurubis has adopted this terminology.

As at September 30, 2019, the application of IFRS 15 leads to no significant effects on the consolidated statement of financial position or the consolidated income statement, compared to the requirements of IAS 18 that applied prior to the change.

IFRIC 23

The interpretation explains the accounting treatment for and measurement of deferred and current tax assets and liabilities when there are uncertainties about tax treatment. The company has to determine whether it should consider each tax treatment uncertainty independently or together with one or more other tax treatment uncertainties, and then select the approach that provides the more reliable prediction for the resolution of each respective uncertainty.

Aurubis is active internationally and in different tax jurisdictions. The Group analyzed whether and to what extent the company's tax positions were uncertain. Aurubis accounted for the tax treatment of uncertainties by recognizing the amounts that are likely to be realized.

The initial application of the interpretation did not lead to a transitional effect as at October 1, 2018.

The following standards are to be applied to all fiscal years beginning after October 1, 2019. They were not adopted early in the consolidated financial statements.

Standards and interpretations not adopted early

	Standards/interpretations	Compulsory application in the EU	Adoption by European Commission	Impact
IFRS 16	Leases	1/1/2019	10/31/2017	A detailed description of the impacts follows the overview in this table.
IFRS 17	Insurance Contracts	1/1/2021	open	The standard regulates the principles covering recognition, measurement, reporting, and disclosures for insurance contracts within the scope of the standard. IFRS 17 will replace the previously applicable IFRS 4. Based on our current understanding, Aurubis does not expect any material effects.
IAS 19	Amendments: Employee Benefits	1/1/2019	3/13/2019	no impacts
IAS 28	Amendments: Investments in Associates and Joint Ventures	1/1/2019	2/8/2019	no impacts
IAS 1/ IAS 8	Definition of Material	1/1/2020	open	no impacts
IFRS 3	Amendments: Business Combinations	1/1/2020	open	no impacts
IFRS 7/9/ IAS 39	Amendments: Interest Rate Benchmark Reform	1/1/2020	open	Based on our current understanding, Aurubis does not expect any material effects.
Various	Annual Improvements to IFRS (2015 –17 cycle)	1/1/2019	3/14/2019	no impacts
Frame-work		1/1/2020	open	Based on our current understanding, Aurubis does not expect any material effects.

IFRS 16

This standard regulates the accounting treatment for leases. IFRS 16 replaces the previously applicable IAS 17 as well as three leasing-related interpretations. The application of IFRS 16 is compulsory for all companies using IFRS and is generally valid for all leasing arrangements. IFRS 16 provides for a single accounting model for the lessee. Accordingly, right-of-use assets and liabilities deriving from leasing agreements must be recognized in the lessee's statement of financial position except for those with a term of twelve months (or less) or those that can be classified as low-value assets. Aurubis will make use of the options that are available.

For the lessor, the accounting model prescribed by IFRS 16 does not differ materially from the requirements of IAS 17. For accounting purposes, a distinction must still be made here between finance and operating leases.

Aurubis will first apply IFRS 16 with the start of the fiscal year commencing on October 1, 2019.

For purposes of the transition to IFRS 16, we currently expect to apply the modified retrospective method.

Analyses carried out during the project to introduce IFRS 16 indicated that, as at the date of transition of October 1, 2019, the present value of leasing liabilities that need to be recognized will amount to some € 30 million and that recognition of right-of-use assets of a similar amount will inflate the values included in the in the statement of financial position. This has the effect of reducing the equity ratio by approximately 0.5 percentage points. The net financial liabilities will increase by the amount of the additional leasing liabilities. The previous expense for operating leases will no longer be recognized in the income statement. In the future, it will be replaced by the depreciation charges made in respect of the right-of-use assets as well as interest expenses deriving from the unwinding of discount on leasing liabilities. Furthermore, the financial result is expected to be adversely impacted by an amount in the single-digit million range.

Discontinued operations

Following the prohibition of the sale of Segment FRP by the European Commission in February 2019, we are currently involved in the process of reviewing different strategic options for the sale of the segment. The segment thus continues to fulfill the conditions for presentation as discontinued operations pursuant to IFRS 5.

The consolidated net income/net loss from discontinued operations is reported in the consolidated income statement separately from the expenses and income from continued operations; prior-year figures are shown on a comparable basis.

Consolidated net income from discontinued operations

in € million	**12 months 2018/19**	12 months 2017/18
Revenues	1,134	1,270
Changes in inventories of finished goods and work in process	-8	-1
Expenses	-1,105	-1,224
Impairment loss deriving from remeasurement at fair value	-20	0
Earnings before taxes (EBT)	**1**	**45**
Income taxes	-5	-16
Taxes related to remeasurement at fair value	3	0
Consolidated net income/net loss (-) from discontinued operations	**-1**	**29**
Consolidated net income/net loss (-) from discontinued operations attributable to Aurubis AG shareholders	-1	29

An impairment loss of € 20 million before taxes was recognized during the fiscal year. This relates to the measurement of the FRP Europe disposal group, and was accounted for as a component of the consolidated net loss from discontinued operations.

Internal Group expenses and income are fully eliminated in the process of determining the consolidated net income/net loss for both continuing and discontinued operations. The internal Group transactions are eliminated from an economic perspective, i.e., taking the Aurubis Group's future trading relationships into account. The Group will maintain existing supply relationships with the discontinued business division after the sale of Segment FRP. Revenues of Aurubis AG and its subsidiaries deriving from deliveries to the discontinued business division were therefore fully eliminated there.

Carrying amounts of the main groups of assets held for sale and related liabilities

in € million	**9/30/2019**	9/30/2018
Assets		
Fixed assets	173	173
Deferred tax assets	4	1
Non-current receivables and other assets	2	2
Inventories	265	274
Current receivables and other assets	97	122
Cash and cash equivalents	20	18
Assets held for sale	**561**	**590**
Equity and liabilities		
Deferred tax liabilities	13	16
Non-current provisions	46	34
Non-current liabilities	1	1
Current provisions	8	8
Current liabilities	91	103
Liabilities deriving from assets held for sale	**160**	**162**

Cash flows from discontinued operations

in € million	**12 months 2018/19**	12 months 2017/18
Cash inflow from operating activities (net cash flow)	19	18
Cash outflow from investing activities	-16	-16
Cash outflow from financing activities	-2	-1

Notes to the income statement

1. REVENUES

Analysis by product group in € thousand	2018/19	2017/18
Wire rod	4,274,054	4,282,959
Precious metals	2,865,272	2,383,450
Copper cathodes	2,205,521	2,211,942
Shapes	748,965	892,383
Strip, bars, and profiles	348,401	349,968
Chemicals and other products	321,086	303,046
	10,763,299	**10,423,748**

A further breakdown of Aurubis Group revenues by Group segments is provided in the context of segment reporting Segment Reporting, pages 176–177.

As at September 30, 2019, the transaction price to which the (in some cases) unfulfilled performance obligations were attributed was € 1,353,710 thousand. This amount is expected to be recognized within the next two fiscal years.

A remeasurement effect of € -59,749 thousand in fiscal year 2018/19 derived from supply contracts for which prices had not been fixed.

2. CHANGES IN INVENTORIES OF FINISHED GOODS AND WORK IN PROCESS

in € thousand	2018/19	2017/18
Finished goods	61,791	-67,518
Work in process	118,218	67,958
	180,009	**440**

The changes in inventories in the reporting year resulted from an increase in copper and precious metal inventories.

3. OWN WORK CAPITALIZED

Own work capitalized of € 19,695 thousand (previous year: € 18,923 thousand) primarily includes production costs and purchased materials.

4. OTHER OPERATING INCOME

in € thousand	2018/19	2017/18
Cost reimbursements	19,652	22,297
Income deriving from reversals of impairment losses	6,220	0
Income deriving from the recognition of other assets	20,000	0
Income deriving from the reversal of provisions	238	1,585
Other income	15,180	19,516
	61,290	**43,398**

The entire amount reported as “Income deriving from the recognition of other assets” relates to a receivable from the prohibited sale of Segment FRP to Wieland-Werke AG.

5. COST OF MATERIALS

in € thousand	2018/19	2017/18
Raw materials, supplies, and merchandise	9,699,827	9,212,758
Cost of purchased services	297,384	251,942
	9,997,211	**9,464,700**

The cost of materials ratio, represented by the ratio of the cost of materials to revenues and changes in inventories, was 91.4 % (previous year: 90.8 %).

6. PERSONNEL EXPENSES AND EMPLOYEE NUMBERS

in € thousand	2018/19	2017/18
Wages and salaries	299,936	281,957
Social security contributions, pension and other benefit expenses	74,468	69,985
	374,404	**351,942**

Pension expenses include allocations to the provisions for pensions.

The average number of employees in the Group during the year was as follows:

	2018/19	2017/18
Blue collar	4,205	4,096
White collar	2,313	2,219
Apprentices	248	256
	6,766	**6,571**

On average for the year, continuing operations accounted for 5,011 employees (previous year: 4,803 employees).

Among other components, the total compensation of the Aurubis AG Executive Board members, who were newly appointed from fiscal year 2017/18 onwards, includes a share-based compensation component with a cash settlement.

The following parameters were taken as a basis for the calculation of the fair value of the virtual deferred stock compensation plan:

	9/30/2019
Share price (in €)	40.89
Exercise price (in €)	61.02
Expected volatility (weighed average, in %)	33.77
Expected term (weighed average, in years)	2.00
Expected dividend (in %)	3.06
Risk-free interest rate (based on government bonds, in %)	-0.80
Fair value (in € thousand)	117

The expected volatility is based on an assessment of the historic volatility of the company's share price, especially in the period that corresponds to the expected term.

The personnel expenses deriving from the deferred stock compensation plan amounted to € 24 thousand (previous year: € 93 thousand) and are included in the same amount as provisions at the reporting date.

7. DEPRECIATION AND AMORTIZATION

Depreciation of property, plant, and equipment and amortization of intangible assets totaled € 125,407 thousand (previous year: € 119,470 thousand) for the Group. This comprises depreciation of € 123,163 thousand (previous year: € 117,279 thousand) on property, plant, and equipment and amortization of € 2,244 thousand (previous year: € 2,191 thousand) on intangible assets.

No impairment losses were recognized on intangible assets and property, plant, and equipment during the current or previous fiscal year.

The total figure of € 130,391 that is reported for depreciation of property, plant, and equipment and amortization of intangible assets in the tables showing changes in assets (referred to below) includes depreciation on investments in connection with an electricity supply contract of € 4,984 thousand (previous year: € 5,207 thousand), which is disclosed under cost of materials.

A breakdown of the depreciation of property, plant, and equipment and amortization of intangible assets is provided in the summary of changes in the Group's intangible assets and property, plant, and equipment Intangible assets, page 128, and Property, plant, and equipment, page 128.

8. OTHER OPERATING EXPENSES

in € thousand	2018/19	2017/18
Selling expenses	88,039	88,349
Administrative expenses	72,971	71,021
Other taxes	2,670	2,514
Sundry operating expenses	89,992	54,915
	253,672	**216,799**

The selling expenses mainly comprise freight costs. Sundry operating expenses include € 29,871 thousand of previously capitalized project costs in connection with the Future Complex Metallurgy project, which were recognized as an expense because the project was discontinued.

9. INTEREST

in € thousand	2018/19	2017/18
Interest income	3,904	3,592
Interest expense	-17,862	-15,775
	-13,958	**-12,183**

The interest income mainly derives from interest-bearing customer receivables.

The interest expense primarily results from borrowings. Among other items, the interest expense includes the net interest deriving from defined benefit plans, amounting to € 3,303 thousand (previous year: € 3,647 thousand).

10. OTHER FINANCIAL RESULT

in € thousand	2018/19	2017/18
Other financial income	407	689
Other financial expenses	-31	-51
	376	**638**

As in the previous year, other financial income results primarily from securities.

11. INCOME TAXES

Income taxes comprise both current income taxes as well as deferred taxes. Tax liabilities and receivables include obligations or claims deriving from domestic and foreign income taxes for previous years and for the current year. Income taxes were made up as follows:

in € thousand	2018/19	2017/18
Current taxes	55,725	64,168
Deferred taxes	12,970	-4,621
Income taxes	**68,695**	**59,547**

Current taxes include tax expenses of € 2,989 thousand (previous year: tax credits of € 426 thousand) and deferred taxes include tax credits of € 183 thousand (previous year: tax expenses of € 280 thousand) deriving from earlier fiscal years.

The difference between the deferred tax expense of € 12,970 thousand and deferred tax credit of € 4,621 thousand in the previous year mainly results from the change of the tax rates in Belgium and the US and the change in temporary differences relating to the statement of financial position, as well as from tax loss carryforwards.

Applicable German tax legislation for fiscal year 2018/2019 foresees a corporate income tax rate of 15 % (previous year: 15 %), plus a solidarity surcharge of 5.5 % (previous year: 5.5 %). The trade tax rate applicable for Aurubis AG amounts to 16.59 % (previous year: 16.59 %). For the other German Group companies, trade tax rates between 11.09 % and 16.45 % (previous year: 11.09 % and 16.45 %) are applicable. The foreign companies are subject to their respective national income tax rates, which vary between 10 % and 29.58 % (previous year: 10 % and 33.99 %).

In Belgium, the tax rate for fiscal years that end on December 31, 2018 or later is 29.58 % (previously 33.99 %) and the tax rate for fiscal years that end on December 31, 2020 or later is 25 %. We therefore determined a rate of 29.58 % as a basis for calculating current taxes and short-term deferred taxes, and a rate of 25 % for long-term deferred taxes.

The Group taxes include tax effects from foreign subsidiaries to a significant degree. As a consequence, the tax rate of the German parent company of 32.41 % (previous year: 32.41 %) is not applied as the Group tax rate for calculation purposes, but a Group-wide mixed tax rate of 23.29 % (previous year: 23.18 %) is used instead. As in the prior year, the main contributions to earnings come from Aurubis AG and Aurubis Bulgaria AD.

The actual income taxes of € 68,695 thousand (previous year: € 59,547 thousand) were € 8,126 thousand higher (previous year: € 15,094 thousand lower) than the expected income tax expense of € 60,569 thousand (previous year: € 74,641 thousand). The difference between the expected and the actual income tax expense is due to the reasons outlined in the following tax reconciliation:

Reconciliation

in € thousand	2018/19	2017/18
Earnings before taxes	**260,017**	**322,053**
Expected tax charge at 23.29 % (previous year: 23.18 %)	**60,569**	**74,641**
Changes in the expected tax charge due to:		
– changes in tax rates	101	-15,662
– non-recognition and correction of deferred taxes	469	137
– taxes for previous years	3,364	-146
– non-deductible expenses	4,628	1,952
– non-taxable income/ trade tax reductions	-310	-733
– notional interest deduction (Belgium)	-10	-585
– outside basis differences	-106	-56
– other	-10	-1
Income taxes	**68,695**	**59,547**

In 2018/19, there were effects amounting to € 101 thousand due to changes in tax rates (previous year: € -15,662 thousand tax rate change in Belgium and the US).

Effects deriving from the non-recognition and correction of deferred taxes result from write-downs of deferred tax assets and from the adjustment of loss carryforwards, and amount to € 469 thousand (previous year: € 126 thousand).

The effects deriving from taxes for previous years are due in particular to tax impacts deriving from tax field audits that have been concluded.

The higher non-deductible expenses compared to the previous year are mainly due to the non-deductible portion of the dividend income.

The effect of the notional interest deduction in accordance with Belgian tax law in the amount of € -10 thousand (previous year: € -585 thousand) had a lower impact than was the case in the previous year.

The recognized deferred tax assets and deferred tax liabilities result from the following recognition and measurement differences in individual items in the statement of financial position, from tax loss carryforwards, and from outside basis differences (OBD):

	9/30/2019		9/30/2018	
in € thousand	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
Intangible assets	4,976	204	5,918	202
Property, plant, and equipment	343	85,148	1,029	81,283
Inventories	11,624	183,801	7,182	168,277
Receivables and other assets	6,981	23,380	2,900	29,309
Pension provisions	74,442	0	43,220	55
Other provisions	7,350	18	5,662	174
Liabilities	26,748	5,438	32,021	2,960
Tax loss carryforwards	140	0	196	0
Outside basis differences	0	788	0	894
Offsetting	-128,639	-128,639	-95,386	-95,386
Consolidated statement of financial position	**3,965**	**170,138**	**2,742**	**187,768**

€ 36,226 thousand (previous year: € 10,082 thousand) of the deferred tax assets and € 207,783 thousand (previous year: € 197,586 thousand) of the deferred tax liabilities will be realized within the next twelve months. Deferred tax assets of € 96,378 thousand (previous year: € 88,046 thousand) and deferred tax liabilities of € 90,994 thousand (previous year: € 85,568 thousand) will be realized after more than twelve months. These figures represent the amounts prior to offsetting.

The income taxes to be accounted for in other comprehensive income are distributed among the following areas:

	9/30/2019		9/30/2018	
in € thousand	Balance	Change	Balance	Change
Deferred taxes				
Derivatives	2,877	1,257	1,620	6,283
Pension provisions	41,065	30,333	10,732	-3,769
Total	**43,942**	**31,590**	**12,352**	**2,514**
Current taxes	-2,412	-532	-1,880	-189

With respect to the change in OCI deriving from pension provisions, please refer to note 23 in the Notes to the Statement of Financial Position Pension provisions and similar obligations, pages 152–156.

The realization of deferred tax assets is considered to be sufficiently probable after taking the Group's forecast development plans and the profit expectations of the subsidiaries into account. Deferred tax assets are recognized in respect of loss carryforwards to the extent that deferred tax liabilities were available or if the companies concerned had positive future earnings forecasts.

Loss carryforwards existed totaling € 23,976 thousand (previous year: € 35,474 thousand). Deferred tax assets of € 140 thousand (previous year: € 196 thousand) were recognized in respect of income tax losses of € 498 thousand (previous year: € 882 thousand).

No deferred tax assets were set up with respect to loss carryforwards of € 23,478 thousand (previous year: € 34,567 thousand), as the possibility of utilizing them is believed to be unlikely from a current perspective. The tax loss carryforwards deemed not to be utilizable can be carried forward without limitation.

Deferred tax liabilities of € 788 thousand (previous year: € 894 thousand) were set up with respect to the differences between the proportional equity of subsidiaries recognized in the consolidated statement of financial position and the investment carrying amounts for these subsidiaries shown in the tax-based records of the respective parent company (so-called outside basis differences) as at the reporting date. No deferred tax liabilities were set up for outside basis differences deriving from undistributed earnings of subsidiaries amounting to € 15,201 thousand (previous year: € 15,722 thousand), since the reversal of these differences is unlikely in the foreseeable future.

12. CONSOLIDATED NET INCOME ATTRIBUTABLE TO NON-CONTROLLING INTERESTS

Of the reported consolidated net income from continuing operations for 2018/19 of € 191,322 thousand (previous year: € 262,506 thousand), a share of income of € 128 thousand (previous year: € 1,161 thousand) is attributable to shareholders other than the shareholders of Aurubis AG, Hamburg. This relates to the non-controlling interests in Aurubis Bulgaria AD, Pirdop.

13. EARNINGS PER SHARE

Basic earnings per share are calculated by dividing the consolidated net earnings from continuing operations, excluding the non-controlling interests, by the weighted average number of shares outstanding during the fiscal year.

	2018/19	2017/18
Consolidated net income attributable to Aurubis AG shareholders from continuing operations (in € thousand)	191,194	261,345
Weighted average number of shares (in thousand units)	44,957	44,957
Basic earnings per share from continuing operations (in €)	**4.25**	**5.81**
Diluted earnings per share from continuing operations (in €)	**4.25**	**5.81**

Diluted earnings per share are determined by augmenting the average number of the shares outstanding during the fiscal year to include the maximum number of shares that could have been issued if all conversion rights on convertible bonds had been exercised. Where applicable, the consolidated net income is increased at the same time by the interest expense incurred on convertible bonds less the corresponding taxes.

Since conversion rights on convertible bonds existed neither in the reporting year nor in the prior year, the diluted earnings per share for the Aurubis Group correspond to the basic earnings per share.

Notes to the statement of financial position

14. INTANGIBLE ASSETS

The development of the costs of acquisition or generation and the accumulated amortization and impairment-related write-downs of the intangible assets are as follows:

Costs of acquisition or construction

in € thousand	10/1/2018	Additions	Disposals	Transfers	9/30/2019
Intangible assets					
Franchises, industrial property rights, and licenses	146,038	2,484	-352	4,874	153,042
Goodwill	43,170	0	0	0	43,170
Payments on account for intangible assets	8,806	3,721	0	-4,874	7,653
	198,013	**6,205**	**-352**	**0**	**203,865**

Amortization and impairment losses

in € thousand	10/1/2018	Amortization and impairment losses for the fiscal year	Disposals	Transfers	9/30/2019
Intangible assets					
Franchises, industrial property rights, and licenses	-50,442	-7,228	350	0	-57,319
Goodwill	-24,522	0	0	0	-24,522
Payments on account for intangible assets	0	0	0	0	0
	-74,964	**-7,228**	**350**	**0**	**-81,841**

Carrying amount

in € thousand	9/30/2019	9/30/2018
Intangible assets		
Franchises, industrial property rights, and licenses	95,723	95,596
Goodwill	18,648	18,648
Payments on account for intangible assets	7,653	8,805
	122,025	**123,049**

Costs of acquisition or construction

in € thousand	10/1/2017	Discontinued operations	Additions	Disposals	Transfers	9/30/2018
Intangible assets						
Franchises, industrial property rights, and licenses	155,750	-4,326	1,741	-7,781	654	146,038
Goodwill	43,170	0	0	0	0	43,170
Payments on account for intangible assets	4,312	0	5,147	0	-654	8,805
	203,232	**-4,326**	**6,888**	**-7,781**	**0**	**198,013**

Amortization and impairment losses

in € thousand	10/1/2017	Discontinued operations	Amortization and impairment losses for the fiscal year	Disposals	Transfers	9/30/2018
Intangible assets						
Franchises, industrial property rights, and licenses	-47,092	2,866	-7,398	1,182	0	-50,442
Goodwill	-24,522	0	0	0	0	-24,522
Payments on account for intangible assets	0	0	0	0	0	0
	-71,614	**2,866**	**-7,398**	**1,182**	**0**	**-74,964**

Carrying amount

in € thousand	9/30/2018	9/30/2017
Intangible assets		
Franchises, industrial property rights, and licenses	95,596	108,658
Goodwill	18,648	18,648
Payments on account for intangible assets	8,805	4,312
	123,049	**131,618**

Intangible assets comprise licenses acquired for a consideration, primarily in connection with a long-term electricity supply contract, as well as goodwill on consolidation arising in the Aurubis Group.

As in the prior year, most of the goodwill (€ 17,439 thousand) is attributable to the Aurubis Hamburg Copper Products cash-generating unit (CGU).

Aurubis carries out an impairment test on goodwill at least annually. For the impairment test on goodwill, the goodwill acquired in conjunction with a business combination is allocated to the CGU that is expected to benefit from the synergies of the business combination. If the carrying amount of the CGU to which the goodwill was allocated exceeds its recoverable amount, a commensurate impairment loss is recognized on the allocated goodwill.

As in the prior year, there was no requirement to recognize an impairment loss for the Aurubis Hamburg Copper Products CGU.

The recoverable amount is the higher of the fair value less costs to sell and value in use. Aurubis determines the recoverable amount on the basis of the value in use. The value in use is determined by means of discounting future cash flows after taxes with a risk-adjusted discount rate (WACC) after taxes (discounted cash flow method). Due to the calculated cash flows after taxes, a cost of capital after taxes is used as well.

The cash flow estimates cover a planning horizon of four years before transferring to perpetuity. The cash flows were established within the scope of a qualified planning process including use of internal company values based on past experience and extensive market knowledge, and they take into consideration management's assessment and estimates regarding the future development of the regional market.

In addition to the weighted capital costs, the significant assumptions used to calculate the value in use are the forecast earnings trend and the sustainable growth rate of the terminal value at a level of 1 %. The growth rate was derived from future expectations and does not exceed the long-term average growth rates of the respective markets.

The WACC used for discounting purposes amounted to 5.0 % after taxes or 7.2 % before taxes as at September 30, 2019 (previous year: 6.1 % after taxes or 8.6 % before taxes).

As in the prior year, there was no requirement to recognize impairment losses on intangible assets with a limited useful life.

No development costs were capitalized during the fiscal year. Research costs are recognized in profit or loss for the respective periods Research and development, page 174.

15. PROPERTY, PLANT, AND EQUIPMENT

The costs of acquisition or construction and the accumulated depreciation and impairment losses on property, plant, and equipment are as follows:

Costs of acquisition or construction

in € thousand	10/1/2018	Exchange rate differences	Additions	Disposals	Transfers	9/30/2019
Property, plant, and equipment						
Land and buildings	628,256	-104	19,701	-8,049	18,320	658,123
Technical equipment and machinery	1,918,683	-159	30,066	-42,553	66,272	1,972,309
Other equipment, factory and office equipment	82,004	-13	11,477	-5,368	5,725	93,825
Leased assets *	57,399	0	3,255	-765	0	59,889
Payments on account for assets under construction	118,796	-15	136,469	-29,886	-90,316	135,049
	2,805,138	**-291**	**200,968**	**-86,620**	**0**	**2,919,194**

Amortization and impairment losses

in € thousand	10/1/2018	Exchange rate differences	Previously recognized impairment loss reversed during the fiscal year	Depreciation and impairment losses for the fiscal year	Disposals	Transfers	9/30/2019
Property, plant, and equipment							
Land and buildings	-374,335	85	6,220	-18,456	6,687	0	-379,799
Technical equipment and machinery	-1,154,274	158	0	-93,967	40,554	0	-1,207,529
Other equipment, factory and office equipment	-55,356	13	0	-7,202	5,019	0	-57,527
Leased assets *	-21,811	0	0	-3,536	765	0	-24,582
Payments on account for assets under construction	-1,320	15	0	0	0	0	-1,304
	-1,607,096	**272**	**6,220**	**-123,163**	**53,024**	**0**	**-1,670,744**

Carrying amount

in € thousand	9/30/2019	9/30/2018
Property, plant, and equipment		
Land and buildings	278,324	253,921
Technical equipment and machinery	764,779	764,409
Other equipment, factory and office equipment	36,298	26,648
Leased assets *	35,306	35,588
Payments on account for assets under construction	133,744	117,476
	1,248,450	**1,198,042**

* Leased assets primarily comprise buildings (€ 3,211 thousand), as well as technical equipment and machinery (€ 32,095 thousand).

Costs of acquisition or construction

in € thousand	10/1/2017	Discontinued operations	Exchange rate differences	Additions	Disposals	Transfers	9/30/2018
Property, plant, and equipment							
Land and buildings	662,485	-42,581	-469	4,959	-3,419	7,281	628,256
Technical equipment and machinery	2,115,720	-220,228	-579	29,495	-38,252	32,527	1,918,683
Other equipment, factory and office equipment	92,455	-14,916	-25	6,307	-3,958	2,141	82,004
Leased assets *	43,999	-348	0	13,748	0	0	57,399
Payments on account for assets under construction	62,740	-6,236	-29	104,454	-184	-41,949	118,796
	2,977,399	**-284,309**	**-1,102**	**158,963**	**-45,813**	**0**	**2,805,138**

Amortization and impairment losses

in € thousand	10/1/2017	Discontinued operations	Exchange rate differences	Depreciation and impairment losses for the fiscal year	Disposals	Transfers	10/1/2018
Property, plant, and equipment							
Land and buildings	-372,588	11,851	395	-17,261	3,268	0	-374,335
Technical equipment and machinery	-1,250,734	148,141	576	-90,618	37,433	928	-1,154,274
Other equipment, factory and office equipment	-64,805	11,843	25	-6,256	3,837	0	-55,356
Leased assets *	-19,015	348	0	-3,144	0	0	-21,811
Payments on account for assets under construction	-421	0	29	0	0	-928	-1,320
	-1,707,563	**172,183**	**1,025**	**-117,279**	**44,538**	**0**	**-1,607,096**

Carrying amount

in € thousand	9/30/2018	9/30/2017
Property, plant, and equipment		
Land and buildings	253,921	289,897
Technical equipment and machinery	764,409	864,986
Other equipment, factory and office equipment	26,648	27,650
Leased assets *	35,588	24,984
Payments on account for assets under construction	117,476	62,319
	1,198,042	**1,269,836**

* Leased assets primarily comprise buildings, as well as technical equipment and machinery.

Depreciation in the current fiscal year does not include any impairment losses.

The addition of € 13,748 thousand in the previous year resulted from new leased facilities in connection with the storage and transshipment of copper concentrates in Bulgaria. Leased assets were acquired only to a minor extent during the fiscal year. The carrying amount of the leased facilities was € 35,306 thousand as at September 30, 2019. The terms of these contracts provide for fixed installment payments over fixed periods. No collateral has been provided.

Furthermore, the carrying amount of the leased facilities includes carrying amounts of € 4,288 thousand (previous year: € 4,747 thousand) for ships used for transporting copper concentrates and sulfuric acid, and carrying amounts of € 3,211 thousand (previous year: € 3,654 thousand) for the warehouse used for storing copper concentrates in Brunsbüttel. Some of the lease payments are adjusted annually based on the indexed price trend for industrial products. The lease agreements are mainly based on fixed rental arrangements. Collateral has not been provided for them.

No property, plant and equipment was pledged as security for loans within the Group as at September 30, 2019, and September 30, 2018. Purchase commitments for fixed assets amounted to € 94,637 thousand as at September 30, 2019 (previous year: € 105,554 thousand).

Minimum stocks are recognized in technical equipment and machinery as components of the respective technical equipment and machinery. Minimum stocks are quantities of materials that are necessary to establish and ensure a production facility's continuing functionality for its intended use. A total of € 291,161 thousand was attributable to the technical minimum stock as at September 30, 2019 (previous year: € 291,359 thousand).

16. FINANCIAL FIXED ASSETS

in € thousand	**9/30/2019**	9/30/2018
Share interests in affiliated companies	2,593	1,321
Investments	105	115
Other financial fixed assets	11,312	31,493
	14,010	**32,929**

The share interests in affiliated companies and investments included in the financial fixed assets in the amount of € 2,698 thousand (previous year: € 1,436 thousand) are classified at fair value in profit or loss pursuant to IFRS 9. The shares are not quoted and there is no active market for them. There is no current intention to sell the share interests.

An overview of the investments included in the financial assets of Aurubis AG, Hamburg, is presented on pages 184–185.

Other financial fixed assets primarily include securities classified as fixed assets, which mainly comprise a share interest in Salzgitter AG, Salzgitter. For these share interests, Aurubis makes use of the option under IFRS 9 to classify equity instruments as at "fair value through other comprehensive income."

17. INVENTORIES

in € thousand	**9/30/2019**	9/30/2018
Raw materials and supplies	673,527	812,866
Work in process	723,757	605,346
Finished goods, merchandise	330,851	262,216
Payments on account of inventories	29	270
	1,728,164	**1,680,698**

As at the reporting date, write-downs of € 18,990 thousand were recorded against inventories (previous year: € 29,920 thousand).

18. TRADE ACCOUNTS RECEIVABLE

The trade accounts receivable as at September 30, 2019 and as at September 30, 2018 were due within one year.

The age structure of the trade accounts receivable is as follows:

in € thousand	Carrying amount	of which: neither written down as at the reporting date nor overdue	of which: not written down as at the reporting date and overdue in the following time spans: less than 30 days	between 30 and 180 days	more than 180 days
As at September 30, 2019 Trade accounts receivable	**312,224**	283,226	23,421	2,234	3,343
As at September 30, 2018 Trade accounts receivable	**274,501**	230,928	39,209	1,480	2,884

Movements on the allowances for trade accounts receivable that were not covered by commercial credit insurance were as follows:

in € thousand	9/30/2019	9/30/2018
Individual write-downs as at October 1	**1,792**	**3,048**
Discontinued operations	0	-1,228
Changes in allowances during the period	50	-28
Additions	165	57
Reversals	-108	-71
Exchange rate impacts	-7	-14
Balance as at September 30	**1,842**	**1,792**

In addition, expected credit losses of € 170 thousand were accounted for.

All expenses and income deriving from allowances and write-offs of trade accounts receivable are shown respectively under other operating expenses or other operating income.

As regards the balances of trade accounts receivable that are neither impaired nor overdue, there is no indication as at the reporting date that the debtors will not fulfill their payment obligations.

To a large extent, credit risks deriving from trade accounts receivable were safeguarded against through use of commercial credit insurance.

19. OTHER RECEIVABLES AND OTHER ASSETS

Other receivables and other assets comprise both other financial and other non-financial assets.

Non-current receivables and other assets are made up as follows as at the reporting date:

in € thousand	9/30/2019	9/30/2018
Non-current (with a residual term of more than 1 year)		
Derivative financial instruments belonging to the category "FV P&L"	14,011	14,530
Derivative financial instruments held as hedging instruments in the context of hedge accounting	0	0
Other non-current financial assets	13,714	13,400
Non-current financial assets	**27,725**	**27,930**
Other non-current non-financial assets	506	764
Other non-current non-financial assets	**506**	**764**

Current receivables and other assets are made up as follows as at the balance sheet date:

in € thousand	9/30/2019	9/30/2018
Current (with a residual term of less than 1 year)		
Derivative financial instruments belonging to the category "FV P&L"	22,315	40,727
Derivative financial instruments held as hedging instruments in the context of hedge accounting	46	2,145
Receivables from related parties	1,073	2,096
Sundry other current financial assets	34,597	26,451
Other current financial assets	**58,031**	**71,419**
Income tax receivables	12,066	2,492
Sundry other current non-financial assets	22,576	37,358
Other current non-financial assets	**34,642**	**39,850**

The sundry other current non-financial assets mainly comprise VAT receivables of Aurubis Bulgaria AD, Pirdop.

The sundry other current financial assets include a continuing involvement arising from del credere risks with factoring companies and late payment and currency risks deriving from current trade accounts receivable in the amount of € 2,055 thousand (previous year: € 13,358 thousand). The level of continuing involvement corresponds to the maximum risk of loss, mainly based on the assumption that all receivables open on the reporting date that were sold remain outstanding for the entire period for which Aurubis can be held responsible for the late payment risk.

A liability of € 2,045 thousand was reported in connection with the continuing involvement (previous year: € 13,372 thousand). All trade accounts receivable sold to factoring companies have a term of less than one year, meaning that the fair value of the continuing involvement and the associated liability each correspond to the carrying amount.

In total, outstanding receivables of € 291,031 thousand (previous year: € 285,807 thousand) had been sold to factoring companies as at the reporting date.

With the exception of interest derivatives, there is no interest rate fluctuation risk deriving from any receivable or other asset. Further information on the interest derivatives is provided in Financial instruments, pages 160–174.

As regards other financial assets that are neither written down nor overdue, there is no indication as at the reporting date that the debtors will not fulfill their payment obligations.

20. CASH AND CASH EQUIVALENTS

Cash and cash equivalents consist of current account balances with banks, cash in hand, and checks. Cash at banks mainly comprises euro balances.

21. EQUITY

The share capital amounted to € 115,089,210.88 and is divided into 44,956,723 no-par-value shares, each with a notional amount of € 2.56. The share capital is fully paid in.

The Executive Board is authorized, subject to the approval of the Supervisory Board, to increase the share capital by February 23, 2021, by up to € 57,544,604.16 once or in several installments.

The share capital has been conditionally increased by up to € 57,544,604.16 by issuing up to 22,478,361 new no-par-value shares with a proportionate notional amount per share of € 2.56 of the share capital (conditional capital increase). It will be used to grant shares to the holders or creditors of conversion and/or option rights from convertible bonds, bonds with warrants, profit participation rights or participating bonds (or combinations of these instruments) that can be issued by March 1, 2022.

Generated Group equity comprises consolidated net income, the revenue reserves of all Group companies, the accumulated unappropriated earnings of the subsidiaries since their initial consolidation and the accumulated amounts resulting from consolidation adjustments recognized in profit or loss. In addition, the effects deriving from the remeasurement of the net liability resulting from the defined benefit pension plans (after taxes), which are recorded directly in equity, are also included.

The legal reserve of € 6,391 thousand, which is not available for distribution, is also included in this amount. The change in generated Group equity from € 2,090,677 thousand as at September 30, 2018, to € 2,164,969 thousand as at September 30, 2019, includes the dividend payment of € 69,683 thousand, effects of € -71,504 thousand (after taxes) recognized in equity deriving from the remeasurement of the net liability resulting from the defined benefit pension plans and the consolidated net income for fiscal year 2018/19 of € 190,581 thousand.

Changes in accumulated other comprehensive income totaling € -22,313 thousand (previous year: € -16,981 thousand) mainly comprise gains and losses of € -5,353 thousand (previous year: € -26,795 thousand) deriving from the measurement at market of cash flow hedges and € -20,188 thousand (previous year: € +3,410 thousand) deriving from measurement at market of financial investments and were partially compensated for by income taxes. The significant negative change compared to the previous year is also due to the initial application of IFRS 9.

An amount of € 18,971 thousand (previous year: € -17,201 thousand) was transferred during the period from other comprehensive income to the consolidated income statement in the context of cash flow hedge accounting and is primarily recorded in the cost of materials.

The non-controlling interests amounting to € 539 thousand (previous year: € 556 thousand) comprise the interests of non-Group shareholders in the equity of a company that is fully consolidated by Aurubis AG, namely Aurubis Bulgaria AD, Pirdop.

The change in non-controlling interests includes a proportional share of the dividend payment, amounting to € 145 thousand. The consolidated result of € 128 thousand in fiscal year 2018/19 had a counteracting effect.

Changes in equity are presented in detail in the Consolidated Statement of Changes in Equity, page 121.

PROPOSED APPROPRIATION OF EARNINGS

The separate financial statements of Aurubis AG, Hamburg, have been prepared in accordance with German GAAP (HGB – German Commercial Code).

Net income for the year of Aurubis AG	**€ 124,745,891.75**
Profit brought forward from the prior year	€ 65,145,084.22
Allocations to other revenue reserves	€ 62,300,000.00
Unappropriated earnings	**€ 127,590,975.97**

A proposal will be made to the Annual General Meeting that Aurubis AG's unappropriated earnings of € 127,590,975.97 are used to pay a dividend of € 1.25 per no-par-value share (= € 56,195,903.75) and that € 71,395,072.22 be carried forward.

The company currently does not hold any own shares. If the number of no-par-value shares changes until the Annual General Meeting, an accordingly adjusted proposal on the distribution of profits will be presented at the Annual General Meeting, with an unchanged proposal for the appropriation of the profit of € 1.25 per no-par-value share with a dividend entitlement.

A dividend of € 1.55 per share was paid in fiscal year 2018/19, totaling € 69,682,920.65.

ADDITIONAL INFORMATION ON CAPITAL MANAGEMENT

The main purpose of management control is to increase the corporate value of the Aurubis Group, in that a positive contribution to the enterprise as a whole is generated beyond the capital costs. The Group's liquidity sourcing is secured through a combination of the Group's cash flow, borrowings, as well as lines of credit available from our banks. Existing credit facilities and lines of credit can compensate for fluctuations in the cash flow development at any time. The objective is to keep the Group's debt structure in equilibrium in the long term. Control and monitoring are carried out on the basis of defined key ratios. Net debt and liquidity are controlled in the medium and short term by means of regular cash flow forecasts.

One of the main key ratios used to determine and compare profitability is ROCE (return on capital employed), which reflects the yield on the capital that is utilized in the operating business or for investments. ROCE is defined as the ratio of EBIT (earnings before interest and taxes), including the operating result from investments measured using the equity method, to capital employed as at the reporting date. Capital employed comprises equity and interest-bearing liabilities, less cash and cash equivalents.

The Aurubis Group's operating ROCE decreased from 15.0 % in the previous year to 8.6 % in the current fiscal year. The substantial decline in operating ROCE is primarily due to the lower earnings for the fiscal year.

All external requirements under financial covenants were fulfilled in the fiscal year reported.

22. DEFERRED TAXES

The breakdown of the deferred tax liabilities is presented in Income taxes, page 130.

23. PENSION PROVISIONS AND SIMILAR OBLIGATIONS

Within the Aurubis Group, retirement benefits for eligible employees are provided on the basis of both defined benefit plans and defined contribution plans.

The majority of defined benefit plan commitments in the Aurubis Group relate to Germany and the US. On the one hand, these represent individual contractual direct commitments. On the other hand, the Group provides benefits in the form of defined benefit commitments within collective plans. Both funded and unfunded plans exist. In this context, the subsidiaries in the US were classified as discontinued operations, so the obligations deriving from these pension plans as at the reporting date are no longer disclosed as pension provisions but as liabilities deriving from assets held for sale. In the following reconciliations, the reclassification effect is included in the reporting line "Discontinued operations."

In Germany, the Group provides eligible employees with pension benefits as well as disability and surviving dependent benefits. These are provided to a great extent through pension and support funds, the assets of which may solely be utilized to satisfy the Aurubis Group's pension obligations.

Generally, the amount of the pension benefit per qualified year of service is determined as a percentage of a pensionable salary. In Germany, pensions are reviewed every three years and adjusted, where necessary, in a manner corresponding to the price index development.

In Germany, the company pension plan for new employees hired after September 29, 2003, was amended and is now based on defined contribution commitments. Processing is carried out by an external pension fund and an insurance company.

Furthermore, a subsidiary in the US grants employees pension, health care, and life insurance benefits for the period after retirement under specific conditions related to age and duration of employment with the company. These retirement benefits are based on collective agreements that only apply to unionized employees. These represent lifelong pension benefits whose level depends on the duration of employment. The amount of the benefits does not depend on the salary. Health care benefits are provided after the employee leaves the company until an established minimum age. While the pension commitments are mainly financed through the specific assets of a separate pension fund, there is no separate fund for the health care and life insurance benefits provided in the US.

Within the Group, actuarial reports were obtained for all benefit obligations. The reports take uniform Group-wide accounting policies into consideration, while nevertheless reflecting special country-specific circumstances.

For purposes of the September 30, 2019 reporting date, the company used the new “Heubeck-Richttafeln 2018 G” actuarial tables published on October 4, 2018. The company used the “Richttafeln 2005G” actuarial tables issued by Heubeck AG in the previous year, because the final validation and implementation of the new mortality tables had not yet been completed at the time the annual financial statements were being prepared.

In addition, the following market discount rates, salary, and pension trends were used as a basis to calculate the pension obligations:

	9/30/2019	9/30/2018
Discount rate	0.70 %	1.70 %
Expected income development	2.75 %	2.75 %
Expected pension development	1.60 %	1.60 %

Income and pension trends are not relevant for the calculation of the pension obligations of the US subsidiary. As was the case in the previous year, Aurubis Buffalo Inc., Buffalo, is classified as a discontinued operation in the fiscal year. A discount rate of 3.02 % was used for the measurement of the pension provision included in the liabilities deriving from the assets held for sale.

The net pension provision for defined benefit obligations disclosed in the consolidated statement of financial position as at September 30, 2019 and September 30, 2018 is as follows:

in € thousand	**9/30/2019**	9/30/2018
Present value of pension commitments	619,559	509,158
of which funded	506,789	409,156
– Fair value of plan assets	324,488	310,152
Net carrying amount on September 30	**295,071**	**199,006**
of which disclosed as assets	0	0
of which disclosed as liabilities	295,071	199,006

The net liability for benefit commitments, taking into account the separate reconciliations for the present value of the defined benefit obligation and the plan assets, is derived as follows:

Development of the present value of the pension obligations

in € thousand	9/30/2019	9/30/2018
Present value of unfunded benefit obligations	100,002	128,349
Present value of funded benefit obligations	409,156	442,188
Present value of the pension commitments as at October 1	**509,158**	**570,537**
Discontinued operations	0	-68,758
Current service cost	8,510	8,618
Loss deriving from plan settlements	0	64
Interest cost on the pension obligations	8,478	8,778
Remeasurements	112,074	7,977
Actuarial gains/losses deriving from demographic assumptions	5,848	0
Actuarial gains/losses deriving from financial assumptions	94,596	8,159
Actuarial gains/losses deriving from adjustments based on experience	11,631	-182
Benefits paid	-18,661	-18,058
Present value of the pension commitments as at September 30	**619,559**	**509,158**

Development of the plan assets

in € thousand	2018/19	2017/18
Fair value of the plan assets as at October 1	**310,152**	**326,855**
Discontinued operations	0	-36,147
Interest income	5,175	5,131
Remeasurement effects	17,733	19,594
Benefits paid	-12,780	-12,619
Contributions made by employer	4,208	7,338
Fair value of the plan assets as at September 30	**324,488**	**310,152**

Development of the net liability

in € thousand	2018/19	2017/18
Net liability as at October 1	**199,006**	**243,682**
Discontinued operations	0	-32,611
Current service cost	8,510	8,618
Loss deriving from plan settlements	0	64
Net interest result	3,303	3,647
Remeasurement effects	94,341	-11,617
Benefits paid	-5,881	-5,439
Employer contributions to the plan	-4,208	-7,338
Net liability as at September 30	**295,071**	**199,006**

The remeasurement effects are directly recorded in other comprehensive income and are disclosed under generated Group equity. The net interest result is disclosed under interest expense. In contrast, the other components of the pension expenses (current and past service cost and the loss deriving from plan settlements) are recorded in personnel expenses.

In Germany, the defined benefit plans are primarily administered through processes in operation within the pension fund and the benefit fund. In this context, the pension fund is overseen by the German Federal Financial Supervisory Authority (BaFin).

Regulations related to the pension fund's capital investment portfolio are defined by the "Ordinance on the Investment of Restricted Assets of Insurance Undertakings (Investment Ordinance)." The Investment Ordinance regulates the permitted quantitative distribution and mix of capital investments for the pension fund. A large portion of the pension fund's assets are invested in a segmented special fund. The contributions are calculated in accordance with the respective current technical business plan.

The risk capital investments (equity instruments and debt instruments with a rating lower than investment grade) may account for a maximum of 35 % of the carrying amount of the pension fund's coverage assets. The real estate rate is currently, with the approval of the German Federal Financial Supervisory Authority, 28.8 % of the coverage assets' carrying amount. Derivatives are primarily only used for hedging purposes. The risk of longevity is taken into account by the actuary, after performing a review, by adjusting the biometric parameters where necessary.

The benefit fund is also oriented to the Investment Ordinance with respect to permitted capital investments. The contributions are within the range of the tax-related possibilities.

The plan assets in the Group are made up as follows:

in € thousand	**9/30/2019**	9/30/2018
Cash and cash equivalents	5,693	4,592
Equity instruments	46,833	37,997
Debt instruments	101,586	108,375
Real estate	148,178	148,839
Reinsurance policies	4,801	4,509
Other net assets	17,397	5,840
Total plan assets	**324,488**	**310,152**

The plan assets include neither internal financial instruments nor real estate used internally. The equity and debt instruments held via security funds are allocated to their corresponding investment classes in the overview.

Market prices are generally available for the equity instruments as a result of their respective quotations on an active market.

The debt instruments are also regularly traded on an active market.

Real estate is held directly and is located exclusively in Germany. There is no active market from which market prices can be derived. Appraisals were obtained for all of the real estate in the plan assets.

The company is subject to various risks in connection with the defined benefit plans. The company is subject to general technical insurance risks in particular, such as the risk of longevity, the risk of interest rate changes, the market price risk, and, to a small extent, a risk of inflation.

SENSITIVITY ANALYSIS

The following sensitivity analysis shows the effect of changes in the parameters on the present value of the defined benefit obligations. Each change in a significant actuarial assumption was analyzed separately, i.e., if one parameter varied, the other parameters remained constant. Possible correlation effects between the individual assumptions are not taken into consideration:

		Effect on the obligation			
		9/30/2019		9/30/2018	
in € thousand	Change in parameter	**Increase**	**Decrease**	Increase	Decrease
Actuarial interest rate	±50 basis points	-50,530	58,154	-39,124	44,649
Expected income development	±50 basis points	11,882	-11,277	9,493	-8,998
Expected pension development	±50 basis points	40,007	-42,220	30,708	-32,859
Life expectancy	±1 year	33,778	-32,565	23,605	-23,625

The undiscounted future pension payments are expected to fall due within the following time bands:

in € thousand	9/30/2019	9/30/2018
Less than 1 year	19,506	19,055
Between 1 and 5 years	79,798	79,086
More than 5 years	612,990	586,785
Total	**712,294**	**684,926**

The weighted average duration of obligations deriving from defined benefit plans as at September 30, 2019 is 18.2 years (previous year: 16.6 years).

The expense for defined contribution pension plans amounted to € 19,533 thousand in the year reported (previous year: € 20,179 thousand). This includes both voluntary commitments and the employer's contribution made by the Group to statutory pension schemes.

24. OTHER PROVISIONS

	Non-current		Current		Total	
in € thousand	9/30/2019	9/30/2018	9/30/2019	9/30/2018	9/30/2019	9/30/2018
Personnel-related provisions	48,081	41,803	21,651	19,915	69,731	61,718
Provisions for onerous contracts	0	0	794	3,213	794	3,213
Environmental provisions	11,316	11,966	1,550	603	12,866	12,569
Sundry provisions	1,907	1,806	18,539	10,045	20,447	11,851
	61,304	**55,575**	**42,534**	**33,776**	**103,839**	**89,351**

The individual classes of provisions developed as follows during the fiscal year reported:

in € thousand	Balance as at 10/1/2018	Used	Released	Allocated	Interest effect	Exchange rate difference	Balance as at 9/30/2019
Personnel-related provisions	61,718	-15,196	-19	23,251	2	-25	69,731
Provisions for onerous contracts	3,213	-3,208	0	790	0	0	794
Environmental provisions	12,569	-2,403	-37	2,754	3	-21	12,866
Sundry provisions	11,851	-9,989	-182	18,772	0	-6	20,447
	89,351	**-30,795**	**-238**	**45,567**	**5**	**-52**	**103,839**

The personnel-related provisions consisted mainly of obligations to employees relating to anniversary bonuses, temporary assistance benefits, and those deriving from early retirement agreements. Provisions for environmental risks primarily relate to clean-up measures at the Lünen site. The provisions have terms of up to 23 years. The probable costs were determined by taking into account past experience in comparable cases, existing appraisals, and the clean-up methods that will be used on the basis of present knowledge. The increase in sundry provisions is mainly due to higher provisions for lawsuits.

25. LIABILITIES

Financial liabilities as at the reporting date are as follows:

in € thousand	9/30/2019	9/30/2018
Non-current (with a residual term of more than 1 year)		
Bank borrowings	116,491	247,540
Liabilities under finance leases	33,320	33,324
Non-current borrowings	**149,811**	**280,864**
Derivative financial instruments belonging to the category “FV P&L”	813	68
Liabilities to related parties	950	0
Derivative financial instruments held as hedging instruments in the context of hedge accounting	1,382	0
Other non-current financial liabilities	**3,145**	**68**
Non-current financial liabilities	**152,956**	**280,932**
Current (with a residual term of less than 1 year)		
Trade accounts payable	768,695	836,748
Trade accounts payable	**768,695**	**836,748**
Bank borrowings	149,784	29,767
Liabilities under finance leases	3,103	3,045
Current borrowings	**152,887**	**32,812**
Derivative financial instruments belonging to the category “FV P&L”	26,367	27,111
Liabilities to related parties	25	1,136
Derivative financial instruments held as hedging instruments in the context of hedge accounting	11,022	9,065
Sundry other current financial liabilities	62,773	76,638
Other current financial liabilities	**100,187**	**113,950**
Current financial liabilities	**1,021,769**	**983,510**

Sundry other current financial liabilities include personnel obligations such as Christmas bonus payments, outstanding vacation entitlements, and success-based bonus payments.

The liabilities under finance leases represent the present value of the lease installments and the contractually guaranteed residual values at the end of the lease term. The related payments are due as follows:

	9/30/2019				9/30/2018			
in € thousand	less than 1 year	1 to 5 years	more than 5 years	Total	less than 1 year	1 to 5 years	more than 5 years	Total
Expected lease payments	**5,582**	**19,405**	**26,854**	**51,841**	**5,051**	**18,276**	**30,194**	**53,521**
Interest portion	1,959	6,299	7,160	15,418	2,006	6,705	8,441	17,152
Redemption portion	3,623	13,106	19,694	36,423	3,045	11,571	21,753	36,369

The finance leasing agreements include both extension and purchase options, as well as price adjustment clauses.

The following table shows the Aurubis Group's contractually agreed undiscounted interest and redemption payments for non-derivative financial liabilities and the discounted net cash flows of the derivative financial instruments with negative fair values.

Payments in the amount of € 458,119 thousand (previous year: € 328,229 thousand) deriving from forward foreign exchange transactions with a negative fair value are matched by receipts of € 445,430 thousand as at September 30, 2019 (previous year: € 317,716 thousand). Derivatives with positive fair values qualify as assets and are therefore not included here.

in € thousand	Carrying amount as at 9/30/2019	Payments less than 1 year	Payments 1 to 5 years	Payments more than 5 years
Bank borrowings	266,275	149,784	113,072	3,419
Liabilities under finance leases	36,423	3,623	13,106	19,694
Trade accounts payable	768,695	768,695	0	0
Liabilities to related parties	975	25	950	0
Derivarives belonging to the category "FV P&L"	27,180	26,367	813	0
Derivatives designated as hedging instruments for hedge accounting purposes	12,404	11,022	1,382	0
Sundry other financial liabilities	62,773	62,773	0	0
Total	**1,174,725**	**1,022,289**	**129,323**	**23,113**

in € thousand	Carrying amount as at 9/30/2018	Payments less than 1 year	Payments 1 to 5 years	Payments more than 5 years
Bank borrowings	277,307	29,767	243,840	3,700
Liabilities under finance leases	36,369	3,045	11,571	21,753
Trade accounts payable	836,748	836,748	0	0
Liabilities to related parties	1,136	1,136	0	0
Derivatives of the held-for-trading category	27,179	27,111	68	0
Derivatives designated as hedging instruments for hedge accounting purposes	9,065	9,065	0	0
Sundry other financial liabilities	76,638	76,638	0	0
Total	**1,264,442**	**983,510**	**255,479**	**25,453**

The presentation above shows the financial instruments that were held as at September 30, 2019 and September 30, 2018 respectively, and for which contractual agreements on the payments existed. Foreign currency amounts are translated at the closing rate.

Aurubis had no bank borrowings secured by mortgages and fixed assets. Financial assets have not been pledged as collateral for bank borrowings.

Non-financial liabilities as at the reporting date are as follows:

in € thousand	9/30/2019	9/30/2018
Non-current (with a residual term of more than 1 year)		
Non-current non-financial liabilities	0	0
Non-current non-financial liabilities	**0**	**0**
Current (with a residual term of less than 1 year)		
Income tax liabilities	13,723	9,662
Income tax liabilities	**13,723**	**9,662**
Other tax liabilities	6,190	4,941
Social security obligations	7,491	9,163
Advance payments received on orders	3,579	5,252
Sundry other current non-financial liabilities	3,839	4,484
Other current non-financial liabilities	**21,099**	**23,840**
Current non-financial liabilities	**34,822**	**33,502**

Other tax liabilities mainly comprise VAT liabilities.

26. OTHER FINANCIAL COMMITMENTS AND CONTINGENT LIABILITIES

in € thousand	9/30/2019	9/30/2018
Capital expenditure commitments	94,637	105,554
Obligations under long-term contracts	228,012	200,862
Warranty obligations	1,092	1,184
Commitments relating to discounted bills of exchange	2,294	1,324
	326,035	**308,924**

The capital expenditure commitments mainly relate to property, plant, and equipment.

Obligations under long-term contracts are mainly related to the provision of transport and handling services by various service providers.

Furthermore, an agreement is in place with an energy utility for the cost-based procurement of one billion kilowatt hours of electricity per annum over a term of 30 years commencing in 2010.

In addition, there is a long-term Group agreement for the supply of oxygen for different sites.

FINANCIAL COMMITMENTS UNDER LEASES

As at September 30, 2019, commitments under operating leases amounted to € 39,891 thousand (previous year: € 27,780 thousand). These are due as follows:

in € thousand	less than 1 year	1 to 5 years	more than 5 years	Total
9/30/2019 Commitments under operating leases	10,648	21,081	8,162	**39,891**
9/30/2018 Commitments under operating leases	8,543	14,887	4,350	**27,780**

Lease payments in fiscal year 2018/19 recognized as expenses amounted to € 10,821 thousand (previous year: € 7,170 thousand).

As at September 30, 2019, there are no contingent liabilities. In the previous year, there were contingent liabilities of € 1,683 thousand, primarily resulting from tax risks.

27. FINANCIAL INSTRUMENTS

The Aurubis Group is exposed to market risks, liquidity risks, and default risks as a result of the deployment of financial instruments.

MARKET RISKS

Market risks arise as a result of a possible change in risk factors that lead to a decrease in the market value of the transactions affected by these risk factors. The following groups of general risk factors are relevant for the Aurubis Group: currency exchange rate risks, interest rate fluctuation risks, and other price risks.

CURRENCY EXCHANGE RATE RISKS

As a result of its business operations, the Aurubis Group is exposed to currency exchange rate fluctuations. Changes in exchange rates can lead to losses in the value of financial instruments. Foreign currency forward and option contracts are concluded to limit currency risks. These mainly relate to the US dollar. For this purpose, the daily foreign currency positions from underlying transactions are offset against each other each day and any remaining open positions are squared by means of foreign exchange derivatives. Aurubis works exclusively with business partners with good credit standing on all foreign exchange hedge transactions.

Furthermore, foreign currency forward and option contracts were concluded during the past fiscal year to hedge future receipts. Provided the criteria for cash flow hedges were fulfilled, the results of these hedge transactions are initially recognized in the accompanying financial statements initially in other comprehensive income in the amount of the effective part of the hedge.

These results are recognized in profit or loss as soon as the underlying hedged transaction is recognized in profit or loss. Fundamental shifts in currency relationships, in particular between the euro and the US dollar, can, however, only be hedged for a limited time in this context.

Information on the management of exchange rate risks is provided in the Risk Report in the Management Report, page 99.

The foreign currency risk constitutes a cash flow risk and represents the risk position for the following period. This corresponds to the net amount of the nominal volume of the non-derivative and derivative financial instruments held, which are exposed to exchange rate risks. In addition, planned revenue transactions of the following periods are included to the extent that these are taken into account for currency risk management purposes to show the risk position for the following period.

Foreign currency risk

	€/US$	
in € thousand	**9/30/2019**	9/30/2018
Risk position deriving from recognized transactions	-565,991	-756,824
Budgeted revenues	584,156	453,640
Forward foreign exchange contracts	223,271	499,927
Put option transactions	-48,673	-30,883
Net exposure	**192,763**	**165,860**

IFRS 7 requires a sensitivity analysis to be performed for each type of risk to indicate the market risks. The use of sensitivity analyses determines the potential impacts on profit or loss and on equity, as at the reporting date, of a change in the respective risk variable for each type of risk. The impacts for the periods are determined by relating the hypothetical changes in the risk variables to the amount reported as at the reporting date. In doing so, it is assumed that the amount reported as at the reporting date is representative for the entire year.

In order to determine the exchange rate risk, a sensitivity analysis is performed for the foreign currencies that pose a significant risk for the business; in this instance, the US dollar. For the purpose of the sensitivity analysis for the currencies, it was assumed that the exchange rate of the euro compared with the US dollar would change by ±10 %, respectively.

If the euro had been 10 % stronger or weaker against the US dollar on September 30, 2019 or September 30, 2018 as compared to the closing rate prevailing on the reporting date, then – from a foreign currency risk perspective – equity and net income for the year would have changed to the extent shown in the following table. All relevant recognized foreign currency items have been included in the calculation, as well as the budgeted revenues of the following period that were considered in the foreign currency risk exposure assessment.

Currency sensitivity

	€/US$	
in € thousand	**9/30/2019**	9/30/2018
Closing rate	1.0889	1.1576
Devaluated rate (€ against US$)	**0.9800**	**1.0418**
Effect on earnings	64,850	50,162
of which budgeted revenues	64,906	50,404
of which non-derivative transactions	20,342	22,248
of which derivative transactions	-20,398	-22,490
Effect on equity	-27,951	-22,601
Appreciated rate (€ against US$)	**1.1978**	**1.2734**
Effect on earnings	-52,833	-40,199
of which budgeted revenues	-53,105	-41,240
of which non-derivative transactions	-16,417	-17,360
of which derivative transactions	16,689	18,401
Effect on equity	22,526	18,058

INTEREST RATE FLUCTUATION RISKS

Interest rate fluctuation risks arise due to potential changes in market interest rates and can result in a change in the fair value of fixed-interest financial instruments and interest payment fluctuations for variable interest rate financial instruments. Any interest rate risks that arise are hedged by interest rate swaps. Interest rate fluctuation risks are of significant importance in the financial sector. Provided the criteria for cash flow hedges are fulfilled for the hedging of variable interest payments, the results of these hedge transactions are initially recognized in other comprehensive income in the amount of the effective portion of the hedge transaction. They are recognized in profit or loss as soon as the underlying hedged transaction is recognized in profit or loss in the respective fiscal year. No interest rate hedges were transacted during the fiscal year.

Details of how interest rate fluctuation risks are managed are provided in the Risk Report in the Management Report, pages 97–100.

The table below shows the net exposure for variable interest-bearing risk positions.

Variable interest-bearing risk positions

	Total amount		less than 1 year	
in € thousand	**9/30/2019**	9/30/2018	**9/30/2019**	9/30/2018
Loans/time deposits	412,481	424,429	412,481	424,429
Other risk positions	-271,661	-269,014	-271,661	-269,014
of which hedged against the interest rate fluctuation risk	0	0	0	0
Net exposure	**140,820**	**155,415**	**140,820**	**155,415**

In accordance with IFRS 7, interest rate fluctuation risks are presented in a sensitivity analysis, which reflects the effects of a change in market interest rates on interest income, interest expenses and equity.

In the event of an increase (decrease) in all relevant interest rates by 100 basis points (50 basis points), equity and earnings for the year as at September 30, 2019 and September 30, 2018, respectively, would change, as shown by the following table. The same items have been included in the calculation as were considered for the determination of the net exposure presented above.

Interest rate sensitivities

	9/30/2019		9/30/2018	
in € thousand	+100 BP	−50 BP	+100 BP	−50 BP
Effect on earnings	2,484	-1,866	2,478	-2,019
Effect on equity	0	0	0	0

OTHER PRICE RISKS

As a result of its business operations, the Aurubis Group is exposed to commodity price risks. Among other measures, non-ferrous metals futures contracts are entered into in order to mitigate these price risks. The contracts are mainly focused on the hedging of the copper price. For this purpose, incoming and outgoing metal quantities from underlying transactions are offset against each other each day and remaining open positions are squared by means of metal exchange transactions. We work exclusively with business partners with good credit standing on all metal hedge transactions.

If price-fixed metal delivery agreements for non-ferrous metals, which are contracted to cover the expected raw material requirement or the expected sale of finished products, are accounted for as derivative financial instruments, then market value changes in these are recognized in profit or loss. Gains and losses from the contrary development of the fair value of the hedged items and the hedge transactions are therefore recognized directly in profit or loss.

Details of metal price risk management processes are provided in the Risk Report in the Management Report, pages 97–100.

The Aurubis Group has secured its electricity consumption by concluding a long-term agreement with an energy utility. Aurubis is exposed to an electricity price risk from the measurement of part of this agreement.

The nominal volumes of the derivative financial instruments covering copper, silver, gold, as well as electricity, coal, and CO_2, which result from the gross total of the nominal amounts of the individual purchasing and sales contracts, are as follows.

Nominal volumes of the derivatives

in € thousand	9/30/2019	9/30/2018
Copper	1,060,551	1,323,799
Silver	60,977	82,665
Gold	336,154	274,114
Electricity, coal, CO_2	230,721	232,787
	1,688,403	**1,913,365**

In accordance with IFRS 7, commodity price risks are shown in the form of a sensitivity analysis, which reflects the effects of a change in the commodity prices on the net income for the period.

In the event of a 10 % increase (decrease) in all relevant commodity prices, earnings for the year would be changed as at September 30, 2019 and September 30, 2018 respectively as shown in the following table. The calculation includes all derivatives for copper, silver, gold, as well as electricity, coal, and CO_2 as at the reporting date.

Commodity price sensitivity

	Copper		Silver		Gold		Electricity, coal, CO_2	
in € thousand	9/30/2019	9/30/2018	9/30/2019	9/30/2018	9/30/2019	9/30/2018	9/30/2019	9/30/2018
Price increase								
Effect on earnings	35,344	36,662	1,947	6,085	18,741	19,180	5,932	5,884
Price decrease								
Effect on earnings	-35,344	-36,662	-1,947	-6,085	-18,741	-19,180	-5,932	-5,884

The effects on earnings shown in the commodity price sensitivity table for metals are partially or completely compensated through the measurement of the purchase or sales contracts that are not yet fixed, since these positions are provisionally measured at the respective price on the reporting date.

DERIVATIVE FINANCIAL INSTRUMENTS

The Aurubis Group uses derivative financial instruments to hedge exchange rate and other price risks. These are reported according to their residual term either under current or non-current financial assets and financial liabilities. Provided the criteria for the application of hedge accounting are fulfilled, these are disclosed as cash flow hedges.

Financial derivatives

	Assets				Liabilities			
	9/30/2019		9/30/2018		9/30/2019		9/30/2018	
in € thousand	Carrying amount	Nominal volume	Carrying amount	Nominal volume	Carrying amount	Nominal volume	Carrying amount	Nominal volume
Foreign exchange forward contracts								
without a hedging relationship	11,228	661,713	9,802	845,222	285	121,767	1,448	130,537
as cash flow hedges	0	0	2,014	58,053	12,403	323,692	9,065	187,397
Foreign currency options								
without a hedging relationship	0	0	0	0	0	0	0	0
as cash flow hedges	46	43,368	131	27,918	0	0	0	0
Metal futures contracts								
without a hedging relationship	10,961	463,907	30,754	900,503	25,432	1,097,429	25,279	838,578
as cash flow hedges	0	0	0	0	0	0	0	0
Other transactions								
without a hedging relationship	14,137	223,741	14,701	231,950	1,462	6,980	452	837
as cash flow hedges	0	0	0	0	0	0	0	0

The nominal volume of the derivative financial instruments is the sum of the nominal amounts of the individual purchase and sales contracts. By contrast, the fair value is determined by measuring all contracts at the prices applicable at the measurement date. It indicates the potential impact on income of the prompt settlement of all derivatives as at the reporting date, without considering the hedged transactions.

The impact on earnings of changes in the fair value of financial derivatives that relate to a cash flow hedge is recognized in equity through other comprehensive income in the amount of the effective portion. The hedging costs for these financial derivatives are recorded in other comprehensive income and are disclosed as a separate reserve item. The cumulative amounts recorded in equity are reclassified to the income statement in the period in which the hedged cash flows impact the income statement, and are mainly recorded as a component of the cost of materials.

The ineffective portion of the fair value change is, by contrast, recognized directly in profit or loss. Ineffectiveness results in particular from the credit risk (CRA) and the foreign currency basis spread (CCBS), which are not reflected in the hedged transaction. The average hedging rate for foreign currency forward contracts designated as a hedging instrument was 1.1529 USD/EUR as at September 30, 2019, while the rate applicable for the foreign currency option contracts was 1.2377 USD/EUR.

As was the case in the previous year, no ineffective portions of the change in fair value of the hedge instruments were identified that had to be recognized during the fiscal year reported.

The following overview shows a reconciliation of the other comprehensive income for the fiscal year that results from accounting for hedging relationships:

Cash flow hedges

in € thousand	2018/19 Measurement at market of cash flow hedges	2018/19 Hedging costs	2017/18 Measurement at market of cash flow hedges
Balance as at October 1	**-7,051**	**-395**	**19,744**
Change in fair value	-24,323	-499	-9,594
Reclassification to profit or loss	18,970	395	-17,201
Balance as at September 30	**-12,404**	**-499**	**-7,051**

The following two tables show when the cash flows deriving from cash flow hedges will occur and when they will influence the income statement:

Cash flow hedges as at September 30, 2019

Occurrence and impact on income statement in € thousand	Carrying amount	Nominal volume	less than 1 year	1 to 5 years
Foreign exchange forward contracts				
Assets	**0**	0	0	0
Liabilities	**12,403**	323,692	229,276	94,416
Foreign currency options				
Assets	**46**	43,368	43,368	0
Liabilities	**0**	0	0	0

Cash flow hedges as at September 30, 2018

Occurrence and impact on income statement in € thousand	Carrying amount	Nominal volume	less than 1 year	1 to 5 years
Foreign exchange forward contracts				
Assets	**2,014**	58,053	58,053	0
Liabilities	**9,065**	187,397	187,397	0
Foreign currency options				
Assets	**131**	27,918	27,918	0
Liabilities	**0**	0	0	0

LIQUIDITY RISKS

Liquidity risks constitute the risks that prevent the business from settling its own liabilities. The contractually agreed undiscounted interest and redemption payments of the financial liabilities are shown in the section Liabilities, pages 157-159.

The adequate sourcing of the Group with liquid funds is ensured not only by the Group's cash flow but also by the existing short-term and long-term credit lines with our banks. Fluctuations in cash flow can therefore be compensated for. An autonomous executive committee monitors the development of Aurubis' liquidity position on a timely and regular basis and reports to the Executive Board. Further management measures taken regarding liquidity risks are described in the Risk Report, pages 97–100.

DEFAULT RISKS

Default risks exist for all classes of financial instruments, in particular for trade accounts receivable. The concentration of the credit risk is limited due to the extensive and heterogeneous customer base. The largest individual customer account receivable balances are regularly controlled. The credit risk arising from derivative financial instruments is limited in that the corresponding contracts are only concluded with contractual parties and banks that have a good credit standing.

The customers have been classified according to their credit rating within the context of the credit risk management process and each customer has been given a specific credit limit.

The carrying amounts of the financial assets recognized in the statement of financial position, less any write-downs, represent the maximum potential default risk without taking into account the value of any securities received or other risk-mitigating agreements.

Furthermore, to minimize default risks as far as possible, we monitor the receivables due from our business associates on a regular basis. Apart from instruments that are customary within the market, such as letters of credit and guarantees, we also make particular use of commercial credit insurance to safeguard against potential bad debts. If receivables are sold under factoring agreements, this is done without recourse.

Additional disclosures for financial instruments

Carrying amounts, valuations and fair values by measurement category in € thousand	Measure-ment cate-gory under IFRS 9	2018/19 Carrying amount 9/30/2019	Measurement in the statement of financial position under IFRS 9: Amortized cost	Fair value through equity	Fair value through profit or loss	Measure-ment in the statement of financial position under IAS 17	Fair value 9/30/2019
Assets							
Share interests in affiliated companies	FV P&L	2,593			2,593		2,593
Investments	FV P&L	105			105		105
Securities classified as fixed assets	FV OCI	11,261		11,261			11,261
Other financial fixed assets							
Other loans	AC	50	50				50
Trade accounts receivable	AC	161,380	161,380				161,380
	FV P&L	149,255			149,255		149,255
	FV OCI	1,589		1,589			1,589
Other receivables and financial assets							
Receivables from related parties	AC	1,073	1,073				1,073
Other financial assets	AC	27,515	27,515				27,515
	FV P&L	15,210			15,210		15,210
	n/a	5,586	5,586				n/a
Derivative financial assets							
Derivatives without a hedging relationship	FV P&L	36,326			36,326		36,326
Derivatives with a hedging relationship (hedge accounting)	n/a	46		46			46
Cash and cash equivalents	AC	421,481	421,481				421,481
Liabilities							
Bank borrowings	AC	266,275	266,275				274,659
Liabilities under finance leases	n/a	36,423				36,423	36,423
Trade accounts payable	AC	499,243	499,243				499,243
	FV P&L	269,452			269,452		269,452
Liabilities to related parties	AC	975	975				975
Other non-derivative financial liabilities	AC	60,728	60,728				60,728
	n/a	2,045	2,045				n/a
Derivative financial liabilities							
Derivatives without a hedging relationship	FV P&L	27,180			27,180		27,180
Derivatives with a hedging relationship (hedge accounting)	n/a	12,403		12,403			12,403
Of which aggregated by measurement categories in accordance with IFRS 9:							
Financial assets at amortized cost (AC)		611,499	611,499				611,499
Financial assets at fair value through other comprehensive income (FV OCI)		12,850		12,850			12,850
Financial assets at fair value through profit or loss (FV P&L)		203,489			203,489		203,489
Financial liabilities at amortized cost (AC)		827,221	827,221				835,605
Financial liabilities at fair value through profit or loss (FV P&L)		296,632			296,632		296,632

Carrying amounts, valuations and fair values by measurement category in € thousand	Measure-ment cate-gory under IAS 39	2017/18 Carrying amount 9/30/2018	Measurement in the statement of financial position under IAS 39 Amortized cost	Fair value through equity	Fair value through profit or loss	Measure-ment in the statement of financial position under IAS 17	Fair value 9/30/2018
Assets							
Share interests in affiliated companies	AfS	1,321	1,321				n/a
Investments	AfS	115	115				n/a
Securities classified as fixed assets	AfS	31,448		31,448			31,448
Other financial fixed assets							
Other loans	LaR	45	45				45
Trade accounts receivable	LaR	97,840	97,840				97,840
	FV option	176,661			176,661		176,661
Other receivables and financial assets							
Receivables from related parties	LaR	2,096	2,096				2,096
Other financial assets	LaR	23,568	23,568				23,568
	n/a	16,283	16,283				n/a
Derivative financial assets							
Derivatives without a hedging relationship	FAHfT	55,257			55,257		55,257
Derivatives with a hedging relationship (hedge accounting)	n/a	2,145		2,145			2,145
Cash and cash equivalents	LaR	461,045	461,045				461,045
Liabilities							
Bank borrowings	FLAC	277,307	277,307				285,969
Liabilities under finance leases	n/a	36,369				36,369	36,369
Trade accounts payable	FLAC	430,002	430,002				430,002
	FV option	406,746			406,746		406,746
Liabilities to related parties	FLAC	1,136	1,136				1,136
Other non-derivative financial liabilities	FLAC	63,266	63,266				63,266
	n/a	13,372	13,372				n/a
Derivative financial liabilities							
Derivatives without a hedging relationship	FLHfT	27,179			27,179		27,179
Derivatives with a hedging relationship (hedge accounting)	n/a	9,065		9,065			9,065
Of which aggregated by measurement categories in accordance with IAS 39:							
Loans and receivables (LaR)		584,594	584,594				584,594
Available-for-sale (AfS)		32,884	1,436	31,448			31,448
Financial assets designated for measurement at fair value through profit or loss (FV option)		176,661			176,661		176,661
Financial assets held for trading (FAHfT)		55,257			55,257		55,257
Financial liabilities at amortized cost (FLAC)		771,711	771,711				780,373
Financial liabilities held for trading (FLHfT)		27,179			27,179		27,179
Financial liabilities designated for measurement at fair value through profit or loss (FV option)		406,746			406,746		406,746

The market value of financial instruments to be recognized at fair value is as a general rule determined on the basis of quotations on the relevant exchanges. If no such quotations are available, measurement is carried out applying a process that is customary for the market (measurement methods), based on instrument-specific market parameters and interest rates drawn from recognized sources.

If observable input parameters are not available or only partially available, the fair value is calculated on the basis of appropriate measurement methods. In the Aurubis Group, this applies in particular to the extrapolation of market data for electricity and coal, with due regard to market information about price determination and liquidity considerations. If insufficient market information is available, management's best estimate for a certain input parameter is used to determine the value. Thus, if observable input parameters are not available or only partially available on the market, the measurement process is significantly influenced by the use of estimates and assumptions.

Due to the predominantly short-term nature of cash and cash equivalents, trade accounts receivable and payable, other financial assets, receivables from and payables to related parties, and other non-derivative financial liabilities, an assumption is made that the fair values correspond to the carrying amounts.

An assumption has been made for share interests in non-corporate entities and non-quoted corporate entities that the carrying amount corresponds to the market value. It would only be possible to reliably determine the market value in conjunction with specific sales negotiations.

Pursuant to IFRS 13, the following tables show the measurement methods used to determine the fair value for Level 1, Level 2, and Level 3 as well as the main non-observable parameters that were used for measurement.

In this connection, the individual levels are defined in accordance with IFRS 13 as follows:

» Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities
» Level 2: procedures under which all input parameters with a significant effect on the fair value are observable either directly or indirectly in the market
» Level 3: procedures that use input parameters which have a significant influence on the fair value and are not based on observable market data

Financial instruments from Level 1 measured at fair value

Type	Measurement method
Securities classified as fixed assets	Exchange quotations

Financial instruments from Level 2 measured at fair value

Type	Measurement method and applied input parameters
Foreign exchange forward contracts	Par method, taking into account actively traded forward rates and the currently valid interest rate for discounting purposes as at the reporting date
Foreign currency options	Black-Scholes model: calculation based on the exchange rates as at the reporting date, taking into account the expected volatility of the respective exchange rate during the term of the option and customary market interest rates
Interest rate swaps	Discounted cash flow (DCF) method: this adds together the present value of the expected future cash flows and discounts them, utilizing a market-conform interest rate
Metal futures contracts	DCF method, taking into account actively traded metal forward rates and customary market interest rates for discounting purposes as at the reporting date
Other transactions	DCF method: discounting of the expected future cash flows over the remaining term of the contracts, based on use of current market interest rates

Financial instruments from Level 2 not measured at fair value

Type	Measurement method and applied input parameters
Borrowings	DCF method: discounting of expected future cash flows with currently applicable interest rates for financial liabilities with comparable conditions and residual terms

Financial instruments from Level 3 measured at fair value

Type	Measurement method	Significant non-observable measurement parameters	Interdependence between significant non-observable parameters and fair value
Share interests in affiliated companies and investments	Discounted cash flow method	Future expected cash flows	The fair value is continually reviewed by applying significant, non-observable measurement parameters to determine if any measurement adjustments need to be made
Energy supply contract	Discounted cash flow method	Extrapolation of market data for electricity and coal	The fair value would be higher (lower) if: – the price for electricity increased more (less) than expected – the price for coal increased more (less) than expected

If the parameters used for measurement fall into different levels of the measurement hierarchy, the fair value measurement is fully classified as belonging to the lowest level to which an input parameter is attributed, where this parameter significantly influences the entire fair value.

If there are any reclassifications to other levels in the measurement hierarchy, the Aurubis Group accounts for these as at the beginning of the relevant fiscal year.

The following overview shows the main measurement parameters that provide the basis for those financial instruments that are accounted for at fair value and presented in the Notes to the Consolidated Financial Statements.

Hierarchical classification of fair values of financial instruments in accordance with IFRS 7 as at September 30, 2019

Aggregated by classes in € thousand	Fair value 9/30/2019	Level 1	Level 2	Level 3
Share interests in affiliated companies	**2,593**	**0**	**0**	**2,593**
Investments	**105**	**0**	**0**	**105**
Securities classified as fixed assets	**11,261**	**11,261**	**0**	**0**
Trade accounts receivable	**150,844**	**0**	**150,844**	**0**
Other financial assets	**15,210**	**0**	**15,210**	**0**
Derivative financial assets				
Derivatives without a hedging relationship	36,326	0	22,315	14,011
Derivatives with a hedging relationship	46	0	46	0
Assets	**216,385**	**11,261**	**188,415**	**16,709**
Bank borrowings	**274,659**	**0**	**274,659**	**0**
Trade accounts payable	**269,452**	**0**	**269,452**	**0**
Derivative financial liabilities				
Derivatives without a hedging relationship	27,180	0	27,180	0
Derivatives with a hedging relationship	12,403	0	12,403	0
Liabilities	**583,694**	**0**	**583,694**	**0**

Hierarchical classification of fair values of financial instruments in accordance with IFRS 7 as at September 30, 2018

Aggregated by classes in € thousand	Fair value 9/30/2018	Level 1	Level 2	Level 3
Securities classified as fixed assets	**31,448**	**31,448**	**0**	**0**
Trade accounts receivable	**176,661**		**176,661**	**0**
Derivative financial assets				
Derivatives without a hedging relationship	55,257	0	41,987	13,270
Derivatives with a hedging relationship	2,145	0	2,145	0
Assets	**265,511**	**31,448**	**220,793**	**13,270**
Bank borrowings	**285,969**	**0**	**285,969**	**0**
Trade accounts payable	**406,746**	**0**	**406,746**	**0**
Derivative financial liabilities				
Derivatives without a hedging relationship	27,179	0	27,179	0
Derivatives with a hedging relationship	9,065	0	9,065	0
Liabilities	**728,959**	**0**	**728,959**	**0**

There were no reclassifications between the individual levels in fiscal year 2018/19 or in the previous year.

The following overview shows a reconciliation of the financial instruments measured at fair value and classified in Level 3:

Reconciliation of financial instruments in Level 3 as at September 30, 2019

Aggregated by classes in € thousand	Balance as at 10/1/2018	Sales/ purchases	Gains (+)/ losses (–) recorded in the income statement	**Balance as at 9/30/2019**	Gains (+)/ losses (–) for financial instruments held at the reporting date
Share interests in affiliated companies	1,321	1,272	0	**2,593**	0
Investments	115	-10	0	**105**	0
Derivative assets without a hedging relationship	13,270	0	741	**14,011**	741

Reconciliation of financial instruments in Level 3 as at September 30, 2018

Aggregated by classes in € thousand	Balance as at 10/1/2017	Sales/purchases	Gains (+)/ losses (–) recorded in the income statement	**Balance as at 9/30/2018**	Gains (+)/ losses (–) for derivatives held at the reporting date
Derivative assets without a hedging relationship	4,196	6,222	2,852	**13,270**	2,852

Gains and losses deriving from derivative financial instruments classified as Level 3 relate to part of an energy supply contract and are recorded in the income statement under “Cost of materials.”

The fair value of these financial instruments is partially based on non-observable input parameters, which are largely related to the price of electricity and coal. If the Aurubis Group had taken other possible suitable alternative measurement parameters as a basis for measuring the relevant financial instruments on September 30, 2019, the recorded fair value would have been € 12,377 thousand (previous year: € 10,728 thousand) higher in the case of an increase in the electricity price and a decrease in the coal price by 20 %, respectively, at the end of the term or € 8,810 thousand (previous year: € 7,179 thousand) lower in the case of a decrease in the electricity price and an increase in the coal price by 20 %, respectively, at the end of the term. In order to calculate the maximum impacts which can arise from the relative uncertainty in the determination of the fair values of financial instruments whose measurement is based on non-observable parameters, the Aurubis Group remeasures such financial instruments by incorporating parameters that are at the outer limits of the range of reasonably possible alternatives for non-observable input data. Since it is nevertheless unlikely that a scenario will arise in which all of the non-observable parameters are at the outer limits of the range of reasonably possible alternatives at the same time, the estimated values previously mentioned should exceed the actual uncertainty factors when determining the fair value as at the reporting date. Thus, the disclosures shown do not represent a prediction or an indication of any future changes in the fair value.

OFFSETTING OPTIONS FOR DERIVATIVE FINANCIAL ASSETS AND LIABILITIES

The financial instruments that Aurubis enters into are subject to netting agreements with financial institutions that include a mutual right of offset. However, these agreements do not fulfill the criteria for offsetting in the statement of financial position, as the netting right can only be utilized if one of the contracting parties defaults.

The following table shows the financial assets and liabilities in the Aurubis Group that are subject to offsetting options.

Offsetting options for derivative financial assets and liabilities

in € thousand	2018/19	2017/18
Financial assets		
Gross amount of financial assets in the statement of financial position	36,372	57,402
Financial instruments that qualify for offsetting in the statement of financial position	0	0
Net value of financial assets in the statement of financial position	36,372	57,402
Offsettable due to framework agreements	-13,608	-18,262
Total net value of financial assets	**22,764**	**39,140**
Financial liabilities		
Gross amount of financial liabilities in the statement of financial position	-39,583	-36,244
Financial instruments that qualify for offsetting in the statement of financial position	0	0
Net value of financial liabilities in the statement of financial position	-39,583	-36,244
Offsettable due to framework agreements	13,608	18,262
Total net value of financial liabilities	**-25,975**	**-17,982**

Net earnings by measurement category

in € thousand	2018/19
Financial assets at amortized cost (AC)	1,843
Financial assets at fair value through other comprehensive income (FV OCI)	402
Financial assets and liabilities at fair value through profit or loss (FV P&L)	435
Financial liabilities at amortized cost (AC)	4,566
	7,246

in € thousand	2017/18
Loans and receivables (LaR)	-23,889
Available-for-sale financial assets (AfS)	277
Financial instruments held for trading (FAHfT and FLHfT)	21,683
Financial liabilities at amortized cost (FLAC)	5,805
	3,876

The net income/expense deriving from the financial assets measured at fair value through other comprehensive income relates exclusively to equity instruments. The net income/expense deriving from the financial assets and liabilities measured at fair value through profit or loss mainly include the gains/losses deriving from metal futures contracts on the exchanges and forward foreign exchange contracts. Furthermore, fixed-price metal delivery contracts treated as derivatives are taken into account, as are purchase or sales contracts that are not yet price-fixed, which result in a partial compensation effect since they are measured at the respective price on the reporting date. Dividends, but not interest, are included in the calculation. The foreign currency impact deriving from items accounted for at amortized cost, which is included in the net income for fiscal year 2018/19, amounts to € 6,846 thousand (previous year: € -17,643 thousand). In the previous year, effects on earnings deriving from financial assets and liabilities designated at fair value through profit or loss were disclosed under financial instruments held for trading.

28. RESEARCH AND DEVELOPMENT

Research and development costs of € 15,880 thousand were recognized in profit or loss for the Aurubis Group for fiscal year 2018/19 (previous year: € 10,227 thousand). No development costs were capitalized during the fiscal year reported (previous year: € 673 thousand).

Notes to the cash flow statement

The consolidated cash flow statement reports the cash flows in the Aurubis Group in fiscal year 2018/19 and in the prior-year comparative period. In accordance with IAS 7, a distinction is made between the cash inflow from operating activities, the cash outflow from investing activities, and the cash outflow from financing activities.

Commencing with earnings before taxes, adjustment is made for all non-cash-effective expenses and income, the financial result (consisting of the result from investments measured using the equity method, interest expenses, interest income, and other financial expenses and income), income taxes paid out, and changes in working capital to arrive at the cash inflow from operating activities (net cash flow).

The net cash flow as at September 30, 2019 amounted to € 272 million, compared to € 203 million in the previous year. This was due in particular to sales of precious metals at higher prices.

Investments in fixed assets totaled € 221 million in the reporting period (previous year: € 168 million). The higher investment in fixed assets in the fiscal year included payments for the now terminated Future Complex Metallurgy project, for preparations made for the planned maintenance shutdown in Hamburg (October 2019), and for the construction of a new Innovation and Training Center at the Hamburg site.

After deducting the cash outflow from investing activities of € 208 million (previous year: € 143 million) from the net cash flow of € 272 million (previous year: € 203 million), the free cash flow amounts to € 64 million (previous year: € 60 million).

The cash outflow from financing activities amounted to € 102 million (previous year: € 151 million) and, in fiscal year 2018/19, mainly comprised the € 70 million dividend distribution.

Cash and cash equivalents of € 441 million deriving from both continuing and discontinued operations were available to the Group as at September 30, 2019 (€ 479 million as at September 30, 2018).

The following table shows the cash-effective and non-cash-effective changes in borrowings.

in € million	**Balance as at 10/1/2018**	Cash-effective	Additions for finance leases	**Balance as at 9/30/2019**
Bank borrowings	277	-11	0	266
Liabilities under finance leases	36	-5	5	36
	313	**-16**	**5**	**302**

Segment reporting

	Segment Metal Refining & Processing		Segment Flat Rolled Products		Other	
in € thousand	**2018/19 operating**	2017/18 operating	**2018/19 operating**	2017/18 operating	**2018/19 operating**	2017/18 operating
Revenues						
Total revenues	10,741,921	10,407,246	1,300,358	1,452,014	22,522	17,488
Inter-segment revenues	151,884	161,037	12,671	19,216	3,190	2,646
Revenues with third parties	10,590,037	10,246,209	1,287,687	1,432,798	19,332	14,842
EBITDA	434,922	476,772	-12,852	29,874	-63,256	-43,807
Depreciation and amortization	-123,466	-118,204	-25,805	-11,460	-1,590	-1,124
EBIT	311,457	358,568	-38,657	18,414	-64,846	-44,931
Interest income	16,091	14,241	1,536	1,576	170	0
Interest expense	-23,284	-20,116	-10,613	-9,697	-259	-323
Result from investments measured using the equity method	0	0	284	10,868	0	0
Other financial income	5	357	0	0	402	332
Other financial expenses	0	-38	-31	0	0	-13
Earnings before taxes	304,268	353,012	-47,481	21,161	-64,533	-44,935
Income taxes	0	0	0	0	0	0
Consolidated net income						
Return on capital employed (ROCE)[1]	15.5 %	19.4 %	-10.6 %	7.4 %		
Capital expenditure on intangible assets and property, plant and equipment	203,379	152,081	16,219	17,435	3,821	12,383
Average number of employees	4,628	4,473	1,755	1,768	383	330

[1] Prior-year figures adjusted for Segment FRP.
Regarding the basic derivation of the ROCE, we refer to the Combined Management Report
Results of operations, net assets, and financial position of the Aurubis Group, pages 76–77.

Total		Reconciliation/ consolidation		Effects deriving from discontinued operations		Group (continuing operations)	
2018/19 operating	2017/18 operating	**2018/19 IFRS**	2017/18 IFRS	**2018/19 IFRS**	2017/18 IFRS	**2018/19 IFRS**	2017/18 IFRS
11,897,057	11,693,850	0	0	-1,133,757	-1,270,102	10,763,299	10,423,748
358,814	462,839	56,099	39,993	-15,907	-49,764	399,006	453,068
-150,861	-130,788	-2,345	-2,579	27,799	13,897	-125,407	-119,470
207,954	332,051	53,753	37,414	11,892	-35,867	273,599	333,598
17,797	15,817	-13,865	-12,186	-28	-39	3,904	3,592
-34,156	-30,136	13,864	12,185	2,430	2,176	-17,862	-15,775
284	10,868	-1,993	1,691	1,709	-12,559	0	0
407	689	0	0	0	0	407	689
-31	-51	0	0	0	0	-31	-51
192,254	329,238	51,760	39,104	16,003	-46,289	260,017	322,053
						-68,695	-59,547
						191,322	262,506
223,419	181,899	0	0	-16,219	-16,048	207,200	165,851
6,766	6,571	0	0	-1,755	-1,768	5,011	4,803

Aurubis reporting is separated into two operational business segments, Metal Refining & Processing (MRP) and Flat Rolled Products (FRP).

Segment MRP processes complex metal concentrates, copper scrap, and metal-bearing recyclable materials into metals of the highest quality. From an organizational perspective, it includes the Commercial and Operations divisions. The Commercial division combines all market-relevant organizational units (i.e., raw material procurement and product sales). The Operations division is responsible for the production of all basic products and metals, as well as their further processing into other products such as wire rod and shapes.

Segment FRP processes copper and copper alloys – primarily brass, bronze, and high-performance alloys – into flat rolled products and specialty wire products and then markets them.

Segment FRP is designated as a discontinued business division that needs to be reported separately on an aggregated basis in the consolidated income statement and in the consolidated statement of financial position in accordance with IFRS 5. As Segment FRP's operating business activities are continuing unchanged and are being monitored and managed by the Aurubis Group's Executive Board, this company division also fulfills the definition of a segment that must be reported on, even after its classification as a discontinued business division, and will be accordingly presented separately for segment reporting purposes until the sales transaction has been completed.

The operating segments are reported upon in the same manner as they are reported to the chief operating decision makers for internal reporting purposes. The chief operating decision makers are defined as the full Executive Board of Aurubis AG.

The Aurubis Group is divided into two reportable segments, which differ as regards their production processes and their products, and are managed independently. The "other" column discloses central administrative income and costs that cannot be directly allocated to one of the reportable segments.

The internal reporting is generally based on the accounting policies in accordance with IFRS, which are applied in the consolidated financial statements. For internal management purposes, the IFRS-based results are reconciled to the operating result.

The operating result is derived from the IFRS results of operations by:

- Adjusting by effects deriving from the application of IFRS 5
- Adjusting for measurement results deriving from the application of IAS 2. In this context, the metal price fluctuations resulting from the application of the average cost method are eliminated. Likewise, non-permanent write-downs or write-ups in the value of copper inventories as at the reporting date are eliminated
- Eliminating any non-cash-effective impacts deriving from purchase price allocations

As compared to the previous year, the reconciliation was changed to eliminate only non-permanent write-downs and write-ups in the value of copper inventories as at the reporting date.

The reconciliation to the IFRS-based consolidated financial statements is shown in the reconciliation/consolidation column. In this connection, a total of € 0 thousand (previous year: € -491 thousand) of the earnings before taxes (EBT) derives from consolidation impacts, while € 51,760 thousand (previous year: € 39,596 thousand) derives from reconciliation to the IFRS EBT.

The elimination of external sales, amounting to € 1,133,757 thousand and shown in the column "Effects from discontinued operations" (previous year: € 1,270,102 thousand), represents the external sales of Segment FRP less Segment MRP's internal Group sales with Segment FRP that are fully eliminated in the discontinued business division, amounting to € 153,909 thousand (previous year: € 162,664 thousand). In the context of measurement in accordance with IFRS 5, scheduled depreciation and amortization (€ 14,272 thousand) in Segment FRP and the application of equity accounting for the purpose of consolidating the investment in a joint venture (€ 1,709 thousand) must be discontinued.

The Group generates most of its revenues with business associates in countries within the European Union. The breakdown of external revenues by region is based on the location of the customers, and is as follows:

in € thousand	2018/19	2017/18
Germany	4,807,774	3,927,859
Other European Union countries	3,868,738	4,347,272
Rest of Europe	434,782	439,037
Asia	1,416,080	1,324,856
America	810,336	1,099,237
Other countries	559,347	555,589
Group total	**11,897,057**	**11,693,850**

The breakdown of capital expenditure and non-current assets by region is based on the location of the respective assets:

	Capital expenditure[1]		Fixed assets[1]	
in € thousand	2018/19	2017/18	2018/19	2017/18
Germany	152,691	108,906	923,511	896,181
Bulgaria	33,655	45,719	332,065	338,767
Belgium	21,748	13,237	175,059	171,935
Other European countries	7,537	5,730	64,720	69,608
North America	7,788	8,307	61,841	50,566
Group total	**223,419**	**181,899**	**1,557,196**	**1,527,057**

[1] This information relates to the entire Group, including discontinued operations.

The locations in other European countries are mainly operational sites within the European Union.

SEGMENT DATA

The revenues of the individual segments consist of inter-segment revenues and of revenues with non-group third parties. The total third party revenues of the individual segments correspond to the consolidated revenues of the Group. The prices and conditions for products and services exchanged between Group companies and segments correspond to those with third parties.

	Segment Metal Refining & Processing		Segment Flat Rolled Products		Other		Total	
in € thousand	2018/19	2017/18	2018/19	2017/18	2018/19	2017/18	2018/19	2017/18
Wire rod	4,274,054	4,282,959	0	0	0	0	4,274,054	4,282,959
Copper cathodes	2,205,521	2,211,942	2,818	8,398	0	0	2,208,339	2,220,340
Precious metals	2,865,272	2,383,450	0	0	0	0	2,865,272	2,383,450
Shapes	748,965	892,383	71,394	77,180	0	0	820,359	969,563
Strip, bars, and profiles	194,492	187,304	1,117,534	1,243,706	0	0	1,312,026	1,431,010
Chemicals and other products	301,733	288,171	95,941	103,514	19,332	14,842	417,007	406,528
	10,590,037	**10,246,209**	**1,287,687**	**1,432,798**	**19,332**	**14,842**	**11,897,057**	**11,693,850**

Operating EBIT represents operating earnings before taxes, adjusted for the financial result attributable to the segment. Based on this, operating EBITDA is operating EBIT adjusted for depreciation of property, plant, and equipment and amortization of intangible assets belonging to the segment.

During the fiscal year reported, impairment losses previously recognized in segment MRP, amounting to €6,220 thousand, were reversed. No impairment losses or reversals of impairment losses, within the meaning of IAS 36, were recorded in Segment FRP.

The average number of employees for each segment includes all the employees of companies that were consolidated in the accompanying consolidated financial statements.

Other disclosures

DISCLOSURES CONCERNING RELATIONSHIPS TO RELATED PARTIES

In accordance with IAS 24, related parties are regarded as all individual persons and entities that can be influenced by, or that can themselves influence, the Company.

The employees' representatives on the Supervisory Board received compensation for their employment at Aurubis AG at a level that is normal for the market.

Within the Aurubis Group, various Group companies purchase different types of products and services from and provide different types of products and services to related companies as part of their normal business activities. Such delivery and service relationships are conducted using market prices. In the case of services, these are charged on the basis of existing contracts.

The following amounts relate to a joint venture that is disclosed in discontinued operations and accounted for using the equity method:

9/30/2019

in € thousand	Income	Expenses	Receivables	Liabilities
Schwermetall Halbzeugwerk GmbH & Co. KG	100,773	26,583	0	1,955

9/30/2018

in € thousand	Income	Expenses	Receivables	Liabilities
Schwermetall Halbzeugwerk GmbH & Co. KG	106,480	29,908	0	775

The following amounts relate to non-consolidated related companies:

9/30/2019

in € thousand	Income	Expenses	Receivables	Liabilities
Joint ventures	0	0	48	0
Subsidiaries	8,474	1,284	2,323	1,070

9/30/2018

in € thousand	Income	Expenses	Receivables	Liabilities
Joint ventures	1	0	0	1,300
Subsidiaries	11,003	1,493	4,371	1,149

With the exception of Salzgitter AG, no individual shareholders of Aurubis AG are able to exercise a significant influence on the Aurubis Group.

Salzgitter Group companies account for € 977 thousand in expenses for the fiscal year (previous year: € 2,455 thousand) and income of € 63 thousand (previous year: € 47 thousand). As at the reporting date, there were related liabilities of € 100 thousand (previous year: € 119 thousand) and receivables of € 1 thousand (previous year: € 3 thousand).

As at the reporting date, no letters of comfort had been issued to related parties.

SUBSEQUENT EVENTS

On November 19, 2019, the European Commission informed the company that it intended to review Aurubis' planned acquisition of Metallo more intensively (referred to as phase II). Aurubis AG expects approval by April 2020 at the latest.

There were no other significant events after the reporting date.

INFORMATION CONCERNING THE EXECUTIVE BOARD AND THE SUPERVISORY BOARD

TOTAL COMPENSATION

The **fixed compensation components** consist of the fixed compensation, the pension plans, and the fringe benefits.

The system for **variable compensation** includes both annual variable compensation (2/3 of the annual bonus) and multiannual variable compensation, which is forward-looking. The multiannual, forward-looking variable compensation consists of both a performance cash plan over three fiscal years and stock deferred (virtual stock – 1/3 of the annual bonus) over two fiscal years. The ratio of multiannual to annual variable compensation is 60:40.

The total compensation received by the active Executive Board members for fiscal year 2018/19 amounts to € 2,764,288 and, in addition to a fixed component in the amount of € 1,431,739, includes fringe benefits of € 70,630 and a variable component of € 1,261,919 in the fiscal year reported. In total, payments for compensation due in the short term amounted to € 2,204,788 (previous year: € 2,278,798) and payments for compensation due in the long term amounted to € 559,500 (previous year: € 870,333).

In addition, expenses for pension provisions in the amount of € 560,165 (previous year: € 570,000) and for a virtual deferred stock compensation plan in the amount of € 117,392 (previous year: € 93,149) were recognized in the income statement.

A one-time payment of € 1,600,000 was made in the previous year due to the termination of a contract.

Former members of the Executive Board and their surviving dependents received a total of € 2,237,067; € 27,789,965 has been provided for their pension entitlement.

Total compensation of the Aurubis AG Executive Board members newly appointed from fiscal year 2017/18 onwards includes a share-based compensation component with a cash settlement and a Performance Cash Plan.

The recognition and measurement standards of IFRS 2 are to be applied to the share-based compensation component with a cash settlement. This component involves virtual deferred stock. The resulting obligation equates to the fair value of the virtual stock. The expenses amounted to € 24 thousand in the year reported (previous year: € 93 thousand). The carrying amount of the provisions as at the fiscal year-end amounted to € 117 thousand (previous year: € 93 thousand).

Furthermore, expenses of € 490 thousand for the Performance Cash Plan were recognized (previous year: € 241 thousand), which are included with the same amount in the provisions as at the reporting date.

The compensation of the Supervisory Board for fiscal year 2018/19 amounted in total to € 1,511,630.

Details of the individual compensation of the members of the Executive Board and the Supervisory Board are presented and explained in the Compensation Report.

REPORTABLE SECURITIES TRANSACTIONS

SHARE DEALINGS BY BOARD MEMBERS

In accordance with Art. 19 Market Abuse Regulation (EU No. 596/2014), the members of the Executive Board and the Supervisory Board must disclose the acquisition and sale of shares in the company. This does not apply if the total transactions per person do not reach an amount of € 5,000 per calendar year.

One member of the Supervisory Board informed the company that he had acquired or sold no-par-value shares in the company in the period from October 1, 2018 to September 30, 2019:

» Prof. Dr. Fritz Vahrenholt: purchased 2,500 no-par-value shares.

One member of the Executive Board informed the company that he had acquired or sold no-par-value shares in the company in the period from October 1, 2018 to September 30, 2019:

» Mr. Roland Harings: purchased 10,000 no-par-value shares.

DECLARATION OF CONFORMITY WITH THE GERMAN CORPORATE GOVERNANCE CODE IN ACCORDANCE WITH SECTION 161 OF THE GERMAN STOCK CORPORATION ACT (AKTG)

The declaration required under Section 161 of the German Stock Corporation Act (AktG) has been issued by the Executive Board and the Supervisory Board and has been made permanently accessible to the shareholders on the company's website.

NOTIFICATION PURSUANT TO SECTION 160 (1) NO. 8 OF THE GERMAN STOCK CORPORATION ACT (AKTG)

The voting rights notifications Aurubis AG received up to the date of preparation of the financial statements with respect to exceeding and falling below the relevant notification thresholds, in accordance with Section 33 (1) of the German Securities Trading Act (WpHG), are made available in the Aurubis AG's separate financial statements.

They are also available online at www.aurubis.com/en/about-aurubis/corporate-governance/voting-rights-notifications.

DISCLOSURES CONCERNING AUDITORS' FEES

The following fees were recorded as expenses for fiscal year 2018/19 for services rendered by the global Deloitte network (PricewaterhouseCoopers in the previous year):

in € thousand	2018/19	2017/18
Financial statement auditing services	914	1,140
Other assurance services	0	50
Tax advisory services	0	150
Other services	9	171
Total	**923**	**1,511**

This year's costs for the audit of the financial statements do not include € 62 thousand for the audit of the Italian subsidiaries, which continue to be audited by PricewaterhouseCoopers. Subsequent costs of € 100 thousand for PriceWaterhouseCoopers were also incurred in relation to the financial statements.

The following fees related to services rendered by Deloitte GmbH Wirtschaftsprüfungsgesellschaft (PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft in the previous year):

in € thousand	2018/19	2017/18
Financial statement auditing services	623	710
Other assurance services	0	49
Tax advisory services	0	146
Other services	0	110
Total	**623**	**1,015**

Investments

pursuant to Section 313 (2) of the German Commercial Code (HGB) as at September 30, 2019

	Company name and registered office	% of capital held directly and indirectly	Held directly by
1	Aurubis AG		
	Fully consolidated companies		
2	Aurubis Belgium nv/sa, Brussels	100	1
3	Aurubis Holding Sweden AB, Stockholm	100	2
4	Aurubis Sweden AB, Finspång	100	3
5	Aurubis Finland Oy, Pori	100	2
6	Aurubis Holding USA LLC, Buffalo	100	2
7	Aurubis Buffalo Inc., Buffalo	100	6
8	Aurubis Netherlands BV, Zutphen	100	2
9	Aurubis Mortara S.p.A., Mortara	100	2
10	Cumerio Austria GmbH, Wien	100	1
11	Aurubis Bulgaria AD, Pirdop	99,86	10
12	Aurubis Engineering EAD, Sofia	100	10
13	Aurubis Italia Srl, Avellino	100	1
14	Aurubis Stolberg GmbH & Co. KG, Stolberg	100	1
15	Aurubis U.K. Ltd., Smethwick	100	15
16	Aurubis Slovakia s.r.o., Dolny Kubin	100	15
17	CABLO Metall-Recycling & Handel GmbH, Fehrbellin	100	1
18	Peute Baustoff GmbH, Hamburg	100	1
19	RETORTE GmbH Selenium Chemicals & Metals, Röthenbach	100	1
20	E.R.N. Elektro-Recycling NORD GmbH, Hamburg	100	1
21	Aurubis Product Sales GmbH, Hamburg	100	1
22	Deutsche Giessdraht GmbH, Emmerich	100	1
	Companies accounted for using the equity method		
23	Schwermetall Halbzeugwerk GmbH & Co. KG, Stolberg	50	15

	Company name and registered office	% of capital held directly and indirectly	Held directly by
	Non-consolidated companies		
24	Aurubis Switzerland SA, Yverdon-les-Bains	100	1
25	Aurubis Stolberg Verwaltungs-GmbH, Stolberg	100	1
26	Hüttenbau-Gesellschaft Peute mbH, Hamburg	100	1
27	Aurubis Hong Kong Ltd., Hong Kong	100	2
28	Aurubis Metal Products (Shanghai) Co., Ltd, Shanghai	100	27
29	Aurubis Rus LLC, St. Petersburg	100	2
30	Retorte do Brasil, Joinville	51	20
31	C.M.R. International N.V., Antwerp	50	1
32	Schwermetall Halbzeugwerk GmbH, Stolberg	50	15
33	JoSeCo GmbH, Kirchheim/Swabia	50	20
34	Aurubis Middle East FZE, Dubai	100	22
35	Aurubis Turkey Kimya Anonim Sirketi, Istanbul	100	11
36	Ampashield NV/SA, Herentals	75	2
37	Aurubis America Holding Inc., Tampa	100	1
38	Aurubis Tampa LLC, Tampa	100	37

Hamburg, December 10, 2019

The Executive Board

Roland Harings
Chairman

Dr. Thomas Bünger
Member

Rainer Verhoeven
Member

Responsibility Statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the Consolidated Financial Statements give a true and fair view of the net assets, financial position, and results of operations of the Group, and the Combined Management Report includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group.

Hamburg, December 10, 2019

The Executive Board

Roland Harings Chairman	Dr. Thomas Bünger Member	Rainer Verhoeven Member

Translation – German version prevails

Independent Auditor's Report

To Aurubis AG, Hamburg/Germany

REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE COMBINED MANAGEMENT REPORT

AUDIT OPINIONS

We have audited the consolidated financial statements of Aurubis AG, Hamburg/Germany, and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 30 September 2019, and the consolidated statement of profit and loss, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the financial year from 1 October 2018 to 30 September 2019, and the notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the combined management report of the Parent [Aurubis AG, Hamburg/Germany,] and the Group, for the financial year from 1 October 2018 to 30 September 2019. In accordance with the German legal requirements, we have not audited the content of the consolidated corporate governance statement pursuant to Section 315d German Commercial Code (HGB) combined with the corporate governance statement pursuant to Section 289f German Commercial Code (HGB), which is part of the combined management report, and the separate consolidated non-financial report pursuant to Sections 315b (3) and 315c German Commercial Code (HGB) combined with the non-financial report pursuant to Sections 289b (3) and 289c to 289e German Commercial Code (HGB) referred to in the combined management report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) German Commercial Code (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 30 September 2019 and of its financial performance for the financial year from 1 October 2018 to 30 September 2019, and
- the accompanying combined management report as a whole provides an appropriate view of the Group's position. In all material respects, this combined 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 combined management report does not cover the contents of the consolidated corporate governance statement combined with the corporate governance statement specified above, and of the separate consolidated non-financial report combined with the non-financial report.

Pursuant to Section 322 (3) sentence 1 German Commercial Code (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 combined management report.

BASIS FOR THE AUDIT OPINIONS

We conducted our audit of the consolidated financial statements and of the combined management report in accordance with Section 317 German Commercial Code (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 (IDW). We performed the audit of the consolidated financial statements in supplementary compliance with the International Standards on Auditing (ISA). Our responsibilities under those requirements, principles and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined 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 combined management report.

KEY AUDIT MATTERS IN THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements for the financial year from 1 October 2018 to 30 September 2019. These matters were addressed in the context of our audit of the consolidated financial statements as a whole and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In the following we present the key audit matters we have determined in the course of our audit:

❶ accounting of major corporate transactions in relation to the Flat Rolled Products segment
❷ financial instruments – hedge accounting
❸ adjustment of EBT and ROCE for special items

Our presentation of these key audit matters has been structured as follows:

ⓐ description (including reference to corresponding information in the consolidated financial statements and in the combined management report)
ⓑ auditor's responses

❶ ACCOUNTING OF MAJOR CORPORATE TRANSACTIONS IN RELATION TO THE FLAT ROLLED PRODUCTS SEGMENT

ⓐ In the consolidated financial statements, the balance sheet items "assets held for sale" and "liabilities from assets held for sale" include assets (mEUR 561) and liabilities (mEUR 160) from the Flat Rolled Products (FRP) reporting segment. An amount of mEUR 20 before taxes of the assets has been subject to impairment. On 12 February 2018, Aurubis AG signed a term sheet with Wieland-Werke Aktiengesellschaft, Ulm/Germany, on the sale of interests in the companies of the FRP segment. In February 2019, the sale was prohibited by the EU Commission in the context of its merger control procedure. Already in October 2018, the executive directors actively identified sales alternatives and are currently having negotiations with different potential buyers. The executive directors continue to regard the sale of the FRP segment as highly probable since different participants in the market have expressed a buying interest. The most probable sales scenario in the opinion of the executive directors provides for two disposal groups: FRP Europe and FRP USA. The disclosure of assets and liabilities as disposal groups and discontinued operations will therefore be continued, as will the measurement policies. In this context as well as on account of the high complexity of accounting and measurement, this matter was considered significant in our audit.

The disclosures on the planned sale of the FRP segment are included in the "Discontinued Operations" section of the notes to the consolidated financial statements.

ⓑ Within the scope of our audit, we assessed, among other things, the accounting for and measurement of the FRP segment as disposal groups and discontinued operations pursuant to IFRS 5. In order to evaluate if the conditions for this classification have been met, we also had extensive talks with responsible persons of Aurubis Group involved in the negotiations, including the Aurubis AG executive board, and requested further evidence. For this purpose, we assessed whether there is a corresponding buying interest in the market by taking into account minutes from executive board and supervisory board meetings and records of interviews as well as correspondence with potential buyers. We examined whether the assumptions that form the basis for the classification as discontinued operations and the measurement of the assets and liabilities of the FRP segment have been reasonably documented and well-founded and whether recognition, including the related disclosures, has been properly performed.

❷ FINANCIAL INSTRUMENTS – HEDGE ACCOUNTING

ⓐ The Aurubis group companies have concluded a large number of contracts for various derivative financial instruments. These serve to hedge risks in connection with foreign exchange rates, interest rates and commodity prices arising from ordinary business activities based on the hedging policy defined by the executive directors and documented in the relevant internal guidelines. The aim of using derivative financial instruments is to mitigate volatility in relation to earnings and cash flows resulting from changes in exchange rates – mainly in respect to foreign currency selling and purchasing –, in interest rates underlying the floating-rate financing facilities, and in the copper price in the context of purchasing and selling metal.

The nominal volume of the concluded derivative instruments totals bEUR 2.9 as at 30 September 2019. The fair values of the derivative financial instruments are determined using measurement policies that take into account the market information (market values) at the measurement date. The positive market values of the derivative financial instruments used for hedging purposes total mEUR 36.5 net as at 30 September 2019; the negative market values amount to mEUR 39.6. To the extent the financial instruments used by Aurubis Group constitute effective hedging instruments for future cash flows as part of hedging relationships pursuant to the provisions of IFRS 9, fair value changes are directly recognised in equity over the duration of the hedging relationship until maturity of the hedged cash flows (effective portion). As at the balance sheet date, the cumulative expenses and income before income taxes recognised directly in equity amounted to mEUR -12.4. In our opinion and in light of the high complexity and the number of transactions as well as the extensive requirements concerning the accounting and disclosures to be made in the notes to the consolidated financial statements due to the first-time application of IFRS 9, these matters were considered significant in our audit.

The information provided by the Group concerning the recognition of derivative financial instruments are included in note 27 "Financial Instruments" of the notes to the consolidated financial statements as well as in the reporting on opportunities and risks of the combined management report.

ⓑ Within the scope of our audit and in consultation with our internal specialists from the Financial Risk function, we reviewed, inter alia, the contractual and financial basis, and obtained an understanding of the recognition, including the effects on equity and earnings from the various hedging instruments. In concert with these specialists, we reviewed the Company's system of internal control as regards derivative financial instruments, including internal monitoring of compliance with the hedging policy, and the controls on design, implementation and effectiveness. Moreover, in auditing the fair value measurement of the financial instruments, we also reconstructed the measurement methods on the basis of market data for a representative set of samples. We analysed the methods applied as well as their appropriate systemic implementation to assess the effectiveness of the hedging relationships. Our assessment of the completeness of the recognised transactions and the assessment of the fair values of the recognised transactions were based on confirmations from banks and brokers. As regards the expected cash flows and the assessment of the effectiveness of the hedges, we evaluated the levels of hedging carried out in the past on a mainly retrospective basis. We have audited the completeness and accuracy of the disclosures made in the notes to the consolidated financial statements.

❸ ADJUSTMENT OF EBT AND ROCE FOR SPECIAL ITEMS

ⓐ For Aurubis Group's controlling and analysis purposes, operating EBT (Earnings before Taxes) and operating ROCE (Return on Capital Employed), each adjusted for special items, are used. The adjustments are presented in the segment reporting of the consolidated financial statements of Aurubis AG by, firstly, eliminating the items of discontinued operations and, secondly, removing the following impacts on valuation: valuation results from applying IAS 2 and effects from purchase price allocations. In the consolidated financial statements, EBT adjustments of mEUR 16 from discontinued operations and of mEUR 52 from valuation effects are presented. The capital employed for determining the operating ROCE is indirectly adjusted for mEUR 362 from discontinued operations and for mEUR 443 from valuation effects by adjusting the separate balance sheet items. Operating EBT and operating ROCE are used by the executive directors within the scope of their capital market communication as the central key financial performance indicators. Moreover, both ratios are deployed to measure the degree of target achievement for the annual performance-based remuneration of the Aurubis Group employees. As these key performance indicators are determined on the basis of the internal requirements of Aurubis Group, which implies a risk that discretion is exercised unilaterally by the executive directors, the adjustments of operating earnings before taxes and operating return on capital employed were classified as key audit matters as part of our audit.

The disclosures of the Group for the derivation and presentation of financial ratios are presented in the "Economic Development of Aurubis Group" section of the combined management report as well as in the segment reporting in the notes to the consolidated financial statements.

ⓑ Firstly, we examined the systematic and consistent adjustment of these ratios. We reconstructed, inter alia, how the operating EBT and operating ROCE are determined and reviewed the consistency of the adjustments identified by the executive directors with the internal requirements. Related to this, by using the knowledge obtained in the audit and the information provided to us by the executive directors, we examined whether the adjustments made are consistent with the related disclosures in the combined management report, in particular, those contained in the remuneration report and the explanations in the segment reporting.

OTHER INFORMATION

The executive directors are responsible for the other information. The other information comprises:

- the consolidated corporate governance statement pursuant to Section 315d German Commercial Code (HGB) combined with the corporate governance statement pursuant to Section 289f German Commercial Code (HGB), which is part of the combined management report,
- the separate consolidated non-financial group report pursuant to Sections 315b (3) and 315c German Commercial Code (HGB) combined with the non-financial report pursuant to Sections 289b (3) and 289c to 289e German Commercial Code (HGB) referred to in the combined management report,
- the corporate governance report pursuant to No. 3.10 of the German Corporate Governance Code,
- the executive directors' confirmation regarding the consolidated financial statements and the combined management report pursuant to Section 297 (2) sentence 4 and Section 315 (1) sentence 5 German Commercial Code (HGB), respectively, and
- all the remaining parts of the annual report, with the exception of the audited consolidated financial statements and combined management report and our auditor's report.

Our audit opinions on the consolidated financial statements and on the combined 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 combined 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 COMBINED MANAGEMENT REPORT

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) German Commercial Code (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 combined 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 combined 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 combined 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 combined management report.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE COMBINED MANAGEMENT REPORT

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the combined 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 combined management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 German Commercial Code (HGB) and the EU Audit Regulation, in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) and in supplementary compliance with the ISA 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 combined management report.

We exercise professional judgement and maintain professional scepticism throughout the audit. We also

- identify and assess the risks of material misstatement of the consolidated financial statements and of the combined 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 controls.
- obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures relevant to the audit of the combined 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 combined 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 IFRS as adopted by the EU and with the additional requirements of German commercial law pursuant to Section 315e (1) German Commercial Code (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 combined 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 combined 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 combined management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

OTHER LEGAL AND REGULATORY REQUIREMENTS

FURTHER INFORMATION PURSUANT TO ARTICLE 10 OF THE EU AUDIT REGULATION

We were elected as group auditor by the annual general meeting on 28 February 2019. We were engaged by the supervisory board on 28 February/1 March 2019. We have been the group auditor of Aurubis AG, Hamburg/Germany, since the financial year 2018/2019.

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 Annika Deutsch.

Hamburg/Germany, 10 December 2019

Deloitte GmbH
Wirtschaftsprüfungsgesellschaft

Signed: Christian Dinter	Signed: Annika Deutsch
Wirtschaftsprüfer	Wirtschaftsprüferin
(German Public Auditor)	(German Public Auditor)

Glossary

Explanation of technical terms

Aurubis Operating System (AOS): Management system for achieving continuous and sustainable process improvement.

Blister copper: Unrefined porous copper. During solidification, dissolved gases form small blisters in the copper. Blister copper is also purchased as a raw material.

CDP: (Formerly Carbon Disclosure Project) non-profit organization with the objective of encouraging companies and towns to publish their environmental data.

Complex materials: Both primary and secondary raw materials are becoming more complex, that is, their copper content is decreasing and the levels of by-elements and impurities contained in them are increasing.

Compliance: Compliance means conforming to certain rules. Apart from laws, directives, and other standards, it also refers to corporate guidelines (e.g., codes of conduct).

Continuous cast shapes: Products manufactured from endless strands produced in a continuous casting process. Continuous cast shapes are processed into sheets, foils, profiles, and tubes by rolling and extrusion.

Continuous cast wire rod: Semi-finished product produced in a continuous process and used for the fabrication of copper wire.

Copper cathodes : Quality product of the copper tankhouse (copper content: 99.99 %) and the first marketable product in copper production, which can be sold on the metal exchanges.

Copper concentrates: A product resulting from the processing (enriching) of copper ores, the Aurubis Group's main raw material. Since copper is found almost exclusively in ores, in compound form, and in low concentrations (usually below 1 % copper content), the ores are enriched in processing facilities into concentrates (copper content of 25 to 40 %) after production in the mine.

Copper premium: Surcharge for high-quality cathodes, which are used for the production of continuous cast wire rod and continuous cast shapes, among other products.

CSR Directive Implementation Act (referred to as CSR-RUG in German): The EU's Corporate Social Responsibility Directive requires exchange-listed companies of a certain size to disclose non-financial information.

EMAS: Eco-Management and Audit Scheme (also known as the EU eco-audit). EMAS was developed by the EU and is a joint system comprising environmental management and environmental auditing for organizations that want to improve their environmental performance.

Global Reporting Initiative (GRI): This organization publishes the GRI Standards, which are the standards and indicators for sustainability reporting. The GRI Standards are established internationally as a framework for voluntary sustainability reporting.

ILO Core Labour Standards: The Core Labour Standards of the International Labour Organization (ILO) of the United Nations comprise four basic principles: upholding freedom of association and the right to collective bargaining, eliminating forced labor, abolishing child labor, and eliminating discrimination in respect of employment and occupation. These are found in the eight fundamental ILO Conventions, which are referred to as the ILO Core Labour Standards.

ISO 14001: An international standard that establishes the criteria for setting up and monitoring companies' environmental management systems. A company can receive proof of a functioning environmental management system (certification) through an external expert.

ISO 50001: An international standard that establishes criteria for initiating, operating, and continuously improving an energy management system. The objective of the standard is to steadily improve companies' energy-related performance. Energy-intensive companies have to be certified in accordance with EMAS or ISO 50001 to be eligible to receive concessions on the levies under the German Renewable Energies Act.

Iron silicate: A by-product of copper production in the refining process. Formed using sand from iron that is chemically bonded to copper concentrates and recycling raw materials. Mainly used in the construction industry as granules/sand or in lump form.

KRS: Kayser Recycling System, a modern recycling plant in Lünen for the treatment of a wide range of copper-bearing secondary raw materials.

London Metal Exchange (LME): The most important metal exchange in the world, with the highest turnover.

LTIFR: Lost time injury frequency rate (accident frequency).

Metal gain: Metal yield that a smelter can extract beyond the paid metal content in the raw input materials.

PRIMA: Performance, Responsibility, Integrity, Mutability, Appreciation. The first letters of these values spell the German word "prima," meaning "great."

Primary copper production: Production of copper from copper concentrates.

Product surcharge: Fee for the processing of copper cathodes into copper products.

Recycling materials: Materials in a closed-loop economy. They arise as residues from production processes or during the preparation of end-of-life products and rejects.

Secondary copper production: Production of copper from recycling materials.

Settlement: Official cash selling rate on the LME. Price basis in annual sales agreements.

Spot market: Daily business, market for prompt deliveries.

Tankhouse: In the tankhouse, an electrochemical process, the last refining stage in metal recovery, takes place. For copper, anodes and cathodes are hung in a sulfuric acid solution (electrolyte) and connected to an electric current. Copper and baser elements (e.g., nickel) are then dissolved from the anode in the electrolyte. Copper from the solution is deposited on the cathode with a purity of 99.99 %. Precious metals (e.g., silver and gold) and insoluble components settle as "anode slimes" on the bottom of the tankhouse cell.

Treatment and refining charges (TC/RCs), refining charges (RCs): Surcharges on the purchase price of metals, charged for turning these raw materials into the commodity exchange product – copper cathodes – and other metals.

UN Global Compact (UNGC): The United Nations Global Compact is an international initiative for responsible corporate governance. Companies that commit to upholding the UNGC acknowledge its ten principles, which include the topics of human rights, labor standards, the environment, and preventing corruption.

Waste Electrical and Electronic Equipment (WEEE): The purpose of the EU's WEEE directive 2002/96/EC for waste electrical and electronic equipment is to responsibly handle the increasing volumes of electronic scrap. The WEEE End Processor Standard is a voluntary standard for the treatment and/or processing of precious metal-bearing WEEE fractions. Aurubis supported the development of this standard and has been certified in accordance with it since 2015.

Explanation of financial terms

Capital employed: The sum of equity, provisions for pension liabilities, and financial liabilities, less cash and cash equivalents.

EBIT: Earnings before interest and taxes are an indicator of a company's operative earning power, ignoring its capital structure.

EBITDA: Earnings before interest, taxes, depreciation, and amortization are an indicator of a company's operative earning power, ignoring its capital structure and propensity to invest.

EBT: Earnings before taxes are an indicator of a company's earning power.

Free cash flow: The generated surplus of cash and cash equivalents, taking into account cash-related changes in working capital, and after deducting capital expenditure. It is available for a company's dividend and interest payments, as well as for the redemption of financial liabilities.

Net borrowings: Consist of long- and short-term financial liabilities, less cash and cash equivalents.

Net cash flow: The generated surplus of cash and cash equivalents after taking into account cash-related changes in working capital. It is available for payments in conjunction with a company's investing and financing activities.

ROCE: Return on capital employed is the ratio of EBIT to capital employed as at the balance sheet date. It describes the efficiency with which capital was utilized during the reporting period.

Imprint

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Disclaimer
This Annual Report contains forward-looking statements based on current assumptions and forecasts. Various known and unknown risks, uncertainties, and other factors could cause the actual future results, financial situation, or developments to differ from the estimates provided here. We assume no liability to update forward-looking statements.

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Financial Calendar

February 13, 2020	Quarterly Report on the First 3 Months 2019/20
February 27, 2020	Annual General Meeting
May 15, 2020	Interim Report on the First 6 Months 2019/20
August 11, 2020	Quarterly Report on the First 9 Months 2019/20
December 9, 2020	Annual Report 2019/20

Our fiscal year starts on October 1 and ends on September 30.

5-Year Overview

Aurubis Group (IFRS)

		2018/19	2017/18	2016/17	2015/16	2014/15
Results						
Revenues[1]	€ million	10,763	10,424	9,880	9,475	10,995
EBITDA[1]	€ million	399	453	545	312	336
Operating EBITDA[2]	€ million	359	462	440	358	500
Depreciation and amortization[1]	€ million	125	119	121	135	136
EBIT[1]	€ million	274	334	424	177	200
Operating EBIT[2]	€ million	208	332	308	229	370
EBT[1]	€ million	260	322	408	159	170
Operating EBT[2,3]	€ million	192	329	298	213	343
Consolidated net income[1]	€ million	191	263	318	124	134
Operating consolidated net income[2]	€ million	138	265	236	165	257
Net cash flow	€ million	272	203	480	239	365
Capital expenditure (incl. finance leases)	€ million	224	182	175	143	112
Operating ROCE[3]	%	8.6	15.0	15.1	10.9	18.7
Consolidated statement of financial position						
Total assets	€ million	4,532	4,502	4,361	4,027	4,044
Fixed assets	€ million	1,384	1,354	1,489	1,450	1,440
Equity	€ million	2,593	2,566	2,366	1,991	1,969
Aurubis shares						
Market capitalization	€ million	1,838	2,708	3,081	2,242	2,558
Earnings per share[1]	€	4.25	5.81	7.04	2.71	2.95
Operating earnings per share[2]	€	3.08	5.87	5.21	3.64	5.68
Dividend per share[4]	€	1.25	1.55	1.45	1.25	1.35

[1] To the extent that they relate to the consolidated income statement, these values refer to continued operations in the fiscal year and in the previous year.
[2] Values have been "operationally" adjusted for measurement effects deriving from the use of the average cost method in accordance with IAS 2. In consequence, metal price fluctuations resulting from the use of the average cost method are also eliminated, as are the non-permanent write-downs or write-ups of copper inventories as at the reporting date. Fixed assets are adjusted by non-cash-effective impacts deriving from purchase price allocations.
[3] Corporate control parameter.
[4] The 2018/19 figure represents the proposed dividend.

Certain prior-year figures have been adjusted.

aurubis.com

Metals for Progress

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