Annual report 2018

working towards a world that lasts forever

outokumpu

Contents

Annual review

This Annual report combines Outokumpu's sustainability and financial reporting for 2018. Outokumpu's Sustainability review has been assured and Financial statements have been audited.

Sustainability review

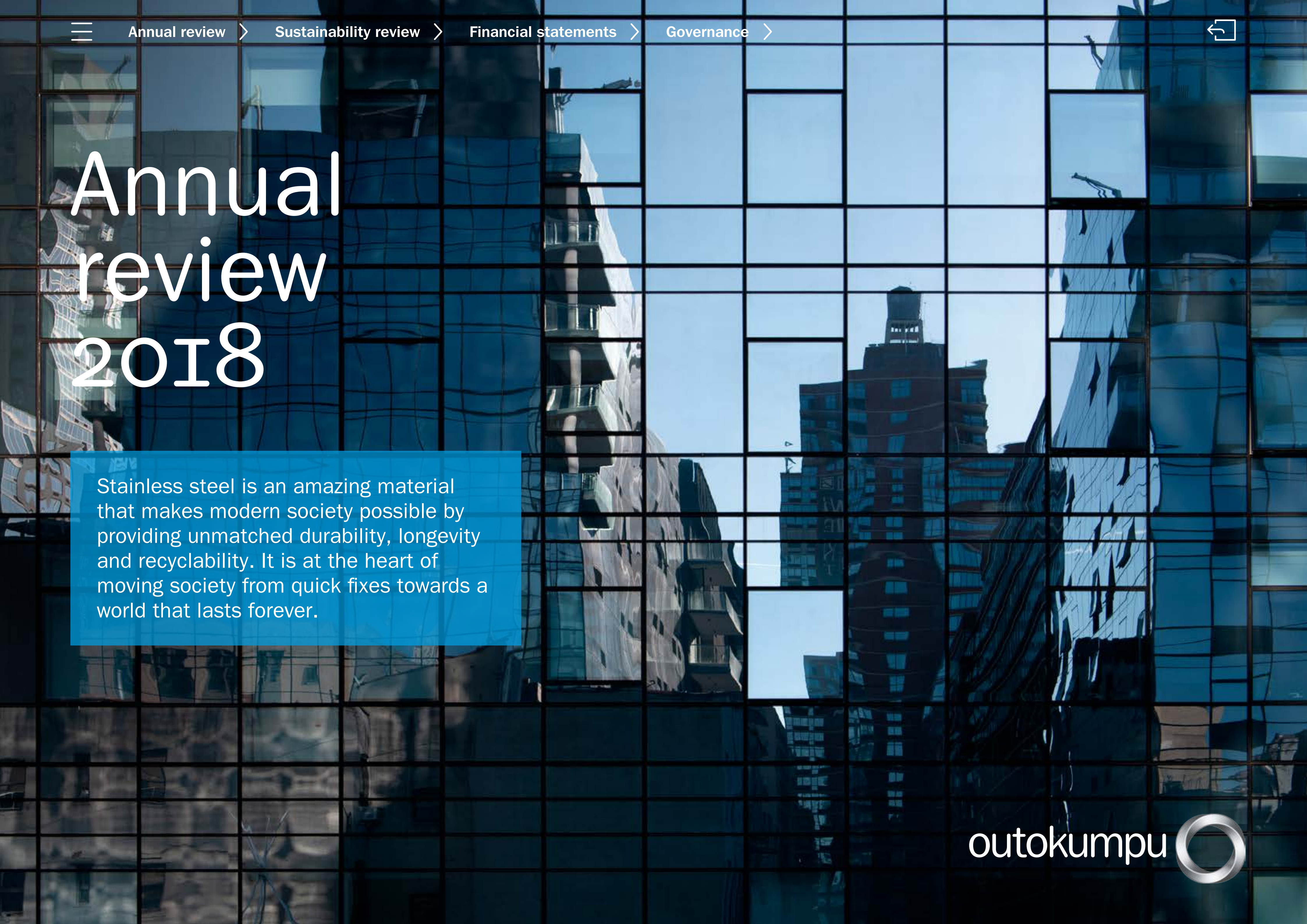
Download the Sustainability review as PDF

Review by the Board of Directors and Financial statements

Download the Review by the Board of Directors and Financial statements as PDF

Governance

Download the Corporate Governance as PDF



Annual review 2018

Stainless steel is an amazing material that makes modern society possible by providing unmatched durability, longevity and recyclability. It is at the heart of moving society from quick fixes towards a world that lasts forever.

outokumpu

Working towards a world that lasts forever

Outokumpu is one of the global leaders in stainless steel. We aim to be the best value creator in stainless steel by 2020 through customer orientation and efficiency.

In 2018, Outokumpu's sales amounted to 6.9 billion euros and stainless steel deliveries to 2.4 million tonnes. Outokumpu is the clear market leader in Europe and the second largest in the Americas market. Outokumpu is listed on Nasdaq Helsinki.

Outokumpu's business is divided into four business areas: Europe, the Americas, Long Products and Ferrochrome. We have production in Finland, Germany, Sweden, the UK, the USA and Mexico, and we serve our customers through a global sales and service center network. Outokumpu's own chromite mine in Kemi, Finland is the source of the key raw material for stainless steel.

Our most important raw material is recycled steel, which is either scrap from the market or recycled steel from our downstream operations and other recycled metal material. The recycled content in our products is exceptionally high in the industry: over 85%.

Stainless steel is a versatile material with superior durability, longevity and recyclability. Customer needs and our legacy as the inventor of stainless steel drive us to develop this material further.

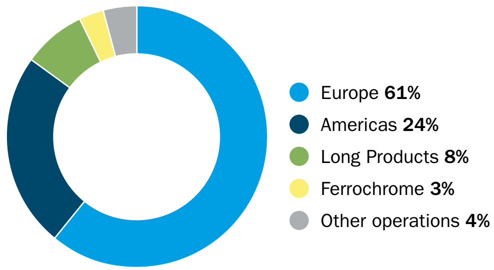
There is a powerful need for sustainable and lasting solutions that use the world's natural resources sparingly. Around the world Outokumpu is meeting this need with stainless steel that is used to build cities and urban infrastructure, water and energy plants, factories, consumer goods and medical supplies, as well as transportation machinery and systems. Our stainless steel can also be found in homes as kitchen sinks, household cutlery and washing machines. We work together with our customers and partners to look beyond the short term and create advanced materials that help us to build a world that lasts forever. ■

10,449
employees

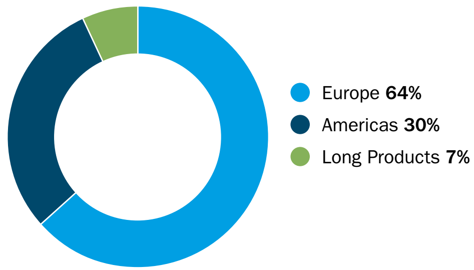
Operations in
over 30
countries

Over
85%
of recycled content

Sales by area, € 6,872 million



Stainless steel deliveries by business area, %



Key figures 2018

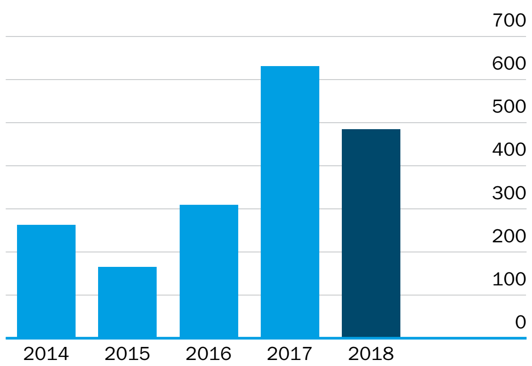
Thanks to our strong focus on customers, improved reliability and efficiency, we have made a clear step change in our operational and financial performance. Putting aside the prevailing market uncertainties, the long-term growth prospects for stainless steel are sound, and as the market leader, we are well positioned to capture our fair share of this growth.

	2018	2017	2016	2015	2014
Net sales, € million	**6,872**	6,356	5,690	6,384	6,844
Stainless steel deliveries, 1,000 tonnes	**2,428**	2,448	2,444	2,381	2,544
Adjusted EBITDA, € million	**485**	631	309	165	263
Net result for the period, € million	**130**	392	144	86	–439
Operating cash flow	**214**	328	389	–34	–126
Net debt, € million	**1,241**	1,091	1,242	1,610	1,974
Debt-to-equity at the year-end, %	**45.1**	40.1	51.4	69.1	92.6
Personnel at the year-end	**10,449**	10,141	10,600	11,002	12,125

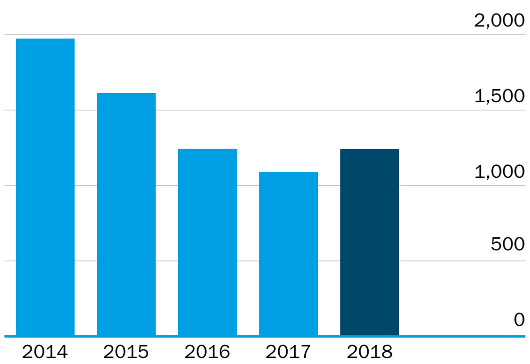
Long-term targets by the end of 2020

Adjusted EBITDA EUR	ROCE	Gearing
750 million	**12%**	**<35%**

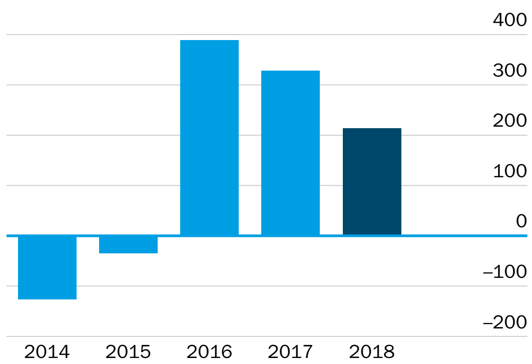
Adjusted EBITDA, € million



Net debt, € million



Operating cash flow, € million



CEO's review

In 2018, the big theme for the steel industry was the trade disruption caused by the US steel tariffs which led to a surge of steel imports to Europe and an unprecedented price pressure.

Total steel imports were up by 12% as a large share of originally US-bound steel was redirected to Europe due to the US tariffs. This coupled with the uncertainty of the global economy had a notable impact on the European steel industry.

While the trade environment put a strain on our financial performance, our own operations run like clockwork and our underlying performance remained solid thanks to our strong focus on customers and diligent execution of our must-win battles. Our safety performance and operational stability rose to historically high levels, and based on our latest customer satisfaction survey, we are regarded as the preferred partner by our customers.

The achievement I am particularly proud of is our organizational health which has improved from the bottom quartile to the second in just two years. The response rate in the 2018 Organizational Health Index survey was exceptionally high at 86% reflecting our employees' motivation and commitment to become the best value creators in the industry.

In a very tough market, Outokumpu's adjusted EBITDA amounted to EUR 485 million (EUR 631 million in 2017) reflecting the market volatility. Our net debt was higher than targeted at EUR 1.2 billion mainly due to unsatisfactory inventory management. Reducing net debt is a key priority for 2019.

Business area Europe defended successfully its margins under heavy import and price pressure. In the Americas, our earnings were disappointing due to high input and freight costs as well as inadequate management of commercial challenges. Long Products' performance was solid, and the acquired full ownership of Fagersta Stainless wire rod mill in Sweden further reinforces our competitiveness on the long products market globally.

Despite recent market turbulence, long-term growth prospects for stainless steel remain healthy. In 2019, we expect the European Union's permanent safeguards to alleviate the import pressure. The restoration of a healthy market together with decisive execution of our must-win battles are crucial for us in reaching our 2020 targets.

Sustainable, durable products such as stainless steel can help to mitigate climate change and reduce greenhouse gas emissions. Outokumpu is a recognized world leader in sustainable steel production with high recycled content of more than 85% as well as low energy and CO_2 intensity levels compared to the industry. In 2018, we were once again awarded by the International Stainless Steel Forum (ISSF) for our work on increasing material efficiency and reducing environmental impact in stainless steel melting process.

To further enhance our competitiveness, we continue to invest in Research & Development to develop new process technologies and to meet our customers' current and future product needs. We have also increased our focus on digitalization by launching a new must-win battle Digital Transformation to establish new digital business and manufacturing platforms and to embrace the benefits of data-driven operations. In line with this strategy, our Tornio site will become the most digitalized stainless steel mill in the world by 2020.

When looking back at our progress during the past three years, I am extremely proud of our achievements. With solid execution of our must-win battles, our operational and financial performance have stepped up to a whole new level. The journey has not always been easy. Our achievements have required a lot of tough decisions and hard work by the whole Outokumpu team.

I warmly thank our employees for your enthusiasm, engagement and diligent work during the past year. I also want to thank our customers for trusting Outokumpu with your business and our shareholders for your highly valued support.

Roeland Baan
CEO

Our year 2018

Acquisition of Fagersta Stainless

In June 2018, Outokumpu acquired full ownership of Fagersta Stainless AB, a wire rod mill in Sweden. Prior to the acquisition, Outokumpu held 50% of the Fagersta Stainless shares. Fagersta Stainless is a leader in special stainless steel wire rod products serving customers globally. Fagersta's product offering complements well Outokumpu's ASR wire rod mill in Sheffield, UK, and Outokumpu plans to develop both units further to ensure continued offering of leading products and service to its wire rod customers globally.

Acquisition of Fagersta Stainless

Kemi chromite mine and ferrochrome production celebrated 50 years of operation

In 2018, Outokumpu celebrated 50 years of ferrochrome production. The milestone was celebrated by organizing a family day for all Outokumpu employees. The successful event was attended by altogether 3,750 people who had a chance to visit the Kemi mine at 500-meter depth and see the Tornio stainless steel hot rolling mill in action. "Our families and friends have now a better understanding not only about our safety principles but also about the Outokumpu Tornio site and Kemi mine in general, as well as the jobs and tasks we might offer in the future", said Niklas Wass, head of Tornio stainless steel production.

Learn more about the history of Outokumpu

Turbulent market due to steel tariffs

In 2018, the stainless steel market was marked by uncertainties largely due to the US steel import tariffs (Section 232) that were extended in June to include steel products imported from the European Union, Canada and Mexico. The European Commission initiated temporary safeguard measures in July to restore the balance in the European market. The permanent safeguard measures imposed in February 2019 are expected to stabilize the import situation in Europe. During 2018, base prices declined significantly in Europe whereas in the US, base prices continued to increase.

Read more about the impact of tariffs in our Financial Statements

Outokumpu awarded in sustainability, new technology and safety by the ISSF

The International Stainless Steel Forum (ISSF) recognized Outokumpu with the 2018 gold-level Sustainability Award for applying a pelletizing method in its Sheffield melt shop in the UK to increase material efficiency and reduce environmental impact in stainless steel melting process. Outokumpu was also awarded in the categories of New Technologies and Safety. Outokumpu received a silver medal in the New Technology category for the weldable sandwich with a 3D profiled core and a bronze medal in the Safety category for its 24/7 safety awareness training efforts.

Read more about the ISSF awards

Becoming the best value creator

Outokumpu's vision is to be the best value creator in stainless steel by 2020 through customer orientation and efficiency. The 2020 vision focuses our efforts on the areas where we need to excel to be able to create the best value for our customers, shareholders and employees.

Vision	Best value creator in stainless steel by 2020 through customer orientation and efficiency	**Must-win battles**	Safety High performing organization Operational excellence* Commercial excellence Americas Digital transformation**
Strengths	Strong market position Broad product portfolio	World-class assets Solid balance sheet	
Purpose	Working towards a world that lasts forever		

* Includes previous must-win battles World-class supply chain and Manufacturing excellence as of 2019

** New must-win battle as of 2019.

Outokumpu is the clear market leader in Europe and strong number two in the Americas. Our world-class assets, comprehensive product portfolio and solid balance sheet form a sound foundation for our strategy execution. Our global network covers over 30 countries, with production in six countries and service centers in all our main markets. Our strategy and vision are linked to the global megatrends – urbanization, mobility and climate change – which require sustainable solutions that last for generations. Thanks to its superb qualities, stainless steel can be used in a variety of applications from small household solutions to large infrastructure projects.

Must-win battles to realize the 2020 vision

Outokumpu's strategy builds on six strategic targets, or must-win battles, through which we aim to strengthen our competitiveness and further improve financial performance. All six must-win battles – safety, high performing organization, operational excellence, commercial excellence, the Americas and digital transformation are connected to customer orientation and efficiency improvements.

- Disciplined safety practices correlate with improved quality and operational efficiency.
- Flat organization structure, lean business support functions and shared services drive high performance throughout the organization.
- Operational excellence aims to deliver continuous improvement and step change in quality, supply chain and manufacturing.
- Commercial excellence focuses on margin growth through a superior product strategy that meets the stringent customer requirements and matches market demand with an optimal product mix. It lays the foundation for an industry leading customer experience.
- The Americas holds the biggest profitability lever, with significant improvement potential in both cost and market position.

- Digital transformation drives for new digital business and manufacturing platforms and a major step-change towards data driven management.

Each must-win battle includes a set of development programs which guide our daily activities and form the basis for performance management. A common denominator for all our strategic targets is the strive for straightforward and standardized processes and ways of working to increase efficiency and productivity throughout the organization.

Megatrends drive the demand for sustainable stainless steel solutions

Stainless steel demand is expected to grow by 23% between 2015–2020. Megatrends such as urbanization, mobility, economic and population growth and climate change are the main growth drivers for the industry. The need to find sustainable solutions that are durable and can be reused at the end of their lifecycle is palpable, as the megatrends drive the demand for economic, social and environmental sustainability.

Our commitment and contribution to sustainability are embedded in our operations from R&D and manufacturing to customer deliveries. Our main raw material is recycled steel and recycled content in our products is among the highest in the stainless steel industry. At the end of its long life-cycle, stainless steel is 100% recyclable.

We believe that rigorous execution of our must-win battles coupled with sound and sustainable operations will support us to reach our 2020 vision and capture a significant part of the market growth and thus provide the best value to our key stakeholders and the wider society.

Must-win battles	Achievements in 2018	Next steps
Safety	• Total recordable incident frequency (TRIFR) decreased to 4.1 • The company-wide safety training program SafeStart continued with majority of employees trained by the end of 2018	• TRIFR target for 2019: 3.5
High performing organization	• EUR 100 million savings in sales, administrative and general costs achieved* • Organizational Health Index (OHI) score improved by one quartile to the second quartile in 2018 with an exceptionally high response rate of 86%	• All sites to second quartile in 2019 in OHI survey
Operational excellence	• Must-win battles of World-class supply chain and Manufacturing excellence merged as of 2019 • Productivity improvement well on track • Consistent manufacturing operations model implemented to drive efficiency	• Lead time stabilisation and on time delivery
Commercial excellence	• Higher contribution margin through value selling, pricing excellence and mix improvement, efficiency and reorganization • Customer satisfaction ratio of absolutely or very satisfied customers at 63% (57% in 2017)	• Customer satisfaction at 75% in 2020
Americas	• Deliveries increased by 65% since 2015* • Significant improvement of adjusted EBITDA of EUR 115 million since 2015*	• Improving profitability and product mix
Digital transformation	• New must-win battle as of 2019	• Establishing the first Digital Manufacturing Platform (ODP)

* Achievements since the launch of the new strategy in 2016 (compared to 2015 figures).

Stainless steel market

Stainless steel is one of the fastest growing metals in terms of consumption. It is in many ways the perfect solution to the challenges the world is facing at the moment.

In 2013–2018, consumption of stainless steel has grown about 4% per year, and the long-term prospects for increasing use of the stainless steel are positive. Stainless steel consumption has been growing in all geographical areas. Growth has been fastest in the APAC region, while consumption in the Americas and EMEA regions have grown slower.

Global market with few big players

Outokumpu operates in the global stainless steel market. The market of cold-rolled products totaled approximately 30 million tonnes in 2018, of which Outokumpu's market share globally was approximately 6%. Our cold rolled market share in Europe is approximately 28% and in the NAFTA region approximately 23%. Outokumpu is the market leader in Europe and the clear number two in the Americas with a market share of approximately 22% in the US.*

In addition to Outokumpu, the largest stainless steel producers worldwide include Asian companies Tsingshan, TISCO, POSCO, Baosteel and YUSCO as well as European-based Acerinox and Aperam. Several Asian producers also manufacture carbon steel, while European manufacturers focus on stainless steel.

*Figures for NAFTA region and the US include data until November 2018.

With a growing demand, the long-term market outlook is positive

The demand for stainless steel products is impacted by global, regional and national economic conditions, levels of industrial investment activity and industrial production.

Global real demand for stainless steel products reached 43.2 million tonnes in 2018, an increase of 4.9% from 41.2 million tonnes in 2017. Growth was most pronounced in the APAC region at 5.7%, while demand in EMEA grew by 2.4% and in the Americas by 3.9% in 2018.

In 2018, the real demand growth among the end-use segments was very broad-based. ABC (architecture, building and construction) & Infrastructure segment grew by 5.8%, while both Chemical, Petrochemical & Energy and Industrial & Heavy Industries grew by 5.7% compared to 2017. Consumer Goods & Medicals and Automotive & Heavy Transport grew by 4.5% and 3.5%, respectively.

In 2018, the global steel production amounted to 1,809 million tonnes of which approximately 3% was stainless steel. The long-term outlook for stainless steel demand remains positive. Global megatrends such as urbanization, climate change, and increased mobility combined with growing global demand for energy, food, and water are expected to support the future growth of stainless steel demand. Growth in stainless steel consumption between 2018 and 2023 is expected to be relatively well-balanced between the end-use segments.

Tariffs created uncertainties, overcapacity decreased

Uncertainties in the stainless steel market continued throughout 2018 due to the US steel import tariffs. Base prices declined significantly in Europe whereas in the US, base prices continued to increase. The European Commission initiated temporary safeguard measures in July to restore the balance in the European market. In early 2019, the EU commission imposed permanent safeguards, that are expected to stabilize the market balance in Europe during 2019.

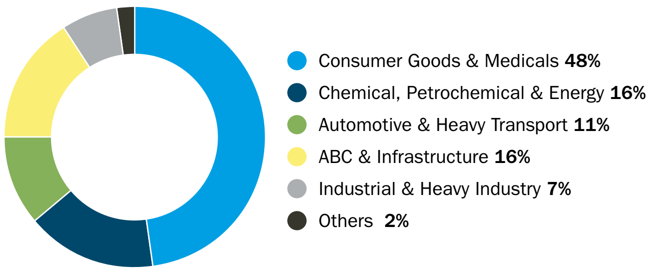
The stainless steel industry has been burdened by overcapacity in the recent years especially in Asia. The global stainless steel production capacity of slabs and billets increased in 2018 by roughly 5% to 70.6 million tonnes. Also, the global utilization rate was assessed to have increased above 74% levels in 2018. As the production of stainless steel is capital intensive, producers generally seek to maintain high capacity utilization in order to maintain and improve profitability.

Major stainless steel producers

Million tonnes	2019	2018
Tsingshan	**10.6**	10.2
TISCO	**5.5**	5.5
Posco (incl. ZPSS)	**3.5**	3.3
Outokumpu	**3.3**	3.2
Acerinox	**3.2**	3.2
Beihai Chengde	**2.4**	2.4
Aperam	**2.1**	2.1
LISCO	**2.0**	2.0
Baosteel	**1.5**	1.5

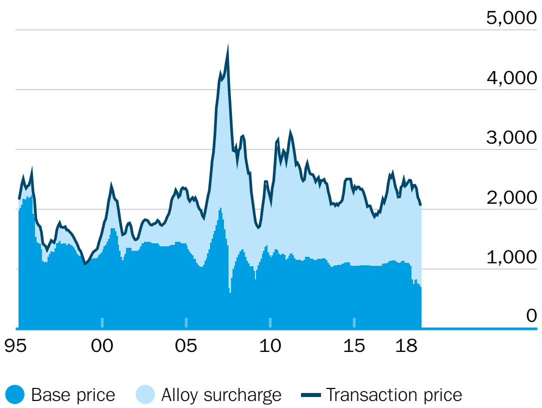
Source: Global crude stainless steel capacity, SMR February 2019.

End-uses of stainless steel in 2018



Source: SMR, stainless steel finished products (rolled and forged products excl. 13Cr tubes, profiles), January 2019.

Stainless steel price*, EUR/t



Source: CRU January 2019.
* Stainless steel reference price for cold rolled 304 2mm sheet in Europe.

The global stainless steel* production of slabs and billets grew by some 6% in 2018 from the previous year, reaching 50.4 million tonnes. The output increased most in Asia, namely in Indonesia and China, but also Europe and Americas showed growth in 2018. (Source: SMR)

Stainless steel is sold either directly to end users or to stainless steel distributors, tube makers and processors, such as steel service centers, who resell the products to end users. In 2018, 54% of Outokumpu's stainless steel was sold directly to end-user customers. The remaining approximately 46% of sales were shipped to distributors and processors that stock and process stainless steel to serve end users.

*Melting capacity of flat and long products.

Stainless steel and raw material prices in 2018

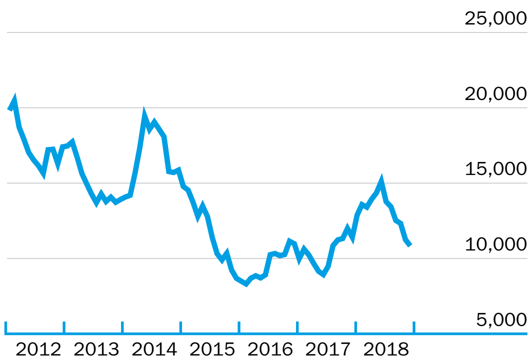
In 2018, European base prices decreased by 20% due to increased import pressure. The US average base prices increased from 2017 by 7%.

The LME nickel price increased by 17% in the first half of 2018 and hit the highest level of the year of USD 15,750/tonne in early June. Prices were soaring as the demand outpaced the supply, and the sentiment was buoyed by the robust global economy and future expectations of nickel demand in electric vehicles' batteries. In the second half of the year, prices plummeted by 29% on the back of concerns about escalating trade war, and expectations of increasing nickel supply in the coming years. At the end of 2018, nickel price was at its lowest level at USD 10,595/tonne. The average nickel price in 2018 was USD 13,133/tonne, which was 26.1% higher than the average price of USD 10,411/tonne in 2017.

The European benchmark price for ferrochrome decreased to USD 1.18/lb in the first quarter of 2018 as a result of good availability of ferrochrome. For the second quarter price shot up to USD 1.42/lb on the back of tightening markets in China. For the third and fourth quarters prices decreased to USD 1.38/lb and 1.24/lb, respectively, amid oversupplied markets and appreciated US dollar. For the first quarter of 2019 price dropped further to USD 1.12/lb. ■

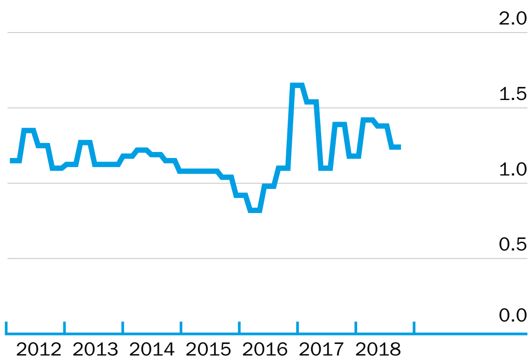
More on our operating environment

Nickel price, USD/t



Source: LME settlement, monthly average prices, including December 2018.

Ferrochrome price, USD/lb



Source: Quarterly contract prices agreed between South African ferrochrome producers and European buyers.

Research and development

Outokumpu's research and development (R&D) aims to be the industry benchmark in profitable stainless steel solutions and the development partner of choice for our customers.

Our R&D mission is to create extraordinary value to our customers and other partners both internally and externally by delivering focused projects on current and future product demands, developing and adopting new process technologies, improving the efficiency of our production processes, ensuring best in class product support, securing competitive knowledge and driving value by using digital tools and data science.

A step change in R&D efficiency

In 2018, our R&D function was reorganized into a globally aligned and strongly collaborating development team. The industrial digitalization team has been separated from the location-specific organization to further improve impact and to optimize utilization and development of our digital competences.

Process R&D teams focus on developing the efficiency of our operations and competences in process and physical metallurgy and alloy development. Product and application R&D teams focus on product properties, applications and product development in selected strategic areas, as well as on enhancing competences in corrosion, design and fabrication, surface technology and stainless steel application technologies.

Furthermore, R&D, technical market development and customer service as well as product management teams have strengthened cooperation and joint decision-making on project priorities. The aim is to increase speed in project execution and the hand-over of deliverables to business, as well as maximizing the impact of our R&D work through efficient prioritization and resource use.

R&D teams are located in Avesta, Sweden; Krefeld, Germany and Tornio, Finland. In 2018, Outokumpu's R&D expenditure totaled EUR 15 million, 0.2% of net sales (2017: EUR 13 million and 0.2%).

Creating business impact

During 2018, numerous projects related to improved process efficiency, product quality and yield were finalized. These projects are always conducted in close cooperation with our manufacturing operations.

We see a great potential in digital manufacturing and foresee up to 100,000 tonnes capacity release in next few years through digitalization of our operations, main levers being improved asset availability, quality assurance and shorter lead time. A good example of our achievements in 2018 is the artificial intelligence-based optimization of the ferrochrome smelter no. 3 in Tornio, boosting resource efficiency through longer furnace lifetime and improving throughput through failure prediction.

New worldwide regulations set for 2020 for sulfur emissions from marine vessels have recently created demand for marine scrubbers that require highly corrosion resistant materials. Outokumpu has long-term technical knowledge and experience on scrubber technologies. For instance, laboratory and field tests have been carried out to characterize performance of our wide range of Ultra and Forta products in these demanding conditions. This knowledge is now being actively utilized in technical sales and customer support, providing us competitive advantage.

The R&D works in different areas related to infrastructure applications of stainless steels. To develop business in this area, activities are persistently conducted on standardization, corrosion and material selection, field testing of materials and inspections of existing structures.

In product development, an enhanced grade has been developed to fulfill the demands for fuel tank applications. Thanks to our technical knowledge and support in design and fabrication, the material is now used in series production of an OEM platform for hybrid cars. In the automotive sector, the Forta H-series high strength materials have been found to create value in electric engine applications due to their non-magnetizability. Development and testing of prototypes are currently ongoing.

Sustainability review 2018

Outokumpu contributes to a more sustainable world by producing stainless steel – a material with superior durability, longevity and recyclability. But it is not only what we produce, but how we produce it. We follow ambitious goals for our sustainability.

Download the Sustainability review as PDF

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Sustainability at Outokumpu

Sustainability is at the core of Outokumpu: we are the proud provider of sustainable solutions that help to build a world that lasts forever.

Our business is based on the circular economy, as our most important raw material is recycled steel. Our stainless steel is produced in a sustainable production chain in a responsible manner including own production of the most important alloying element in stainless steel: chromium. Our Kemi chromite mine and ferrochrome production are integrated with stainless steel making in Tornio, Finland. We have production facilities also in Germany, Sweden, the UK, the US and Mexico.

Policies and frameworks guide our sustainability

Sustainability is integrated into all our operations, activities and decision making, from the purchasing of the materials to production and logistics. Outokumpu's operations are guided by our Code of Conduct, Ethical Principles, Corporate Responsibility Policy and Environment, Health & Safety and Quality Policy. We expect our business partners, subcontractors and suppliers to follow similar standards. All our policies on sustainable development are available on outokumpu.com.

Outokumpu is a signatory to the UN Global Compact and has committed to contributing to the United Nations' Sustainable Development Goals (SDGs). We have defined five SDGs that are the most material to our operations and sustainability themes.

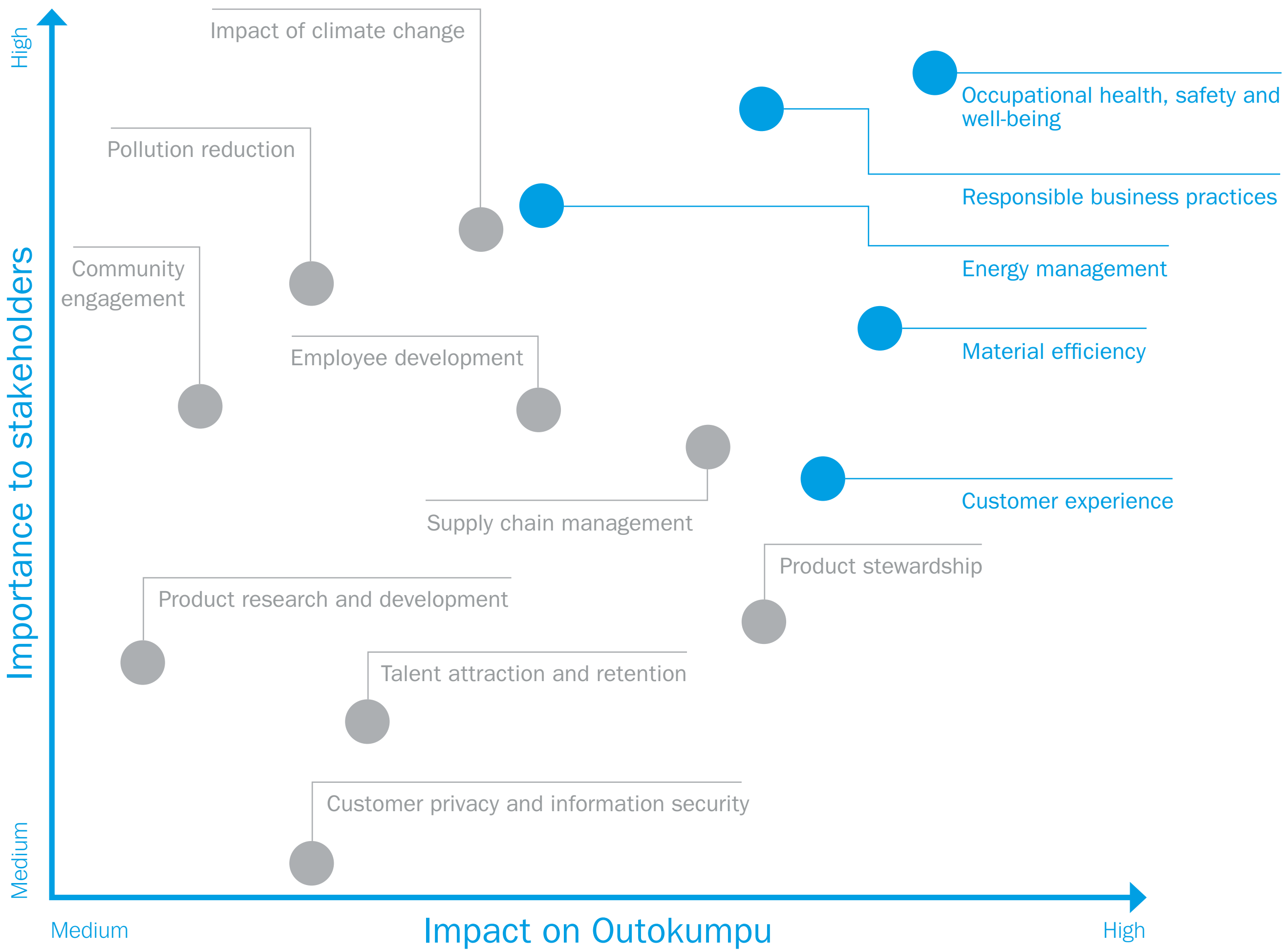
Certified management systems

All Outokumpu's sites are certified according to quality ISO 9001 and environment ISO 14001 management systems. Safety is our top priority in all sites, and our safety management is based on systematic management and tools. The functioning of the systems is monitored by both internal and external audits. These management systems are used to implement sustainability issues on local level. ■

Focus on material sustainability topics

Outokumpu conducted a new materiality analysis in 2018 to further improve our focus on the sustainability topics that are most important for our stakeholders and operations. The analysis also guides our reporting on the relevant topics.

Materiality matrix



According to the new materiality analysis, Outokumpu has five core focus areas for sustainability: Occupational health, safety and well-being; Responsible business practices; Energy management; Material efficiency and Customer experience.

As a basis for the materiality analysis, a third party conducted an extensive data study of the emerging trends in the steel industry and compared these trends with the material topics of Outokumpu's main peers, customers and suppliers. This analysis was complemented with an overview of material issues found in global Environment, Social and Governance (ESG) and sustainability frameworks.

Based on this research an initial list of material topics was drafted and narrowed down to the 14 most material topics which were ranked and prioritized in an internal workshop. A questionnaire on material topics was answered by 21 customers during our customer event in Sweden in 2018. Additionally, interviews with three customers and three suppliers were conducted to gain a deeper insight into these stakeholder groups. The topics were ranked and prioritized by their importance to stakeholder groups and business impact.

The material topics were then mapped to the Sustainable Development Goals and compared to Outokumpu's previous materiality matrix and strategy to identify potential gaps. In the final stage, a new materiality matrix was created based on the stakeholder rankings of material issues and the business impact of these issues to Outokumpu. ■

Sustainable performance in 2018

Outokumpu has set challenging goals and key sustainability performance indicators for 2020. The company also follows up and measures other selected economic, social and environmental indicators.

All sustainability figures are available on our sustainability data tool

96% of administrative employees had a performance discussion

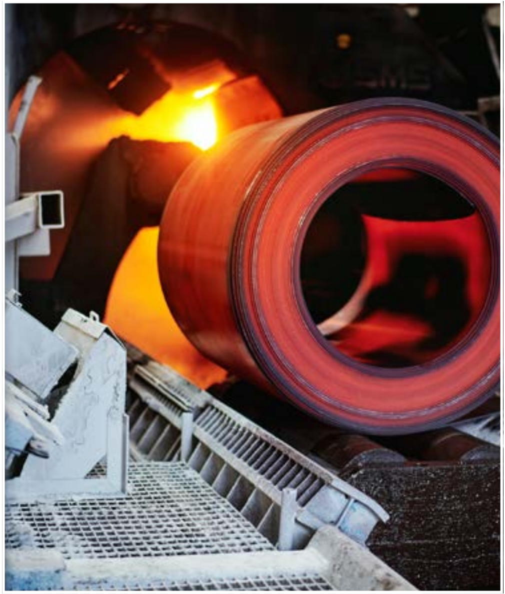
Outokumpu's clear target is that each employee has a regular performance development discussion with their manager. In 2018, 96% of administrative and 77% of production employees had a regular discussion with their manager.

More on Personnel and organization

Energy efficiency 8.9%

Outokumpu aims to improve the energy efficiency of its operations by 1% each year until 2020. In 2018, Outokumpu's energy efficiency was impacted by more energy demand for ferrochrome production and resulted in a reduction of 8.9%. This corresponds to a saving of about 3.3 million GJ compared to the baseline.

More on Energy efficiency



Workplace accidents continued to decline

In 2018, our total recordable incident frequency rate (TRIFR, per million working hours) was 4.1, continuing on the low level achieved in 2017 (4.4). In absolute terms, this marks a 53% improvement from 2016 when new safety targets were set. Our long-term target is to have zero accidents.

More on Safety and health

No significant environmental incidents

Outokumpu's target is to have no significant environmental incidents, and the company has had no such incidents for many years.

More on Environmental compliance

High recycled content in stainless steel products 88.6%

Outokumpu aims to raise the recycled content in its stainless steel to 90% by 2020.

More on Resource efficiency

Specific CO_2 emissions reduced by 7.7%

Outokumpu's long-term target was set to 20% reduction by 2023 compared to the baseline.

In 2018, Outokumpu reduced its CO_2 intensity by 7.7% compared to the baseline 2014–2016.

Early 2019, the Science Based Target initiative approved the company's long-term climate target.

More on Climate change

Sustainability highlights in 2018

Organizational health continues to develop

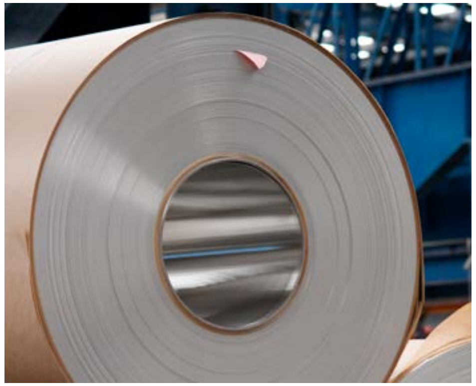
Outokumpu measures and manages organizational health with the help of an annual Organizational Health Index (OHI) survey. OHI connects the day-to-day behaviors and mindsets of employees to company strategy, and the survey is a key element in measuring Outokumpu's performance in the must-win battle of High Performing Organization. In 2018, we achieved a record-breaking participation rate of 86%. In just two years, we have moved from the bottom quartile to the second quartile amongst all 1,700 companies participating in the survey. To celebrate the remarkable response rate we will support altogether 86 different voluntary projects in our neighboring communities, which our employees are actively involved in.

Read more about our organizational health and development

Sustainability is linked to our customers' business

More than 50 customers attended Outokumpu's Connect customer event in Uppsala, Sweden in June. The main theme of the event was sustainability and how we help our customers to link sustainability to their business success. "In a world of scarce resources, we need to pay more attention to finding long-lasting solutions as short-sighted decisions are costing billions to societies. It all starts with the right material choices. When done right, with the help of the right stainless steel grade, we not only increase efficiency and profitability but can do that also sustainably by maximizing the durability and life cycle costs associated with a given application," said Outokumpu's Chief Commercial Officer Olli-Matti Saksi at the event.

Read more about our customer experience



Reduced paper consumption contributes to climate protection

Cold rolled flat products are delivered in coils. An intermediate paper layer is used to protect the steel surface. Outokumpu has made efforts to save paper and to reuse it as much as possible. In 2018, a project at the cold rolling mill in Krefeld, Germany, succeeded in economical savings as well as in environmental protection. The avoided paper production contributed to climate protection by yearly savings of about 1,200 tonnes of CO_2 emissions. Saving in the water use was about 1,700 m^3. Further development will find out the potential without impact to steel surface quality.

Read more about Outokumpu's environmental impacts

Increasing biodiversity: 100 bird houses in the Kemi mine area

Outokumpu arranged a Nature Day at the Kemi mine with local bird watchers in May. Visitors had a possibility to participate in building of bird houses for the area's bird population. Altogether 150 people attended the event and altogether 100 bird houses were built. Bird houses were installed around the Kemi mine area on the World Environment Day in June. The water ponds areas of Kemi mine have become important bird areas. Around 100 different bird species have been spotted around the water ponds, including some rare water birds and eagles. Outokumpu collaborates with a local birdwatcher group to follow the area's bird population and biodiversity.

Read more about biodiversity in Outokumpu

Safe and healthy working environment

At Outokumpu, safety is the number one priority. Everyone who works or visits the company's premises – employees, customers, contractors, and other visitors – has the right to a safe and healthy working environment.

Safety is one of the cornerstones in Outokumpu's strategy and ensuring the safety and good health of our employees is the first priority for us. We also believe that strong safety performance correlates with improved quality and operational efficiency. We aim to be among the industry leaders in safety with the ultimate goal of zero accidents.

Our safety management system supports us in striving towards this goal through various preventive activities. Safety audits are performed regularly at our production sites according to a standardized audit program. Our daily work is guided by common safety principles, standards and our ten Cardinal Safety Rules. Hazard observations and Safety Behavioral Observations (SBOs) are utilized to flag potential risks and unsafe behaviors before they lead to accidents. Lessons from past incidents are shared with other sites in the monthly Safety Call hosted by the CEO.

Building a strong safety culture

Strengthening the safety competence and awareness of our leaders, safety professionals and employees was one of the focus areas in 2018. The company-wide behavioral safety training program SafeStart continued and most of the sites have started the training by the end of the year. Approximately half of the employees have been trained. The program provides our personnel a comprehensive approach to safety which does not end at the workplace but continues in their personal life as well. The program continues in 2019.

In addition to the safety awareness training and the regular task and location specific safety education, a new e-learning course was launched to increase the awareness of all employees on the Cardinal Safety Rules, ten fundamental rules which set the foundation for safety for our employees, contractors and visitors.

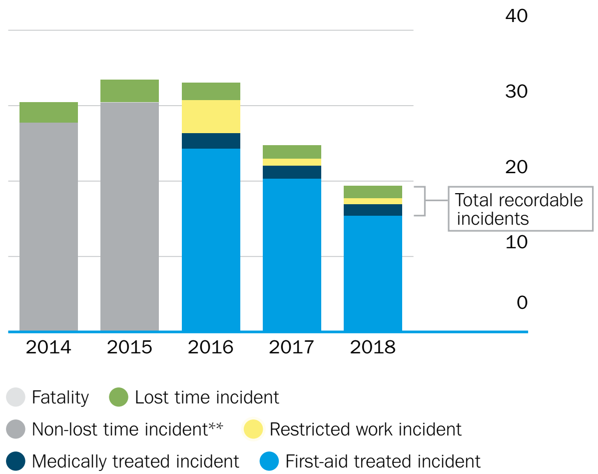
As part of building a positive and preventive safety culture, Outokumpu launched a global Safety Awards program at the end of 2018. The initiative aims to encourage and recognize both individual employees and teams for efforts to improve safety performance and culture.

Our annual Safety Week was held in April with a focus on raising awareness about hand safety and preventing hand injuries which have been identified as one of the most common injury types in the industry. Employees participated in various activities such as workshops to recognize and eliminate potential hazards at the workplace.

Safety performance

Proactive safety actions and incidents were reported and monitored on a monthly basis. The definitions of safety performance indicators are based on international standards. Incident rates and the rate of proactive safety actions (leading indicators) were reported per million working hours.

Workplace accidents*



* Per 1 million working hours.
** Split between non-lost-time incident types is not available before 2016.

Outokumpu uses total recordable incidents per million working hours (TRIFR) as the main safety performance indicator. Group TRIFR declined slightly from the previous year and was 4.1 against the target of <4.0 (2017: 4.4). Group LTIFR (lost-time incidents per million working hours) was 1.7 against the target of <1.5 (2017: 1.8).

The rate of all workplace accidents (total recordable incidents and first-aid treated incidents per million working hours) was 19.5 (2017: 24.7). Lost-day rate (more than one calendar day absence from the day after the accident per million working hours) was 84.2 (2017: 71.2).

Proactive safety action frequency was 3,330 (2017: 3,241). This includes reported near-misses, hazard observations, SBOs and other preventive safety actions per million working hours.

Health and well-being

Good health and well-being of our personnel are essential values on their own. In addition, we believe that a healthy and thriving team of professionals is an asset to the company's success. We want all our employees to return home healthy, safe and sound every day.

Outokumpu encourages its employees to take care of their physical health by offering various exercise benefits and discounts to sports and well-being services. Different health support programs are also run across our sites. For example, in the US and Mexico, the health benefits of walking were promoted with a campaign "10,000 steps club". Employees were given pedometers with an invitation to join the club and increase walking activity during the day.

Mental health awareness was promoted as part of a first line manager training program, which covered topics such as how to approach and support mental health concerns. In Sheffield, the UK, a group of employees were also trained on mental health first-aid courses.

Regular health checks and other preventive medical care activities such as influenza immunization were carried out in many countries. Employees were offered screenings for common diseases, for example, in Germany for skin cancer and in the US for heart and vascular blockages.

The health service team in Germany conducted several activities aimed at promoting health and well-being of the personnel throughout the year. For example, employees participated in a voluntary exercise program to prevent back issues. During spring an external medical team conducted skin health screenings for over 400 employees. Around 180 participants were directed for further examinations and ultimately eight cases of potentially life-threatening abnormalities were found and treated. During the autumn, the team organized fitness check-ups and offered seasonal vaccinations for employees across the German sites.

In addition, occupational hygiene measurements are being carried out at Outokumpu sites to ensure a healthy working environment. For example, in Tornio, Finland pioneering research on occupational exposure to airborne metal fumes and dusts was conducted in order to further improve occupational safety and health specifically at the stainless steel melt shop.

The number of occupational diseases diagnosed in the Group was 0 (2017: 0). Total absentee rate was 4.2% (2017: 4.0%); in Europe, the rate was 5.8%, in Americas 0.4% and in Asia and the rest of the world 0.9%. ■

Workplace accidents by region, accident and employee type

	Group	Europe	Americas	Asia and rest of the world	Female	Male	Employees	Contractors
TRIFR [1]	4.1	4.2	3.9	0.0	0.3	3.8	3.3	6.8
LTIFR [2]	1.7	1.8	1.6	0.0	0.2	1.6	1.5	2.4
Total recordable incidents [3]	94	69	25	0	6	88	57	37
Fatalities	0	0	0	0	0	0	0	0
Lost-time incidents	40	30	10	0	4	36	27	13
Restrictive work incidents	19	16	3	0	2	17	8	11
Medically treated incidents	35	23	12	0	0	35	22	13
Lost-day rate	84.2	87.5	77.8	0.0	1.5	109.8	90.6	63.6

[1] Total recordable incident frequency includes fatalities, lost-time incidents, restrictive work incidents and medically treated incidents, per million working hours.
[2] Lost-time incident frequency includes fatalities and lost-time incidents, per million working hours.
[3] Includes fatalities, lost-time incidents, restrictive work incidents and medically treated incidents.

Improving organizational health and people development

Significant improvement in our organizational health characterized the year 2018. The notable step-change in the third annual Organizational Health Index survey proves that our transformation into a high performing organization is being delivered.

The boost in our organizational health is tightly integrated with substantial increase in learning activities, highly focused capability building and people development at all levels.

Focus on developing organizational health yields encouraging results

To succeed in the long-term as a high-performing organization, Outokumpu measures and manages organizational health in a consistent and comprehensive manner. For this purpose, Outokumpu conducts an Organizational Health Index (OHI) survey annually. As a tool, OHI connects the day-to-day behaviors and mindsets of employees to company strategy, and the survey is a key element in measuring Outokumpu's performance in the must win battle of High Performing Organization. The Organizational Health Index survey is also a part of our efforts to offer all our employees the best work environment where our people feel motivated, respected and proud to be part of the Outokumpu team.

After each survey Outokumpu defines focus areas for development. Based on the results of the 2017 OHI survey, the focus areas for 2018 were empowerment and leadership. In 2018, the OHI survey was conducted in the fourth quarter to assess how successful the company has been in enhancing the focus areas, work satisfaction, and organizational health in overall. Response rate increased to 86% (2017: 80.4%) which is a high rate among manufacturing industry companies. More than 16,000 individual open comments, recommendations and opinions were given by employees at all levels of the organization.

The survey results were encouraging as Outokumpu reached all its main targets. In just two years, our OHI score has improved significantly, from 50 points in 2016 to 67 in 2018. We have moved from the bottom quartile to the second quartile amongst all 1,700 companies participating in the survey, and all our sites have reached at the least the third quartile. Based on the survey results, key development areas for 2019 are identified as personal ownership and empowerment, leadership and role clarity.

As a part of our social responsibility, in 2019 we will sponsor diverse voluntary projects in our neighboring communities. To celebrate the remarkable response rate in the survey, 86%, we will support altogether 86 different projects, which our employees are actively involved in.

Collaboration with employees

In 2018, we focused on enhancing empowerment by involving employees more in decision making processes and ensuring all-around collaboration across teams and the organization, top-down and bottom-up. Leadership development has meant enabling and encouraging teams to take responsibility and action for constant development. At mills, daily and weekly shift meetings have been leveraged successfully for hands-on initiatives. For example, in Krefeld, Germany employees have been involved in decision-making processes and improving the company actively, thus giving responsibility to every employee.

In Europe, continuous cooperation with personnel takes place in a joint consultative body, Personnel Forum, as an information channel between management and employees. The Personnel Forum discusses issues concerning transnational interests, such as financial performance, employment issues, reorganization, health and safety, and technology and research. The forum has 33 representatives from European countries and it appoints the Group Working Committee, which is responsible for the ongoing cooperation between management and employees. Eight members represent employees and three represent the management. In 2018, the Personnel Forum met once, and the Working Committee convened four times.

Our people support our growth

During 2018, the number of employees increased by 308 globally, mostly due to the acquisition of Fagersta Stainless in Sweden. The amount of personnel increased also due to preparing for retirements and recruiting young talents. Furthermore, the mission of reliability has been progressed at sites by a support organization being implemented, including reliability change agents, engineers and planners.

Our people by region

	2018	2017	2016
Germany	**2,667**	2,744	3,004
Finland	**2,437**	2,377	2,363
Sweden	**1,940**	1,619	1,656
The United Kingdom	**571**	538	513
Other Europe	**698**	624	611
Europe	**8,313**	7,902	8,147
The United States	**1,072**	1,077	1,220
Mexico	**903**	1,000	1,058
South America	**86**	85	88
Americas	**2,061**	2,162	2,364
Asia/Rest of the world	**75**	77	89
Group total	**10,449**	10,141	10,600

Building capabilities to enhance leadership and empowerment

During 2018, Outokumpu systematically and significantly increased learning and development activities and established cornerstones for the company's talent management approach. Virtual e-learning courses formed a great part of trainings, yet a multitude of face-to-face classroom training sessions were held, too. In total, over 80% of Outokumpu employees participated in training sessions and programs. The global e-learnings curriculum included i.e. Code of Conduct, Anti-corruption, Cyber Security and Data Protection courses.

Several training actions were connected to the Manufacturing excellence must-win battle, as the concept of continuous improvement is embedded to the ways of working and to the mindsets of employees.

In terms of leadership, we continued programs for different groups of leaders. We have proceeded in enhancing the capabilities of all first line managers in the License to Lead programs, with 24 License to Lead training programs started in 2018. To reach Outokumpu's 2020 vision, we will proceed working on the way we create value as leaders. To support this goal and drive a step-change in leadership excellence we created a new leadership program in Tornio and Kemi, Finland.

SafeStart behavioral safety awareness program continued in 2018. Also, Sales Academy activities were carried on developing sales competences in 16 different programs. A reliability focused academy was started to ensure all key stakeholders effectively support the implementation of tasks and actions that will deliver organizational reliability.

Overall, the total number of training and development days amounted to 17,860 (2017: 14,500) and 142,845 hours (2017: 103,218) during the year.

Global talent management process evolving

The global talent management process work focused on talent review and succession planning, and is owned by the Outokumpu Leadership Team, who regularly reviews the process.

As a part of our succession planning process, we implemented leadership development reviews. The aim is to gain a better overview of the potential for our future organization and identify strengths and development needs of our senior managers. In 2018, altogether 25 senior managers participated and as a result they received individual action and development plan.

To develop young talents, we continued and streamlined activities across the company. Also, we progressed our Development Center to support our young potentials in their individual growth. 44 young talents participated in 2018, and some of them have already achieved the next step in their individual progress.

Strengthening the company talent pool consists of activities on various levels: from entry-level program for graduates and team development programs to leadership development and reviews. For example, Outokumpu has a technical graduate program for recent graduates with a master's degree in material science, engineering and metallurgy. The three-year program familiarizes graduates with Outokumpu's technical processes. During the program graduates will develop their competencies and gain valuable experience by working independently with diverse and demanding technical assignments. As a part of the talent management, an international network program for some 20 of young graduates started in November. In 2018, we started the process for recruiting 55 future professionals within the Steelmakers training program to Tornio stainless steel and ferrochrome production.

Common performance review tool and process

In 2018, the new employee data platform, PeopleDrive, was further utilized and developed. The tool covers all basic HR processes, helps employees to manage their learning curriculum and performance management process as well as supports the management of the compensation processes. Furthermore, managers have clear visibility of their team members' compensation details. All internal and external recruitments are done through the platform, providing HR and recruiting managers a well-structured process.

With devising our common HR platform in 2018, everyone in the company, both production and administrative employees, was guaranteed an access to participate in the performance management process. The baseline for the performance and development discussion is set, training provided, and the system built to ensure that reviews take place annually. In 2018, 77% of production employees and 96% of administrative employees in applicable countries had a regular performance development discussion with their respective manager. In those countries where local contracts or regulations do not make it possible to have performance development discussions, Outokumpu follows local procedures.

Significant effort was made in 2018 to increase the transparency of compensation programs. Outokumpu's remuneration principles and framework are unchanged from the previous year meaning incentive plans remained unchanged while salary increases were on a moderate market-based levels. Also, the long-term incentive programs are unchanged with the focus on emphasizing shareholder value creation and ownership culture and to incentivize the achievement of the 2020 vision.

More on remuneration

Zero tolerance for any kind of discrimination

Outokumpu Code of Conduct sets the way of operating in the Group, built on the equal treatment of all people: there is zero tolerance for any kind of discrimination, whether it is based on ethnic origin, nationality, religion, political views, gender, sexual orientation, or age. Outokumpu fosters equal opportunity and diversity. Employment decisions are based solely on business reasons and are made according to the national employment laws. In 2018, Outokumpu issued a statement according to the UK's Modern Slavery Act. We are committed to ensuring that modern slavery, forced and child labor or human trafficking have no part in our business or supply chain.

In 2018, 14 alleged incidents of misconduct were recorded (2017: 9). The Group reviews and investigates all incidents. When required, corrective actions are taken accordingly. Together with our strict Code of Conduct, the risks related to human rights in our operations are not considered to be high. In 2018 an anti-corruption e-learning was issued. The course was mandatory for white-collar employees and achieved a completion rate of 97%.

Outokumpu's working hours, minimum notice periods, vacation times, wages, and other working conditions are consistent with the applicable local laws. Outokumpu maintains a consistent policy of freedom of association. All Outokumpu employees are free to join trade unions according to the local rules and regulations, and in 2018 altogether 80.1% of the Group's employees were covered by collective agreements (2017: 82%). 1,607 days in 2018 were lost due to strikes (2017: 408).

More on compliance

Anti-corruption e-learning completion rate in 2018

	Completion rate, %
Europe	97
Ferrochrome	98
Americas	98
Long Products*	90
Business Support Functions	99
Total	97

*Business area Long Products includes employees from both Europe and Americas

Focus areas for 2019

The first implementation phase of the organizational process blueprints prepared in 2018 by various group functions will take place in 2019. The blueprints assemble current process descriptions and refurbish processes to gear up for the future. Building the required skills and capabilities are embraced in the implementation phase of the new blueprints, which include more consistent and efficient delivery of services to our business partners, and for example in sales, processes are developed to identify multiple ways to interact and interface with customers.

Focusing on digital manufacturing will lead to transformation in our ways of working: the needed skill set for operators and all employees is affected in every function and part of production. Educating and increasing the competencies of employees are thus an essential part of capability development in 2019.

The leadership program License to Lead will expand from shift leaders in operations to foremen in service centers around the world. We will constitute to capability building by supporting potential future leaders moving into new roles combined with individual development activities in our Development Center. In addition, SafeStart, Sales Academy and Reliability Academy activities will stay on the learning curriculum, and to improve quality, Quality and Application Academy sessions for production employees will be rolled out.

Talent Management will be developed further in 2019. Mentoring and coaching of young talents will be fortified, and the transparency of talent management processes and information systems enhanced. Young graduates are invited to Outokumpu's international talent network program Form Your Future to share knowledge and experiences, and new class of graduates and technical graduates will start in 2019. Preparing for the future, Excellerate program offers leadership development reviews and management audits, and a step-change in leadership excellence will be spread out to sites globally. Onboarding program will be refined to upgrade on-the-job development activities and taken into use across the company to ensure uniform onboarding experience.

To build Outokumpu an even better workplace and to improve our organizational health further, our goal is to continue enhancing personal ownership and empowerment. Also, developing leadership will stay as a focus area, with a specific emphasis on supportive leadership behavior. The third focus area will include role clarity, especially in the course of business transformation program and organizational blueprint roll out. By 2020, the company target is to move to the first quartile amongst the 1,700 other companies using the OHI methodology.

The development of our HR platform PeopleDrive remains in focus to deliver a better end user experience. The target is to create an environment where employee transactions and knowledge can be integrated into the company culture dynamically and efficiently. Recruitment and placement process will be structured further to increase focus on local and functional aspects, and the global onboarding process automation will also continue. To increase quality, clarity and transparency both to the employee and organization in all HR processes including reporting and analytics, we will continue to elevate our HR practices to meet the requirements of the changing environment of processes and technology.

Responsibility throughout the supply chain

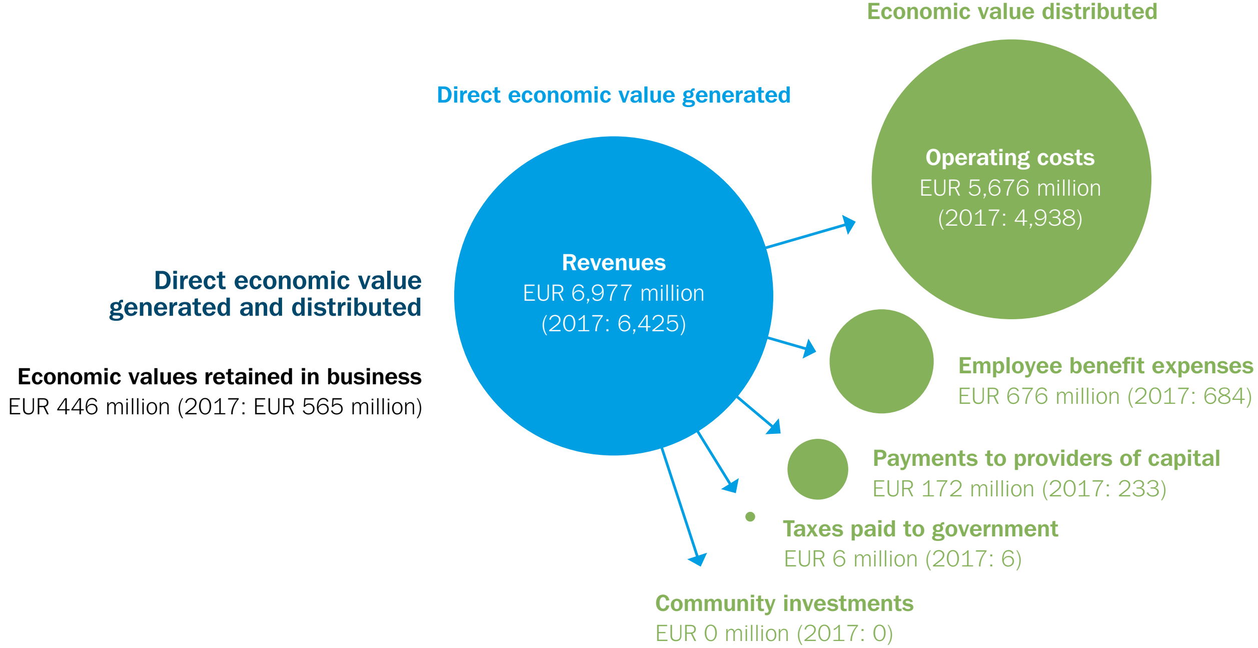
Outokumpu is a part of a global supply chain by producing stainless steel for leading brands in demanding industries around the globe. Our customers expect us to provide a fully traceable supply chain, therefore we have in place stringent requirements to our suppliers, too.

Our customers require assurance that the materials for their applications are produced and procured in an ethical and responsible manner. As one of the few companies in stainless steel industry with an integrated production – covering the production from mining of chrome and ferrochrome production to the melting, hot rolling, cold rolling and finishing of stainless steel – means that we know and control this supply chain to the fullest extent.

Recycled steel is the most important raw material for Outokumpu. The main raw materials originate mainly from Europe and the US as our melt shops are located in these areas. The most important alloying element, chromium, originates from our own chromium mine which differentiates us from our competitors. Our mine in Kemi, Finland is the only chromium mine in the EU and provides ferrochrome for all our steel melt shops.

We place stringent requirements on ourselves and our suppliers

As our customers require a lot from us, we place the most stringent requirements on ourselves, and require the same from our suppliers. All suppliers and subcontractors are expected to comply with our Code of Conduct or similar standards and meet our supplier requirements, which require our suppliers to act



according to applicable laws and regulations, maintain a quality management system, sign general terms and conditions and be able to clearly define, document and share their supply and production control processes including material traceability.

We assess our new and existing suppliers and if there is evidence of any kind of violation of our requirements, the suppliers are requested to provide an improvement plan and evidence of improvement. If the situation continues without improvement, Outokumpu will discontinue purchasing from the supplier. Outokumpu has declined business opportunities in cases where it has been established that the business partner is not following the principles of our Code of Conduct.

Global supply chain

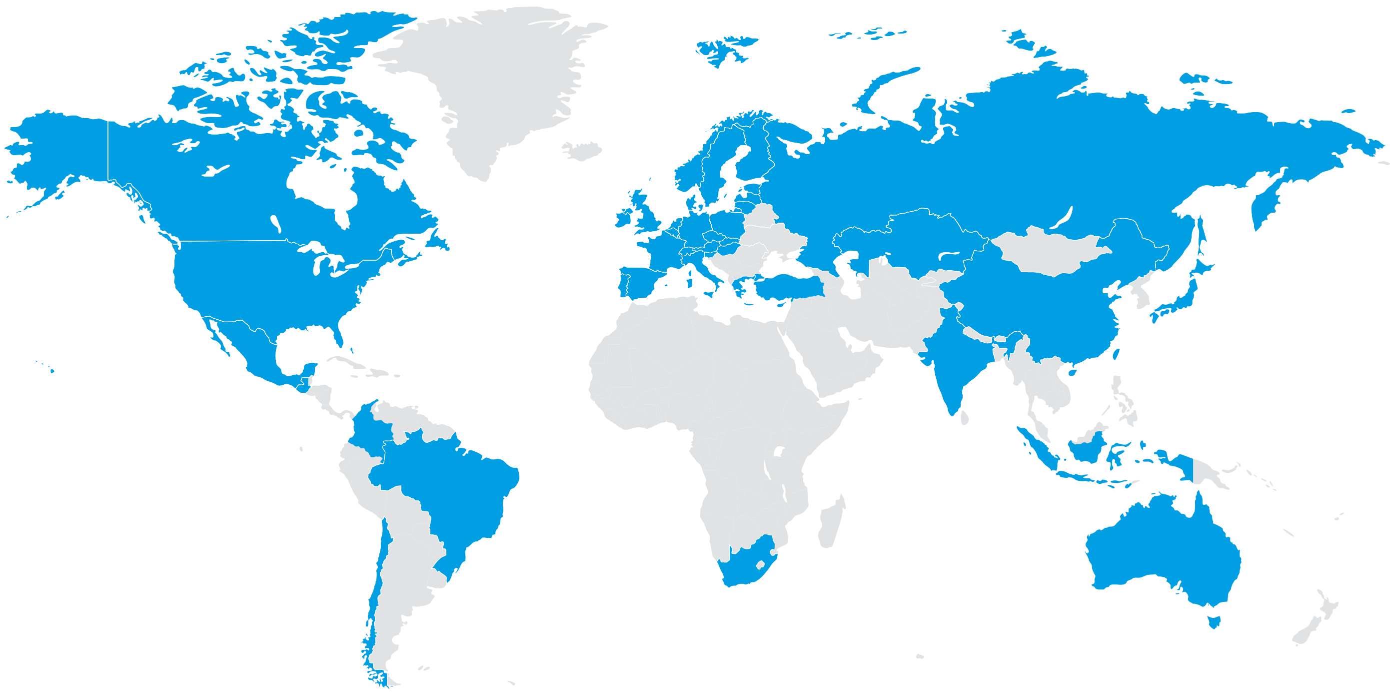
In 2018, Outokumpu had 9,177 suppliers in 56 countries. 87% of the suppliers are located in Finland, Germany, Sweden, the UK, the US and Mexico, where Outokumpu has production. In those locations where we have significant production sites with melt shops, local suppliers account for 12% of purchases. There were no major changes in the supplier base during the year.

We take into account the OECD Due Diligence Guidance for Responsible Supply Chain. In 2018, we screened our main raw materials suppliers of ferro alloys and coke on environmental, social and governance (ESG) issues such as forced and child labor, conflicts with indigenous people or corruption and on ESG risks of countries of origin. More detailed raw material suppler risk assessment will continue in 2019.

Outokumpu monitors its suppliers through self-assessment, screenings and audits. In addition, most of the suppliers are going through a monthly compliance screening for sanctions. Outokumpu renewed its supplier requirements and the related supplier assessment approach in 2017. The new approach was piloted during 2018. A small number of existing and new suppliers were invited to a self-assessment. Additionally, four suppliers were audited on-site. The self-assessments and audits were based on Outokumpu's supplier requirements and focused on evaluating the suppliers' social and environmental responsibility and quality management. As a result of the assessments, improvement opportunities and requirements were identified and agreed with the suppliers.

Environmentally sustainable transportation

Outokumpu's target is to transport as much of its products by rail and ship as possible. There was no change of transport mode compared to 2017. Our mills have various programs and targets to make transportation more environmentally friendly. For example, our mill in Avesta is participating in a local electric road project and switching to biofueled trucks. In 2018, the total transport emissions increased by 3% because of the new site in Fagersta, higher ferrochrome production and better coverage of transport data in Mexico. In 2018, chrome concentrate transport was taken in account to calculate CO_2 emissions of internal transport. It counts for about 1% of 2018 transport emissions. ■



Material and service suppliers

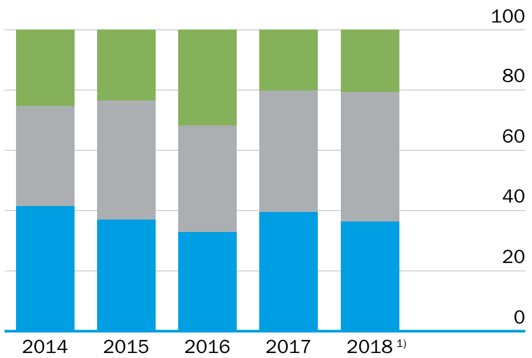
● Outokumpu supplier countries, including the most important supplier countries with purchases of more than 50,000 euro.

Energy efficiency

Outokumpu's operations are energy intensive. For the recycled steel to melt, it is heated to over 1,400°C. The process requires a high amount of electricity as the best available technique for melting recycled steel is to use electric arc furnaces.

Outokumpu is continuously striving to make its production operations more energy efficient and minimize its environmental impacts. Although the melting of recycled steel and the production of stainless steel use a lot of energy, stainless steel enables more energy efficient solutions from a life-cycle perspective by saving energy during its use phase. Our goal is to improve the energy efficiency of our operations by 1% each year until 2020. In 2018, our improvement of energy efficiency calculated as a sum of different process steps was 8.9% compared to the baseline 2007–2009. This was below our target for 2018 but it still corresponds to a saving of 0.9 million MWh. In 2018, we had challenges due to changes in product mix and technical and maintenance interruptions.

Origin of electricity, %



1) Includes electricity mix of Mexico for the first time.

Reduction potential

The biggest energy-saving potential lies in the optimization of yield through high utilization of facilities and recovery of waste heat. Energy reduction and efficiency plans are included in environmental management systems at all our sites. Over the past years, we have been able to improve our overall energy efficiency by reorganizing production sites, optimizing our internal supply chain and increasing our capacity utilization globally.

Electricity is the largest item in our energy consumption but we also use natural gas, propane and other fuels, such as diesel. Fossil fuels cover about 82% of our total fuel consumption. Outokumpu doesn't consume renewable fuels in production processes but we use own recovered carbon monoxíde process gas and this makes up 18% of fuel consumption. Process gases and their heat are also used to heat buildings on the site.

Towards low-carbon energy

Outokumpu has centralized energy procurement in order to secure sufficient energy supply, to ensure predictable, competitive and stable energy prices and to optimize the energy portfolio.

Outokumpu participates in several programs that promote the use of low-carbon energy such as wind power, hydropower, combined heat and power as well as nuclear power. For example, a combined heat and power plant in Tornio produces heat for the Tornio site out of recovered process gases, and in Dahlerbrück, Germany, we have our own hydro power plant to generate some 10% of the electricity needed in the production. Outokumpu is a shareholder in a wind power park in Tornio, in a hydro-power plant in Norway and in a new nuclear power plant project in Finland.

A fuel change from propane to liquified natural gas started at the Tornio site in 2018. CO_2 reductions are expected in 2019 after the first implementation phase.

The aim of all these measures is to secure our energy supply and to reduce our CO_2 emissions. In 2018, 63.6% of our electricity sources came from low-carbon (renewable and nuclear) sources.

Energy used in operations

Terajoules, TJ	2018	2017	2016
Electricity	**17,189**	16,325	16,734
Carbon monoxide gas	**2,275**	2,003	2,405
Natural gas	**4,623**	4,241	4,078 1)
Propane	**4,754**	5,016	4,639
Diesel, light and heavy fuel oil	**662**	580	614
Energy	**29,502**	28,164	28,355
Energy use in GJ per tonne crude steel	**10.1**	9.3	9.7

Data includes the new site in Fagersta for July–Dec 2018.
1) Data for 2016 has been restated.

Environmental impacts to a minimum

We reduce the impact on the environment by proactively developing our production processes, energy and material efficiency and solutions for by-products of our operations.

The biggest environmental impacts of stainless steel production are dust emissions into the air, water discharges from production, use of direct and indirect energy, and waste created in the production process.

Dust emissions kept at low levels

Dust and scales are generated in our operations by steel melting and rolling processes. Dust and scales are collected, treated and, whenever possible, recycled at our own production. For example, raw material metals (chromium, nickel and molybdenum) are recovered from dust and scales through specialist recovery plant.

Our dust filtering systems are extremely efficient and remove 99% of the particles. With the production of 2,913,794 tonnes of stainless steel, the measured particle emissions from all of our production processes was 388 tonnes in 2018 (2017: 366 tonnes). The majority of particles were emitted from the ferro-chrome production process with 313 tonnes with the increased ferrochrome production (2017: 193 tonnes). However, emission measurement results in this process include high uncertainty causing remarkable fluctuation in results year by year.

The level of dust emissions from the melt shops is well within the limits of environmental permits. No significant further reduction is expected.

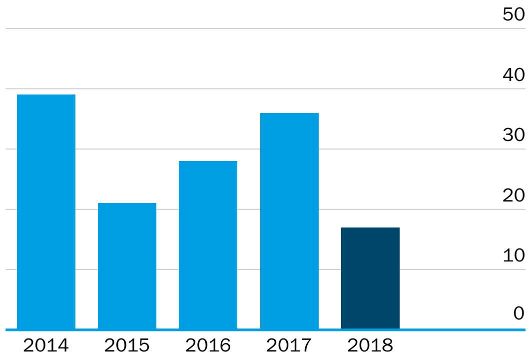
As our main raw material is recycled steel, we take all possible precautionary measures to check the input material for any unwanted content, such as mercury and radioactive contaminated material. Despite these precautionary measures, mercury or radioactive material is sometimes noted only when the steel is melted. All input material, the product liquid steel and waste gas of melting process, is controlled on radioactive contamination.

There were three incidents involving radioactive material in 2018. One was detected before melting. The other two cases were managed in coordination with the competent authority. The slightly radioactive contaminated slag and dust were safely deposited on a special area. The mercury emissions of our plants were minor and amounted to less than 211 kg (2017: 185 kg) from our European melt shops. To reduce mercury emissions waste gas is treated by an absorptive technique. We work together with our suppliers to decrease the amount of unwanted materials in our production processes.

Water is reused in production

Water is needed in stainless steel production for cooling, pickling and cleaning. We reuse water as much as possible in our own operations. Some water also evaporates and leaves the system. All wastewater is treated in the company's own treatment plants or in municipal water treatment systems before it is discharged. The main discharges into water are metals and nitrates. The discharge is measured and supervised by authorities. Wastewater treatment depends on the contamination of the wastewater. The water is treated directly in the water circle at the process step and/or before discharge. According to the needs treatments are oil skimming, neutralization, flocculation and sedimentation to

Steel melt shop particle emissions, grams/t



extract metals and, when necessary, a Cr(VI) reduction process. Nitrate is often treated in the organic municipal water treatment.

Water used in the production is mainly surface water. In 2018, withdrawal of water increased, because of warm weather condition which increased evaporation and the need for cooling water. Impact of water withdrawal in 2017 is evaluated at sites where river water is used, and data of the river water is publicly available. The impact is screened by the percentage of withdrawn water compared to the river flow on a yearly base. All sites resulted in no impact on the river which means the withdrawal was below 5%.

Outokumpu operates a cold rolling mill in San Luis Potosí, Mexico, in a dry, arid area, where groundwater is a scarce resource for people. The water withdrawal of this site is 0.7% of Outokumpu's

Water withdrawal and discharges

Million m^3	2018	2017	2016
Surface water	**44.6**	38.2	37.9
Municipal water	**1.4**	1.2	1.2
Groundwater [1]	**2.5**	1.2	1.4
Rainwater [1]	**1.2**	2.4	1.7
Water withdrawal by source	**49.7**	43.1	42.2
Water discharges by type and destination			
Cooling water out	**13.4**	12.5	14.6
Wastewater out	**23.4**	20.5	21.6
Discharge to surface water	**22.2**	19.2	20.2
Emissions to water			
Metal discharges to water, tonnes	**25**	24	36
Nitrogen in nitrates, tonnes [2]	**1,443**	1,308	1,344

[1] Refined reporting on mining water resulted in change from rainwater to groundwater in 2018.

[2] Data restated to give the discharged nitrate. Part of the nitrates are treated in a municipal treatment plant.

total water withdrawal. Water is used in our production process in annealing, pickling and cooling. It is undergoing an exceptional treatment and recycled as much as possible, and only a few cubic meters are discharged to municipal wastewater system. Small amounts of cleaned water percolates to groundwater again.

The reported nitrate discharge increase will further be evaluated in 2019.

Impacts of mining operation are limited

Outokumpu operates a chromite mine in Kemi, Finland. We are a member of The Finnish Network for Sustainable Mining, which was established to act as a discussion platform and to develop practical tools to improve the sustainability of mining and ore exploration in Finland. Kemi mine follows the Finnish sustainability standard for mining.

The environmental impacts of the mine are very limited due to the nature of the process, as the minerals are very stable, and chemicals are not used in the beneficiation process. There were no major changes in 2018, and the emissions have remained stable at very low levels. Dust emissions are minimal due to the underground mining. The biggest impact on environment from the mine are nitrates in the wastewater which originate from explosives. However, the amount of nitrates are reduced in the internal water recycling system of the mine.

Kemi mine is almost self-sufficient with water as it recycles water on site and collects rainwater. The mine site takes water outside the area only from municipal supply (0.03 million m^3 in 2018) and surface water from nearby fresh water canal (0.06 million m^3 in 2018). Fresh water from canal is used only during maintenance breaks and special situations. Normal situation is that concentrator plant takes water from tailings ponds and pumps back approx. same amount.

The mine district is 9.16 km^2 by its size and rainwater amounts to this area are significant (rainfall in 2018 was 486.3 mm). The amount of direct rainfall to tailings site excluding evaporation was about 0.5 million m^3. From tailings clarifying pond area there is discharge point where 0.89 million m^3 is discharged to receiving water body. Rainwater from old open pit is also pumped to receiving water body which was 0.62 million m^3 in 2018. There are also seapage waters that cannot be measured. Land use of mining is limited to the existing mining area as mining is underground. Tailing sand is deposited in tailing ponds of the mine area which will be landscaped as forests when full.

Environmental costs of actions and compliance

Costs for environmental-related activities for 2018 amounted to EUR 117 million. Operational costs were EUR 111 million and include process-related treatment, disposal and remediation costs of waste and emission reduction into air and water. In 2018, some EUR 2.7 million was invested in the improvement of dust and mercury reduction at Tornio site, Finland. Read about

Our environmental network follows closely the quarterly environmental performance of our operations, their permit status and legal compliance. The network conducts internal site audits in the production units according to risk screening. In 2018, there were 18 permit breaches, but all were temporary and insignificant. Outokumpu reported each incident to environmental authorities, carried out corrective actions immediately or resolved the incidents together with the authorities. No environmental damage was reported.

Biodiversity

The production of stainless steel does not occupy or reserve large areas of land, or have a significant effect on the biodiversity of the surrounding natural environment. Outokumpu's production sites are not located in sensitive areas. However, Outokumpu has identified areas of high biodiversity value that are owned by the company or adjacent to our sites in Dahlerbrück, Germany, Kemi and Tornio, Finland, and Calvert, Alabama, in the US.

Outokumpu regularly monitors the environment of its production sites. Areas once utilized by production are remediated for further use. More informarion on biodiversity on our website. ■

Resource efficiency and circular economy

Outokumpu is deeply connected to circular economy as stainless steel is one of the most recycled materials in the world.

Our approach is two-fold: we aim to both reduce the total volume of landfill waste from our own operations and increase the proportion of materials sold as by-products.

In fact, our stainless steel mills are significant recycling facilities, producing new products out of recycled steel, recovering and recycling everything reasonable in our production and finally selling by-products from the manufacturing process to replace natural resources.

Products with very high recycled content

Recycled steel from both stainless and carbon steel is our most important raw material. The recycled content according to ISO 14021 was 84.3%. This includes pre- and post-consumer scrap. Including the use of recycled metal from our waste streams, the recycled content of our products was 88.6% in 2018. Our ambitious target is to reach 90% recycled content by 2020.

One key factor in reaching such a high level of recycled content is the recovery and recycling of metals from the production processes, for instance from dust. Dust is either treated on the site or by an external facility for a recycling in melt shop.

In addition to metals, other raw materials, such as slag formers, acids and gases, are needed in the production process although they do not become part of the stainless steel products. As far as reasonable, these are also recovered and recycled in the process. For instance, used acids are regenerated for re-use and hydrogen from bright annealing process are recovered in the furnace of the process. Some of these input materials are used to minimize or prevent emissions to the environment.

Aim to reach zero waste to landfill

While waste is recycled whenever possible in our own production, our production still generates landfill waste. We strive further to reduce this, and our long-term goal is to generate zero landfill waste. In 2018, Outokumpu produced more landfill waste as a new site was included and the market for slag use decreased. The total amount of waste was 1.5 million tonnes which means that the landfilled waste per tonne stainless steel also increased to 0.47 (2017: 0.36).

The biggest waste items at Outokumpu are slag that are not reused, tailing sand from the mining operation and dust and scales from the stainless steel production.

The amount of tailing sands from the mining operation increased in 2018 compared to the previous year, as the production of chrome concentrate increased. 65.6% of waste was tailing sand deposited in the pond of mining area itself and further 25.5% was landfilled waste according to the permit of the landfill. 4.5% of waste could be recycled and 4.4% recovered. Other recovered material like lime, bricks and some sludges are mostly used in our melting shops to substitute virgin additive materials like slag formers.

Total waste development

Turning slag into by-products

Outokumpu used 1.4 million tonnes of slag as the main by-product of operations. Slag is essential material in the steel melting process, and it is made from limestone or other natural minerals. One of the most important ways to reduce the amount of waste of steel production is to turn slag into products for useful use.

Outokumpu has developed slag-based mineral products for road construction, refractory and concrete production and for water treatment. The use of our slag by-products reduces the amount of waste, saves virgin materials and leads to lower CO_2 emissions. For example, in road construction, slag is both environmentally and economically sustainable solution.

In 2018, the use rate (including use, recovery and recycling) of all slag was 89.9%*. The remaining 160,000 tonnes of slag were sent to landfill. The use rate depends on the local market for construction materials and on the acceptance of secondary material instead of virgin materials.

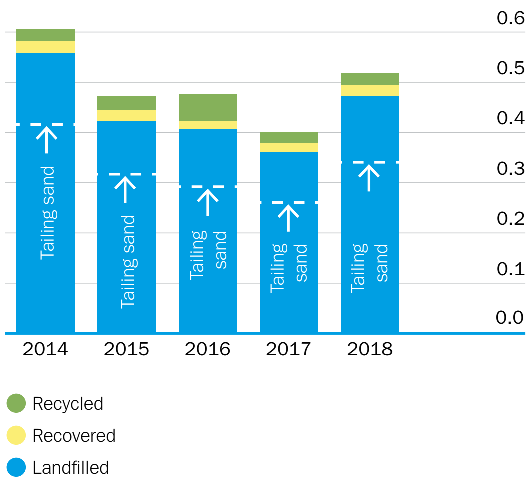
*Restated compared to the indicator in the company's Review by the Board of Directors as the data for slag use for one site was not available before finalization of the Review.

Total and hazardous waste

Tonnes	**2018**	2017	2016
Tailing sand	**991,391**	784,585	856,245
Other waste	**519,786**	423,383	966,281
of which hazardous waste	**163,555**	144,617	139,224
recycled	**15,414**	14,506	13,224
recovered	**47,700**	41,171	43,521
landfilled	**100,442**	88,939	82,485

2017 data has been restated for continuing sites.

Total waste development, tonnes per tonne steel



Protecting the climate

Climate change is one of the major challenges in today's world. For Outokumpu, it means both the reduction of our carbon profile and the possibility to offer solutions for low carbon society and reduce carbon emissions during the use phase.

Reduced carbon profile with stainless steel

The use of Outokumpu cold rolled stainless steel products reduces the carbon footprint of our customers' products. Our environmental product declarations (EPDs) offer life-cycle inventory data of our main products, making it possible for our customers to calculate sustainability performance over their products' life cycle. EPDs are standardized and verified externally.

Where do our emissions come from?

The greenhouse gas emissions from Outokumpu operations are limited to CO_2 emissions. These emissions come directly from the production (scope 1), indirectly from the use of electricity (scope 2) and mainly from upstream emissions of the use of materials (scope 3).

Direct emissions originate from the carbon content of our raw materials in our operations – reducing agent, ferroalloys and graphite electrodes, which are used in the melting process of ferrochrome and stainless steel production. The use of these materials causes process-related CO_2 emissions, which cover about 20% of our direct CO_2 emissions. The other direct emissions come from the use of fossil fuels as the energy source in furnaces for the process heat and the use of CO gas from ferrochrome production in several processes.

Indirect emissions are caused by the use of electricity. These emissions are followed by market-based emission factors from suppliers of Outokumpu's electricity mix. Electricity emissions are also published on location-based emissions factors.

Other indirect emissions for steel productions are mainly upstream emissions of material use as ferroalloys (except ferrochrome which is included in direct and indirect emissions of scope 1 and 2) and lime and to a lesser extent from transportation. At the moment, there are no estimation methods for the complex downstream emissions of stainless steel available.

Towards less carbon usage

Improving our energy efficiency directly reduces the need of primary energy and leads to lower CO_2 emissions. Our efforts towards a circular economy reduce emissions by replacing raw materials and emissions from their productions processes. These are our main roadmaps towards low carbon production because in stainless steel and ferrochrome industries there are no signs of rapid new breakthrough technologies in this area.

Outokumpu is committed to the Science Based Targets Initiative. The initiative considers companies' greenhouse gas reduction targets "science-based" if they are in line with the level of decarbonization required to keep global temperature increase below 2°C compared to pre-industrial temperature. Outokumpu follows the convergence criteria of steel industry's decarbonization approach: to reduce emission intensity to 0.92 t CO_2 per tonne of crude steel by 2050. Specific electricity emissions follow the electricity decarbonization approach, where the specific emission reduction target is 95% by 2050.

At the beginning of 2019, the Science Based Target initiative approved Outokumpu's target: to reduce scope 1, 2 and 3 GHG emissions 20% per ton of stainless steel by 2023 from a 2014–2016 base-period. The baseline of the three years was chosen to get the most recent baseline after the restructuring of the company and to avoid the influence of yearly fluctuations. Emission intensity refers to emissions per tonne of produced steel.

CO_2 emission intensity on target track

In 2018, Outokumpu consumed overall 29,500 TJ of primary fuels and electricity. This was an increase of about 5% mainly caused by an increase of the ferrochrome production and inclusion of a new site in Fagersta, Sweden. Accordingly, the intensity figure increased to 10.1 GJ per ton steel.

The high recycled content in our products contributes to the reduction of scope 3 emissions. For the whole year, the total specific CO_2 emissions reduced by 7.7% compared to baseline 2014–2016. Scope 3 emissions could significantly be reduced compared to 2017 as the ferrochrome production reached the expected level and could sell ferrochrome outside the company. Emissions allocated to sold ferrochrome were not included in the target report for the stainless steel.

Investments in productivity during the past few years have made Outokumpu's production sites highly efficient in their use of energy and other resources. This is also an opportunity to stay competitive under the emissions trading system.

All data on CO_2 emissions

Emissions trading and fair competition

Besides voluntary commitments, Outokumpu's European mills fall under the European Union Emissions Trading Scheme. In total, almost 1.03 million tonnes of a total 1.27 million tonnes of CO_2 emissions are covered by the system.

The EU Emissions Trading Scheme (ETS) is continuing by the third trading period 2013–2020. Outokumpu's European operations under the EU ETS will continue to receive free emissions allocations according to efficiency-based benchmarks and historical activity. The total phase allocation will be sufficient for the European operations during the rest of the trading period 2018–2020, although individual plants are in deficit. Total free allocation for the year was below emissions in 2018.

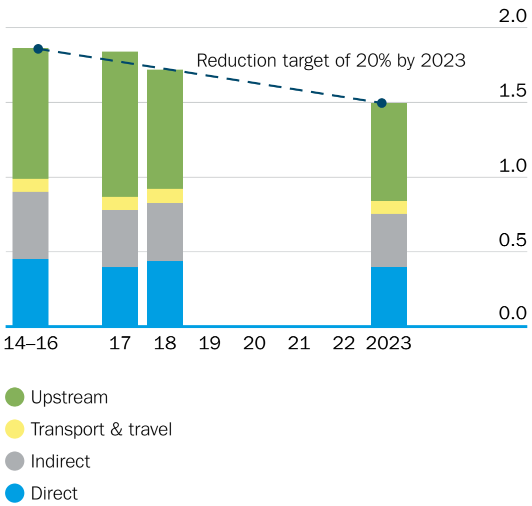
The main risk of the emissions trading system to Outokumpu involves the pass-through costs of allowances to the electricity price, which also depend on the allowance trading price. Therefore, national electricity price compensations are important for energy-intensive European industry also in the future. These small compensations are supporting producers in the intense international competition against non-European competitors who do not have additional carbon costs. Outokumpu collaborates with industry associations to determine and promote this position.

The next trading phase from 2020–2030 is decided and further details are in preparation. The general rules for Outokumpu will remain the same as in the ongoing period. The company will fall in short position as the product benchmark significantly reduces and the fuel input benchmark will end up with zero free allocation. Significant cost increase is expected as the electricity price increase will follow the allowances price increase and, additionally, allowances have to be bought and paid in this period.

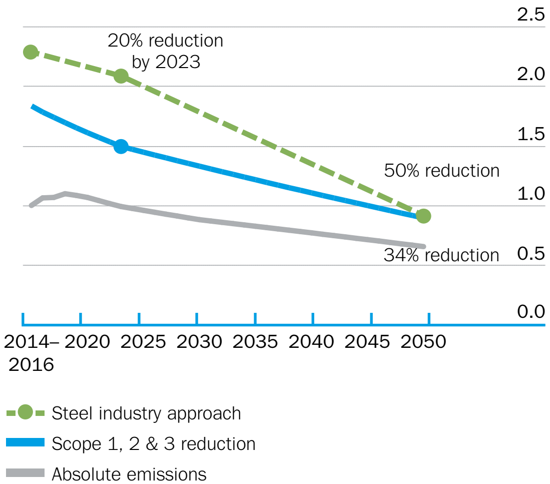
The EU Emissions Trading Scheme was originally built on production emissions and especially thinking on incineration of fossil fuel. It does not take into account the product life span. This is misleading for metal and steel products because they decrease CO_2 emissions during their life span more than their production phase causes. There is no positive correction factor or credit for such products or industry in the system.

Target for science based target criteria

Outokumpu's CO_2 emission intensity, tonnes of CO_2 per tonne steel



Outokumpu's emissions forecast under SBT conditions, tonnes of CO_2 per tonne steel [1)]



1) Restated according to the target approved by SBT initiative.

Long-lasting customer relations

Delivering the best customer experience and improving customer satisfaction are important focus areas for Outokumpu.

We work with our customers and partners to create long lasting solutions for businesses, modern life and the world's most critical problems such as clean energy, clean water, and efficient infrastructure.

By choosing Outokumpu's stainless steel, our customers can be certain that they get the highest quality products manufactured with lowest environmental impact. We adhere to the strictest sustainability and corporate responsibility guidelines to ensure world-class, high quality operations and materials.

We enable more sustainable business to our customers

Outokumpu has a strong customer base spread across the globe on every continent and balanced over a range of industries. Our customers operate for example in building and construction, produce energy and manufacture appliances and cars. The majority of our customers are based in areas where we have our own production: Europe, the US and Mexico. We also have a global sales and service center network that serves customers on all main continents.

Achieving commercial excellence is one of our six must-win battles. This means we need to take care of our customer relations successfully and act in a responsible manner. Our goal is to increase our customers' competitiveness with our products by improving their efficiency, profitability and sustainability. Continuous feedback and interaction with customers help us to improve our understanding of customers' needs, their challenges and their business environments.

With the right material choices, we aim for increased efficiency and profitability in a sustainable way. We continuously innovate and improve both our operations and our products so we can offer more benefits to our customers. Together with our customers we can find new application areas where stainless steel can make a positive impact as a more sustainable solution.

Improving customer satisfaction

We collect feedback from our customers on a regular basis. This feedback helps us to achieve our growth targets and guides us in improving our performance, at both strategic and operational levels. The overall aim is to have a mutually beneficial process that helps us improve the three basic building blocks of customer satisfaction: customer support, delivery performance and product quality.

Our goal is to achieve the level of 75% in customer satisfaction by 2020. This goal is directly linked to our 2020 vision and must-win battle for commercial excellence. To track performance in this field, Outokumpu conducts customer satisfaction surveys approximately every second year. The latest survey was conducted in spring 2018.

In 2018, around 1,200 customers were interviewed for the survey. The overall customer satisfaction with Outokumpu improved considerably from the previous survey: 63% of respondents were absolutely or very satisfied with Outokumpu while the corresponding rate in previous survey conducted in 2016 was 57%. High product quality, competent sales personnel and ease of doing business were mentioned as Outokumpu's strengths.

The areas requiring development relate in particular to delivery performance and claims handling. Both topics are currently key focus areas for us, and we have several on-going initiatives to improve our performance in both areas. ■

Sustainable stainless

As a material, stainless steel is strong, corrosion resistant, durable, safe and hygienic. It is also fully recyclable, and its quality does not degrade during reprocessing.

In many ways, stainless steel is the perfect answer to the challenges the world is now facing – limited resources, urbanization, climate change, and scarcity of clean water.

Recycling, durability, and improved performance

Due to its recycling characteristics, stainless steel is well poised to meet the demands of a future sustainable society: the possibility of recycling a product saves resources, as it reduces the need to extract new minerals from the ground. Stainless steel is 100% recyclable and Outokumpu stainless steel has one of the highest contents of recycled materials in the industry.

Durability is also important. Manufacturing an application only once, instead of several times during a certain time period due to breakdowns and repair, naturally consumes a lower amount of resources. Stainless steel helps to prolong the lifetime of applications, such as in bridges which are susceptible to corrosion or in components like a car's exhaust pipe system.

Outokumpu strives to improve the properties of stainless steel even further and support customers to utilize them in their applications. An example is a modular concept for wastewater treatment tanks that makes them much more flexible for expansion. Water is an increasingly scarce resource, and the worldwide rising consumption of fresh water makes wastewater treatment more and more important. Innovative wastewater treatment tanks are made from Outokumpu Forta Duplex stainless steel.

Outokumpu has made environmental assessments on its steel and revised its Environmental Product Declarations (EDPs) for its main products. The new EPDs also include Business Area Americas. EDPs describe the main environmental effects and energy needs of our stainless steel throughout their supply chain and help customers to calculate sustainability performance over their products' life cycle. EPDs are standardized and verified externally.

Safe stainless

Stainless steel in its manufactured forms – as delivered by Outokumpu to our customers – is inert, non-reactive, and non-toxic. The industrial processes of reprocessing stainless steel by, for instance, welding and pickling, can release substances or fumes. Outokumpu provides customers with a safety information sheet or safety data sheets for all our products. This safety information helps our customers to process our stainless steel products in a safe manner. Outokumpu also complies fully with European regulations on REACH and RoHS requirements.

Product, application, and technical market development

The direction of Outokumpu's product, application, and technical market development is driven by global megatrends, such as economic and population growth, mobility, urbanization, climate change, and limited resources. We work closely with our customers in order to align our activities with their current and future needs. The key focus is the development of long-lasting, sustainable material solutions providing advantages over the entire product life cycle.

Partnership with customers

Outokumpu responds to customer needs. As an example, we performed testing according to the new Chinese food contact standard to insure that our product is in line with the requirements. ■

Scope of the report

Outokumpu has published its sustainability review as part of the Annual Report 2018. Sustainability information is also available at www.outokumpu.com/sustainability.

Outokumpu reports on the material developments of continuing sites and changes in 2018 as part of the Annual Report. Data reported includes all continuing sites and half year's data of the new site in Fagersta, Sweden. Additional information is published on the company's website. The Annual Report 2017, including Sustainability Review, was published in February 2018.

Outokumpu's report has been prepared in accordance with the GRI Standards: Core option according to the GRI Standards reporting requirements. The materiality assessment from 2018 and continuous communication with stakeholders were the basis for the decision on material topics and relevant disclosures.

Full GRI disclosure

The independent practitioner's assurance report on the limited assurance conclusion is available on page 23 in the Sustainability review. The Financial Statements 2018 have been audited, and the auditor's report is available on page 67 in the Review by the Board of Directors and Financial statements section.

Measurement and estimation methods

Economic responsibility

Most figures relating to economic responsibility presented in this report are based on the consolidated financial statements issued by the Outokumpu Group and collected through Outokumpu's internal consolidation system. Financial data has been prepared in accordance with International Financial Reporting Standards (IFRS). Outokumpu's accounting principles for the Group's consolidated financial statements are available in note 2 to the consolidated financial statements.

All financial figures presented have been rounded, and consequently the sum of individual figures may deviate from the presented aggregate figure. Key figures have been calculated using exact figures. Using the GRI guidelines as a basis, economic responsibility figures have been calculated as follows:

Direct economic value generated

Direct economic value generated includes all revenues received by Outokumpu during the financial year. The sources of revenue include sales invoiced to customers, net of discounts and indirect taxes, revenues reported as other operating income (including gains from the disposal of Group assets), and revenues reported as financial income, mainly dividend and interest income.

Economic value distributed

Operating costs include the cost of goods and services purchased by Outokumpu during the financial year. Employee benefit expenses include wages and salaries, termination benefits, social security expenses, pension and other post-employment and long-term employee benefits, expenses from share-based payments and other personnel expenses. Taxes paid to the government include income taxes. Deferred taxes are excluded from the figure. Payments to providers of capital include interest costs on debt and other financial expenses during the financial year. Capitalized interest is deducted from this figure. The dividend payout is included in the payments to providers of capital according to the proposal by Outokumpu's Board of Directors.

Community investments consist of donations to and investments in beneficiaries external to the company.

Local suppliers

In this report, vendors are defined as local if they are located in the same city or municipality as the Outokumpu location. Significant locations for suppliers are production units that have a melt shop, ie. Avesta, Sweden; Calvert, the US; Sheffield, the UK and Tornio, Finland.

Environmental responsibility

Outokumpu's climate change target is based on science and approved by the Science Based Target initiative. The target includes CO_2 intensity of direct and indirect emissions of electricity and upstream emissions. Emissions are consolidated on production control.

CO_2 emissions of electricity are calculated and monitored by the emissions factor of Outokumpu's electricity mix of 239 kg CO_2/MWh (2017: 254 kg CO_2/MWh, restated with emission from site in San Louis Potosi, Mexico), given by the electricity supplier for the used electricity and calculated as weighted average. Where supplier does not communicate on customers delivery published e-factors are taken. In addition, the location-based electricity emissions are disclosed. They are calculated by the published country-specific emissions factors of the electricity generation of 2016 or 2015.

CO_2 emissions outside the company (scope 3), except electricity, are covered by more than 96%. They are calculated as follows:

- For alloys: by emissions factors of the life-cycle assessment of relevant association.
- For used gases, lime and dolomite, electrodes and coke: by emissions factors of ISO 14404.
- For upstream emissions of coke and oil: by emissions factors of World Steel Association.

- For internal and product transport: by typical distances and type of transport with the corresponding emissions factors. The coverage of reporting includes all modes of transport. In 2018, internal concentrate transportation is included and restated back to the baseline period 2014–2016.
- For business travel: by estimated driven kilometers with emissions factors for the car, and for flights by CO_2 reports of the flight companies. Rental car emissions are included by the rental car company report.

Upstream transport was assessed on data of environmental product declaration of 2014 but excluded from scope 3 emissions.

The recycled content is calculated as the sum of all recycled steel and metals from own waste streams entering the melt shop compared to stainless steel production.

Energy efficiency is defined as the sum of specific primary and electricity energy of all processes calculated as energy consumption compared to the product output of that process. It covers all company productions: ferrochrome, melt shop, hot rolling and cold rolling processes. Used heat values and the consumption of energy are taken from supplier's invoices. Water withdrawal is measured for surface water, taken from municipal suppliers and estimated for rainwater amount.

Social responsibility

Health and safety figures

Health and safety figures reflect the scope of Outokumpu's operations as they were in 2018.

Safety indicators (accidents and preventive safety actions) are expressed per million hours worked (frequency). Safety indicators include Outokumpu employees, persons employed by a third party (contractor) or visitor accidents and preventive safety actions. A workplace accident is the direct result of a work-related activity and it has taken place during working hours at the workplace.

Accident types

- Lost-time incident (LTI) is an accident that caused at least one day of sick leave (excluding the day of the injury or accident), as the World Steel Association defines it. One day of sick leave means that the injured person has not been able to return to work on their next scheduled period of working or any future working day if caused by an outcome of the original accident. Lost-day rate is defined as more than one calendar day absence from the day after the accident per million working hours.
- Restrictive work incident (RWI) does not cause the individual to be absent, but results in that person being restricted in their capabilities so that they are unable to undertake their normal duties.
- Medically treated incident (MTI) has to be treated by a medical professional (doctor or nurse).
- First-aid treated incident (FTI), where the injury did not require medical care and was treated by a person himself/herself or by first aid trained colleague.
- Total recordable incident (TRI) includes fatalities, LTIs, RWIs and MTIs, but FTIs are excluded.
- All workplace accidents include total recordable incidents (TRI) and first aid treated incidents (FTI)

Proactive safety actions

Near-miss incidents and hazards refer to events, situations or actions that could have led to an accident, but where no injury occurred. Safety behavior observations (SBOs) are safety-based discussions between an observer and the person being observed. Other preventive safety action includes proactive measures.

Sick-leave hours and absentee rate

Sick-leave hours reported are total sick leave hours during a reporting period. Reporting units provide data on absence due to illness, injury and occupational diseases on a monthly basis. The absentee rate (%) includes the actual absentee hours lost expressed as a percentage of total hours scheduled.

Total personnel costs

This figure includes wages, salaries, bonuses, social costs or other personnel expenses, as well as fringe benefits paid and/or accrued during the reporting period.

Training costs

Training costs include external training-related expenses such as participation fees. Wages, salaries and daily allowances for participants in training activities are not included, but the salaries of internal trainers are included.

Training days per employee

The number of days spent by an employee in training when each training day is counted as lasting eight hours.

Bonuses

A bonus is an additional payment for good performance. These figures are reported without social costs or fringe benefits.

Personnel figures

Rates are calculated using the total employee numbers at the end of the reporting period. The calculations follow the requirements of GRI Standards. The following calculation has been applied e.g.

Hiring rate = New Hires / total number of permanent employees by year-end

Average turnover rate = (Turnover + New Hires) / (total number of permanent employees by year-end × 2)

Days lost due to strikes

The number of days lost due to strikes is calculated by multiplying the number of Outokumpu employees who have been on strike by the number of scheduled working days lost. The day on which a strike starts is included. ■

Independent Practitioner’s Assurance Report

To the Management of Outokumpu Oyj

We have been engaged by the Management of Outokumpu Oyj (hereinafter also the Company) to perform a limited assurance engagement on selected sustainability disclosures for the reporting period 1 January to 31 December 2018, disclosed in Outokumpu Oyj's Sustainability Review 2018 and in Outokumpu Oyj's online sustainability tool. In terms of the Company’s GRI Standards reporting and GRI Standards Content Index, the scope of the assurance has covered economic, social and environmental sustainability disclosures listed within the Topic-Specific Disclosures as well as General Disclosures 102-8 and 102-41 (hereinafter Sustainability Information).

Management’s responsibility

The Management of Outokumpu Oyj is responsible for preparing the Sustainability Information in accordance with the Reporting criteria as set out in the Company’s reporting instructions and the GRI Sustainability Reporting Standards of the Global Reporting Initiative. The Management of Outokumpu Oyj is also responsible for such internal control as the management determines is necessary to enable the preparation of the Sustainability Information that is free from material misstatement, whether due to fraud or error.

Practitioner’s independence and quality control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

PricewaterhouseCoopers Oy applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Practitioner’s responsibility

Our responsibility is to express a limited assurance conclusion on the Sustainability Information based on the procedures we have performed and the evidence we have obtained. Our assurance report has been prepared in accordance with the terms of our engagement. We do not accept, or assume responsibility to anyone else, except to Outokumpu Oyj for our work, for this report, or for the conclusions that we have reached.

We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 “Assurance Engagements other than Audits or Reviews of Historical Financial Information”. That standard requires that we plan and perform the engagement to obtain limited assurance about whether the Sustainability Information is free from material misstatement.

In a limited assurance engagement the evidence-gathering procedures are more limited than for a reasonable assurance engagement, and therefore less assurance is obtained than in a reasonable assurance engagement. An assurance engagement involves performing procedures to obtain evidence about the amounts and other disclosures in the Sustainability Information. The procedures selected depend on the practitioner’s judgement, including an assessment of the risks of material misstatement of the Sustainability Information.

Our work consisted of, amongst others, the following procedures:

- Interviewing senior management of the Company.
- Visiting the Company’s Head Office as well as one site in Finland.
- Conducting two video interviews with sites in Sweden and in the United States of America.
- Interviewing employees responsible for collecting and reporting the Sustainability Information at the Group level and at the site level where our site visits and video interview were conducted.
- Assessing how Group employees apply the Company’s reporting instructions and procedures.
- Testing the accuracy and completeness of the information from original documents and systems on a sample basis.
- Testing the consolidation of information and performing recalculations on a sample basis.

Limited assurance conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that Outokumpu Oyj’s Sustainability Information for the reporting period ended 31 December 2018 is not properly prepared, in all material respects, in accordance with the Reporting criteria.

When reading our assurance report, the inherent limitations to the accuracy and completeness of sustainability information should be taken into consideration.

Helsinki, 21 February 2019

PricewaterhouseCoopers Oy

Sirpa Juutinen
Partner
Sustainability &
Climate Change

Jussi Nokkala
Director
Sustainability &
Climate Change

Review by the Board of Directors and Financial statements

Download the Review by the Board of Directors and Financial statements as PDF

outokumpu

Review by the Board of Directors

Year 2018 was exceptional in the stainless steel markets. The US steel tariffs and the surge of low-cost imports to Europe led to unforeseen uncertainty and volatility. The challenging market environment highlighted the importance of focusing in the areas that are in our own control. Improved safety performance, better operational reliability and cost efficiency, as well as strengthened organizational health demonstrate the positive outcomes of that relentless work Outokumpu has done during the past years. Despite the market turbulence in 2018, Outokumpu was able to maintain reasonable profitability in Europe and improve the performance of Long Products and Ferrochrome operations. However, in the Americas, higher costs together with misalignment between commercial and supply chain processes led to disappointing financial results. Going forward, a clear step-change there is needed. Decisive actions in the Americas, diligent execution of the must-win battles, and restored market balance in Europe are crucial for Outokumpu to reach the 2020 targets.

Market development

In 2018, global apparent consumption of stainless steel increased by 5.4% compared to the previous year. Americas contributed to this with a growth of 7.8% followed by growth of 5.6% in APAC and 3.4% in EMEA. (Source: SMR, February 2019)

Global real demand for stainless steel products reached 43.2 million tonnes in 2018, an increase of 4.9% from 41.2 million tonnes in 2017. Real demand growth was strongest in the Architecture, Building, Construction & Infrastructure end-user segment at 5.8%, while Industrial & Heavy Industries, Petrochemical & Energy both grew by 5.7%. Consumer Goods & Medical and Automotive & Heavy Transport achieved growth of 4.5% and 3.5%, respectively. (Source: SMR, February 2019)

Financial performance

In 2018, Outokumpu's sales increased to EUR 6,872 million (EUR 6,356 million). Stainless steel deliveries were 2,428,000 tonnes compared to 2,448,000 tonnes in 2017.

Sales

€ million	2018	2017 Restated	2016
Europe	**4,267**	4,156	3,767
Americas	**1,715**	1,546	1,325
Long Products	**740**	591	487
Ferrochrome	**542**	610	371
Other operations	**587**	503	567
Intra-group sales	**–980**	–1,050	826
The Group	**6,872**	6,356	5,690

Adjusted EBITDA decreased in 2018 to EUR 485 million (EUR 631 million) as the result was burdened by higher graphite electrode, other input and freight costs of approximately EUR 140 million. In Europe, base prices reached historically low levels due to heavy import pressure while in the US, base prices increased compared to the previous year. Improved product mix in both regions had a positive impact on the result, and earnings were further supported by improved cost efficiency and reliability of the mills. Raw material-related inventory and metal derivative losses were EUR 16 million (losses of EUR 10 million).

EBIT amounted to EUR 280 million (EUR 445 million) in 2018 and net result to EUR 130 million (EUR 392 million). The net result includes EUR 34 million (EUR 125 million) of previously unrecognized deferred tax assets mainly in the UK. Earnings per share decreased to EUR 0.32 in 2018 (EUR 0.95).

Profitability

€ million	2018	2017 Restated	2016
Adjusted EBITDA			
Europe	**248**	404	295
Americas	**–5**	21	–27
Long Products	**25**	16	–1
Ferrochrome	**210**	217	80
Other operations and intra-group items	**7**	–27	–38
Group adjusted EBITDA	**485**	631	309
Adjustments	**10**	31	47
EBITDA	**496**	663	355
EBIT	**280**	445	103
Share of results in associated companies and joint ventures	**3**	9	5
Financial income and expenses	**–107**	–127	–121
Result before taxes	**175**	327	–13
Income taxes	**–45**	65	156
Net result for the financial year	**130**	392	144
EBIT margin, %	**4.1**	7.0	1.8
Return on capital employed, %	**7.0**	11.3	2.6
Earnings per share, €	**0.32**	0.95	0.35
Diluted earnings per share, €	**0.32**	0.90	0.35
Net cash generated from operating activities	**214**	328	389

Operating cash flow of EUR 214 million in 2018 was lower than EUR 328 million in 2017. Net debt increased to EUR 1,241 million compared to EUR 1,091 million at the end of 2017. Gearing increased to 45.1% from 40.1% at the end of 2017.

Net financial expenses were EUR 107 million in 2018 (EUR 127 million). Interest expenses decreased to EUR 70 million in 2018 compared to EUR 92 million in 2017. Cash and cash equivalents were at EUR 68 million at the end of the year (EUR 112 million) and overall liquidity reserves were above EUR 0.7 billion (EUR 0.8 billion). In addition to these reserves, in

December Outokumpu agreed a EUR 120 million long-term loan facility to finance its DeepMine project in Kemi, Finland.

Key financial indicators on financial position

€ million	2018	2017 Restated	2016
Net debt			
Non-current debt	**798**	698	987
Current debt	**511**	505	458
Cash and cash equivalents	**68**	112	204
Net debt	**1,241**	1,091	1,242
Shareholders' equity	**2,750**	2,721	2,416
Return on equity, %	**4.8**	15.4	6.4
Debt-to-equity ratio, %	**45.1**	40.1	51.4
Equity-to-assets ratio, %	**45.9**	46.3	40.4
Interest expenses	**70**	92	105

Capital expenditure increased to EUR 260 million (EUR 174 million) primarily as a result of ongoing investments in the Kemi mine and the digital transformation project Chorus, including the ERP renewal, as well as the acquisition of Fagersta Stainless.

Capital expenditure

€ million	2018	2017	2016
Europe	**76**	70	81
Americas	**18**	18	17
Long Products	**30**	8	8
Ferrochrome	**79**	34	20
Other operations	**57**	44	37
The Group	**260**	174	164
Depreciation and amortization	**204**	216	226

Business areas

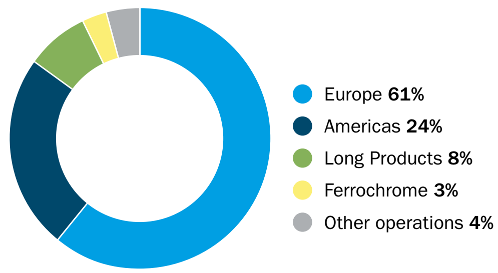
Europe's sales increased to EUR 4,267 million in 2018 (EUR 4,156 million) while adjusted EBITDA decreased to EUR 248 million (EUR 404 million). Stainless steel deliveries decreased by 2% compared to previous year and amounted to 1,547,000 tonnes (1,582,000 tonnes). Realized base prices decreased due to severe import pressure particularly during the second half of the year, but this was partly offset by significantly improved product mix. Graphite electrode and other input costs were approximately EUR 80 million higher in 2018 compared to 2017, but improved cost efficiency offset part of this impact. Raw material-related inventory and metal derivative losses were EUR 26 million (losses of EUR 24 million). In Europe, distributor inventories were slightly above their long-term average level at the end of the year. Average EU base price for 2018 amounted to EUR 903/tonne (EUR 1,123/tonne).

Americas' sales increased to EUR 1,715 million in 2018 (EUR 1,546 million), but adjusted EBITDA decreased to EUR –5 million (EUR 21 million). Stainless steel deliveries were 762,000 tonnes in 2018 (742,000 tonnes). Realized base prices increased supported by improved product mix, but significantly higher graphite electrode and other input costs together with increased freight expenses had a negative impact of approximately EUR 40 million on the 2018 result. Raw material-related inventory and metal derivative gains were EUR 20 million compared to gains of EUR 11 million in 2017. In the US, distributor inventories were above their long-term average level at the end of the year. Average US base price for 2018 was USD 90/tonne higher than in 2017 and amounted to USD 1,464/tonne.

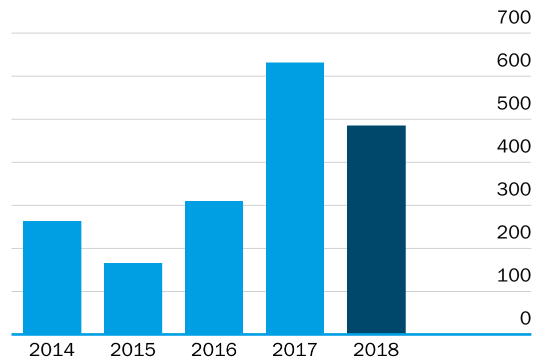
Long Products' sales increased to EUR 740 million in 2018 (EUR 591 million) and adjusted EBITDA increased to EUR 25 million (EUR 16 million). Stainless steel deliveries increased by 8% and amounted to 285,000 tonnes (264,000 tonnes). Realized base prices increased significantly, but on the other hand, graphite electrode and other input costs were approximately EUR 20 million higher in 2018 compared to the previous year. Raw material-related inventory and metal derivative impact was EUR 0 million compared to gains of EUR 3 million in 2017. The performance of the business area was supported by the acquisition of Fagersta Stainless AB in Sweden in June 2018. During the full year, demand was robust in all markets. Order intake towards the end of the year weakened in Europe driven by slowdown particularly in automotive segment. In 2018, base prices increased from the previous year.

Ferrochrome's sales decreased to EUR 542 million in 2018 (EUR 610 million). Ferrochrome production was 497,000 tonnes compared to 415,000 tonnes in 2017, when the operations were negatively impacted by production issues and

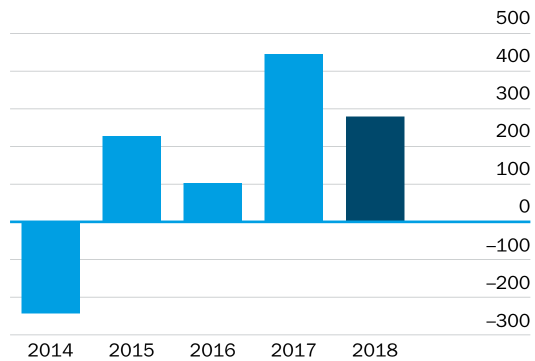
Sales, € 6,872 million



Adjusted EBITDA, € million



EBIT, € million



maintenance work. Adjusted EBITDA decreased to EUR 210 million in 2018 (EUR 217 million) as average ferrochrome contract price in 2018 was USD 0.11/lb. lower than in 2017 and costs increased primarily due to higher coke costs. 2018 adjusted EBITDA was positive impacted by the insurance compensation related to the 2017 property damage and business interruption. In 2018, the average European benchmark price for ferrochrome was USD 1.31/lb. compared to USD 1.42/lb. in 2017.

Non-financial development at Outokumpu

Outokumpu is a leading global producer of stainless steel with world-class production assets in its key markets in Europe and the Americas, and a global sales and service network close to its international customers. Stainless steel is a significant contributor to building a sustainable world. Stainless steel is used in building and construction, infrastructure, appliances, transportation, and heavy industries. It is a strong, corrosion-resistant, hygienic, and aesthetic material with a high strength-to-weight ratio and no need for maintenance. Due to these properties stainless steel consumption has been growing more rapidly than any other metal in recent decades (source: CRU, August 2017).

Outokumpu's business is based on a circular economy. Over 85% of the material used in Outokumpu's stainless steel production is recycled. By converting scrap and metal waste into new products the company also protects virgin resources. Throughout the process, Outokumpu aims to minimize the environmental impact of its production. At the end of its long life-cycle, stainless steel is fully recyclable, without any loss of quality. Outokumpu's production sites are often located in relatively small cities or towns. This means that Outokumpu is significant for the economies of small local communities and it is often one of the very few private-sector employers in the area.

The majority of external deliveries are austenitic and ferritic standard and specialty stainless steels with the remaining being duplex and other stainless steel grades. Outokumpu has an integrated production process, including the company's own chrome mine for one of the main raw materials of stainless steel, ferrochrome operations, melting, hot rolling and cold rolling, and the finishing and services.

Policies and principles of sustainability management

At Outokumpu, the CEO is responsible for the top-level management of sustainability. The corporate EHS unit is responsible for the group-wide execution of sustainability strategy. The business areas and functions are responsible for ensuring that operations within their own organizations are conducted in a responsible manner and that monitoring, data collection and reporting are duly carried out.

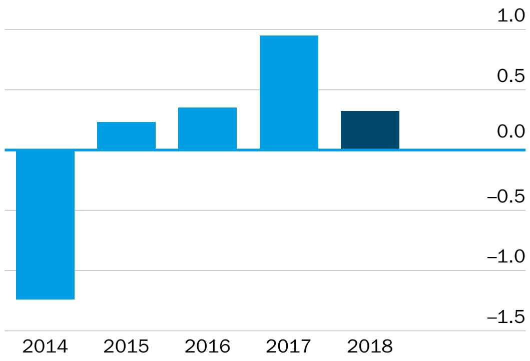
The most important policies guiding Outokumpu's Sustainability Management are the Group's Code of Conduct, Corporate Responsibility Policy and the Policy on Environment, Health, Safety and Quality (EHSQ), all available on Outokumpu's website. Outokumpu's Code of Conduct defines the common way of operating in the Group and sets principles for legal compliance and ethical conduct, including zero tolerance for corrupt practices and requiring compliance with antitrust and competition laws. The Corporate Responsibility Policy describes the main principles of the sustainable development of economic, environmental, and social aspects in the Group. Outokumpu's EHSQ policy describes the company's commitment to continuous improvement in these fields, compliance with legislation in all areas the company operates in, and the fulfilment of stakeholder requirements to which the company subscribes.

Outokumpu has also an Anti-Corruption Instruction providing detailed guidance on responsible business practices. At Outokumpu, there is zero tolerance of any form of discrimination, whether it is based on ethnic origin, nationality, religion, political views, gender, sexual orientation, age or any other factor.

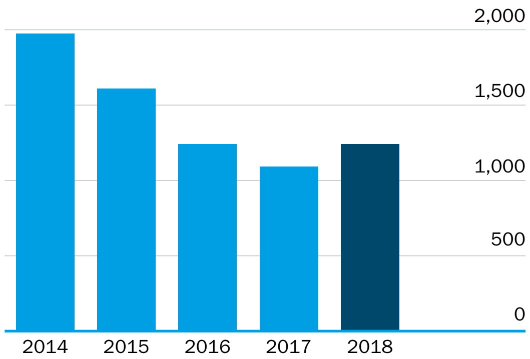
In addition to the EHSQ policy, Outokumpu has strict guidelines for safety through the Outokumpu Safety Principles and Health and Safety Standard. Safety is one of the company's six must-win battles and is therefore a top priority across the company. The health and safety of the personnel is a precondition for successful day-to-day operations as well as for long-term competitiveness. Outokumpu works towards a goal of zero accidents.

Corporate statements, policies and instructions are the basis of the Outokumpu operating model in governance, risk, and

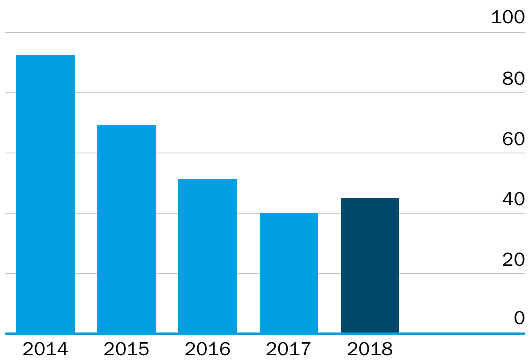
Earnings per share, €



Net debt, € million



Debt-to-equity ratio, %



compliance. Policies and instructions are implemented through internal communication, mandatory training and internal control mechanisms. Outokumpu has an on-going governance, risk and compliance project to further enhance and develop internal control processes.

The internal audit function flanked by external audits consistently monitors and tests adherence to corporate guidance and standards, while the sustainability organization follows-up on environmental performance and legality on a quarterly basis. Outokumpu carried out screenings of Environment, Social and Governance issues on raw material suppliers in 2018. In addition, annual environmental audits are performed based on an internal risk assessment. In addition, more than half of suppliers are going through a monthly compliance screening for sanctions. As part of the overall management set-up, the established incentive systems support the achievement of strategic targets, such as safety which is the highest priority.

Outokumpu also follows the 2-degree scenario committed to the Science Based Targets Initiative and contributes to the UN Social Development Goals. Outokumpu complies with international, national, and local laws and regulations, and respects international agreements concerning human and labor rights, such as the United Nations' Universal Declaration of Human Rights and condemns the use of forced and child labor. All Outokumpu employees are free to join trade unions according to local rules and regulations. Outokumpu expects its suppliers and contractors to comply with applicable laws and regulations as well as Outokumpu's Code of Conduct or similar standards and principles, and to meet the company's supplier requirements. Outokumpu aims to ensure that modern slavery or human trafficking plays no part in our supply chain or in any part of our business.

Long-term sustainability targets

Outokumpu aims to improve the Group's resource efficiency by minimizing the use of virgin materials and primary energy and by contributing to climate protection. The Group's targets are:

- Recycled content of 90% by 2020
- Improvement of energy efficiency by 1% yearly until 2020
- Outokumpu commits to reduce scope 1, 2 and 3 GHG emissions 20% per ton of stainless steel by 2023 from a 2014–2016 base-period.
- Top decile position in safety in the industry by 2020 and long-term target of zero incidents.

Outokumpu's emissions intensity trajectory includes the upstream emissions from supply chain and is in line with the sectoral decarbonization approach of the steel industry.

Environmental performance

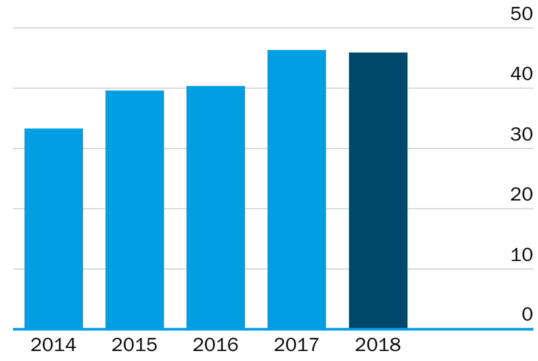
The main environmental impacts from stainless steel production are the use of virgin materials, direct and indirect energy, dust emissions into the air, water discharges from production plants, and waste created in the production process.

Outokumpu uses efficient dust-filtering systems that remove 99% of particles, and water is reused in production as much as possible and treated on production sites. In addition to material efficiency through using as much recycled material as possible, Outokumpu aims to reduce landfill waste and reuses waste from its production processes in its own production. Outokumpu also aims to increase the use of its by-product slag from its production outside the company for example in road construction, concrete production and water treatment. All used slag compared to the used and landfilled slag (use rate) is slightly reduced but the amount of landfilled slag was approximately the same. On top of production waste, tailing sand from mining is the most significant waste item to be deposited in the mine site.

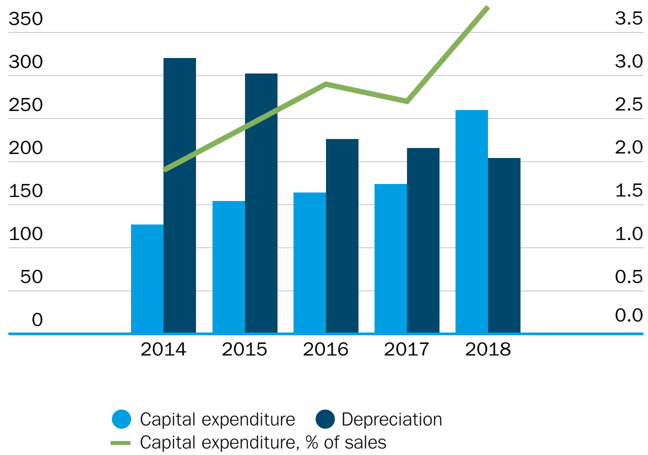
In 2018, Outokumpu maintained the level of recycled content (all metallic input from waste streams, as scrap, scales or metals from slag and dust treatment, per tonne stainless steel) at 88.6% (2017: 87.0% and 2016: 87.1%). The change of the energy efficiency calculated as a sum of different process steps was 8.9% (2017: 10.4% and 2016: 11.0%) compared to the baseline of 2007–2009 on a comparable basis. There were no significant environmental incidents.

All in all, Outokumpu is well on track to reach its long-term sustainability targets, of which the energy efficiency target is behind this year. In 2018, Outokumpu restated CO_2 intensity according to the target approved by the Science Based Target

Equity-to-assets ratio, %



Capital expenditure and depreciation, € million



initiative and reduced it by about 8% from baseline period. Landfilled waste increased as several waste materials such as dust, sludge or refractories needed to be landfilled in a higher amount.

All Outokumpu sites have environmental permits that set the basic framework for production operations. In 2018, emissions and effluents remained within permitted limits, and the minor breaches that occurred were temporary, identified, and had only a minimal impact on the environment. The melting shop in Tornio detected three cases of radioactive americium sources during the year. Two of them came in to melting among raw materials. One incident was detected in control of incoming scrap and did not cause any risk on employees or environment: low-active dusts and slags were treated and separately landfilled according to the guidance of the Finnish Radiation and Nuclear Safety Authority.

The EU Emissions Trading Scheme (ETS) is continuing with the third trading period 2013–2020. Outokumpu's operations under the EU ETS will continue to receive free emissions allocations according to efficiency-based benchmarks and historical activity. The total allocation was sufficient for the Group's operations during 2018 and will be sufficient for 2019. Free allocation for the group is below the expected emissions for 2019. Outokumpu is not a party to any significant legal or administrative proceedings concerning environmental issues, nor is it aware of any realized environmental risks that could have a material adverse effect on its financial position.

Environmental indicators

	2018	2017	2016
Scope 1, 2 and 3 (direct and indirect) CO_2 emission intensity, tonnes per tonne stainless steel	**1,719**	1,839	1,863 [1)]
Energy intensity, GJ per tonne stainless steel	**10.1**	9.3	9.8
Use rate of slag including slag from ferrochrome production, %	**88.1**	91.1 [2)]	90.2
Total landfill waste intensity per tonne stainless steel	**0.472**	0.361	0.406

1) 2014–2016 baseline 1,863 tonnes

2) Restated

Social performance

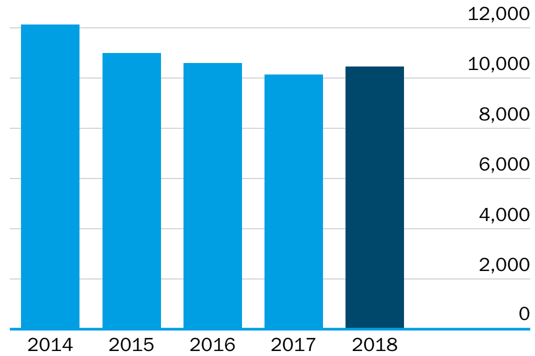
Outokumpu's main indicator for safety performance is the total recordable incident frequency rate (TRIFR), which includes fatal accidents, lost-time incidents, restrictive work incidents, and medically treated incidents per million working hours. Group TRIFR improved slightly from the previous year and was 4.1 against the target of <4.0 (2017: 4.4). In 2018, Outokumpu continued to train its employees in behavioral safety according to the program started in 2017.

Outokumpu's headcount increased by 308 during the year and totaled 10,449 at the end of December 2018 (2017: 10,141 and 2016: 10,600). The increase was driven by the acquisition of Fagersta Stainless in Sweden. Total wages and salaries amounted to EUR 541 million in 2018 (2017: EUR 549 million and 2016: EUR 562 million). Indirect employee benefit expenses totaled EUR 135 million in 2018 (2017: EUR 135 million and 2016: EUR 151 million).

Outokumpu provides a whistleblowing hotline "Helpline" on the company's intranet and webpage to anonymously report of suspicions of misconduct or unethical behavior. In 2018, Outokumpu recorded fourteen alleged incidents of potential misconduct through Helpline and other channels. All of these incidents were investigated in detail and proper corrective action has been taken as a consequence.

Raising awareness of and training on the Code of Conduct and its topics are central elements of Outokumpu's compliance program. As a part of these efforts, Outokumpu issued in 2018 two compliance-related e-learning courses. The anti-corruption e-learning course was mandatory for white-collar employees and achieved a completion rate of 97%. The second data protection e-learning with focus on the EU GDPR (EU General Data Protection Regulation) was also mandatory for white-collar employees and obtained a completion rate of 98%. The Code of Conduct e-learning launched in 2017, mandatory for white-collar employees, was in 2018 issued for also blue-collar employees with an aim to complete the training site by site in 2019.

Personnel on December 31, 2018



Key social indicators

	2018	2017	2016
Diversity			
Employees			
male, %	**85**	86	84
female, %	**15**	14	16
Board of Directors			
male, %	**67**	71	67
female, %	**33**	29	33
Safety			
Total recordable incident frequency rate, per million working hours	**4.1**	4.4	8.7

Research and development

Outokumpu's research and development (R&D) works closely together with sales, operations and customers to support the business and align R&D activities with customers' current and future needs. Outokumpu has three R&D centers located in Avesta in Sweden, in Krefeld in Germany and in Tornio in Finland. In 2018, Outokumpu's R&D expenditure totaled EUR 15 million, 0.2% of net sales (2017: 13 million and 0.2%, 2016: EUR 20 million and 0.4%).

In 2018, R&D was reorganized in Process R&D, Product and Application R&D and industrial digitalization teams to further improve R&D impact and to optimize utilization and development of the R&D competences. Process R&D teams focus on developing the efficiency of the operations and develop the competences in process and physical metallurgy and alloy development. Product and application R&D teams focus on product properties, applications and product development in selected strategic areas, as well as on developing competences in corrosion, design & fabrication, surface technology and stainless steel application technologies.

R&D, technical market development and customer service and product management teams took steps towards even more close cooperation. The closer cooperation aims at increasing speed in R&D project execution and to maximizing impact of the R&D activities through efficient prioritization and resource use.

Risks and uncertainties

Outokumpu operates in accordance with the risk management policy approved by the company's Board of Directors. This defines the objectives, approaches and areas of responsibility in the Group's risk management activities. As well as supporting Outokumpu's strategy, the aim of risk management is identifying, evaluating and mitigating risks from the perspective of shareholders, customers, suppliers, personnel, creditors and other stakeholders.

Outokumpu has defined risk as anything that could have an adverse impact on achieving the Group's objectives. Risks can therefore be threats, uncertainties or lost opportunities connected with current or future operations.

The risk management process is an integral part of the overall management processes and is divided into four stages: risk identification, evaluation / prioritization, mitigation and reporting. Key risks are assessed and updated on a regular basis.

The focus in risk management in 2018 was on implementing the actions for the mitigation of the identified risks, supporting improvements in operational reliability in Outokumpu e.g. by modelling business interruption risks and on improving the efficiency of the risk management process. The efforts also included actions to support the reduction of Group's operational costs, improvements in metal and commodity risk management processes as well as improving the efficiency and controls of Outokumpu's operations as part of a large business process transformation program.

Outokumpu continued its fire safety and loss prevention audit program, which focused also in operational reliability to prevent machinery breakdown related business interruptions. In total, some twenty fire safety loss prevention audits were carried out in 2018 using in-house expertise in cooperation with external advisors.

The main realized risks in 2018 were related to increased costs in certain supply materials, inadequate profitability of business area Americas, market disruptions related to Section 232 and delayed implementation of the business process transformation program.

Strategic and business risks

Outokumpu's key strategic and business risks currently include: risks and uncertainties relating to the development of overcapacity of global stainless steel production and volatility of raw material and end product prices, risks and uncertainties in implementing the announced vision, including measures to implement new IT systems and processes, improve operational reliability, drive competitiveness and further improve financial performance; the risk of trade war due to the US steel import tariffs and the safeguard measures initiated by EC; risks and uncertainties related to developments in the stainless steel and ferrochrome markets and competitor actions; changes in the prices of electrical power, fuels, nickel, iron and molybdenum impacting cash flow; fluctuations in exchange rates affecting the global competitive environment in stainless; and the risk of litigation or adverse political action affecting trade.

Operational risks

Key operational risks for Outokumpu are: a major fire or machinery breakdown and consequent business interruptions; IT dependency and cyber security risks; risks due to a fragmented system environment; risks related to supply chain and certain critical supplier dependencies; and project implementation risks, especially related to implementation of new ERP systems. Operational risks also include inadequate or failed internal processes, employee actions, systems, or events such as natural catastrophes and misconduct or crime. These risks are often connected with production operations, logistics, financial processes, major investment projects, other projects or information technology and, should they materialize, can lead to personal injury, liability, loss of property, interrupted operations, or environmental impacts. Outokumpu's operational risks are partly covered by insurance. To minimize the possible damage to property and business interruptions that could result from a fire occurring at some of its major production sites, Outokumpu has systematic fire safety audit programs in place. During the last year further measures were taken to improve operational reliability in connection with loss prevention actions.

Environmental risks

The main environmental business risks for Outokumpu are related to emissions trading schemes; new environmental and consumer protection demands, including changes in environmental legislation and their impact on Outokumpu's competitive position; as well as the risk of increased electricity prices and emissions costs due to the European Union's unilateral Emissions Trading System (ETS).

The main environmental accident risks at production sites relate to the use of acids, the production of hazardous waste and toxic gases, landfill activities, long-term contamination of soil or groundwater, and the long-term effects of hazardous pollutants. Outokumpu also has some potential environmental liabilities and risks at closed mines and production sites.

Safety- and personnel-related risks

The main risks related to safety and personnel are the risk of fatalities and serious injuries to own employees and contractors, which would also have a significant impact on Outokumpu’s safety culture and the company’s reputation as an employer; the loss of key individuals or other employees who have specific knowledge of, or relationships with, trade customers in markets in which Outokumpu operates; and the risk of being unable to attract, retain, motivate, train, and develop qualified employees at all levels, which could have a material adverse effect on Outokumpu’s business, financial condition, and operational results.

Risks related to compliance, crime and reputational harm
Outokumpu operates globally and its activities span multiple jurisdictions and complex regulatory frameworks at a time of increased enforcement activity globally in areas such as competition law, anti-corruption and bribery, anti-money laundering, data protection (including EU GDPR compliance) and trade restrictions, including sanctions. Outokumpu also faces the risk of fraud by its employees, external theft and crime, losses of critical research and development data, misconduct, as well as violations by its sales intermediaries or at its joint ventures and other companies.

Sustainability and corporate responsibility risks
Outokumpu aims to actively identify risks related to its exposures in sustainability and corporate responsibility, including human rights related topics. Outokumpu takes seriously all labor practice violations and related threats as well as its full transparency and compliance on human rights topics. However, Outokumpu operates mainly in regions, where the risk related to human rights is not considered to be high.

Financial risks

Key financial risks for Outokumpu include: changes in the prices of nickel, iron, molybdenum, power, and fuels; currency developments affecting the euro, the US dollar, the Swedish krona, and the British pound; interest rate changes connected to the US dollar, the euro, and the Swedish krona; interest margin changes applied for Outokumpu; constrained access to new financing; counterparty risks related to customers and other business partners, including suppliers and financial institutions; risks related to liquidity and refinancing; risks related to the fair value of shareholdings; the risk of breaching financial covenants or other terms and conditions of debt leading to an event of default; and risks related to the prices of equities and fixed-income securities invested under defined benefit pension plans and risks related to valuation parameters, especially long-term interest rates, of defined benefit plans.

Short-term risks and uncertainties

Outokumpu is exposed to the following risks and uncertainties in the short term: risks and uncertainties in implementing the announced vision, including measures to implement new IT systems and processes, improve operational reliability, drive competitiveness and further improve financial performance; the risk of trade war due to the US steel import tariffs and the safeguard measures initiated by EU; risks and uncertainties related to global overcapacity in stainless steel as well as to market development in stainless steel, ferrochrome and competitor actions; availability and price of certain critical supplies, such as graphite electrodes; dependencies on certain critical suppliers; the risk of changes in metal prices impacting capital tied up in inventories and account receivables; changes in the prices of electrical power, fuels, ferrochrome, nickel, iron and molybdenum; currency developments affecting the euro, US dollar, Swedish krona, and British pound; changes in interest margins applied for Outokumpu; fair value of shareholdings; project implementation risks; IT dependency and cyber security risks; risks due to fragmented system environment; counterparty risks related to customers and other business partners, including suppliers and financial institutions. Possible adverse changes in the global political and economic environment including unfavorable no-deal or hard Brexit scenario to Outokumpu may have a significant adverse impact on Outokumpu’s overall business and access to financial markets.

Significant legal proceedings

Claim in Spain related to the divested copper companies

Outokumpu divested all of its copper business in 2003–2008. One of the divested companies domiciled in Spain later faced bankruptcy. The administrator of the bankruptcy estate filed a claim against Outokumpu Oyj and two other non-Outokumpu companies for recovery of payments made by the bankrupt Spanish company in connection with the divestment. The court of first instance in Spain accepted the claim of EUR 20 million brought against Outokumpu and the two other companies. Outokumpu and the two other companies then appealed the court’s decision and in March 2018 the Court of Appeal ruled in favor of Outokumpu. In May 2018, the administrator of the bankruptcy estate filed an appeal before the Spanish Supreme Court, where the case pending.

Claim in Italy related to former tax consolidation group

In December 2015, Outokumpu Holding Italia and Acciai Speciali Terni (AST) entered into a dispute relating to the tax consolidation of the former ThyssenKrupp Tax Group in Italy. AST claims payment of approximately EUR 23 million resulting from the former tax consolidation of the Italian tax group managed by ThyssenKrupp. Outokumpu Holding Italia is the former ThyssenKrupp holding company and was transferred to Inoxum as part of the carve-out in 2011. The EUR 23 million claim resulted from tax benefits (tax losses, tax credits and interest expenses) transferred by AST to the Italian tax group during the period from financial year 2007/08 until 2013, which have in AST’s view not been properly settled towards them in the following years. The matter is currently pending in court in Italy.

Antitrust investigation in Germany

In September 2016, Outokumpu learned of a cartel investigation initiated by the German Federal Cartel Office involving, among others, Outokumpu Nirosta GmbH, Outokumpu’s subsidiary in Germany. Outokumpu initiated an internal investigation and became convinced that the investigation is without merit, as far as Outokumpu is concerned. In May 2018, Outokumpu received an official notification from the German Federal Cartel Office confirming that the investigation against Outokumpu Nirosta GmbH was terminated.

Shares

On December 31, 2018, Outokumpu’s share capital was EUR 311 million, and the total number of shares was 416,374,448. At the end of the year, Outokumpu held 5,810,729 treasury shares. The average number of shares outstanding in 2018 was 411,065,622.

Management shareholdings and share based incentive programs

On December 31, 2018, the members of the Board of Directors and the members of the Outokumpu Leadership Team (OLT) altogether held 2,483,353 shares, or 0.6% of the total number of shares.

Outokumpu has established share-based incentive programs for the OLT members, selected managers and key employees. Outokumpu's share-based incentive programs include Performance Share Plan, Restricted Share Pool and Matching Share Plans for the CEO and other key employees. In 2018, after deductions for applicable taxes, a total of 892,170 shares were delivered to the participants of the programs based on the achievements of the agreed targets and conditions of the programs. Outokumpu used its treasury shares for the reward payments.

The Performance Share Plan and the Restricted Share Pool Program are currently ongoing for the periods 2017–2019 and 2018–2020, and their continuation for the period 2019–2021 was already approved by the Board of Directors in December 2018. The Performance Share Plan for the periods 2017–2019 and 2018–2020 focuses on earnings criteria that measures Outokumpu's profitability and the efficiency with which its capital is employed compared to a peer group.

More details on the share-based incentive programs can be found in the note 18 in the consolidated financial statements.

Corporate governance

Outokumpu's Corporate Governance Statement can be found on the Outokumpu website.

Annual General Meeting

The Annual General Meeting of Outokumpu Oyj was held on March 22, 2018. The Meeting approved the financial statements and discharged the management of the company from liability for the financial year 2017. The Meeting decided that a dividend of 0.25 euros per share shall be paid for 2017. The Board of Directors was authorized to repurchase the company's own shares and decide on the issuance of shares as well as special rights entitling to shares. The Meeting also approved the proposals of the Nomination Board regarding the members of the Board of Directors and their remuneration.

The Annual General Meeting decided in accordance with the proposal by the Nomination Board that the Board of Directors would consist of six members. Kati ter Horst, Heikki Malinen, Eeva Sipilä and Olli Vaartimo were re-elected, and Kari Jordan and Pierre Vareille were elected as new members for the term of office ending at the end of the next Annual General Meeting. Kari Jordan was elected as the Chairman and Olli Vaartimo as the Vice Chairman of the Board of Directors.

Nomination Board

Outokumpu's Shareholders' Nomination Board consists of the representatives of the four largest shareholders registered in the shareholders' register of the company on October 1 and the Chairman of the Board of Directors as an expert member. The Nomination Board has been established to annually prepare proposals on the composition of the Board of Directors and director remuneration for the Annual General Meeting.

On October 1, 2018 the four largest shareholders of Outokumpu were Solidium Oy, Varma Mutual Pension Insurance Company, Ilmarinen Mutual Pension Insurance Company and The Social Insurance Institution of Finland, and they have appointed the following representatives to the Nomination Board:

- Antti Mäkinen, Managing Director at Solidium Oy
- Pekka Pajamo, CFO at Varma Mutual Pension Insurance Company
- Jouko Pölönen, President and CEO, at Ilmarinen Mutual Pension Insurance Company
- Tuula Korhonen, Investment Manager at The Social Insurance Institution of Finland

The Nomination Board has submitted its proposals to Outokumpu's Board of Directors on January 24, 2019.

Board of Directors' proposal for profit distribution

According to Outokumpu's dividend policy, the dividend pay-out ratio throughout a business cycle shall be in a range of 30–50 per cent of net income. According to the parent company's financial statements on December 31, 2018 distributable funds totaled EUR 2,298 million, of which retained earnings were EUR 175 million.

The Board of Directors is proposing to the Annual General Meeting to be held on March 27, 2019 that a dividend of EUR 0.15 per share is paid for 2018.

Group key figures

		2018	2017 1)	2016	2015	2014
Scope of activity						
Sales	€ million	**6,872**	6,356	5,690	6,384	6,844
– change in sales	%	**8.1**	11.7	–10.9	–6.7	1.5
– exports from and sales outside Finland, of total sales	%	**96.7**	96.5	96.4	96.6	96.7
Capital employed on Dec 31 2)	€ million	**4,086**	3,929	3,816	4,133	4,072
Capital expenditure 3)	€ million	**260**	174	164	154	127
–in relation to sales	%	**3.8**	2.7	2.9	2.4	1.8
Depreciation and amortization	€ million	**204**	216	226	302	320
Impairments	€ million	**12**	2	26	1	27
Research and development costs	€ million	**15**	13	20	23	23
–in relation to sales	%	**0.2**	0.2	0.4	0.4	0.3
Personnel on 31 Dec 4)		**10,449**	10,141	10,600	11,002	12,125
– average for the year 3)		**10,468**	10,485	10,977	11,833	12,540
Profitability						
Adjusted EBITDA	€ million	**485**	631	309	165	263
EBITDA	€ million	**496**	663	355	531	104
EBIT	€ million	**280**	445	103	228	–243
– in relation to sales	%	**4.1**	7.0	1.8	3.6	–3.6
Result before taxes	€ million	**175**	327	–13	127	–459
– in relation to sales	%	**2.5**	5.1	–0.2	2.0	–6.7
Net result for the financial year	€ million	**130**	392	144	86	–439
– in relation to sales	%	**1.9**	6.2	2.5	1.4	–6.4
Return on equity 2)	%	**4.8**	15.4	6.4	3.9	–21.8
Return on capital employed 2)	%	**7.0**	11.3	2.6	5.3	–5.8

		2018	2017 1)	2016	2015	2014
Financing and financial position						
Net debt	€ million	**1,241**	1,091	1,242	1,610	1,974
– in relation to sales	%	**18.1**	17.2	21.8	25.2	28.8
Net financial expenses	€ million	**107**	127	121	149	223
– in relation to sales	%	**1.6**	2.0	2.1	2.3	3.3
Interest expenses	€ million	**70**	92	105	130	141
– in relation to sales	%	**1.0**	1.5	1.9	2.0	2.1
Net debt to Adjusted EBITDA		**2.6**	1.7	4.0	9.8	7.5
Share capital	€ million	**311**	311	311	311	311
Total equity	€ million	**2,750**	2,721	2,416	2,329	2,132
Equity-to-assets ratio	%	**45.9**	46.3	40.4	39.6	33.3
Debt-to-equity ratio	%	**45.1**	40.1	51.4	69.1	92.6
Net cash generated from operating activities 3)	€ million	**214**	328	389	–34	–126

1) Figures for 2017 have been restated due to IFRS 15 adoption. Figures for 2014–2016 have not been restated.

2) Key figure definition changed in 2016. Figures for 2015 have been restated. Figures for 2014 have not been restated.

3) Year 2014 reported for continuing operations.

4) Personnel reported as headcount.

Reconciliation of key financial figures

Key figure	Definition of the key figure or source in the consolidated financial statements		2018	2017
Sales	Consolidated statement of income	€ million	**6,872**	6,356
– change in sales	Comparison to previous year's sales	%	**8.1**	11.7
Sales by destination to Finland	Note 3. Segment information	€ million	**230**	222
Exports from and sales outside Finland	Sales – Sales by destination to Finland	€ million	**6,642**	6,134
– exports from and sales outside Finland, of total sales	Comparison to sales	%	**96.7**	96.5
Depreciation and amortization	Note 6. Income and expenses	€ million	**204**	216
Impairments	Note 6. Income and expenses and note 8. Financial income and expenses	€ million	**12**	2
Research and development costs	Consolidated statement of income	€ million	**15**	13
– in relation to sales	Comparison to sales	%	**0.2**	0.2
Adjusted EBITDA	EBITDA – Items classified adjustments to EBITDA	€ million	**485**	631
Adjustments to EBITDA	Note 6. Income and expenses	€ million	**10**	31
EBITDA	EBIT before depreciation, amortization and impairments in Note 6. Income and expenses	€ million	**496**	663
EBIT	Consolidated statement of income	€ million	**280**	445
– in relation to sales	Comparison to sales	%	**4.1**	7.0

Key figure	Definition of the key figure or source in the consolidated financial statements		2018	2017
Capital employed is a sum of:				
Total equity	Consolidated statement of financial position	€ million	**2,750**	2,721
Net debt	Defined below	€ million	**1,241**	1,091
Defined benefit and other long-term employee benefit obligations	Consolidated statement of financial position	€ million	**318**	337
Net interest rate derivative liabilities	Note 20. Fair values and nominal amounts of derivative instruments	€ million	**–2**	3
Net accrued interest expenses	Note 28. Trade and other payables	€ million	**5**	6
Less:				
Defined benefit plan assets	Consolidated statement of financial position	€ million	**72**	70
Financial assets at fair value through other comprehensive income	Consolidated statement of financial position	€ million	**86**	–
Available-for-sale financial assets	Consolidated statement of financial position	€ million	**–**	68
Investments at fair value through profit or loss	Consolidated statement of financial position	€ million	**13**	17
Investments in associate companies and joint ventures	Consolidated statement of financial position	€ million	**53**	73
Capital employed on Dec 31		€ million	**4,086**	3,929
Capital employed on Dec 31 of previous year	Defined above	€ million	**3,929**	3,816
Capital employed on March 31		€ million	**3,854**	4,075
Capital employed on June 30		€ million	**4,023**	3,991
Capital employed on Sept 30		€ million	**4,037**	3,830
Capital employed on Dec 31	Defined above	€ million	**4,086**	3,929
Capital employed (4-quarter average)	Average of the opening and 4 quarter-end values	€ million	**3,986**	3,928
Return on capital employed	EBIT / Capital Employed (4-quarter average)	%	**7.0**	11.3

Key figure	Definition of the key figure or source in the consolidated financial statements		2018	2017
Result before taxes	Consolidated statement of income	€ million	**175**	327
– in relation to sales	Comparison to sales	%	**2.5**	5.1
Net result for the financial year	Consolidated statement of income	€ million	**130**	392
– in relation to sales	Comparison to sales	%	**1.9**	6.2
Share capital	Consolidated statement of financial position	€ million	**311**	311
Total equity	Consolidated statement of financial position	€ million	**2,750**	2,721
Total equity on Dec 31 of previous year	Consolidated statement of financial position	€ million	**2,721**	2,416
Total equity on March 31		€ million	**2,655**	2,502
Total equity on June 30		€ million	**2,686**	2,561
Total equity on Sept 30		€ million	**2,710**	2,543
Total equity on Dec 31	Consolidated statement of financial position	€ million	**2,750**	2,721
Total equity (4-quarter average)	Average of the opening and 4 quarter-end values	€ million	**2,704**	2,549
Return on equity	Net result for the financial year / Total equity (4-quarter average)	%	**4.8**	15.4

Key figure	Definition of the key figure or source in the consolidated financial statements		2018	2017
Non-current debt	Consolidated statement of financial position	€ million	**798**	698
Current debt	Consolidated statement of financial position	€ million	**511**	505
Cash and cash equivalents	Consolidated statement of financial position	€ million	**68**	112
Net debt	Non-current debt + current debt – cash and cash equivalents	€ million	**1,241**	1,091
– in relation to sales	Comparison to sales	%	**18.1**	17.2
Net financial expenses	Consolidated statement of income	€ million	**107**	127
– in relation to sales	Comparison to sales	%	**1.6**	2.0
Interest expenses	Consolidated statement of income	€ million	**70**	92
– in relation to sales	Comparison to sales	%	**1.0**	1.5
Net debt to Adjusted EBITDA	Net debt / Adjusted EBITDA		**2.6**	1.7
Total assets	Consolidated statement of financial position	€ million	**5,998**	5,887
Advances received	Note 28. Trade and other payables	€ million	**10**	8
Equity-to-assets ratio	Total equity / (Total assets – advances received)	%	**45.9**	46.3
Deb-to-equity ratio	Net debt / Total equity	%	**45.1**	40.1
Net cash generated from operating activities	Consolidated statement of cash flows	€ million	**214**	328

Figures for 2017 have been restated due to IFRS 15 adoption.

Share-related key figures

		2018		2017	2016	2015	2014
Earnings per share [1), 2)]	€	**0.32**		0.95	0.35	0.23	–1.24
Diluted earnings per share [1), 2)]	€	**0.32**		0.90	0.35	0.23	–1.24
Earnings per share, continuing operations	€	**–**		–	–	–	–1.27
Diluted earnings per share, continuing operations	€	**–**		–	–	–	–1.27
Cash flow per share [2)]	€	**0.52**		0.79	0.94	–0.08	–0.36
Equity per share [1)]	€	**6.70**		6.59	5.84	5.60	5.13
Dividend per share	€	**0.15**	3)	0.25	0.10	–	–
Dividend payout ratio [1)]	%	**47.4**		26.3	28.8	–	–
Dividend yield	%	**4.7**		3.2	1.2	–	–
Price/earnings ratio [1)]		**10.00**		8.15	24.31	11.85	neg.
Development of share price							
Average trading price	€	**5.39**		8.11	4.51	4.49	5.16
Lowest trading price	€	**3.18**		6.61	2.08	2.06	3.37
Highest trading price	€	**8.26**		10.05	8.51	7.76	7.50
Trading price at the end of the period	€	**3.20**		7.74	8.51	2.73	4.77
Change during the period [4)]	%	**–58.7**		–9.0	211.3	–42.7	34.2
Change in the OMX Helsinki index during the period	%	**–8.0**		6.4	3.6	10.8	5.7
Market capitalization at the end of the period	€ million	**1,312**		3,223	3,541	1,138	1,987
Development in trading volume							
Trading volume [5)]	1,000 shares	**826,636**		1,021,607	955,682	1,345,515	695,235
In relation to weighted average number of shares [2)]	%	**201.1**		247.7	230.6	323.9	198.9
Adjusted average number of shares [6)]		**411,065,622**		412,363,204	414,411,287	415,473,976	349,558,854
Diluted average number of shares [6)]		**447,181,306**		450,247,639	414,411,287	415,473,976	349,558,854
Number of shares at the end of the period [6)]		**410,563,719**		412,671,549	413,860,600	415,489,308	415,426,724

1) Figures for 2017 have been restated due to IFRS 15 adoption. Figures for 2014–2016 have not been restated.

2) 2014 calculated based on the rights-issue-adjusted weighted average number of shares.

3) The Board of Directors' proposal to the Annual General Meeting.

4) 2014 calculated based on the adjusted comparable share prices.

5) Includes only Nasdaq Helsinki trading.

6) Excluding treasury shares.

Definitions of share-related key figures

Earnings per share = $\dfrac{\text{Net result for the financial year attributable to the equity holders}}{\text{Adjusted average number of shares during the period}}$

Cash flow per share = $\dfrac{\text{Net cash generated from operating activities}}{\text{Adjusted average number of shares during the period}}$

Equity per share = $\dfrac{\text{Equity attributable to the equity holders}}{\text{Adjusted number of shares at the end of the period}}$

Dividend per share = $\dfrac{\text{Dividend for the financial year}}{\text{Adjusted number of shares at the end of the period}}$

Dividend payout ratio = $\dfrac{\text{Dividend for the financial year}}{\text{Net result for the financial year attributable to the equity holders}} \times 100$

Dividend yield = $\dfrac{\text{Dividend per share}}{\text{Adjusted trading price at the end of the period}} \times 100$

Price/earnings ratio (P/E) = $\dfrac{\text{Adjusted trading price at the end of the period}}{\text{Earnings per share}}$

Average trading price = $\dfrac{\text{EUR amount traded during the period}}{\text{Adjusted number of shares traded during the period}}$

Market capitalization at end of the period = Number of shares at the end of the period × Trading price at the end of the period

Trading volume = Number of shares traded during the period, and in relation to the weighted average number of shares during the period

Consolidated financial statements, IFRS

Parent company financial statements

Consolidated statement of income

€ million	Note	2018	2017 Restated
Sales	3, 4, 6	**6,872**	6,356
Cost of sales		**–6,398**	–5,627
Gross margin		**474**	729
Other operating income	6	**99**	58
Selling and marketing expenses		**–71**	–74
Administrative expenses		**–188**	–219
Research and development expenses		**–15**	–13
Other operating expenses	6	**–19**	–35
EBIT		**280**	445
Share of results in associated companies and joint ventures	14	**3**	9
Financial income and expenses	8		
Interest income		**3**	3
Interest expenses		**–70**	–92
Market price gains and losses		**–15**	–7
Other financial expenses		**–26**	–30
Total financial income and expenses		**–107**	–127
Result before taxes		**175**	327
Income taxes	9	**–45**	65
Net result for the financial year		**130**	392
Earnings per share for result attributable to the equity holders of the Company	10		
Earnings per share, EUR		**0.32**	0.95
Diluted earnings per share, EUR		**0.32**	0.90

Net result for the financial year is fully attributable to the equity holders of the company.

Comparable figures for 2017 have been restated due to adoption of IFRS 15 – Revenue from Contracts with Customers. For further information, see note 2 to the consolidated financial statements.

Consolidated statement of comprehensive income

€ million	Note	2018	2017 Restated
Net result for the financial year		**130**	392
Other comprehensive income			
Items that may be reclassified subsequently to profit or loss:			
Exchange differences on translating foreign operations			
Change in exchange differences		**24**	–83
Reclassification adjustments from other comprehensive income to profit or loss		**–**	–3
Available-for-sale financial assets	17	**–**	0
Cash flow hedges	20		
Fair value changes during the financial year		**4**	–1
Reclassification adjustments from other comprehensive income to profit or loss		**–4**	–1
Income tax relating to cash flow hedges	9	**–0**	1
Items that will not be reclassified to profit or loss:			
Remeasurements of defined benefit plans	25		
Changes during the financial year		**–7**	18
Income tax relating to remeasurements	9	**–1**	37
Financial assets at fair value through other comprehensive income	17		
Fair value changes during the financial year		**2**	–
Income tax relating to financial assets at fair value through other comprehensive income		**–1**	–
Share of other comprehensive income in associated companies and joint ventures	14	**–0**	–1
Other comprehensive income for the financial year, net of tax		**18**	–32
Total comprehensive income for the financial year		**148**	359

Total comprehensive income for the financial year is fully attributable to the equity holders of the company.

Comparable figures for 2017 have been restated due to adoption of IFRS 15 – Revenue from Contracts with Customers. For further information, see note 2 to the consolidated financial statements.

Consolidated statement of financial position

€ million	Note	2018	2017 Restated	Jan 1, 2017 Restated
ASSETS				
Non-current assets				
Intangible assets	11, 13	**585**	535	504
Property, plant and equipment	12, 13	**2,659**	2,633	2,874
Investments in associated companies and joint ventures	14	**53**	73	67
Financial assets at fair value through other comprehensive income	17	**86**	–	–
Available-for-sale financial assets	17	**–**	68	53
Investments at fair value through profit or loss		**0**	0	1
Derivative financial instruments	20	**2**	1	–
Deferred tax assets	9	**247**	295	204
Defined benefit plan assets	25	**72**	70	45
Trade and other receivables	22	**2**	1	2
		3,706	3,675	3,750
Current assets				
Inventories	21	**1,555**	1,380	1,232
Investments at fair value through profit or loss		**13**	16	16
Derivative financial instruments	20	**15**	43	34
Trade and other receivables	22	**640**	660	688
Cash and cash equivalents	23	**68**	112	204
		2,292	2,212	2,174
Assets held for sale		**–**	–	67
TOTAL ASSETS		**5,998**	5,887	5,991

Comparable figures for 2017 have been restated due to adoption of IFRS 15 – Revenue from Contracts with Customers. For further information, see note 2 to the consolidated financial statements.

€ million	Note	2018	2017 Restated	Jan 1, 2017 Restated
EQUITY AND LIABILITIES				
Equity attributable to the equity holders of the Company				
Share capital		**311**	311	311
Premium fund		**714**	714	714
Invested unrestricted equity reserve		**2,103**	2,103	2,103
Other reserves		**5**	3	4
Retained earnings		**–382**	–410	–716
Total equity	24	**2,750**	2,721	2,416
Non-current liabilities				
Non-current debt	27	**798**	698	987
Derivative financial instruments	20	**1**	3	4
Deferred tax liabilities	9	**12**	10	22
Defined benefit and other long-term employee benefit obligations	25	**318**	337	356
Provisions	26	**65**	79	118
Trade and other payables	28	**35**	34	37
		1,229	1,160	1,525
Current liabilities				
Current debt	27	**511**	505	458
Derivative financial instruments	20	**20**	37	63
Provisions	26	**5**	14	15
Current tax liabilities		**12**	7	12
Trade and other payables	28	**1,471**	1,442	1,461
		2,019	2,005	2,008
Liabilities directly attributable to assets held for sale		**–**	–	43
TOTAL EQUITY AND LIABILITIES		**5,998**	5,887	5,991

Comparable figures for 2017 have been restated due to adoption of IFRS 15 – Revenue from Contracts with Customers. For further information, see note 2 to the consolidated financial statements.

Consolidated statement of cash flows

€ million	Note	2018	2017
Cash flow from operating activities			
Net result for the financial year [1]		**130**	392
Adjustments for			
Taxes [1]	9	**45**	–65
Depreciation and amortization	11, 12	**204**	216
Impairments	8, 11, 12, 13	**12**	2
Share of results in associated companies and joint ventures	14	**–3**	–9
Gain/loss on sale of intangible assets and property, plant and equipment	6	**–14**	–16
Gain/loss on sale of financial assets	8	**1**	0
Gain/loss on disposal of subsidiaries	5	**–**	–22
Interest income	8	**–1**	–1
Interest expense	8	**62**	85
Exchange rate differences		**1**	55
Other non-cash adjustments [1]		**6**	13
		313	259
Change in working capital			
Change in trade and other receivables		**60**	–54
Change in inventories		**–145**	–222
Change in trade and other payables		**–27**	97
		–112	–180
Provisions, and defined benefit and other long-term employee benefit obligations paid		**–60**	–60
Interest and dividends received		**2**	3
Interest paid		**–54**	–78
Income taxes paid		**–5**	–8
Net cash from operating activities		**214**	328

[1] Comparable figures restated due to IFRS 15 adoption.

€ million	Note	2018	2017
Cash flow from investing activities			
Acquired businesses, net of cash	5	**–10**	–
Investments in financial assets at fair value through other comprehensive income	17	**–16**	–
Investments in available-for-sale financial assets	17	**–**	–15
Purchases of property, plant and equipment	12	**–154**	–144
Purchases of intangible assets	11	**–76**	–27
Proceeds from the disposal of subsidiaries, net of cash and tax		**–**	90
Proceeds from sale of property, plant and equipment	12	**3**	21
Proceeds from sale of intangible assets	11	**19**	12
Other investing cash flow		**4**	–1
Net cash from investing activities		**–229**	–63
Cash flow before financing activities		**–14**	264
Cash flow from financing activities			
Dividends paid	24	**–103**	–41
Treasury share purchase	24	**–17**	–20
Borrowings of non-current debt		**329**	190
Repayments of non-current debt		**–240**	–541
Change in current debt		**7**	162
Repayments of finance lease liabilities		**–5**	–65
Other financing cash flow		**1**	–37
Net cash from financing activities		**–29**	–353
Net change in cash and cash equivalents		**–43**	–89
Cash and cash equivalents at the beginning of the financial year		**112**	204
Net change in cash and cash equivalents		**–43**	–89
Foreign exchange rate effect on cash and cash equivalents		**–1**	–3
Cash and cash equivalents at the end of the financial year	23	**68**	112

Consolidated statement of changes in equity

€ million	Note	Share capital	Premium fund	Invested unrestricted equity reserve	Other reserves	Fair value reserves	Cumulative translation differences	Remeasure-ments of defined benefit plans	Treasury shares	Other retained earnings	Total equity
Equity on Dec 31, 2016		**311**	**714**	**2,103**	**2**	**1**	**3**	**–135**	**–19**	**–564**	**2,416**
IFRS 15 restatement		–	–	–	–	–	–	–	–	–0	–0
Equity on Jan 1, 2017		**311**	**714**	**2,103**	**2**	**1**	**3**	**–135**	**–19**	**–564**	**2,416**
Net result for the financial year		–	–	–	–	–	–	–	–	392	392
Other comprehensive income		–	–	–	–	–1	–86	56	–	–1	–32
Total comprehensive income for the financial year		–	–	–	–	–1	–86	56	–	391	359
Transactions with equity holders of the Company											
Contributions and distributions											
Dividends paid	24	–	–	–	–	–	–	–	–	–41	–41
Share-based payments	18	–	–	–	–	–	–	–	13	–6	7
Treasury share purchase	24	–	–	–	–	–	–	–	–20	–	–20
Changes in ownership interests											
Quarto plate mill and pipe plant divestments	4	–	–	–	–	–	3	8	–	–11	–
Other		–	–	–	1	–	–	–	–	–1	–
Equity on Dec 31, 2017		**311**	**714**	**2,103**	**3**	**0**	**–81**	**–72**	**–26**	**–232**	**2,721**
IFRS 2 restatement		–	–	–	–	–	–	–	–	7	7
IFRS 9 restatement		–	–	–	–	–	–	–	–	–1	–1
Equity on Jan 1, 2018		**311**	**714**	**2,103**	**3**	**0**	**–81**	**–72**	**–26**	**–225**	**2,728**
Net result for the financial year		–	–	–	–	–	–	–	–	130	130
Other comprehensive income		–	–	–	–	2	24	–8	–	–0	18
Total comprehensive income for the financial year		–	–	–	–	2	24	–8	–	130	148
Transactions with equity holders of the Company											
Contributions and distributions											
Dividends paid	24	–	–	–	–	–	–	–	–	–103	–103
Share-based payments	18	–	–	–	–	–	–	–	3	–8	–5
Treasury share purchase	24	–	–	–	–	–	–	–	–17	–	–17
Equity on Dec 31, 2018		**311**	**714**	**2,103**	**3**	**2**	**–56**	**–80**	**–40**	**–207**	**2,750**

Total equity is fully attributable to the equity holders of the company.

Notes to the consolidated financial statements

1. Corporate information

Outokumpu Oyj is a Finnish public limited liability company organized under the laws of Finland and domiciled in Helsinki, Finland. The parent company, Outokumpu Oyj, has been listed on the Nasdaq Helsinki since 1988. A copy of the consolidated financial statements is available at the Group's website www.outokumpu.com, from Outokumpu Oyj/Corporate Communications, P.O. Box 245, 00181 Helsinki, Finland or via e-mail at corporate.comms@outokumpu.com.

Outokumpu is the global leader in stainless steel and creates advanced materials that are efficient, long lasting and recyclable – helping to build a world that lasts forever. Stainless steel is an ideal material to create lasting solutions in demanding applications from cutlery to bridges, energy to medical equipment. Stainless steel is 100% recyclable, corrosion-resistant, maintenance-free, durable and hygienic. Outokumpu employs some 10,000 professionals in more than 30 countries.

In its meeting on February 7, 2019 the Board of Directors of Outokumpu Oyj approved the publishing of these consolidated financial statements. According to the Finnish Limited Liability Companies Act, shareholders have the right to approve or reject the financial statements in the Annual General Meeting held after the publication of the financial statements. The Annual General Meeting also has the right to decide to amend the financial statements.

2. Accounting principles for the consolidated financial statements

Basis of preparation

These consolidated financial statements of Outokumpu have been prepared on going concern basis for the financial year 2018 covering the period from January 1 to December 31, 2018.

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union. The consolidated financial statements have been prepared in compliance with the IAS and IFRS standards as well as the SIC and IFRIC interpretations in force on December 31, 2018. The consolidated financial statements also comply with the regulations of Finnish accounting and company legislation complementing the IFRSs.

The consolidated financial statements are presented in millions of euros and have been prepared under the historical cost convention, unless otherwise stated in the accounting principles. All figures presented have been rounded, and consequently the sum of individual figures may deviate from the presented aggregate figure. Key figures have been calculated using exact figures.

As of January 1, 2018, Outokumpu has applied the following new and amended standards.

- **IFRS 15 Revenue from Contracts with Customers** (effective for financial years beginning on or after January 1, 2018) and **Amendments to IFRS 15 – Clarifications to IFRS 15 Revenue from Contracts with Customers** (effective for financial years beginning on or after January 1, 2018): IFRS 15 introduces a five-step model to determine when to recognize revenue and at what amount. Revenue is recognized when a company transfers control of goods to a customer either over time or at a point in time.

  Outokumpu has adopted IFRS 15 as of January 1, 2018, using the retrospective approach. The adoption had no material impact on the quantitative information or on the presentation of the consolidated financial statements. The accounting principles related to revenue from contracts with customers and the transition impacts are described later in this note.

- **IFRS 9 Financial Instruments** (effective for financial years beginning on or after January 1, 2018): IFRS 9 replaces the existing guidance in IAS 39 Financial Instruments: Recognition and Measurement. IFRS 9 includes revised guidance on the classification and measurement of financial instruments, including a new expected credit loss model for calculating impairment on financial assets, and the new general hedge accounting requirements. It carries forward the guidance on recognition and derecognition of financial instruments from IAS 39.

  Outokumpu has adopted IFRS 9 as of January 1, 2018. The adoption had no material impact on Outokumpu's consolidated financial statements. The accounting principles related to financial instruments and the transition impacts are described later in these financial statements. The comparable information related to financial instruments has not been restated to reflect IFRS 9 requirements.

- **Amendments to IFRS 2 Share-based Payments – Classification and Measurement of Share-based Payment Transactions** (effective for financial years beginning on or after January 1, 2018). The amendments clarify the accounting for certain types of arrangements. Three accounting areas are covered: measurement of cash-settled share-based payments; classification of share-based payments settled net of tax withholdings; and accounting for a modification of a share-based payment from cash-settled to equity-settled.

  The classification of share-based payments settled net of tax withholdings had an impact on Outokumpu's consolidated financial statements, and Outokumpu adopted these changes as of January 1, 2018. The accounting principles related to share-based payments and the transition impacts are described later in this note. The comparable information related to share-based payments has not been restated to reflect the amended IFRS 2 requirements.

Other new or amended standards and interpretations had no impact on Outokumpu's consolidated financial statements.

Adoption of new and amended IFRS standards and interpretations

Outokumpu has not yet applied the following new and amended standards and interpretations already issued. The Group will adopt them as of the effective date or, if the date is other than the first day of the financial year, from the beginning of the subsequent financial year (* not yet endorsed by the European Union as at December 31, 2018).

- **IFRS 16 Leases** (effective for financial years beginning on or after January 1, 2019): The new standard replaces the current IAS 17 standard and related interpretations. IFRS 16 requires the lessees to recognize nearly all lease agreements as right-of-use assets and lease liabilities in the statement of financial position. The accounting model is similar as the finance lease accounting according to IAS 17. The exceptions relate to short-term contracts with a lease term of 12 months or less and to low value items.

  Outokumpu implements IFRS 16 on January 1, 2019 using the modified retrospective approach, where comparative financial information is not restated, but the transition impact is recognized to the balances of January 1, 2019. In transition, Outokumpu plans to use the following practical expedients allowed by the standard: (1) leases with remaining lease period of less than 12 months on January 1, 2019 are accounted as short-term leases, and thus excluded from the lease liability and right-of-use asset amounts recognized to the statement of financial position, and (2) initial direct costs of lease contracts already in place on December 31, 2018 are excluded from the right-of-use asset value.

  In transition on January 1, 2019, Outokumpu estimates to recognize lease liabilities and right-of-use assets of approximately EUR 125–130 million to its statement of financial position. On December 31, 2018 Outokumpu reported minimum operating lease payments of EUR 90 million. The difference between the amounts results from contracts that have not been classified as lease contracts under IAS 17 and have been accounted as service contracts, but will be under IFRS 16 considered as lease contracts. This impact is partly offset by the effect of discounting the future lease payments and exclusion of short-term lease contracts from the lease liability. A reconciliation between the amounts will be presented in connection with Outokumpu’s first quarter 2019 financial information.

  Regarding contracts already in effect on December 31, 2018, Outokumpu estimates that the annualized impact from the change in the accounting policy on EBITDA is approximately EUR 20 million. Correspondingly, depreciation is estimated to increase by approximately the same amount. Increase in interest expenses is estimated not to be material.

- **IFRIC 23 Uncertainty over Income Tax Treatments** (effective for financial years beginning on or after January 1, 2019). IFRIC 23 adds to the requirements in IAS 12 Income Taxes by specifying how to reflect the effects of uncertainty in accounting for income taxes when it is unclear how tax law applies to a particular transaction or circumstance, or it is unclear whether a taxation authority will accept an entity’s tax treatment. The interpretation is not assessed to have material impact on Outokumpu’s consolidated financial statements.

- **Amendments to IAS 1 Presentation of financial statements** and **IAS 8 Accounting policies, changes in accounting estimates and errors*** (effective for financial years beginning on or after January 1, 2020): The amendments clarify the definition of materiality and use it consistently throughout IFRSs and the Conceptual Framework of Financial Reporting. The amendments are not expected to have material impact on Outokumpu’s consolidated financial statements.

- **Annual Improvements to IFRSs (2015–2017 Cycle)*:** The changes are not assessed to have material impact on Outokumpu’s consolidated financial statements.

  Other new or amended standards and interpretations that are not yet effective are not expected to have a material impact on Outokumpu’s consolidated financial statements.

Management judgements and use of estimates

The preparation of the financial statements in accordance with IFRSs requires management to make judgements and make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and contingent liabilities at the reporting date, as well as the reported amounts of income and expenses during the reporting period. The management estimates and judgements are continuously monitored and they are based on prior experience and other factors, such as future expectations assumed to be reasonable considering the circumstances. Although these estimates are based on management’s best knowledge of the circumstances at the end of the reporting period, actual results may differ from the estimates and assumptions. Management believes that the following accounting principles represent those matters requiring the exercise of judgement where a different opinion could result in significant changes to reported results.

Inventories

Inventories are stated at the lower of cost and net realizable value (NRV). Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and the estimated costs necessary to make the sale. The most important commodity price risk for Outokumpu is caused by fluctuation in nickel and other alloy prices. The majority of stainless steel sales contracts include an alloy surcharge clause, with the aim of reducing the risk arising from the time difference between raw material purchase and product delivery. However, the risk is significant because the delivery cycle in production is longer than the alloy surcharge mechanism provides for. Thus, only the price for the products to be sold in the near future is known. That is why a significant part of the future price for each product to be sold is estimated according to management’s best knowledge in NRV calculations. Due to fluctuations in nickel and other alloy prices, the realized prices can deviate significantly from what has been used in NRV calculations on the closing date. See note 21.

Property, plant and equipment and intangible assets and impairments

Management estimates relate to carrying amounts and useful lives of assets as well as other underlying assumptions. Different assumptions and assigned lives could have a significant impact on the reported amounts. Management estimates in relation to goodwill relate to the estimation of the value in use of the cash-generating units to which goodwill has been allocated. The value in use calculation requires management to estimate the future cash flows expected to arise from the cash-generating units and a suitable discount rate in order to calculate present value. The future projections of cash flows include, among other estimates, projections of future prices and delivery volumes, production costs and maintenance capital expenditures.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Carrying amounts of non-current assets are regularly reviewed to determine whether there is any evidence of impairment as described in these accounting principles. Preparation of the estimated future cash flows and determining the discount rates for the impairment testing requires management to make assumptions relating to future expectations (e.g. future product pricing, production levels, production costs, market supply and demand, projected maintenance capital expenditure and weighted average cost of capital). A pre-tax discount rate used for the net present value calculation of projected cash flows reflects the weighted average cost of capital. The key assumptions used in the impairment testing, including sensitivity analysis, are explained further in note 13.

Income taxes

Group operates and earns income in numerous countries and is subject to changing tax laws in multiple jurisdictions within the countries. Significant judgements are necessary in determining the worldwide income tax liabilities of the Group. Although management believes they have made reasonable estimates about the resolution of tax uncertainties, the final outcome of these uncertainties could have an effect on the income tax liabilities and deferred tax liabilities in the period.

At the end of reporting period, the management assesses whether the realization of future tax benefits is sufficiently probable to recognize deferred tax assets. This assessment requires judgement with respect to, among other things, benefits that could be realized from future taxable income, available tax strategies, as well as other positive and negative factors. The recorded amount of deferred tax assets could be reduced if estimates of taxable income and benefits from available tax strategies are lowered, or if current tax regulations are enacted that impose restrictions on the Group's ability to utilize future tax benefits. See note 9.

Fair values of non-derivative financial instruments

The fair value of financial instruments which cannot be determined based on quoted market prices and rates are based on different valuation techniques. The Group uses its judgement to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period. Factors regarding valuation techniques and their assumptions could affect the reported fair values.

Relating to the valuation of Outokumpu's investment in Voimaosakeyhtiö SF, key management judgements relate to long-term market price for electricity, Fennovoima's capacity utilization rate, discount rates for cash flows and terminal value, and inflation rates for costs and electricity market price. See note 16.

Employee benefits

The present value of pension obligations is subject to actuarial assumptions which actuaries use in calculating these obligations. Actuarial assumptions include, among others, discount rate, the annual rate of increase in future compensation levels and inflation rate. The assumptions used are presented in note 25.

Provisions

The most significant provisions in the statement of financial position relate to restructuring programs and primarily include termination benefits to employees. The judgement applied mainly relates to the estimated amounts of termination benefits.

The Group has also made provisions for known environmental liabilities based on management's best estimate of the remediation costs. The precise amount and timing of these costs could differ significantly from the estimate. See note 26.

Principles of consolidation

Subsidiaries

The consolidated financial statements include the parent company Outokumpu Oyj and all those subsidiaries where over 50% of the subsidiary's voting rights are controlled directly or indirectly by the parent company, or the parent company is otherwise in control of the company at the end of the reporting period. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

Acquired or established subsidiaries are accounted for by using the acquisition method. The consideration transferred and the identifiable assets acquired and liabilities assumed in the acquired company are measured at fair value at the acquisition date. The consideration transferred includes any assets transferred by the acquirer, liabilities incurred by the acquirer to former owners of the acquiree and the equity interests issued by the acquirer. Any contingent consideration related to the business combination is measured at fair value at the acquisition date and it is classified as either liability or equity. Contingent consideration classified as liability is remeasured at its fair value at the end of each reporting period and the subsequent changes to fair value are recognized in profit or loss. Contingent consideration classified as equity is not subsequently remeasured. The consideration transferred does not include any transactions accounted for separately from the acquisition. All acquisition-related costs except costs to issue debt or equity securities, are recognized as expenses in the periods in which costs are incurred and services rendered.

Goodwill arising on an acquisition is recognized as the excess of the aggregate of the consideration transferred and the amount of any non-controlling interests or previously held equity interests in the acquiree, over the Group's share of the fair value of the identifiable assets acquired and liabilities assumed at the acquisition date. Non-controlling interest in the acquiree is measured acquisition-by-acquisition either at fair value or at value, which equals to the proportional share of the non-controlling interest in the identifiable net assets acquired. Changes in the parent company's ownership interest in a subsidiary are accounted for as equity transactions if the parent company retains control of the subsidiary.

To those business combinations, which have taken place before January 1, 2010 accounting principles effective at that time have been applied.

All intra-group transactions, receivables, liabilities and unrealized margins, as well as distribution of profits within the Group, are eliminated in the preparation of consolidated financial statements.

Associated companies and joint ventures

Companies, where Outokumpu generally holds voting rights of 20–50% and in which Outokumpu otherwise has significant influence, but not control are included in the consolidated financial statements as associated companies. Associated companies are consolidated by using the equity method from the date that significant influence was obtained until it ceases.

The Group's share of the associated company's result for the period is separately disclosed below EBIT in the consolidated statement of income. Outokumpu's share of changes recognized in the associated company's other comprehensive income is recognized in the Group's other comprehensive income. When Outokumpu's share of the associated company's losses exceeds the carrying amount of the investment, the investment is recognized at zero value in the statement of financial position and recognition of further losses is discontinued, except to the extent that the Group has incurred obligations in respect of the associated company. The interest in an associated company comprises the carrying amount of the investment under the equity method together with any long-term interest that, in substance, forms a part of the net investment in the associated company.

Joint ventures in which Outokumpu has contractually based joint control with a third party are also accounted for by using the equity method described above.

Non-current assets held for sale

Non-current assets or disposal groups are classified as held for sale if their carrying amounts are expected to be recovered primarily through sale rather than through continuing use. Classification as held for sale requires that the following criteria are met: the sale is highly probable, the asset or disposal group is available for immediate sale in its present condition subject to usual and customary terms, the management is committed to the sale and the sale is expected to be completed within one year from the date of classification.

Prior to classification as held for sale, the assets or assets and liabilities related to a disposal group in question are measured according to the respective IFRS standards. From the date of classification, non-current assets or a disposal group held for sale are measured at the lower of the carrying amount and the fair value less costs to sell, and the recognition of depreciation and amortization is discontinued.

Assets included in disposal groups but not in the scope of the measurement requirements of IFRS 5, as well as liabilities, are measured according to the related IFRS standards also after the date of classification.

Segment reporting

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, and for which discrete financial information is available. Outokumpu's business is divided into four business areas, which are responsible for sales, profitability, production and supply chain management, and they are Outokumpu's operating segments under IFRS. The performance of the segments is reviewed based on segments' adjusted EBITDA, which is defined in these accounting principles. The review is done by the CEO who is Outokumpu's chief operating decision maker, on the basis of regular internal management reporting based on IFRS.

Foreign currency transactions

Transactions of each subsidiary included in the consolidated financial statements are measured using the currency that best reflects the economic substance of the underlying events and circumstances relevant to that subsidiary (the functional currency). The consolidated financial statements are presented in euros which is the functional and presentation currency of the parent company. Group companies' foreign currency transactions are translated into local functional currencies using the exchange rates prevailing at the dates of the transactions. Receivables and liabilities in foreign currencies are translated into functional currencies at the exchange rates prevailing at the end of the reporting period. Foreign exchange differences arising from interest-bearing assets and liabilities and related derivatives are recognized in finance income and expenses in the consolidated statement of income. Foreign exchange differences arising in respect of other financial instruments are included in EBIT under sales, purchases or other operating income and expenses. The effective portion of exchange differences arisen from instruments designated as hedges of the net investments in foreign operations is recognized in other comprehensive income.

For those subsidiaries whose functional and presentation currency is not the euro, the income and expenses for the statements of income and comprehensive income, and the items for statement of cash flows, are translated into euro using the average exchange rates of the reporting period. The assets and liabilities for the statement of financial position are translated using the exchange rates prevailing at the reporting date. The translation differences arising from the use of different exchange rates explained above are recognized in Group's other comprehensive income. Any goodwill arising on the acquisition of foreign operations and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of those foreign operations are treated as assets and liabilities of those foreign operations. They are translated into euro using the exchange rates prevailing at the reporting date. When a foreign operation is sold, or is otherwise partially or completely disposed of, the translation differences accumulated in equity are reclassified in profit or loss as part of the gain or loss on the sale.

Revenue from contracts with customers

Outokumpu generates revenue mainly from sales of stainless steel and ferrochrome. Outokumpu ships these goods to customers under a variety of Incoterms, and considers the transfers of physical possession and risks and rewards related to the ownership of the goods accordingly. Consequently, the performance obligations related to sales of stainless steel and ferrochrome are satisfied at a point of time.

With customer deliveries following the "C" Incoterms, whereby the control of the goods transfers to the customer before the delivery, Outokumpu remains responsible for organizing the transportation of the goods to the customer. In these cases, the transportation service is a separate performance obligation, which is satisfied over time of the transportation. Before the IFRS 15 adoption, the revenues were fully allocated to the goods sold and recognized at a point of time. The impact of the accounting principle change is only minor as the revenue and the related freight cost are recognized at the same time. Additionally, the movement in the obligation to provide the transportation service from one period to another

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

is not material. Outokumpu has concluded that it acts as a principal with regards to the transportation service performance obligation. In some cases, Outokumpu had earlier recognized the freights recharged from its customers as a credit to freight cost instead of sales. This accounting principle has been changed, the impact not being material.

Most of Outokumpu's revenue from contracts with customer is recognized at a point of time. Only revenue from transportation service is recognized over a period of time, and the period under which the revenue is recognized, is relatively short. Moreover, the sales of goods and transportation service are invoiced together from the customer. Consequently, the uncertainty associated with the cash flows does not differ with respect to the timing of revenue recognition.

Stainless steel and ferrochrome sales prices are mainly fixed before delivery, and volume discounts estimated and accrued in the revenue recognition are the only variable component in pricing. The earlier volume discount accrual practices were in line with the IFRS 15 guidelines. In individual cases, the sales price of ferrochrome is based on the period of time when the customer uses the purchased ferrochrome. The payment terms used vary from advance payment to 90 days payment term, and they do not include any significant financing component.

Outokumpu also sells nickel warrants that relate to nickel sourced as part of a nickel supply agreement but is not needed for the production of stainless steel. Nickel warrant sales are recognized to revenue when the title to the material is transferred to the buyer.

Transition impact

In transition to IFRS 15, Outokumpu has restated its January 1, 2017 consolidated statement of financial position with the following impacts: contract liability of EUR 1 million related to the unperformed transportation service, impacting line trade and other payables; and accrued receivable related to purchased transportation of EUR 1 million impacting line trade and other receivables. The net impact of these items (net of tax) is recognized in retained earnings. The movement in the restated items impacted the following lines in the consolidated income statement of 2017: sales (impact of EUR 0 million), cost of sales (impact of EUR –0 million), and income taxes (impact of EUR 0 million). The reclassification of recharged freights from cost of sales to sales amounted to EUR 1 million in 2017.

In connection to the IFRS 15 adoption, Outokumpu reviewed the presentation of its revenue items in general, and concluded that certain items not related to Outokumpu's operations as a stainless steel and ferrochrome producer should be presented in other operating income rather than in sales. Consequently, items such as rental income are presented as other operating income going forward. The 2017 comparable figures are presented accordingly with a EUR –8 million impact on sales and EUR 8 million impact on other operating income.

Income taxes

Current and deferred income taxes are determined in accordance with IAS 12 Income Taxes on entity level to the extent an entity is subject to income taxation. The Group's income tax in the consolidated statement of income includes current income taxes of the Group companies based on taxable profit for the period, together with tax adjustments for previous periods and the change in deferred income taxes. In several countries (Germany, the UK, Italy, the Netherlands, Sweden and the USA) Outokumpu companies are included in income tax consolidation groups / group taxation systems. The share of results in associated companies is reported in the statement of income based on the net result and thus including the income tax effect.

Deferred income taxes are stated using the balance sheet liability method to reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax basis at the reporting date, as well as for unused tax losses or credits carry forward. Deferred tax assets are recognized for all deductible temporary differences to the extent that it is probable that future taxable profits will be available, against which deductible temporary differences can be utilized. A valuation allowance is recognized against a deferred tax asset if the realization of the related tax benefit is not probable. The ability to recognize deferred tax assets is reviewed at the end of each reporting period. Deferred tax liabilities are usually recognized in the statement of financial position in full except to the extent that the deferred taxes arise from the initial recognition of an asset or liability in a transaction which is not a business combination and at the time of the transaction, affects neither accounting profit nor taxable profit.

Deferred taxes are calculated at the enacted or substantially enacted tax rates that are expected to apply by the end of the reporting period. Generally, deferred tax is recognized to the statement of income, except if the taxes are related to items of other comprehensive income or to transactions or other events recognized directly in equity, in which case the related income taxes are also recognized either in other comprehensive income or directly in equity, respectively.

Research and development costs

Research costs are expensed in the reporting period in which they are incurred. Development costs are capitalized when it is probable that the development project will generate future economic benefits for the Group, and certain criteria related to commercial and technological feasibility are met. These costs relate to the development of new or substantially improved products or production processes and to transformation projects with the target of developing and improving business processes. Capitalized development costs mainly comprise materials and supplies and direct labour costs as well as related overhead costs. Development costs recognized as expenses are not subsequently capitalized.

Subsequent to initial recognition, capitalized development costs are measured at cost less accumulated amortization and impairment losses. Capitalized development costs are amortized on a straight-line basis over their estimated useful lives which is generally five years. Recognition of amortization is commenced as the asset is ready for use. The accounting treatment of the government grants received for research and development activities is described below under Government grants.

Goodwill and other intangible assets

Goodwill arising on a business combination is recognized at the acquisition date at an amount representing the excess of the consideration transferred in an acquisition over the fair value of the identifiable assets acquired, liabilities assumed and any non-controlling interest and any previously held equity interests in the acquiree, if any. Goodwill is not amortized, but tested for impairment. Goodwill is measured at cost less accumulated impairment losses.

Intangible assets other than goodwill include capitalized development costs, patents, licenses and software. An intangible asset is recognized only if it is probable that the future economic benefits attributable to the asset will flow to the Group and the cost of the asset can be measured reliably. All other expenditure is expensed as incurred. Intangible assets are recognized initially at cost. After initial recognition, assets are measured at cost less accumulated amortizations and impairment losses if the intangible asset has a finite useful life. Cost comprises the purchase price and all costs directly attributable to bringing the asset ready for its intended use. Intangible assets acquired in a business combination are measured at fair value at the acquisition date.

Borrowing costs (mainly interest costs) directly attributable to the acquisition of an intangible asset are capitalized in the statement of financial position as part of the carrying amount of the asset, when it takes a substantial period of time to get the asset ready for its intended use.

Intangible assets are amortized on a straight-line basis over their expected useful lives. Assets tied to a certain fixed period are amortized over the contract term. Amortization periods used for intangible assets are the following:

Software	up to 10 years
Capitalized development costs	up to 10 years
Intangible rights	up to 20 years

Recognition of amortization is discontinued when the intangible asset is classified as held for sale. The estimated useful lives and residual values are reviewed at least at the end of each financial year. If they differ substantially from previous estimates, the useful lives are adjusted accordingly.

Gains and losses on disposal of intangible assets are included in other operating income and expenses.

Emission allowances

Emission allowances are intangible assets measured at cost. Allowances received free of charge are recognized at nominal value, i.e. at zero carrying amount. A provision to cover the obligation to return emission allowances is recognized at fair value at the end of the reporting period if the emission allowances held by the Group do not cover the actual emissions. The purchased emission allowance quotas recognized in intangible rights are derecognized against the actual emissions or, when the emission allowances are sold. The obligation to deliver allowances equal to emissions is recognized under other operating expenses. Gains from the sale of allowances are recognized as other operating income in the statement of income.

Property, plant and equipment

Property, plant and equipment acquired by the Group companies are measured at cost. The cost includes all expenditure directly attributable to the acquisition of the asset. Government grants received are deducted from the cost. Property, plant and equipment acquired in business combinations are measured at fair value at the acquisition date.

Borrowing costs (mainly interest costs) directly attributable to the acquisition or construction of an asset are capitalized in the statement of financial position as part of the carrying amount of the asset, when it takes a substantial period of time to get the asset ready for its intended use or sale.

Property, plant and equipment are carried in the statement of financial position at cost less accumulated depreciation and impairment losses. Property, plant and equipment are depreciated on a straight-line basis over their expected useful lives. Depreciation is based on the following estimated useful lives:

Buildings	25–40 years
Heavy machinery	15–30 years
Light machinery and equipment	3–15 years

Land is not depreciated, except for leased land, as the useful life of land is assumed to be indefinite. Mine properties include preparatory work to utilize an ore body or part of it, such as shafts, ramps and ventilation and are depreciated using the units-of-production method based on the depletion of ore reserves over their estimated useful lives. Recognition of depreciation on an item of property, plant and equipment is discontinued when the item is classified as held for sale. Expected useful lives and residual values are reviewed at least at the end of each financial year and, if they differ significantly from previous estimates, the useful lives are revised accordingly.

Ordinary repairs and maintenance costs are expensed during the reporting period in which they are incurred. The cost of major renovations is included in the asset’s carrying amount when it is probable that the Group will derive future economic benefits in excess of the originally assessed standard of performance of the existing asset and the cost can be reliably measured. Costs arising on such major renovations are accounted for as capital expenditure and depreciated on a straight-line basis over their estimated useful lives.

Gains and losses on sales and disposals of property, plant and equipment are determined by the difference between the received net proceeds and the carrying amount of the asset. Gains and losses on sales and disposals are presented in other operating income or expenses.

Government grants

Government or other grants are recognized as income on a systematic basis over the periods necessary to match them with the related costs which they are intended to compensate. Investment grants related to acquisitions of property, plant and equipment and intangible assets are deducted from the cost of the asset in question in the statement of financial position and recognized as income on a systematic basis over the useful life of the asset in the form of reduced depreciation or amortization expense.

Impairment of property, plant and equipment and intangible assets

Carrying amounts of non-current assets are regularly reviewed to determine whether there is any evidence of impairment. If any such evidence of impairment emerges, the asset’s recoverable amount is estimated. Goodwill is tested at least annually, irrespective of whether there is any evidence of impairment.

The recoverable amount of an asset is the higher of fair value less costs to sell and value in use. For goodwill testing purposes, the recoverable amount is based on value in use which is determined by reference to discounted future net cash flows expected to be generated by the asset. In Outokumpu, goodwill is tested on operating segment level. The discount rate used is a pre-tax rate that reflects the current market view on the time value of money and the asset-specific risks. An impairment loss is the amount by which the carrying amount of an asset exceeds its recoverable amount. An impairment loss is recognized immediately in profit or loss. The estimated useful life of the asset that is subject to depreciation or amortization is also reassessed when an impairment loss is recognized.

A previously recognized impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. However, the reversal must not cause that the adjusted carrying amount is higher than the carrying amount that would have been determined if no impairment loss had been recognized in prior years. Impairment losses recognized for goodwill are not reversed.

Leases

Group as a lessee

Lease agreements of property plant and equipment, in which the Group has substantially all the rewards and risks of ownership, are classified as finance leases. An asset acquired through finance lease is recognized as property, plant and equipment in the statement of financial position, within a group determined by the asset's characteristics, at the commencement of the lease term at the lower of fair value and the present value of minimum lease payments. Respective lease liabilities less finance charges are included in debt. Each lease payment is allocated between the finance charge and the reduction of the outstanding liability. The finance charge is allocated to each period during the lease term to produce a constant periodic rate of interest on the remaining balance of the liability. Property, plant and equipment acquired under finance lease contracts are depreciated over the shorter of the useful life of the asset and the lease term. If a sale and leaseback transaction results in a finance lease, any excess of sales proceeds over the sold asset's carrying amount will not be immediately recognized but deferred and amortized over the lease term.

At inception of significant other arrangements, the Group determines whether these arrangements are, or contain a lease component. At inception of an arrangement that contains a lease the Group separates payments and other consideration required by the arrangement into those for the lease and those for other elements. Lease accounting principles are applied to lease payments.

Leases of assets where the lessor retains substantially all the risks and benefits of ownership are classified as operating leases. Payments made under operating lease contracts are expensed on a straight-line basis over the lease terms.

Group as a lessor

Leases of property, plant and equipment where the Group has substantially transferred all the rewards and risks of ownership to the lessee are classified as finance leases. Assets leased out through such contracts are recognized as other receivables and measured at the lower of the fair value of the leased asset and the present value of minimum lease payments. Interest income from finance lease is recognized in the statement of income so as to achieve a constant periodic rate of return on the net investment in the finance lease.

Rental income received from property, plant and equipment leased out by the Group under operating leases is recognized on a straight-line basis over the lease term.

Financial instruments

Outokumpu has adopted IFRS 9 as of January 1, 2018. The adoption had no material impact on Outokumpu's consolidated financial statements. The comparable information related to financial instruments has not been restated to reflect IFRS 9 requirements. When transition to IFRS 9 impacted the accounting principles, the change and the previous practice is described in the following sections. In case the transition did not have an impact, this is not specifically stated.

Financial assets

The Group's financial assets are classified under IFRS 9 Financial Instruments standard as financial assets at fair value through profit or loss, financial assets at fair value through other comprehensive income and financial assets at amortized cost. The classification is based on Group's business model for financial assets and their contractual cash flow characteristics.

If an item is not measured at fair value through profit or loss, significant transaction costs are included in the initial carrying amount of the financial asset. Financial assets are derecognized when the Group loses the rights to receive the contractual cash flows on the financial asset or it transfers substantially all the risks and rewards of ownership outside the Group.

Financial assets at fair value through profit or loss

The category of financial assets at fair value through profit or loss includes derivatives, to which hedge accounting is not applied, as well as other financial items at fair value through profit or loss held for trading purposes. A financial asset, such as an investment in debt instrument or money market fund is classified in this category if it has been acquired with the main purpose of selling the asset within a short period of time. In some cases, also share investments can be classified in this category.

These financial assets are recognized at the trade date at fair value and subsequently remeasured at fair value at the end of each reporting period. The fair value measurement is based on quoted rates and market prices as well as on appropriate valuation methodologies and models.

Realized and unrealized gains and losses arising from changes in fair values are recognized in profit or loss in the reporting period in which they are incurred. The changes in fair value of other financial items measured at fair value are recognized in market price gains and losses under financial income and expenses. Accounting of derivatives is described in more detail in section Derivatives and hedge accounting.

Financial assets at fair value through other comprehensive income

Financial assets at fair value through other comprehensive income includes share investments in listed and unlisted companies. The purchases and sales of these items are recognized at the trade date. These investments are included in non-current assets, unless the Group has the intention to dispose of the investment within 12 months from the reporting date.

Investments in shares are measured at fair value. The fair value measurement is based on quoted rates and market prices at the end of the reporting period, as well as on appropriate valuation techniques, such as recent transaction prices and cash flow discounting. These valuation techniques use observable market data when it is available but rely also on entity-specific estimates made by the Group. Fair value changes of share instruments measured at fair value are recognized in other comprehensive income and presented in equity within fair value reserve, net of tax. Dividends are recognized in profit or loss. When the shares are disposed, the accumulated changes in fair value are reclassified from fair value reserve to retained earnings. Under IAS 39 in connection of disposal or impairment of shares the accumulated changes in fair value were transferred from equity to profit or loss as reclassification adjustment.

Financial assets measured at amortized cost

Financial assets measured at amortized cost include non-derivative financial assets with fixed or determinable payments and are not quoted in active markets. This category includes trade and other receivables and cash and cash equivalents.

Financial assets measured at amortized cost are measured initially at fair value. After initial recognition, they are measured at amortized cost by using the effective interest rate method less accumulated impairments.

Outokumpu uses factoring for working capital management. Factored trade receivables have been derecognized from the statement of financial position when the related risks and rewards of ownership have materially been transferred.

Outokumpu has adopted simplified model in assessing and recognizing expected credit losses on trade receivables. The calculation model is based on overdue statistics and counterparty-specific credit rating linked with loss probabilities for each rating. Impairment losses are recognized in selling and marketing expenses.

Transition impact

The new expected credit loss model resulted in impairment loss of trade receivables of EUR 1 million. This impact (net of tax) is recognized as a decrease of retained earnings on January 1, 2018.

Cash and cash equivalents

Cash and cash equivalents comprise cash in hand, deposits held at call with banks and other highly liquid investments with original maturities of three months or less. These are readily convertible to a known amount of cash and the risk of changes in value is low. Bank overdrafts are included in current liabilities in the statement of financial position.

Financial liabilities

Financial liabilities at fair value through profit or loss

The category of financial liabilities at fair value through profit or loss includes derivatives that do not meet the criteria of hedge accounting. Realized and unrealized gains and losses arising from changes in fair value of derivatives are recognized in profit or loss in the reporting period in which they are incurred.

Financial liabilities at amortized cost

Financial liabilities recognized at amortized cost include the loans, bonds, finance lease liabilities and trade and other payables. Loans and trade and other payables are recognized at the settlement date and measured initially at fair value. After initial recognition, they are carried at amortized cost using the effective interest rate method. Transaction costs are included in the original carrying amount. A financial liability (or part of the liability) is not derecognized until the liability has ceased to exist, that is, when the obligation identified in a contract has been fulfilled or cancelled or is no longer effective.

Significant costs related to revolving credit facilities are amortized over the expected loan term.

Convertible bonds

The Group classifies convertible bonds as compound instruments. The component parts of the bonds are classified separately as financial liabilities and equity in accordance with the substance of the arrangement.

The liability component is recognized initially at fair value of a similar liability. The equity component is recognized initially at the difference between the fair value of the bond as a whole and the fair value of the liability component. Transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts.

Subsequent to initial recognition, the liability component is measured at amortized cost using the effective interest method. The equity component of the bond is not remeasured to initial recognition except on conversion or expiry.

Derivative instruments and hedge accounting

Derivatives

Derivatives are initially recognized at fair value on the trade date, on which the Group becomes a contractual counterparty, and are subsequently measured at fair value. Gains and losses arising on fair value measurement are accounted for depending on the purpose of use of the derivative contract. The gains and losses arising from fair value changes of derivative contracts, to which hedge accounting is applied and which are effective hedging instruments, are presented congruent with the hedged item. Changes in fair value of derivative contracts not qualifying for hedge accounting are recognized in EBIT in other operating income and expenses. If a derivative is designated for financing activities, the gain or loss effects arising from the instrument are recognized within financial income and financial expenses.

The fair value measurement of derivatives is based on quoted market prices and rates as well as on discounted cash flows at the end of the reporting period. The fair values of currency, interest rate and metal options are determined by utilising commonly applied option valuation models, such as Black-Scholes-Merton model. Fair values of derivatives can in certain cases be based on valuations of external counterparties.

Hedge accounting

Outokumpu applies hedge accounting to certain currency derivatives which fulfil the IFRS 9 hedge accounting requirements. Outokumpu has estimated that all hedge accounting relationships under IAS 39 fulfil also IFRS 9 hedge accounting requirements and no changes to applying hedge accounting was made. In the beginning of each hedging arrangement, the Group documents the relationship between the hedging instrument and the hedged item, as well as the objectives of risk management and strategy of the hedging arrangement. Effectiveness of the hedge relationship is documented and assessed when hedging is started and at least in the end of each reporting period. Hedge effectiveness is the degree to which changes in the fair value or cash flows of the hedged item that are attributable to a hedged risk are offset by changes in the fair value or cash flows of the hedging instrument. Under IAS 39 the hedging relationship was considered to be highly effective if the changes in fair values or cash flows of the hedging instrument offset the cash flow changes of the hedged item by 80–125%. Hedge accounting is discontinued when the requirements of hedge accounting are no longer met.

Fair value changes of derivatives designated to hedge forecasted cash flows are recognized in other comprehensive income and presented within the fair value reserve in equity to the extent that the hedge is effective. Such fair value changes accumulated in equity are reclassified in profit or loss in the period in which the hedged cash flows affect profit or loss. The fair value changes related to the ineffective portion of the hedging instrument are recognized immediately in profit or loss.

The Group has in earlier years hedged equities of the subsidiaries located outside the euro area against changes in exchange rates with the aim to reduce the effects of changes in exchange rates on the Group's equity. Accumulated fair value changes of qualifying financial instruments designated as hedges are reported in equity. They will be reclassified to profit or loss as part of the gain or loss on disposal if the corresponding foreign operation is sold or otherwise disposed of, partly or in full.

Measurement of fair values

A number of the Group's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities. Fair value hierarchy is based on the source of inputs used in determining fair values. In level one, fair values are based on public quotations for identical instruments. In level two, fair values are based on market rates and prices, discounted future cash flows and, in respect of options, on valuation models. For assets and liabilities in level three, there is no reliable market source available and thus the fair value measurement cannot be based on observable market data. Therefore, the measurement methods are chosen so that the information available for the measurement and the characteristics of the measured objects can be adequately taken into account.

Inventories

Inventories are stated at the lower of cost and net realizable value. The cost of raw material is determined by actual cost defined as monthly weighted average. The cost of self-produced finished goods and work in progress comprises raw materials, direct labour, other direct costs and related production and procurement overheads, but excludes borrowing costs. Cost of purchased products includes all purchasing costs including direct transportation, handling and other costs. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and the estimated costs necessary to make the sale. Spare parts are carried as inventory and their cost is recognized in profit or loss as consumed. Major spare parts are recognized in property, plant and equipment when they are expected to be used over more than one financial year.

Treasury shares

When the parent company or its subsidiaries purchase the company's own shares, the consideration paid, including any attributable transaction costs, net of taxes, is deducted from the parent company's equity as treasury shares until the shares are cancelled. When such shares are subsequently sold or reissued, any consideration received is recognized directly in equity.

Provisions and contingent liabilities

A provision is recognized when Outokumpu has a present legal or constructive obligation as a result of a past event, and it is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. The Group's provisions mainly relate to restructuring plans, onerous contracts, environmental liabilities, litigation and tax risks. The amount recognized as a provision corresponds to the management's best estimate of the costs required to fulfil an existing obligation at the end of the reporting period. If part of the obligation may potentially be compensated by a third party, the compensation is recognized as a separate asset when it is virtually certain that the compensation will be received. Non-current provisions are discounted to net present value at the end of the reporting period using risk-free discount rates.

The cost of an item of property, plant and equipment also comprises the initial estimate of costs of dismantling and removing the item and restoring the site on which it is located at the end of the useful life of the item on a present value basis. Such a liability may exist for decommissioning a plant, rehabilitating environmental damage, landscaping or removing equipment. A provision presenting the asset retirement obligation is recognized in the same amount at the same date. Adjustments to the provision due to subsequent changes in the estimated timing or amount of the outflow of resources, or in the change in the discount rate are deducted from or added to the cost of the corresponding asset in a symmetrical manner. The costs will be depreciated over the asset's remaining useful life.

Environmental provisions are based on the interpretation of the effective environmental laws and regulations related to the Group at the end of the reporting period. Such environmental expenditure, that arises from restoring the conditions caused by prior operations are recognized as expenses in the period in which they are incurred. A restructuring provision is recognized when a detailed restructuring plan has been prepared and its implementation has been started or the main parts of the plan have been communicated to those, who are impacted by the plan. Restructuring provision mainly comprise employee termination benefits.

A contingent liability is a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence of uncertain future events not wholly within the control of the entity. Such present obligation that probably does not require settlement of a payment obligation and the amount of which cannot be reliably measured is also considered to be a contingent liability. Contingent liabilities are disclosed in the notes to the financial statements.

Employee benefits

Post-employment and other long-term employee benefits

Group companies in different countries have various post-employment benefit plans in accordance with local conditions and practices. The plans are classified as either defined contribution plans or defined benefit plans.

The fixed contributions to defined contribution plans are recognized as expenses in the period to which they relate. The Group has no legal or constructive obligation to pay further contributions if the receiving party is not able to pay the benefits in question. All such arrangements that do not meet these requirements are defined benefit plans.

Defined benefit plans are funded with payments to the pension funds or insurance companies. The present value of the defined benefit obligations is determined separately for each plan by using the projected unit credit method. The plan assets are measured at fair value at the end of the reporting period. The liability recognized in the statement of financial position is the defined benefit obligation at the closing date less the fair value of plan assets. Current service costs, past service costs and gains or losses on settlements are recognized in functional costs above EBIT. Net interest expense or income is recognized in financial items under interest expense or interest income. All remeasurements of the net defined benefit liability (asset) are recognized directly in other comprehensive income.

For other long-term employee benefits, all service costs and remeasurements are recognized immediately in the statement of income. Interest expenses are recognized in financial items under interest expenses.

Share-based payment transactions

The share-based payments are settled net of tax withholdings, and according to the IFRS 2 amendment, they are accounted as fully equity-settled. The expense of the programs recognized over vesting periods is fully based on the grant date fair value. Before, the share-based payments were accounted partly as equity-settled and partly as cash-settled, and the cost of the cash-settled part was remeasured based on market conditions at the end of each reporting period.

Applicable statistical models are used in valuation. The impact of non-market-based vesting conditions is assessed at the end of each reporting period. The programs include maximum limits for the pay-outs and the limits have been taken into account in the valuation of the benefits.

Transition impact

In transition on January 1, 2018, the accrued liabilities for the cash-settled portion amounting to EUR 10 million on December 31, 2017 and the related deferred tax assets amounting to EUR 3 million have been recognized in retained earnings. Comparable figures for 2017 have not been restated.

EBIT and EBITDA

Outokumpu's EBIT is the net sum which is formed by adding other operating income to sales and then deducting the cost of purchase adjusted by change in the inventory and the cost of manufacture for own use, the cost of employee benefits, depreciation, amortization, any impairments, and other operating expenses. All other items of the statement of income are presented below EBIT. Exchange gains and losses and fair value changes of derivatives are included in EBIT, if they arise from business-related items. Otherwise they are recognized in financial items. EBITDA is formed by adding the deducted depreciation, amortization and impairments back into EBIT.

Adjusted EBITDA

Adjusted EBITDA is Outokumpu's main performance indicator in financial reporting, including segment reporting. Adjusted EBITDA presented in the notes to the consolidated financial statements excludes such material income and expense items which affect the comparability between periods because of their unusual nature, size or incidence resulting for example from group-wide restructuring programs or disposals of assets or businesses.

Dividends

The dividend proposed by the Board of Directors is not deducted from distributable equity until approved by the Annual General Meeting of Shareholders.

Earnings per share

Basic earnings per share is calculated by dividing the net result attributable to the equity holders of the company by the weighted average number of shares in issue during the period, excluding shares purchased by Outokumpu and held as treasury shares.

Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding with the assumption that convertible instrument is converted. The profit or loss used in the calculation is adjusted for the interest expense related to the instrument and recognized in the period, net of tax. In addition, the shares estimated to be delivered based on the share-based incentive programs are taken into account. However, potential ordinary shares are only dilutive if the adjustments decrease the earnings per share ratio.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

3. Operating segment information

Outokumpu's business is divided into four business areas which are Europe, Americas, Long Products and Ferrochrome. In addition to the business area structure, Business Support Functions cover Finance, Communications and IR, Business Transformation and IT, Legal, Corporate Affairs and Compliance, Safety, Health and Environment, Internal Audit, and HR and Organization Development.

Business areas have responsibility for sales, profitability, production and supply chain management and they are Outokumpu's operating segments under IFRS. The performance of the segments is reviewed based on segment's adjusted EBITDA, which is defined in the accounting principles for the consolidated financial statements. The review is done regularly by the CEO based on internal management reporting which is based on IFRS. Below is a description of the activities of the four operating segments:

Europe consists of both coil and plate operations in Europe. The high-volume and tailored standard stainless steel grades are primarily used for example in architecture, building and construction, transportation, catering and appliances, chemical, petrochemical and energy sectors, as well as other process industries. The production facilities are located in Finland, Germany and Sweden. The business area has extensive service center and sales network across Europe, Middle East, Africa and APAC region.

Americas produces standard austenitic and ferritic grades as well as tailored products. Its largest customer segments are automotive and transport, consumer appliances, oil and gas, chemical and petrochemical industries, food and beverage processing, as well as building and construction industry. The business area has production units in the US and Mexico, as well as a service center in Argentina.

Long Products are used in a wide range of applications such as springs, wires, surgical equipment, automotive parts and construction. The manufacturing is concentrated in the integrated sites in the UK, Sweden and the US.

Ferrochrome produces charge grade of ferrochrome. The business area has a chrome mine in Kemi, Finland and ferrochrome smelter in Tornio, Finland.

					Reconciliation			
2018 € million	Europe	Americas	Long Products	Ferro-chrome	Operating segments total	Other operations	Eliminations	Group
External sales	4,169	1,670	521	197	6,557	314	–	6,872
Inter-segment sales	97	45	220	345	707	273	–980	–
Sales	4,267	1,715	740	542	7,264	587	–980	6,872
Adjusted EBITDA	248	–5	25	210	478	–4	11	485
Adjustments to EBITDA								
Gain on the sale of PPE and release of provisions related to EMEA restructuring	10	–	–	–	10	–	–	10
EBITDA	259	–5	25	210	489	–4	11	496
Depreciation and amortization	–114	–51	–6	–30	–201	–3	–	–204
Impairments	–0	–	–	–1	–2	–10	–	–12
EBIT	144	–56	18	179	286	–17	11	280
Share of results in associated companies and joint ventures	–	–	–	–	–	–	–	3
Financial income	–	–	–	–	–	–	–	3
Financial expenses	–	–	–	–	–	–	–	–110
Result before taxes	–	–	–	–	–	–	–	175
Income taxes	–	–	–	–	–	–	–	–45
Net result for the financial year	–	–	–	–	–	–	–	130
Assets in operating capital	2,922	1,357	331	772	5,383	275	–202	5,455
Other assets	–	–	–	–	–	–	–	296
Deferred tax assets	–	–	–	–	–	–	–	247
Total assets	–	–	–	–	–	–	–	5,998
Liabilities in operating capital	988	273	152	132	1,546	245	–188	1,604
Other liabilities	–	–	–	–	–	–	–	1,632
Deferred tax liabilities	–	–	–	–	–	–	–	12
Total liabilities	–	–	–	–	–	–	–	3,248
Operating capital	1,934	1,084	179	640	3,837	29	–15	3,851
Net deferred tax asset	–	–	–	–	–	–	–	235
Capital employed	–	–	–	–	–	–	–	4,086

Other operations consist of activities outside the four operating segments, as well as industrial holdings. Such business development and Corporate Management expenses that are not allocated to the business areas are also reported under Other operations. Sales of Other operations consist of sales of electricity to Group's production facilities in Finland and in Sweden, nickel procured under Group's sourcing contract that exceed the production needs, and internal commissions and services.

Outokumpu does not have individual significant customers as defined in IFRS 8.

2017 Restated € million	Europe	Americas	Long Products	Ferro-chrome	Operating segments total	Reconciliation: Other operations	Reconciliation: Eliminations	Group
External sales	4,074	1,512	405	127	6,118	237	–	6,356
Inter-segment sales	81	33	186	483	784	266	–1,050	–
Sales	4,156	1,546	591	610	6,903	503	–1,050	6,356
Adjusted EBITDA	404	21	16	217	658	–15	–12	631
Adjustments to EBITDA								
Gain on the quarto plate mill divestment	–	–	–	–	–	15	–	15
Gain on the sale of land in Sheffield	–	–	–	–	–	9	–	9
Gain on the pipe plant divestment	–	–	–	–	–	7	–	7
EBITDA	404	21	16	217	658	16	–12	663
Depreciation and amortization	–123	–52	–7	–29	–210	–6	–	–216
Impairments	–	–	–	–1	–1	–	–	–1
EBIT	281	–31	10	187	447	10	–12	445
Share of results in associated companies and joint ventures	–	–	–	–	–	–	–	9
Financial income	–	–	–	–	–	–	–	3
Financial expenses	–	–	–	–	–	–	–	–129
Result before taxes	–	–	–	–	–	–	–	327
Income taxes	–	–	–	–	–	–	–	65
Net result for the financial year	–	–	–	–	–	–	–	392
Assets in operating capital	2,883	1,382	241	752	5,258	253	–259	5,252
Other assets	–	–	–	–	–	–	–	340
Deferred tax assets	–	–	–	–	–	–	–	295
Total assets	–	–	–	–	–	–	–	5,887
Liabilities in operating capital	1,035	310	128	104	1,577	264	–234	1,608
Other liabilities	–	–	–	–	–	–	–	1,549
Deferred tax liabilities	–	–	–	–	–	–	–	10
Total liabilities	–	–	–	–	–	–	–	3,166
Operating capital	1,848	1,072	113	648	3,681	–11	–25	3,645
Net deferred tax asset	–	–	–	–	–	–	–	285
Capital employed	–	–	–	–	–	–	–	3,929

4. Geographical information

€ million	Finland	Germany	Sweden	The UK	Other Europe	North America	Asia and Oceania	Other countries	Inter-area	Group
2018										
Sales by destination										
Europe	219	1,380	144	234	1,719	74	349	50	–	4,169
Americas	0	0	–	0	40	1,551	12	67	–	1,670
Long Products	0	66	47	9	161	195	42	–	–	521
Ferrochrome	10	10	22	–	118	–	37	–	–	197
Other operations	–	–	–	–	–	–	–	314	–	314
	230	1,456	214	243	2,038	1,820	440	431	–	6,872
Sales by origin	3,222	1,428	1,581	694	414	1,845	76	58	–2,446	6,872
Non-current assets	1,623	332	252	60	110	851	14	2	–	3,244
2017 Restated										
Sales by destination										
Europe	211	1,463	119	233	1,655	58	301	33	–	4,074
Americas	–	–	–	–	173	1,209	65	66	–	1,512
Long Products	–	32	33	8	116	191	25	–	–	405
Ferrochrome	10	12	22	–	40	–	43	–	–	127
Other operations	–	–	–	–	–	–	–	237	–	237
	222	1,507	174	242	1,984	1,458	434	336	–	6,356
Sales by origin	3,133	1,425	1,363	617	424	1,659	64	55	–2,384	6,356
Non-current assets	1,539	337	260	56	112	847	15	2	–	3,168

Sales by destination is presented for external sales.

Sales by origin and non-current assets are presented by the locations of the Group companies.

Non-current assets exclude investments in associated companies and joint ventures, financial instruments, deferred tax assets and defined benefit plan assets.

5. Acquisitions and divestments

Acquisitions in 2018

In June 2018, Outokumpu acquired full ownership of Fagersta Stainless AB, a wire rod mill in Sweden. Prior to the acquisition, Outokumpu held 50% of the Fagersta Stainless shares, and it was included in Outokumpu's consolidated financial statements with the equity method. Outokumpu reports Fagersta Stainless as part of the Long Products segment.

The cash consideration of the transaction was EUR 18 million of which EUR 14 million, representing 80% of the total consideration, was paid at closing with an additional 40% of the shares transferred to Outokumpu. The remaining 20% will be paid in the end of 2019 at which point Outokumpu will receive the final 10% of the shares. Outokumpu does not present non-controlling interest related to the 10% shareholding of Fagersta Stainless AB in its statement of financial position as the terms regarding the transfer of the shares to Outokumpu have already been agreed upon. The transaction price of the final 10% portion is reported in current trade and other payables.

The consideration, net of cash and cash equivalents acquired amounts to EUR 13 million. Assets acquired and liabilities assumed include non-current assets of EUR 9 million, current assets of EUR 75 million, non-current liabilities of EUR 2 million and current liabilities of EUR 47 million. The transaction resulted in no goodwill.

Divestments in 2018

Outokumpu did not have any divestments in 2018.

6. Income and expenses

Timing of revenue recognition related contracts with customers

More than 97% of Outokumpu's revenue from contracts with customers is recognized at a point of time, and less than 3% is recognized over time. The revenue recognized over time relates to the performance obligation of organizing the transport of sold goods to the customer, and the period under which it is recognized is relatively short. Moreover, the sales of goods and transportation service are invoiced together from the customer. Consequently, the uncertainty associated with the cash flows do not differ with respect to the timing of revenue recognition.

Depreciation and amortization by function

€ million	2018	2017
Cost of sales	**–194**	–207
Administrative expenses	**–9**	–8
Research and development expenses	**–1**	–1
	–204	–216

Other operating income

€ million	2018	2017 Restated
Exchange gains and losses from foreign exchange derivatives	**1**	–
Market price gains and losses from commodity derivatives	**24**	–
Market price gains and losses from derivative financial instruments	**25**	–
Gains from disposal of subsidiaries	**–**	22
Gains on sale of intangible assets and property, plant and equipment	**15**	16
Insurance compensation	**32**	1
Other income items	**28**	19
	99	58

In 2018, Outokumpu received an insurance compensation regarding the property damage and business interruption at Tornio ferrochrome production in Finland in 2017.

Other operating expenses

€ million	2018	2017
Exchange gains and losses from foreign exchange derivatives	**–**	–9
Market price gains and losses from commodity derivatives	**–**	–14
Market price gains and losses from derivative financial instruments	**–**	–23
Impairments	**–12**	–1
Other expense items	**–6**	–10
	–19	–35

Adjustments to EBITDA and EBIT

€ million	2018	2017
Gain on the sale of PPE and release of provisions related to EMEA restructuring	**10**	–
Gain on the quarto plate mill divestment	**–**	15
Gain on the sale of land in Sheffield	**–**	9
Gain on the pipe plant divestment	**–**	7
Adjustments to EBITDA	**10**	31
Impairment related to Group's digital transformation project	**–10**	–
Adjustments to EBIT	**0**	31

In 2018, Outokumpu sold property, plant and equipment in Sweden relating to a site that had been closed earlier under the EMEA restructuring plan. Outokumpu also released provisions related to the site closures under the restructuring plan. These items amounted to a gain of EUR 10 million.

In 2018, Outokumpu adjusted the scope of its digital transformation program, which resulted in an impairment loss of EUR 10 million.

In 2017, Outokumpu divested its quarto plate mill in New Castle, Indiana, US resulting in a gain of EUR 15 million, surplus land in Sheffield, UK with a gain of EUR 9 million, and its pipe plant in Wildwood, Florida, US with a gain of EUR 7 million.

Auditor fees

PricewaterhouseCoopers

€ million	2018	2017
Audit	**–2.2**	–1.9
Audit-related services	**–0.1**	–0.1
Tax advisory	**–0.0**	–0.2
Other services	**–0.0**	–0.3
	–2.3	–2.5

PricewaterhouseCoopers Oy has provided non-audit services to Outokumpu in total of EUR 0.1 million during 2018. These services comprised of tax services and consultation in business transformation projects and sustainability reporting.

7. Employee benefit expenses

€ million	2018	2017
Wages and salaries	**–541**	–549
Termination benefits	**–6**	–1
Social security costs	**–81**	–73
Post-employment and other long-term employee benefits		
Defined benefit plans	**–2**	–7
Defined contribution plans	**–39**	–43
Other long-term employee benefits [1]	**–1**	13
Expenses from share-based payments	**1**	–16
Other personnel expenses	**–6**	–7
	–676	–684

[1] 2017 includes EUR 14 million from reversal of long-service remuneration obligations in Germany where the terms of the arrangement were changed, and the arrangement no longer contains long-term employee benefit obligations, but the benefits are current in nature. The accruals related to the current benefits have been reported under wages and salaries. See note 25.

Profit-sharing bonuses based on the Finnish Personnel Funds Act of EUR 2 million were paid in 2018 (2017: none).

More information on employee benefits for key management can be found in note 31 and in Corporate Governance chapter Remuneration.

8. Financial income and expenses

€ million	2018	2017
Interest income	**3**	3
Interest expenses		
Debt at amortized cost	**–45**	–65
Factoring expenses	**–10**	–8
Finance lease arrangements	**–9**	–12
Derivatives	**–0**	–2
Interest expense on defined benefit and other long-term employee benefit obligations	**–5**	–5
Interest expenses	**–70**	–92
Capitalized interests	**3**	1
Impairment of financial assets	**0**	–1
Loss from the sale of financial asset	**–1**	–0
Fees related to committed credit facilities	**–11**	–14
Other fees	**–17**	–15
Other financial expenses	**–26**	–30
Exchange gains and losses		
Derivatives	**–21**	83
Cash, loans and receivables	**8**	–97
Other market price gains and losses		
Derivatives	**2**	2
Other	**–4**	5
Market price gains and losses	**–15**	–7
Total financial income and expenses	**–107**	–127

Other fees consist of expenses related to the redemption of the notes due 2021.

Exchange gains and losses in the consolidated statement of income

€ million	2018	2017
In sales	**15**	–17
In purchases [1]	**–29**	37
In other income and expenses [1]	**1**	–9
In financial income and expenses [1]	**–13**	–15
	–26	–3

[1] Includes exchange gains and losses on elimination of intra-group transactions.

Exchange gains and losses include EUR 20 million of net exchange loss on derivative financial instruments (2017: EUR 74 million net exchange gains) of which a gain of EUR 1 million has been recognized in other operating expenses and a loss of EUR 21 million in financial items.

9. Income taxes

Income taxes in the consolidated statement of income

€ million	2018	2017 Restated
Current taxes	**–4**	–6
Deferred taxes	**–41**	71
	–45	65

Reconciliation of income taxes at statutory tax rate in Finland and income taxes recognized in the consolidated income statement

€ million	2018	2017 Restated
Result before taxes	**175**	327
Hypothetical income taxes at Finnish tax rate of 20% on consolidated result before tax	**–35**	–65
Difference between Finnish and foreign tax rates	**–2**	–6
Tax effect of non-deductible expenses and tax exempt income	**–11**	–2
Reassessment of the values of deferred tax assets [1]	**5**	139
Taxes for prior years	**–2**	–1
Tax effect of tax rate changes and other changes in tax laws	**–1**	0
Income taxes in the consolidated statement of income	**–45**	65

[1] Includes EUR 34 million tax benefit due to recognition of previously non-recognized deferred tax assets (2017: EUR 125 million).

Deferred tax assets and liabilities

€ million	Jan 1, 2018 Deferred tax assets	Jan 1, 2018 Deferred tax liabilities	Movements Recognized in profit or loss	Movements Recognized in other comprehensive income	Movements Translation differences	Movements Acquired subsidiaries	Dec 31, 2018 Deferred tax assets	Dec 31, 2018 Deferred tax liabilities
Intangible assets	6	–4	–0	–	0	–	7	–4
Property, plant and equipment	28	–195	–16	–	–1	–1	29	–214
Inventories	19	–10	–0	–	–0	–	20	–12
Net derivate financial assets	5	–17	3	–0	–0	–	4	–13
Other financial assets	4	–7	–22	–1	–0	–	–16	–10
Defined benefit and other long-term employee benefit obligations	53	–33	23	–1	0	–	75	–33
Other financial liabilities [1]	78	–3	–2	–	0	–0	88	–14
Provisions	27	–22	–3	–	–0	1	22	–20
Tax losses and tax credits	352	–	–23	–	–3	–	326	–
	572	–290	–41	–1	–4	–1	**555**	**–320**
Offset	–280	280					–308	308
Deferred taxes in the statement of financial position [1]	292	–10					**247**	**–12**

[1] In transition to amended IFRS 2 transition on Jan 1, 2018, the accrued liabilities for the cash-settled portion of share-based payments amounting to EUR 10 million on Dec 31, 2017 and the related deferred tax assets amounting to EUR 3 million have been recognized in retained earnings. Comparable figures for 2017 have not been restated.

€ million	Jan 1, 2017 Deferred tax assets	Jan 1, 2017 Deferred tax liabilities	Movements Recognized in profit or loss	Movements Recognized in other comprehensive income	Movements Translation differences	Movements Disposed subsidiaries	Dec 31, 2017 Deferred tax assets	Dec 31, 2017 Deferred tax liabilities
Intangible assets	7	–3	–2	–	–	–	6	–4
Property, plant and equipment	25	–209	17	–	0	–	28	–195
Inventories	15	–8	2	–	0	–	19	–10
Net derivate financial assets	9	–10	–11	1	–	–	5	–17
Other financial assets	4	–5	–2	–	–	–	4	–7
Defined benefit and other long-term employee benefit obligations	18	–23	–13	37	–0	–	53	–33
Other financial liabilities	80	–2	2	–	–0	–	81	–3
Provisions	22	–19	2	–	–	–	27	–22
Tax losses and tax credits	282	–	74	–	–4	–	352	–
	461	–280	71	38	–4	–	575	–290
Offset	–257	257					–280	280
Deferred taxes in the statement of financial position	204	–22					295	–10

Deferred taxes have been reported as a net balance of those Group companies that file a consolidated tax return, or that may otherwise be consolidated for current tax purposes.

Aggregate deferred taxes recognized in equity through other comprehensive income

€ million	2018	2017
Fair value reserves	**–1**	0
Net investment hedging	**–4**	–4
Remeasurements of the net defined benefit liability	**52**	53
	47	49

Tax losses carried forward

€ million	2018	2017
Expire in 5 years	**186**	230
Expire later than in 5 years	**1,941**	1,993
Never expire	**1,272**	1,173
	3,400	3,396

As of December 31, 2018 tax loss carry forwards amount to EUR 3,400 million (2017: EUR 3,396 million), of which EUR 487 million (2017: EUR 630 million) in Finland, EUR 320 million (2017: EUR 347 million) in Sweden, EUR 1,864 million (2017: EUR 1,625 million) in the US and EUR 476 million (2017: EUR 498 million) in Germany. Deferred tax assets are recognized only to the extent that the utilization of related tax benefits is considered probable. In the determination of whether the utilization is probable, all positive and negative factors, including prospective results, are taken into consideration in order to estimate whether sufficient taxable income will be generated to realize deferred tax assets. These estimates can change depending on the future course of events. As of December 31, 2018 tax attributes of the Outokumpu Group for which no deferred tax asset has been recognized amount to EUR 1,940 million (2017: EUR 1,922 million). In 2018, due to increased probability of future tax benefits, mainly in the UK, previously non-recognized deferred tax assets of EUR 34 million in total were recognized. In 2017, corresponding recognition of previously non-recognized deferred tax assets in Germany amounted to EUR 160 million. The recognition decision in both 2018 and 2017 has been impacted by positive earnings before taxes and positive taxable results. No deferred tax liabilities were recorded on undistributed profits on foreign subsidiaries, as such profits are not to be distributed in the foreseeable future.

10. Earnings per share

	2018	2017
Result attributable to the equity holders of the Company, € million [1]	**130**	392
Weighted average number of shares, in thousands	**411,066**	412,363
Diluted average number of shares, in thousands	**447,181**	450,248
Earnings per share for result attributable to the equity holders of the Company [1]		
Earnings per share, EUR	**0.32**	0.95
Diluted earnings per share, EUR	**0.32**	0.90

[1] Comparable figures restated due to IFRS 15 adoption.

11. Intangible assets

€ million	Goodwill	Other intangible assets [1]	Total
Historical cost on Jan 1, 2018	491	276	767
Translation differences	–2	–2	–3
Additions	–	77	77
Disposals	–	–20	–20
Reclassifications	–	1	1
Historical cost on Dec 31, 2018	**489**	**332**	**821**
Accumulated amortization and impairment on Jan 1, 2018	–24	–207	–232
Translation differences	2	2	4
Amortization	–	–8	–8
Accumulated amortization and impairmenton Dec 31, 2018	**–22**	**–214**	**–236**
Carrying value on Dec 31, 2018	**467**	**118**	**585**
Carrying value on Jan 1, 2018	467	68	535
Historical cost on Jan 1, 2017	493	241	734
Translation differences	–2	–4	–6
Additions	–	42	42
Disposals	–	–24	–24
Reclassifications [2]	–	21	21
Historical cost on Dec 31, 2017	491	276	767
Accumulated amortization and impairment on Jan 1, 2017	–26	–204	–229
Translation differences	1	3	5
Amortization	–	–7	–7
Accumulated amortization and impairmenton Dec 31, 2017	–24	–207	–232
Carrying value on Dec 31, 2017	467	68	535
Carrying value on Jan 1, 2017	467	37	504

[1] Other intangible assets include land-use rights, emission allowances, capitalized development costs, patents, licenses and software.

[2] Reclassifications in 2017 include construction work in progress related to intangible assets, which was earlier presented in the corresponding item of property, plant and equipment. These assets relate mainly to Group's digital transformation project.

During 2018, borrowing costs amounting to EUR 2 million were capitalized on investment projects (2017: EUR 1 million). Total interest capitalized on December 31, 2018 was EUR 3 million (Dec 31, 2017: EUR 1 million). Outokumpu determinates separate capitalization rates for each quarter. The average rate used during 2018 was 2.7%.

Intangible assets mainly comprise acquired assets.

Emission allowances

Outokumpu had seven active sites operating under EU's Emissions Trading Scheme (ETS) in 2018. These include the production plants in Tornio, Finland; Avesta, Degerfors, Fagersta and Nyby in Sweden; Sheffield in the UK; as well as Krefeld together with Dillenburg in Germany.

The pre-verified carbon dioxide emissions under ETS were approximately 1.0 million tonnes in 2018 (2017: 0.95 million tonnes). For the trading period 2013–2020, all relevant Outokumpu sites have applied free emission allowances according to efficiency-based benchmarks and historical activity. Preliminary allocation for year 2019 is estimated to be some 1.0 million tonnes. Considering the Group's operations and the Group's current emission allowance position, the overall amount of allowances is foreseen to be sufficient for compliance. Position is frequently monitored and optimized according to the definitions set in corporate risk policies. See note 19 for information on the management of the emission allowance price risk.

12. Property, plant and equipment

€ million	Land	Mine properties	Buildings	Machinery and equipment	Other tangible assets	Advances paid and construction work in progress	Total
Historical cost on Jan 1, 2018	135	66	1,233	4,440	128	158	6,160
Translation differences	1	–	2	–4	–1	1	–2
Additions	0	2	2	34	4	146	189
Acquired subsidiaries	0	–	1	4	1	3	9
Disposals	–0	–	–	–22	–0	–0	–23
Reclassifications	–	2	6	59	4	–73	–2
Historical cost on Dec 31, 2018	**136**	**71**	**1,243**	**4,511**	**137**	**235**	**6,332**
Accumulated depreciation and impairment on Jan 1, 2018	–14	–27	–639	–2,768	–77	–3	–3,527
Translation differences	0	–	4	25	0	0	30
Disposals	–	–	3	19	0	0	22
Reclassifications	–	–	–	–1	–	1	0
Depreciation	–0	–7	–43	–140	–4	–0	–195
Impairments	–	–	–	–2	–	–	–2
Accumulated depreciation and impairment on Dec 31, 2018	**–14**	**–33**	**–676**	**–2,868**	**–80**	**–2**	**–3,673**
Carrying value on Dec 31, 2018	**121**	**37**	**567**	**1,644**	**56**	**233**	**2,659**
Carrying value on Jan 1, 2018	121	40	594	1,672	52	155	2,633

During 2018, EUR 1 million of borrowing costs were capitalized on investment projects (2017: EUR - million). Total interest capitalized on December 31, 2018 was EUR 25 million (Dec 31, 2017: EUR 26 million). Outokumpu determines separate capitalization rates for each quarter. The average rate used during 2018 was 1.5%.

€ million	Land	Mine properties	Buildings	Machinery and equipment	Other tangible assets	Advances paid and construction work in progress	Total
Historical cost on Jan 1, 2017	139	66	1,251	4,641	129	125	6,351
Translation differences	–3	–	–28	–154	–0	–5	–190
Additions	–	0	4	21	0	106	130
Disposals	–2	–	–4	–10	–0	–	–17
Disposed subsidiaries	–	–	–2	–33	–	–0	–35
Reclassifications	–	–	13	–24	0	–68	–80
Historical cost on Dec 31, 2017	135	66	1,233	4,440	128	158	6,160
Accumulated depreciation and impairment on Jan 1, 2017	–14	–21	–603	–2,763	–73	–4	–3,477
Translation differences	0	–	5	54	0	0	60
Disposals	–	–	0	9	–0	–	9
Disposed subsidiaries	–	–	2	25	–0	–	27
Reclassifications	–	–	–	62	–	1	63
Depreciation	–0	–6	–43	–155	–4	–0	–209
Impairments	–	–	–	–1	–	–	–1
Accumulated depreciation and impairment on Dec 31, 2017	–14	–27	–639	–2,768	–77	–3	–3,527
Carrying value on Dec 31, 2017	121	40	594	1,672	52	155	2,633
Carrying value on Jan 1, 2017	126	45	648	1,878	56	122	2,874

Assets leased by finance lease agreements

€ million	Land	Buildings	Machinery and equipment	Total
Historical cost	28	1	100	129
Accumulated depreciation	–1	–0	–52	–53
Carrying value on Dec 31, 2018	**27**	**1**	**49**	**76**
Historical cost	28	1	106	136
Accumulated depreciation	–1	–0	–50	–51
Carrying value on Dec 31, 2017	27	1	56	85

13. Impairment of intangible assets and property, plant and equipment

Intangible assets and property, plant and equipment by operating segment

	Goodwill		Other intangible assets		Property, plant and equipment	
€ million	**2018**	2017	**2018**	2017	**2018**	2017
Europe	**343**	344	**5**	5	**1,197**	1,240
Americas	**–**	–	**2**	1	**829**	824
Long Products	**9**	9	**3**	4	**79**	63
Ferrochrome	**114**	114	**0**	0	**537**	487
Other operations	**–**	–	**109**	58	**17**	18
	467	467	**118**	68	**2,659**	2,633

Impairment testing

Impairment testing is carried out on operating segment level, which are the Group's cash-generating units. Europe represents 74% of the total goodwill and 45% of the total property, plant and equipment of the Group, Americas represents 31% of the total property, plant and equipment of the Group, and Ferrochrome represents 24% of the total goodwill and 20% of the total property, plant and equipment of the Group. During the year 2018, impairment needs were assessed on a quarterly basis.

The recoverable amounts of the cash-generating units are based on value-in-use calculations which are prepared using discounted cash flow projections. Key assumptions used in the value-in-use calculations are discount rate, terminal value growth rate, average global growth in end-use consumption of stainless steel and base price development. The values assigned to the key assumptions are conservative, and cash flow projections are based on the plans approved by the management for 2019–2021 after which cash flows are further projected for a period of 3 years before calculating the terminal value.

Discount rate is the weighted average pre-tax cost of capital (WACC), as defined for Outokumpu. The components of WACC are risk-free yield rate, Outokumpu credit margin, market risk premium, equity beta, and the Group target capital structure. The pre-tax WACC used for both Europe and Ferrochrome is 7.2%, and for Americas 9.8% (2017: 9.5%). In 2017, Europe and Ferrochrome belonged to the same operating segment and were tested together with pre-tax WACC of 8.0%.

In the terminal value, growth rate assumptions of 0.5% (2017: 0.5%) for Europe and Ferrochrome, and 1.0% (2017: 1.0%) for Americas are used. Management believes these to be prudent based on current economic circumstances, although historical growth rates and forecasts of independent market analysts indicate higher long-term growth rates.

Growth rate assumption used for stainless steel deliveries is conservative, and generally lower than independent analysts' view on long-term market development. Base price forecast is based on conservative assumptions. In addition, committed investments and expected cost savings have been included in the cash flow projections.

The estimated recoverable amount of Europe exceeds its carrying amount by approximately EUR 3,946 million. Increase of 11.6 percentage points in after-tax WACC would cause the recoverable amount to equal the carrying amount. Also, 54% decrease in EBITDA would cause the recoverable amount to equal the carrying amount. Terminal growth rate of 0% would not lead to impairment.

The estimated recoverable amount of Americas exceeds its carrying amount by approximately EUR 51 million. Increase of 0.3 percentage points in after-tax WACC would cause the recoverable amount to equal the carrying amount. Also, 3% decrease in EBITDA would cause the recoverable amount to equal the carrying amount. Terminal growth rate of 0% would lead to an impairment loss of EUR 58 million.

The estimated recoverable amount of Ferrochrome exceeds its carrying amount by approximately EUR 1,765 million. Increase of 13.0 percentage points in after-tax WACC would cause the recoverable amount to equal the carrying amount. Also, 58% decrease in EBITDA would cause the recoverable amount to equal the carrying amount. Terminal growth rate of 0% would not lead to impairment.

As a result of the performed impairment test to Group's cash-generating units, no impairment losses were recognized in 2018 or 2017. However, impairment losses of EUR 10 million related to Group's digital transformation project and EUR 2 million related to asset obsolence in Ferrochrome and Europe were recognized in 2018. (2017: an impairment loss of EUR 1 million on property, plant and equipment in Ferrochrome due to asset obsolence).

14. Investments in associated companies and joint ventures

Outokumpu has the following associated companies and joint ventures which are all equity accounted. Based on the amounts reported in the Group's consolidated financial statements, it is concluded that the investments are immaterial.

Associated companies

	Domicile	Ownership, %
OSTP Holding Oy	Finland	49
Rapid Power Oy	Finland	33
Manga LNG Oy	Finland	45

Summarized financial information on associated companies

€ million	**2018**	2017
Carrying value of investments in associated companies	**53**	53
Group's share of total comprehensive income	**5**	4

Joint ventures

In June 2018, Outokumpu acquired full ownership of Fagersta Stainless AB, previously a joint venture of Outokumpu in Sweden. See note 5 for more information on the acquisition. The net result and the other comprehensive income from January 1, 2018 to June 30, 2018 have been included in Outokumpu's consolidated financial statements with the equity method. The Group's share of total comprehensive income reported in the table below includes also the fair valuation impact related to the valuation of Outokumpu's original 50% share prior the acquisition.

Summarized financial information on joint ventures

€ million	**2018**	2017
Carrying value of investments in joint ventures	**–**	20
Group's share of total comprehensive income	**–2**	5

15. Carrying values and fair values of financial assets and liabilities by measurement category

The Group has adopted IFRS 9 standard as of January 1, 2018 and the following table reconciles the carrying amounts of financial instruments under IAS 39 to the carrying amounts under IFRS 9.

	Measurement category		Carrying amount on Jan 1, 2018		
Financial assets	IAS 39	IFRS 9	Original	New	Difference
Investments in equity	Available for sale	FVOCI	68	68	–
Other investments	Investments at fair value through profit or loss	FVPL	17	17	–
Trade and other receivables	Amortized cost	Amortized cost	598	597	–1
Hedge accounted derivatives	FVOCI	FVOCI	–	–	–
Derivatives held for trading	FVPL	FVPL	44	44	–
Cash and cash equivalents	Amortized cost	Amortized cost	112	112	–
Financial liabilities					
Debt	Amortized cost	Amortized cost	1,203	1,203	–
Trade and other payables	Amortized cost	Amortized cost	1,310	1,310	–
Hedge accounted derivatives	FVOCI	FVOCI	2	2	–
Derivatives held for trading	FVPL	FVPL	38	38	–

FVOCI = Fair value through other comprehensive income

FVPL = Fair value through profit or loss

The Group has adopted simplified model in assessing expected credit losses on trade receivables which caused a difference between carrying amounts under IAS 39 and IFRS 9.

2018 € million	Measured at Amortized cost	 Fair value through other comprehensive income	 Fair value through profit or loss	Carrying amount	Fair value
Non-current financial assets					
Investments in equity	–	86	–	86	86
Other investments	–	–	0	0	0
Trade and other receivables	2	–	–	2	2
Derivatives held for trading	–	–	2	2	2
Current financial assets					
Other investments	–	–	13	13	13
Trade and other receivables	578	–	–	578	578
Hedge accounted derivatives	–	0	–	0	0
Derivatives held for trading	–	–	15	15	15
Cash and cash equivalents	68	–	–	68	68
	648	86	30	764	764
Non-current financial liabilities					
Non-current debt	798	–	–	798	814
Derivatives held for trading	–	–	1	1	1
Current financial liabilities					
Current debt	511	–	–	511	511
Trade and other payables	1,349	–	–	1,349	1,349
Hedge accounted derivatives	–	0	–	0	0
Derivatives held for trading	–	–	19	19	19
	2,658	0	21	2,678	2,694

2017 € million	Category in accordance with IAS 39	Measured at Amortized cost	Cost	Fair value through other comprehensive income	Fair value through profit or loss	Carrying amount	Fair value
Non-current financial assets							
Available-for-sale financial assets	a)	–	64	4	–	68	68
Investments at fair value through profit or loss	c)	–	–	–	0	0	0
Trade and other receivables	b)	1	–	–	–	1	1
Derivatives held for trading	b)	–	–	–	1	1	1
Current financial assets							
Investments at fair value through profit or loss	c)	–	–	–	16	16	16
Trade and other receivables	b)	597	–	–	–	597	597
Cash and cash equivalents	b), c)	112	–	–	–	112	112
Derivatives held for trading	d)	–	–	–	43	43	43
		710	64	4	61	838	838
Non-current financial liabilities							
Non-current debt	f)	698	–	–	–	698	802
Derivatives held for trading	d)	–	–	–	3	3	3
Current financial liabilities							
Current debt	f)	505	–	–	–	505	505
Trade and other payables	f)	1,310	–	–	–	1,310	1,310
Hedge accounted derivatives	e)	–	–	2	–	2	2
Derivatives held for trading	d)	–	–	–	35	35	35
		2,513	–	2	38	2,553	2,657

Categories in accordance with IAS 39:

a) Available-for-sale financial assets
b) Loans and receivables
c) Financial assets at fair value through profit or loss
d) Derivatives held for trading
e) Hedge accounted derivatives
f) Other financial liabilities

The comparable information for 2017 has not been restated to reflect IFRS 9 requirements.

Adoption of IFRS 9 had no material impact on consolidated financial statements.

16. Fair value hierarchy of financial assets and liabilities

2018 € million	Carrying amount	Fair value Level 1	Level 2	Level 3	Total
Financial assets measured at fair value					
Financial assets at fair value through other comprehensive income	86	0	–	86	**86**
Investments at fair value through profit or loss	13	13	–	0	**13**
Hedge accounted derivatives	0	–	0	–	**0**
Derivatives held for trading	17	–	17	–	**17**
	116	13	17	86	**116**
Financial assets not measured at fair value					
Non-current trade and other receivables	2	–	2	–	**2**
Financial liabilities measured at fair value					
Derivatives held for trading	21	–	21	–	**21**
Financial liabilities not measured at fair value					
Non-current debt	798	–	814	–	**814**

2017 € million	Carrying amount	Fair value Level 1	Level 2	Level 3	Total
Financial assets measured at fair value					
Available-for-sale financial assets	4	0	–	4	4
Investments at fair value through profit or loss	17	16	–	0	17
Derivatives held for trading	44	–	44	–	44
	65	17	44	4	65
Financial assets not measured at fair value					
Non-current trade and other receivables	1	–	1	–	1
Financial liabilities measured at fair value					
Hedge accounted derivatives	2	–	2	–	2
Derivatives held for trading	38	–	38	–	38
	40	–	40	–	40
Financial liabilities not measured at fair value					
Non-current debt	698	–	802	–	802

In 2018, investment in Voimaosakeyhtiö SF is included in financial assets at fair value through other comprehensive income. It was not included in the table as available-for-sale financial assets in 2017, because according to IAS 39 it was measured at cost.

A major part of financial assets at fair value through other comprehensive income at hierarchy level 3 relate to investments in unlisted energy producing companies. Valuation model of energy producing companies is based on discounted cash flow model, which takes into account the market prices of electricity, discount rate, inflation rate, the estimated amount of electricity to be received and estimated production costs.

Additional parameters for Voimaosakeyhtiö SF valuation include e.g. expected purchase price of electricity under the Mankala principle, expected project completion date and cost of debt in Fennovoima Oy. The fair value of Voimaosakeyhtiö SF shares is highly sensitive to the valuation parameters and especially to long-term market price of electricity, Fennovoima's capacity utilization rate, discount rates for cash flows and the terminal value, inflation rates for costs and market price of electricity, and project completion date.

Long-term market price for electricity for the time when the plant is expected to be commissioned has been estimated by the management, and the estimate assumes an increase compared to the current market price level. However, the long time periods to complete the project and to operate the plant affect the reliability of such estimate, and reasonable changes in the electricity price estimate or in other valuation parameters can significantly impact the fair value of the investment. In general, the project risk is considered high with the estimated completion of the project in 2028, and the range of potential fair values is wide.

The fair value of non-current debt is determined by using discounted cash flow method and taking into consideration the market credit spread applied for Outokumpu. The fair value of non-current trade and other receivables is determined by discounted cash flow method taking into account the credit risk of the counterparty. The carrying amounts of current financial assets and current financial liabilities not measured at fair value are reasonable estimates of their fair value.

17. Financial assets at fair value through other comprehensive income

€ million	2018	2017
Carrying value on Jan 1	**68**	–
Additions	**16**	–
Fair value changes	**2**	–
Carrying value on Dec 31	**86**	–

Available-for-sale financial assets

€ million	2018	2017
Carrying value on Jan 1	–	53
Additions	–	15
Fair value changes	–	0
Carrying value on Dec 31	–	68

In IFRS 9 transition, the measurement category of former available-for-sale financial assets was changed to financial assets at fair value through other comprehensive income. For more information, see notes 2 and 15.

Fair value reserve in equity

€ million	2018	2017
Fair value	**86**	68
Cost	**80**	64
Fair value reserve before tax	**6**	4
Deferred tax liability	**–1**	–1
Fair value reserve	**5**	3

Financial assets at fair value through other comprehensive income consists of equity securities which are not held for trading, and which the Group has irrevocably elected at initial recognition to recognize in this category. These are mainly strategic investments and the Group considers this classification to be relevant. Materially all equity securities are unlisted. Investments include EUR 79 million holding in Voimaosakeyhtiö SF providing ownership to Fennovoima Oy and EUR 6 million of holdings in other energy companies in which Outokumpu does not have control, joint control or significant influence. During 2018 Outokumpu invested further EUR 16 million in Voimaosakeyhtiö SF. Information on the valuation of this investment is presented in note 16.

18. Share-based payment plans

During 2018, Outokumpu's share based payment programs included Performance Share Plan 2012 (Plans 2016–2018, 2017–2019 and 2018–2020), Restricted Share Pool Program 2012 (Plans 2016–2018, 2017–2019 and 2018–2020) and Matching Share Plans for the CEO and other key management. Share-based programs are part of the Group's incentive and commitment-building system for key employees. The objective of the programs is to retain, motivate and reward selected employees for good performance which supports Outokumpu's strategy.

The Performance Share Plan 2015–2017 ended and after deductions for applicable taxes, altogether 413,896 shares were delivered to 92 persons. Regarding the Restricted Share Pool Program plan 2015–2017, after deductions for applicable taxes, in total 12,139 shares were delivered to 4 participants based on the conditions of the plan. Outokumpu used its treasury shares for the reward payments.

In December 2017, the Board of Directors approved the commencement of the new plan (plan 2018–2020) of the Performance Share Plan as of the beginning of 2018. At the end of the reporting period 141 persons participated in the plan and they had been allocated in total 1,459,600 gross shares (payout at maximum performance level). The plan's earnings criterion is Outokumpu's return on operating capital compared to a peer group.

In December 2017, the Board approved the commencement of the new plan (plan 2018–2020) of Restricted Share Pool Program as of the beginning of 2018. Restricted share grants are approved annually by the CEO on the basis of the authorization granted by the Board of Directors, with the exception of any allocations to Leadership Team members, which will be approved by the Board of Directors. At the end of the reporting period 46 persons participated in the plan and they have been allocated in total 106,500 gross shares.

In December 2015, the Board of Directors approved the commencement of Matching Share Plan for the CEO at the beginning of 2016, according to which the CEO was entitled to receive in total 1,157,156 gross shares including taxes on the condition that he personally invested EUR 1 million into Outokumpu shares by February 20, 2016. The matching shares will be delivered in four equal instalments at the end of 2016, 2017, 2018 and 2019, respectively. The CEO is required to keep at least all the shares he acquired and the first vesting portion, i.e. 25% of the net amount of the received matching shares throughout his service with Outokumpu. In December 2018, the Board of Directors approved the delivery of the third reward share tranche to the CEO from the Matching Share Plan. After deduction for applicable taxes, the net number of shares delivered to the CEO was 185,077.

In April 2016, the Board of Directors approved the commencement of Matching Share Plan for the management for the years 2016–2020. According to the plan, the participants invested 30–120% of their annual gross base salary into Outokumpu shares by December 31, 2016. Outokumpu will match each share acquired by the participant with two gross shares from which applicable taxes will be deducted and the remaining net number of shares will be delivered in four equal instalments at the end of 2017, 2018, 2019 and 2020, respectively. In order to receive the matching shares, the participants are required to keep all the shares they have acquired until the vesting of each matching share tranche. In 2018, the Board of Directors approved the delivery of the second reward tranches from the plan. After deduction for applicable taxes, the net number of shares delivered was 281,058. At the end of the reporting period 29 persons participated in the plan.

In December 2018, the Board of Directors approved the commencement of plan 2019–2021 of the Performance Share Plan 2012 and the Restricted Share Pool Program 2012 as of the beginning of 2019.

The total estimated value of the share-based payment plans is EUR 9 million on December 31, 2018. This value is recognized as an expense in the statement of income during the vesting periods.

Detailed information of the share-based incentive programs can be found in Outokumpu's home page www.outokumpu.com.

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Share-based payments included in employee benefit expenses

€ million	**2018**	2017
Equity-settled share-based payment transactions	**1**	–7
Cash-settled share-based payment transactions	**–**	–9
	1	–16
Total carrying amount of liabilities for cash-settled arrangements on Dec 31	**–**	10

According to the amendment in IFRS 2 Share-based payments, Outokumpu accounts all its share-based payment plans as equity-settled as of January 1, 2018.

The general terms and conditions of the share-based incentive programs

	Performance Share Plan		
Grant date	Feb 10, 2016	Feb 10, 2017	Feb 2, 2018
Vesting period	Jan 1, 2016–Dec 31, 2018	Jan 1, 2017–Dec 31, 2019	Jan 1, 2018–Dec 31, 2020
Share price at grant date	2.11	9.80	6.61
Vesting conditions			
Non-market	Outokumpu's return on operating capital compared to a peer group, and Outokumpu's gearing in 2018	Outokumpu's return on operating capital compared to a peer group	Outokumpu's return on operating capital compared to a peer group
Other relevant conditions	A salary-based limit for the maximum benefits	A salary-based limit for the maximum benefits	A salary-based limit for the maximum benefits
Exercised	In shares and cash	In shares and cash	In shares and cash

	Restricted Share Pool Program		
Grant date	Dec 9, 2016	April 26, 2017	June 1, 2018
Vesting period	Jan 1, 2016–Dec 31, 2018	Jan 1, 2017–Dec 31, 2019	Jan 1, 2018–Dec 31, 2020
Share price at grant date	7.81	9.80	5.76
Vesting conditions	Continuation of employment until the shares are delivered, a salary-based limit for the maximum benefits	Continuation of employment until the shares are delivered, a salary-based limit for the maximum benefits	Continuation of employment until the shares are delivered, a salary-based limit for the maximum benefits
Exercised	In shares and cash	In shares and cash	In shares and cash

	Matching Share Plan for the CEO	Matching Share Plan for the management
Grant date	Dec 17, 2015	April 27, 2016
Vesting period	Jan 1, 2016–Dec 31, 2019	Jan 1, 2017–Dec 31, 2020
Share price at grant date	2.50	5.35 [1)]
Vesting conditions	Personal investment of EUR 1 million into Outokumpu shares; requirement to keep at least the personal investment and the first vesting portion, i.e. 25% of the net amount of the received matching shares throughout service with Outokumpu. If the CEO's service contract is terminated without any fault or negligence attributable to him, all the shares not yet delivered will vest at the expiry of the CEO agreement provided that the ownership requirement for the CEO is fulfilled.	Personal investment of 30–120% of annual gross base salary into Outokumpu shares; requirement to keep the personal investment until the vesting of each matching share tranch; continuation of employment until the matching shares are delivered.
Exercised		In shares and cash

[1)] Incentive fair value at the grant date reported as the average fair value based on the share purchase dates.

19. Financial risk management, capital management and insurances

The main objectives of financial risk management are to reduce earnings volatility and to secure acceptable liquidity in order to avoid financial distress. Other objectives include reduction of cash flow volatility and maintaining debt-to-equity ratio as well as leverage according to set targets. The objective of capital management is to secure the ability to continue as a going concern and to optimize cost of capital in order to enhance value to shareholders. The main objectives of insurance management are to provide mitigation against catastrophe risks and to reduce earnings variation.

The Board of Directors has approved the risk management policy, which defines responsibilities, process and other main principles of risk management. The Board of Directors oversees risk management on a regular basis and the Chief Financial Officer is responsible for implementation and development of financial risk management.

Financial risks consist of market, country, credit, liquidity and refinancing risks. Subsidiary companies hedge their currency and commodity price risk with Outokumpu Oyj, which does most of the Group's foreign exchange and commodity derivative contracts with banks and other financial institutions. Treasury and Risk Management function (Treasury) is responsible for managing foreign exchange, metal, interest rate, liquidity and refinancing risk as well as emission allowance price risk. Credit risk management has been mostly centralized to Global Business Services and Treasury coordinates Group's credit control. Supply Chain function is responsible for managing electricity and fuel price risks.

Treasury sources all Group's global insurances. The most important insurance lines are property damage and business interruption (PDBI), liability, marine cargo and credit risk. Group's captive insurance company Visenta Försäkringsaktiebolag in Sweden can be used in insurance management.

Exposure to financial risk is identified in connection with the risk management process. This approach aims to secure that any emerging risk is identified early and that each significant risk is described, quantified, managed and communicated properly. Eventually, the impacts of key financial risks are quantified in terms of changes to income, free cash flow, net debt and equity.

Market risk

Market risk is caused by changes in foreign exchange and interest rates, interest margins as well as metal, energy, emission and security prices. These price changes may have a significant impact on Group's earnings, cash flow and capital structure. Outokumpu uses matching strategies and derivative contracts to partially mitigate the above-mentioned impacts of market price changes. Hedge accounting is applied selectively. The derivatives, for which hedge accounting is not applied, are used to reduce impacts of market price changes on earnings and/or cash flows related to business or financing activities. The use of non-hedge-accounted derivatives may cause timing differences between derivative gains/losses and the earnings impact of the underlying exposure.

Stainless steel business is cyclical, which may result in significant changes in the underlying exposures to different market risk factors, especially US dollar and nickel price. Consequently, the cyclicality may lead to significant changes in the amounts of derivate contracts. Nominal amounts and fair values of derivatives are presented in note 20. Sensitivity of financial instruments to market prices is described in the table below.

Foreign exchange rate risk

A major part of the Group's sales is in euros and US dollars. In this context, the local currency denominated production costs in the UK and Sweden cause foreign exchange risk. Foreign exchange cash flow risk related to firm commitments, e.g. price fixed sales and purchase orders, is hedged whereas forecasted and probable cash flows are not typically hedged but can be hedged selectively. The main dollar cash flow risk origins from ferrochrome operations as a consequence of chrome being priced in US dollars. Another significant dollar cash flow risk is embedded in sales margins due to dollar-linked stainless scrap purchase discounts.

Fair value risk consists of currency denominated accounts receivable, accounts payable, debt, cash, loan receivables and commodity derivatives. Outokumpu aims to hedge most of the identified fair value risk with derivative contracts. Internal US dollar and Swedish krona denominated financing causes significant fair value exchange rate risk, which is hedged with forward contracts and, if possible, with matching external debt. The Group's fair value foreign exchange position is presented in a more detailed level in the table.

Sensitivity of financial instruments to market risks

	Dec 31, 2018		Dec 31, 2017	
€ million	In profit or loss	In other comprehensive income	In profit or loss	In other comprehensive income
+/–10% change in EUR/USD exchange rate	+7/–8	–	+0/–0	–
+/–10% change in EUR/SEK exchange rate	–14/+17	–3/+3	–6/+7	–6/+7
+/–10% change in nickel price in USD	–2/+4	–	–1/+2	–
+/–10% change in propane price in USD	–1/+1	–	–	–
+/–1% parallel shift in interest rates	–10/+10	–	+0/–0	–

The sensitivity analyses apply to financial assets and liabilities only. Other assets and liabilities, including defined benefit pension plan assets and liabilities, as well as off-balance sheet items such as sales and purchase orders, are not in the scope of these analyses. The calculations are net of tax. During the year, the volatility for nickel price has been in the range of 24–36%. With +/–30% change in dollar denominated price, the effect in profit or loss is about EUR –3/+14 million for nickel derivatives.

Outokumpu's net income and net investment translation risk is mainly in US dollars, Swedish kronas and British pounds. Based on the policy this risk can be hedged selectively and in 2018 there were no hedges related to net income or net investment exposures. The effective portion of gains (EUR 17 million, net of tax) on earlier financial years' net investment hedges is recognized in other comprehensive income.

Changes in currency rates cause translation differences in debt and have therefore impact on Group's capital structure. The largest debt translation risk relates to Swedish krona and US dollar denominated internal loans. In the third quarter 2018, the translation risk related to internal dollar financing was significantly reduced by increasing equity of Business Area Americas.

Interest rate risk

The Group's interest rate risk is monitored as cash flow risk i.e. impact of interest rate changes on net interest expenses, and fair value risk i.e. impact of interest rate changes on fair value of monetary assets and liabilities. In order to manage the balance between risk and cost in an optimal way, significant part of debt has effectively short-term interest rate as a reference rate. This approach typically helps to reduce average interest rate of debt while it may also provide some mitigation against a risk of adverse changes in business environment, which tends to result to decrease in short-term interest rates.

Swedish krona, euro and US dollar have substantial contribution to the overall interest rate risk. Approximately 40% (2017: 44%) of the Group's debt has an interest period of less than one year and the average interest rate of non-current debt on December 31, 2018 was 5.8% (Dec 31, 2017: 6.7%). Interest rate position is presented on a more detailed level in the table. Outokumpu is also exposed to variation of credit margins, mainly in regards of any new financing, e.g. in connection with issue of commercial papers and any new long-term debt.

Foreign exchange positions of EUR-based companies

	Dec 31, 2018				Dec 31, 2017			
€ million	SEK	USD	GBP	Other	SEK	USD	GBP	Other
Trade receivables and payables	15	–246	16	11	23	–182	16	8
Loans and bank accounts [1]	545	270	–7	–29	534	581	–33	–12
Derivatives	–515	–1	–21	16	–479	–361	1	1
Net position	**46**	**22**	**–12**	**–3**	78	38	–16	–3

Foreign exchange positions of SEK-based companies

	Dec 31, 2018				Dec 31, 2017			
€ million	EUR	USD	GBP	Other	EUR	USD	GBP	Other
Trade receivables and payables	67	–27	–9	18	55	–36	–33	5
Loans and bank accounts [1]	29	14	2	3	20	16	5	3
Derivatives	–284	–116	–1	–63	–162	–18	21	–18
Net position	**–188**	**–129**	**–8**	**–42**	–87	–39	–8	–10

[1] Includes cash and cash equivalents, loan receivables and debt.

Currency distribution and re-pricing of outstanding net debt

	Dec 31, 2018				
€ million Currency	Net debt [1]	Derivatives [2]	Average rate, % [1]	Duration, year [3]	Rate sensitivity [4]
EUR	1,264	–737	4.1	3.1	–0.6
SEK	21	549	2.2	0.0	5.7
USD	–19	241	1.7	0.1	2.2
Others	–25	–44	1.8	0.0	–0.7
	1,241	**9**			**6.6**

	Dec 31, 2017				
€ million Currency	Net debt [1]	Derivatives [2]	Average rate, % [1]	Duration, year [3]	Rate sensitivity [4]
EUR	1,152	–1,059	4.6	25.0	–6.3
SEK	–3	530	–1.8	0.2	5.3
USD	–20	553	1.7	0.2	5.3
Others	–38	–36	0.9	0.0	–0.7
	1,091	–12			3.5

[1] Includes cash and cash equivalents, loan receivables and debt.

[2] Net derivative liabilities include nominal value of interest rate and currency forwards earmarked to net debt. Currency forwards are not included in average rate calculation.

[3] Duration calculation includes both net debt and derivatives.

[4] The effect of one percentage point increase in interest rates to financial expenses over the following year.

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Changes in interest rates impact pension plan asset and liability values. The net liability of defined benefit plans and other long-term employee benefits was EUR 245 million at year end and therefore increase in long-term interest rates would typically decrease the net liability of these plans.

Metal and energy price risk

Outokumpu uses a substantial amount of raw materials and energy for which prices are determined in regulated markets, such as London Metal Exchange and Nasdaq Commodities. Timing differences between alloy metal purchases and pricing of stainless steel; changes in inventory levels; and the capability to pass on price changes in raw materials to end-product prices affect metal risk. Furthermore, the volumes and discounts related to stainless scrap purchases have major impact on alloy metal price risk. Since there is no established financial market for chrome this risk is categorized as business risk. In 2018, Outokumpu undertook a project to further improve its metal risk management. The outcomes of the project were presented to management and the board.

Apart from chrome, changes in nickel price is the most important metal price risk for Outokumpu. Significant part of stainless steel sales contracts includes an alloy surcharge clause, with the aim of reducing the risk arising from the timing difference between alloy metal purchase and stainless steel delivery. Outokumpu's nickel position consists of price fixed purchase orders, inventories of nickel-containing materials and price fixed sales orders. Based on financial risk policy the identified nickel price risk, excluding risk related to base stock, must be fully hedged. Nickel in base stock is hedged partially and in 2018 the hedging ratio has been between zero and sixty percent. Nickel forwards and options are used to manage impacts of nickel price changes on earnings, whereas efficient working capital management helps to reduce cash flow variations caused by metal prices. Outokumpu's exposure to iron price is much similar to that of nickel, except for the value of the exposure being lower and secondly, Outokumpu produces some iron in connection with the Kemi chromite mining. Financial hedging of iron has been considered but so far systematic alloy metal hedging has been limited to hedging of nickel price.

Outokumpu's main production sites in Europe are participating in the EU Emissions Trading Scheme (ETS). The amounts of realized and forecasted carbon dioxide emissions and granted emission allowances are monitored at Group level. Emission allowance price risk is managed with the aim of securing and optimizing the cost of compliance for the current trading period. In certain situations, the market price of power can be partially based on price of carbon emissions. This indirect exposure to emission prices can be significant for Outokumpu due to energy intensive processes using power and fuels. At year end, Outokumpu had adequate amount of emission allowances to cover all forecasted needs of the current emission trading period, ending in 2020.

Outokumpu manages energy price risk centrally. The Group has hedged propane price risk by keeping inventories and partly by fixing purchase prices in its supply contracts. Power price risk is reduced with fixed price supply contracts and partial ownerships in power utilities. In late 2018, Outokumpu started using liquified natural gas at its Tornio site, thus reducing the need of propane.

Security price risk

Outokumpu has investments in equity and fixed income securities. On December 31, 2018, the biggest investments were in Voimaosakeyhtiö SF (equity investment of EUR 79 million) and OSTP Holding Oy (investment in associated company of EUR 28 million).

The investment in Voimaosakeyhtiö SF provides Outokumpu with appr. 14% indirect stake in the Fennovoima Oy nuclear power plant project. This stake gives Outokumpu access to estimated 170 MW power capacity once the project has been completed. Information on the valuation of the investment is presented in note 16.

The captive insurance company Visenta Försäkringsaktiebolag has investments totaling EUR 13 million in highly rated and liquid fixed income securities as well as fixed income and equity funds in order to optimize return for assets and to manage its risk prudently.

Outokumpu has a well-funded defined benefit pension plan in the UK. This plan has assets approximately EUR 0.5 billion, most of which have been invested in fixed income securities and a relatively large portion in equities. Changes in security prices would therefore impact the net asset reported on this plan. For more information please see note 25.

Country and credit risk

Outokumpu's sales have been covered by approved credit limits or secured payment terms. Most of the outstanding trade receivables have been secured by trade credit insurances, which typically cover some 90% of the insured amount. Part of the credit risk related to trade receivables is managed with letters of credit, advance payments and guarantees.

On December 31, 2018, the maximum exposure to credit risk of trade receivables was EUR 482 million (2017: EUR 493 million). The portion of unsecured receivables has varied between 9–17% of all trade receivables. For significant part of trade receivables Outokumpu uses factoring, which transfers most risks and rewards to the buyer of the receivables. At the end of the year, most of the receivables were generated by a large number of customers and there were only a few risk concentrations. Age analysis of accounts receivables is presented in note 22.

Treasury monitors credit risk related to financial institutions. Outokumpu seeks to reduce these risks by limiting the counterparties to banks and other financial institutions with good credit standing. For the derivative transactions, Outokumpu prefers to have ISDA framework agreements in place. Exposure to country risk is monitored and at year-end such risk included e.g. Argentina due to Outokumpu's local and cross-border business activities there. In 2018, the country risk profile of Argentina continued to deteriorate, and the value of peso declined significantly, which caused some adverse impacts for Outokumpu as well.

Liquidity and refinancing risk

Outokumpu raises most of its debt centrally. The Group seeks to reduce liquidity and refinancing risk by having sufficient amount of cash and long-term committed credit lines available, by having balanced maturity profile of debt and by diversifying sources of funding. Daily liquidity is optimized by issuance of commercial papers and by doing currency swaps. Efficient cash and liquidity management is also reducing liquidity risk. Finance plans are prepared and reviewed regularly with a focus on

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forecasted cash flow, projected funding requirements, planned funding transactions during the forecast period and financial covenant headroom. The adequacy of liquidity reserves, the amounts of scheduled annual repayments of non-current debt compared to EBITDA as well as forecasted debt-to-equity and leverage ratios are key measurements in the planning.

In 2018, good profitability and positive cash flow from operating activities allowed continued focus on cost of debt optimization and weighted average maturity (WAM) of debt. Finance cost reduction efforts included e.g. call of the notes due 2021 (EUR 202.5 million) and cancellation of a EUR 90 million bilateral credit facility, which had its final maturity in the first quarter 2019. WAM was positively impacted by issuing EUR 250 million new notes due 2024 and by agreeing new EUR 80 million seven-year pension loan, having no repayments during the first two years. Furthermore, in December 2018 Outokumpu agreed a long-term EUR 120 million loan facility which can be used to finance the ongoing investment to deepen the Kemi mine. The facility can be drawn from April 2019 until early 2022, where after repayments will begin. The final maturity of the facility is in 2030.

Net debt development

€ million	2018	2017
Net cash flow from operating activities	**214**	328
Net cash flow from investing activities	**–229**	–63
Cash flow before financing activities	**–14**	264
Dividends paid	**–103**	–41
Treasury shares purchased	**–17**	–20
Other financing cash flow	**1**	–39
Cash flow impact on net debt	**–134**	164
Opening net debt	**1,091**	1,242
Cash flow impact on net debt	**134**	–164
Change in net debt, non- cash	**16**	12
Closing net debt	**1,241**	1,091

Moody's corporate family rating was B1 during the whole year and the new secured notes were rated by Moody's at Ba3. Both ratings have stable outlook.

The main funding programs and credit facilities are: a committed revolving credit facility of EUR 650 maturing in May 2021; a committed Kemi mine investment facility of EUR 120 million having its final maturity in 2030; and an uncommitted Finnish commercial paper program totalling EUR 800 million. The revolving credit facility, a bilateral bank loan and the notes due in 2024 are secured by a comprehensive security package, which includes pledges on real estate in Tornio and Calvert, pledges of shares of certain material subsidiary companies and guarantees issued by many of the material subsidiary companies. Outokumpu and its secured lenders have signed an intercreditor agreement in February 2014, when the security package was originally created. More information on liquidity and refinancing risk is presented in the following table.

Contractual cash flows

2018 € million	Balance Dec 31	2019	2020	2021	2022	2023	2024–
Bonds	249	–	–	–	–	–	250
Convertible bond	238	–	250	–	–	–	–
Loans from financial institutions	57	45	6	4	1	–	–
Pension loans	220	3	47	55	59	16	40
Finance lease liabilities	85	3	3	51	0	0	28
Commercial papers	460	460	–	–	–	–	–
Trade payables	1,200	1,200	–	–	–	–	–
Interest payments and facility charges		47	40	29	22	14	126
Currency derivatives	5						
Outflows		2,292	–	–	–	–	–
Inflows		–2,287	–	–	–	–	–
Interest derivatives	–6	–1	–1	–1	–1	–1	–1
Metal derivatives	5	4	1	–	–	–	–
Other derivatives	0	0	–	–	–	–	–
		1,766	**346**	**138**	**82**	**29**	**443**

On December 31, 2018, the Group had cash and cash equivalent amounting to EUR 68 million and committed available long-term credit facilities totaling EUR 650 million. In addition, the EUR 120 million long-term facility will become available for financing the Kemi mine investment.

2017 € million	Balance Dec 31	2018	2019	2020	2021	2022	2023–
Bonds	201	–	–	–	203	–	–
Convertible bonds	229	–	–	250	–	–	–
Loans from financial institutions	35	17	6	6	4	1	–
Pension loans	171	6	16	56	50	43	–
Finance lease liabilities	90	5	3	3	51	0	29
Commercial papers	477	477	–	–	–	–	–
Trade payables	1,162	1,162	0	–	–	–	–
Interest payments and facility charges		49	44	43	25	3	120
Currency derivatives	–9						
Outflow		2,990	–	–	–	–	–
Inflow		–2,998	–	–	–	–	–
Interest derivatives	3	1	1	0	0	–	–
Metal derivatives	8	9	–1	–	–	–	–
Other derivatives	–3	–3	–	–	–	–	–
		1,714	70	358	332	48	149

On December 31, 2017, the Group had cash and cash equivalent amounting to EUR 112 million and committed available long-term credit facilities totaling EUR 727 million.

Capital management

The objectives of capital management are to secure ability to continue as a going concern and to optimize cost of capital in order to enhance value to shareholders. As part of these objectives, Outokumpu seeks to maintain access to loan and capital markets at all times despite of the cyclical nature of the stainless steel industry. The Board of Directors reviews the capital structure of the Group on a regular basis. Capital structure and debt capacity are taken into account when deciding e.g. on investments and dividends. Tools to manage equity capital include dividend policy, share buybacks and issues of equity or equity-linked securities. Debt capital is managed taking into account the requirement to maintain good liquidity and the capability to refinance maturing debt. These topics are considered in connection with cost of capital optimization.

In early part of 2018, Outokumpu's dividend policy was updated. According to the new policy dividend pay-out ratio throughout a business cycle shall be in the range of 30–50% of net income.

Tools to manage debt capital include issue of new debt, prepayment of loans and liability management measures, such as the use of call options of issued notes. In 2018, Outokumpu called all remaining amount (EUR 202.5 million) of notes due 2021. The revolving credit facility and the Kemi mine financing facility includes financial covenants, which are based on debt-to-equity ratios. The notes maturing in 2024 include incurrence based financial covenant on debt-to-equity ratio and the defined covenant level is 100 percent.

The Group's internal capital structure is reviewed on a regular basis with an aim to optimize it e.g. by applying internal dividends and equity adjustments. Net investment and debt in foreign subsidiaries is monitored and Outokumpu has capability to hedge net investment translation risk.

Visenta Försäkringsaktiebolag has to comply with capital adequacy requirements set by the financial supervisory authority in Sweden. During the reporting period Visenta has been profitable and well capitalized to meet externally imposed requirements, which are based e.g. on Solvency II framework.

The management monitors Group's capital structure on the basis of debt-to-equity ratio, which is calculated as net debt divided by total equity, and on a basis of leverage ratio, which is calculated as net debt divided by adjusted EBITDA. Outokumpu targets are to have debt-to-equity ratio below 35% and leverage below 1.0. Outokumpu also targets to improve its current credit ratings.

Capital structure

€ million	2018	2017
Total equity	**2,750**	2,721
Non-current debt	**798**	698
Current debt	**511**	505
Total debt	**1,309**	1,203
Total capitalization	**4,059**	3,924
Total debt	**1,309**	1,203
Cash and cash equivalents	**–68**	–112
Net debt	**1,241**	1,091

	2018	2017
Debt-to-equity ratio, %	**45.1**	40.1
Net debt to adjusted EBITDA	**2.6**	1.7

The increase in debt-to-equity ratio resulted primarily from distributions to shareholders and increase in net working capital. Leverage at year-end increased when compared with the previous year, this was caused mainly by decrease in profitability.

Insurances

The Group's business is capital intensive and key production processes are rather tightly integrated and have therefore interdependencies. Property damage and business interruption insurance, covering e.g. fires, machinery breakdowns and natural catastrophes, is the most important insurance line and significant portion of insurance premiums paid relate to this PDBI cover. Business operations may cause significant liability risks related e.g. to people, environment or Outokumpu's products. Outokumpu aims to mitigate liability risk by relevant risk management measures and by having reasonable insurances in place. Other significant insurance lines include marine cargo and credit. In connection with 2018 insurance renewal Outokumpu chose to increase deductibles of its property damage and business interruption policy.

Visenta Försäkringsaktiebolag can act as direct insurer and as reinsurer. Visenta is registered in Sweden and it has assets totalling EUR 19 million (2017: EUR 21 million). In 2018, Visenta increased its participation to Outokumpu's property and business interruption insurance.

During the reporting year there were no serious fires, but there were few machinery breakdown incidents of which one is in claims process. The claim process related to damage in ferrochrome meltshop in 2017 was concluded and Outokumpu received EUR 32 million insurance compensation in the fourth quarter 2018. Fire safety and machinery breakdown audits were carried out mainly as planned.

20. Fair values and nominal amounts of derivative instruments

€ million	2018 Positive fair value	2018 Negative fair value	2018 Net fair value	2017 Net fair value	2018 Nominal amounts	2017 Nominal amounts
Currency and interest rate derivatives						
Currency forwards	9	13	**–4**	11	**2,289**	2,994
Currency options, bought	–	–	**–**	0	**–**	12
Interest rate swaps	2	–	**2**	–3	**200**	150
					Tonnes	Tonnes
Metal derivatives						
Forward and futures nickel contracts	3	8	**–5**	–6	**12,266**	18,581
Forward and futures molybdenum contracts	0	0	**–0**	–	**34**	–
Nickel options, bought	3	–	**3**	–1	**8,000**	9,800
Nickel options, sold	–	0	**–0**	–	**3,000**	–
Propane derivatives	0	–	**0**	–	**18,000**	–
Emission allowance derivatives	–	–	**–**	3	**–**	2,400,000
Total derivatives	17	21	**–4**	4		
Less long-term derivatives						
Interest rate swaps	2	–	**2**	–3		
Forward and futures nickel contracts	–	1	**–1**	1		
Forward and futures molybdenum contracts	–	0	**–0**	–		
Short-term derivatives	15	20	**–4**	6		

Fair values are estimated based on market rates and prices on the reporting date, discounted future cash flows and, in respect of options, on valuation models.

Hedge accounted cash flow hedges

Outokumpu has hedged with EUR/SEK currency forwards the spot price risk related to SEK denominated electricity supply agreement for the Finnish production sites. The forward points are excluded from the cash flow hedging relationship and are recognized in other operating profit and loss. The currency derivatives designated to cash flow hedge accounting and the purchases of electricity will mature in year 2019. The management has estimated that possible ineffectiveness relates to credit risk or timing of transactions, but these are estimated to be insignificant.

Cash flow hedges (EUR/SEK)

	2018	2017
Fair value of hedges, € million	**0**	–2
Nominal amount of hedges, € million	**37**	78
Nominal amount of hedged item, € million	**38**	79
Hedge ratio	**1:1**	1:1
Weighted average hedge rate	**9.410**	9.410
Fair value reserve in other comprehensive income, € million	**–3**	–3
Reclassified from other comprehensive income to profit or loss, € million [1]	**–4**	–1

[1] Included in cost of sales

Master netting agreements and similar arrangements

Outokumpu enters into derivative transactions with most counterparties under ISDA agreements. In general the amounts owed by each counterparty on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other. In certain circumstances, e.g. when a credit event such as a default occurs, all outstanding transactions under the agreement are terminated, the termination value is assessed and only a single amount is payable in settlement of all transactions. ISDA agreements do not meet the criteria for offsetting in the statement of financial position. The right to offset is enforceable only on the occurrence future credit events. The following table sets out the carrying amounts of recognized financial instruments that are subject to the agreements described above.

€ million	2018	2017
Derivative assets		
Gross amounts of recognized financial assets in the statement of financial position	**17**	44
Related financial instruments that are not offset	**12**	29
	5	15
Derivative liabilities		
Gross amounts of recognized financial liabilities in the statement of financial position	**21**	40
Related financial instruments that are not offset	**12**	29
	9	11

21. Inventories

€ million	2018	2017
Raw materials and consumables	**485**	423
Work in progress	**584**	540
Finished goods and merchandise	**486**	416
Advance payments	**0**	1
	1,555	1,380

The most important commodity price risk for Outokumpu is caused by fluctuation in nickel and other alloy prices. Majority of stainless steel sales contracts include an alloy surcharge clause, with the aim of reducing the risk arising from the time difference between raw material purchase and product delivery. However, the risk is remarkable, because the delivery cycle in production is longer than the alloy surcharge mechanism expects. Thus, only the price for the products to be sold in near future is known. That is why a significant part of the future prices for the products to be sold is estimated according to management's best knowledge in net realizable value (NRV) calculations. Due to fluctuation in nickel and other alloy prices, the realized prices can deviate significantly from what has been used in NRV calculations on the closing date. NRV write-downs amounting to EUR 13 million were recognized in income statement during the financial year (2017: write-downs amounting to EUR 5 million). More details on commodity price risk are presented in note 19.

22. Trade and other receivables

€ million	2018	2017 restated
Non-current		
Other accruals and receivables	**2**	1
Current		
Trade receivables	**482**	493
VAT receivable	**26**	37
Income tax receivable	**24**	19
Prepaid insurance expenses	**11**	7
Other accruals	**28**	38
Other receivables	**70**	67
	640	660
Impairment of trade receivables		
On Jan 1 before IFRS 9 transition	**6**	6
IFRS 9 transition impact	**1**	–
On Jan 1 according to IFRS 9	**7**	–
Additions	**0**	0
On Dec 31	**7**	6
Age analysis of trade receivables		
Neither impaired, nor past due	**416**	425
Past due 1–30 days	**54**	56
Past due 31–60 days	**6**	5
More than 60 days	**6**	6
	482	493

On January 1, 2017, other accruals amounted to EUR 46 million and total current trade and other receivables amounted to EUR 688 million. The amounts were impacted by the IFRS 15 transition of EUR 1 million as described in note 2.

The maximum exposure to credit risk at the reporting date is the carrying amount of the loan and trade receivables. Most of the outstanding trade receivables have been secured by credit insurance policies, which typically covers some 90% of an insured credit loss. Credit risks related to trade receivables are presented in more detail in note 19. Expected credit losses are calculated as defined in the accounting principles of these financial statements (see note 2).

As of December 31, 2018 Outokumpu has derecognized trade receivables totaling EUR 392 million (2017: EUR 377 million), which represents fair value of the assets. Net proceeds received totaled EUR 373 million (2017: EUR 357 million). Underlying assets have maturity less than one year. The maximum amount of loss related to derecognized assets is estimated to be EUR 18 million (2017: EUR 15 million). This estimation is based on insurance policies and contractual arrangements of factoring companies and Outokumpu. The analysis does not include impact of any operational risk related to Outokumpu's contractual responsibilities.

23. Cash and cash equivalents

€ million	2018	2017
Cash at bank and in hand	**67**	112
Short-term bank deposits and cash equivalents	**1**	0
	68	112
Bank overdrafts [1]	**–36**	–7
	32	105

[1] Presented in current debt in the consolidated statement of financial position.

Fair value of cash and cash equivalents does not significantly differ from the carrying value. The average effective interest rate of cash and cash equivalents at the end of 2018 was 1.3% (Dec 31, 2017: 0.7%).

24. Equity

Share capital, premium fund and invested unrestricted equity reserve

€ million	Number of shares, 1,000	Share capital	Premium fund	Invested unrestricted equity reserve	Total
On Jan 1, 2017	413,861	311	714	2,103	3,127
Shares delivered from the share-based payment programs [1]	813	–	–	–	–
Reward shares returned to the Company	–2				
Treasury share purchase	–2,000	–	–	–	–
On Dec 31, 2017	412,672	311	714	2,103	3,127
Shares delivered from the share-based payment programs [1]	892	–	–	–	–
Treasury share purchase	–3,000	–	–	–	–
On Dec 31, 2018	**410,564**	**311**	**714**	**2,103**	**3,127**
Treasury shares [1]	5,811				
Total number of shares on Dec 31, 2018	**416,374**				

[1] Shares granted from treasury shares without effect to share capital. The movement in the cost of treasury shares in presented in the statement of changes in the equity.

According to the Articles of Association, the Outokumpu share does not have nominal value.

Premium fund includes proceeds from share subscription and other contribution based on the old Finnish Limited Liability Companies Act for the part the contributions exceed the account equivalent value allocated to share capital. Invested unrestricted equity reserve includes net proceeds from the rights issues in 2014 and 2012. Fair value reserves include movements in the fair values of available-for-sale financial assets and derivative instruments used for cash flow hedging. Other reserves include amounts transferred from the distributable equity under the Articles of Association or by a decision of the General Meeting of Shareholders, and other items based on the local regulations of the Group companies. Retained earnings include remeasurements of defined benefit plans, treasury shares, cumulative translation differences and other retained earnings and losses.

Distributable funds

On December 31, 2018, the distributable funds of the parent company totaled EUR 2,298 million of which retained earnings were EUR 175 million. The Board of Directors proposes to the Annual General Meeting in 2019 that a dividend of EUR 0.15 per share is paid for 2018 (dividend of EUR 0.25 per share paid for 2017).

25. Employee benefit obligations

Outokumpu has established several defined benefit and defined contribution plans in various countries. The most significant defined benefit plans are in Germany and in the UK.

Germany

In Germany, Outokumpu has several defined benefit plans, of which major plans include a management plan, open pension plans for normal staff, and other pension promises, which are nearly all closed for new entrants. Basis to all pension promises in Germany are bargaining agreements and/or individual contracts (management promises). Management plan and other pension promises are based on annuity payments, whereas plans for normal employees are based on one lump sum payment after retirement. In 2018, the lump sum payment option was introduced to more plans, and the assumption related to the usage of this option was revised. These were considered as plan amendments leading to a positive settlement impact of EUR 11 million.

In addition, all the promises are embedded in Germany in the BetrAVG law. The law contains rules for vested rights, pension protection scheme and regulations for the pension adjustments. In Germany no funding requirements exist, thus the plans are materially all unfunded.

The UK

The scheme is registered under UK legislation and is contracted out of the State Second Pension. The scheme is subject to the scheme funding requirements outlined in UK legislation. The scheme trustees are responsible for the operation and governance of the scheme, including making decisions regarding the scheme's funding and investment strategy. In 2018, the interpretation related to guaranteed minimun pension equalization was changed, which resulted in recognition of past service cost of EUR 9 million in 2018.

Risks associated with defined benefit plans

Through its defined benefit pension plans, Outokumpu is exposed to a number of risks, the most significant of which are detailed.

Asset volatility: The level of equity returns is a key factor in the overall investment return. If a plan holds significant proportion of equities, which are expected to outperform corporate bonds in the long-term, it might face higher volatility and risk in the short-term. The investment portfolio might also be subject to a range of other risks typical of the assets held, in particular credit risk on bonds and exposure to the property market.

Change in bond yields: A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings (if any). In a situation where the return on plan assets is lower than the corporate bond yields, a plan may face a shortfall which might lead to increased contributions.

Inflation risk: Inflation rate is linked to both future pension and salary increase, and higher inflation will lead to higher liabilities.

Longevity: The majority of Outokumpu's defined benefit obligations are to provide benefits for the life of the member, so increases in life expectancy will result in an increase in the plans' liabilities.

Funding

Funding requirements are generally based on pension fund's actuarial measurement framework set out in the funding policies. In the UK preliminary pension fund's valuation was completed in 2018 with a deficit of GBP 32 million. In 2018, Outokumpu made contributions totalling GBP 17 million to the plan to cover the deficit, and the remaining GBP 15 million will be paid during 2019–2021. The valuation was not based on the same assumptions as the IFRS valuation, which shows a surplus.

Defined benefit cost recognized in the consolidated statements of income and comprehensive income

€ million	2018	2017
In EBIT	**–2**	–7
In financial income and expenses	**–3**	–4
Defined benefit cost recognized in the consolidated statement of income	**–5**	–11
In other comprehensive income	**–7**	18
Total defined benefit cost recognized	**–12**	8

Amounts recognized in the consolidated statement of financial position

€ million	2018	2017
Present value of funded defined benefit obligations	**415**	441
Present value of unfunded defined benefit obligations	**287**	311
Fair value of plan assets	**–471**	–503
Net defined benefit liability	**231**	249

€ million	2018	2017
Defined benefit liability	**304**	319
Other long-term employee benefit liabilities	**14**	18
Defined benefit assets	**–72**	–70
Net liability	**245**	267

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Movement in net defined benefit liability

€ million	2018 Present value of obligation	2018 Fair value of plan assets	2018 Net defined benefit liability	2017 Present value of obligation	2017 Fair value of plan assets	2017 Net defined benefit liability
On Jan 1	752	–503	249	804	–527	276
Current service cost	2	–	2	7	–	7
Interest expense/(income)	15	–12	3	17	–13	4
Remeasurements arising from						
Return on plan assets	–	24	24	–	–12	–12
Demographic assumptions	1	–	1	8	–	8
Financial assumptions	–26	–	–26	5	–	5
Experience adjustment	8	–	8	–20	–	–20
Exchange differences	–3	4	1	–19	18	–1
Employer contributions	–	–31	–31	–	–18	–18
Benefits paid	–48	48	0	–40	40	0
Curtailments	–1	–	–1	–0	–	–0
Disposed subsidiaries	–	–	–	–12	9	–3
Other change	1	–	1	–	–	–
On Dec 31	**702**	**–471**	**231**	752	–503	249

The present value of obligations and the fair value of plan assets comprise mainly of German and UK plans. The present value of obligation for German plans on December 31, 2018 was EUR 294 million (Dec 31, 2017: EUR 305 million). For the UK, the present value of obligation was EUR 382 million (Dec 31, 2017: EUR 414 million), and the fair value of plan assets was EUR 454 million (Dec 31, 2017: EUR 485 million) on December 31, 2018.

The expected contributions to be paid to the defined benefit plans in 2019 are EUR 8 million.

Allocation of plan assets

€ million	2018	2017
Equity instruments	**48**	68
Debt instruments	**251**	271
Real estate	**0**	1
Other assets	**166**	159
Total plan assets	**465**	499

Allocation of plan assets covers 99% of total defined benefit plan assets. The plan assets are mainly invested in quoted instruments. Debt instruments include mostly investment grade government and corporate bonds.

Asset-liability matching strategies

The majority of defined benefit assets are in the UK. The UK scheme's benchmark asset allocation is 30%/70% return-seeking/liability matching. This strategy reflects the scheme's liability profile and the trustees' and company's attitude to risk. The trustee monitors the investment objectives and asset allocation policy on a regular basis.

Significant actuarial assumptions

		Germany	The UK	Other countries
Discount rate, %	**2018**	**1.75**	**2.75**	**3.12**
	2017	1.51	2.50	2.76
Future salary	**2018**	**–**	**–**	**1.26**
increase, %	2017	–	–	2.18
Inflation rate, %	**2018**	**–**	**3.20**	**–**
	2017	–	3.20	–
Future benefit	**2018**	**1.70**	**2.95**	**–**
increase, %	2017	1.51	2.95	–
Medical cost trend	**2018**	**–**	**–**	**5.20–5.60**
rate, %	2017	–	–	6.20–6.60
Life expectancy	**2018**	Modified from RT 2018 G / RT 2005 G	96% SAPS All Pensioner Amounts tables with CMI Core Projection Model –2016	Standard mortality tables
	2017	Modified from RT 2005 G	96% SAPS All Pensioner Amounts tables	Standard mortality tables

The significant actuarial assumptions are presented separately for the significant countries, and for other countries a weighted average of the assumptions is presented.

The weighted average duration of the overall defined benefit obligation is 17.1 years. In Germany and in the UK the weighted average durations are 13.1 and 21.0 years, respectively.

Sensitivity analysis of significant actuarial assumptions

Reasonably possible changes at the reporting date to one of the weighted principal assumptions, while holding all other assumptions constant, would have affected the defined benefit obligation as shown below:

Germany	Change in assumption	Increase in assumption	Decrease in assumption
2018			
Discount rate	0.5%	Decrease by 6%	Increase by 7%
Future benefit increase	0.5%	Increase by 3%	Decrease by 3%
Life expectancy	1 year	Increase by 3%	
2017			
Discount rate	0.5%	Decrease by 7%	Increase by 8%
Future benefit increase	0.5%	Increase by 3%	Decrease by 3%
Life expectancy	1 year	Increase by 3%	

The UK	Change in assumption	Increase in assumption	Decrease in assumption
2018			
Discount rate	0.5%	Decrease by 9%	Increase by 11%
Future benefit increase	0.5%	Increase by 7%	Decrease by 6%
Life expectancy	1 year	Increase by 3%	
2017			
Discount rate	0.5%	Decrease by 9%	Increase by 11%
Future benefit increase	0.5%	Increase by 7%	Decrease by 6%
Life expectancy	1 year	Increase by 3%	

Other countries	Change in assumption	Increase in assumption	Decrease in assumption
2018			
Discount rate	0.5%	Decrease by 4%	Increase by 4%
Medical cost trend rate	0.5%	Increase by 0%	Decrease by 0%
Future salary increase	0.5%	Increase by 1%	Decrease by 1%
Life expectancy	1 year	Increase by 7%	
2017			
Discount rate	0.5%	Decrease by 5%	Increase by 5%
Medical cost trend rate	0.5%	Increase by 2%	Decrease by 2%
Future salary increase	0.5%	Increase by 1%	Decrease by 1%
Life expectancy	1 year	Increase by 7%	

Other long-term employee benefits

Other long-term employee benefits mainly relate to early retirement provisions in Germany and long-service remunerations in Finland. The terms of the long-service remunerations in Germany were changed in 2017, and the arrangement no longer contains long-term employee benefit obligations, but the benefits are current in nature. Under the German early retirement agreements, employees work additional time prior to retirement, which is subsequently paid for in instalments after retirement. In Finland, the employees are entitled to receive a one-time indemnity every five years after 20 years of service.

The other long-term employee benefit liabilities recognized in the consolidated statement of financial position on December 31, 2018 were EUR 14 million (Dec 31, 2017: EUR 18 million).

Multi-employer defined benefit plans

ITP pension plans operated by Alecta in Sweden and plans operated by Stichting Bedrijfspensioenfonds voor de metaalindustrie in the Netherlands are multi-employer defined benefit pension plans. However, it has not been possible to get sufficient information for the calculation of obligations and assets by employer from the plan operators, and therefore these plans have been accounted for as defined contribution plans in the consolidated financial statements.

26. Provisions

€ million	Restructuring provisions	Environmental provisions	Other provisions	Total
Provisions on Jan 1, 2018	23	59	12	93
Translation differences	–0	–1	–0	–1
Increases in provisions	5	4	2	12
Acquired subsidiaries	–	1	0	1
Utilized during the financial year	–11	–5	–5	–22
Unused amounts reversed	–3	–5	–5	–14
Provisions on Dec 31, 2018	**13**	**53**	**4**	**70**

€ million	2018	2017
Non-current provisions	**65**	79
Current provisions	**5**	14
	70	93

Restructuring provisions

Restructuring provisions relate mainly to global streamlining measures of sales, general and administrative functions in 2016 and restructuring measures in accordance with the EMEA restructuring plan in 2013–2015. The remaining restructuring provisions on December 31, 2018 related mainly to measures in Germany, where such activities are typically carried out over a period of several years. Consequently, the cash outflows are expected to take place between years 2019–2024.

Environmental provisions

Majority of the environmental provisions are for closing costs of production facilities and landfill areas, removal of problem waste and landscaping in facilities in Finland, the UK, and Germany. The outflow of economic benefits related to environmental provisions is expected to take place mainly over a period of more than 10 years. Due to the nature of these provisions, there are uncertainties regarding both the amount and the timing of the outflow of economic benefits.

Other provisions

Other provisions comprise for example provisions for product and other claims and are mainly current in nature. The increase is mainly due to product claims and a provision related to earlier site closures.

Provisions are based on management's best estimates at the end of the reporting period.

27. Debt

€ million	2018	2017
Non-current		
Bonds	**249**	201
Convertible bonds	**238**	229
Loans from financial institutions	**12**	18
Pension loans	**217**	165
Finance lease liabilities	**82**	85
	798	698
Current		
Loans from financial institutions	**45**	16
Pension loans	**3**	6
Finance lease liabilities	**3**	5
Commercial paper	**460**	477
	511	505
Net debt		
Non-current and current debt	**1,309**	1,203
Cash and cash equivalents	**–68**	–112
Net debt	**1,241**	1,091

The bond maturing in 2024 as well as credit facilities and long-term loans from financial institutions include financial covenants, which are described in note 19.

Changes in non-current and current debt

2018 € million	Non-current debt	Current portion of non-current debt	Non-current finance lease liabilities	Current portion of finance lease liabilities	Current debt	Total
On Jan 1	613	13	85	5	487	1,203
Financing cash flows	101	–13	–	–5	7	90
Transfer to current debt	–10	10	–3	3	–	–
Other non-cash movements	11	–	–	–	4	16
On Dec 31	**715**	**10**	**82**	**3**	**499**	**1,309**

2017 € million	Non-current debt	Current portion of non-current debt	Non-current finance lease liabilities	Current portion of finance lease liabilities	Current debt	Total
On Jan 1	897	67	90	65	326	1,445
Financing cash flows [1]	–283	–67	–	–65	161	–254
Transfer to current debt	–13	13	–5	5	–	–
Other non-cash movements	13	–	–	–	–	13
On Dec 31	613	13	85	5	487	1,203

[1] Additionally, net cash flow from financing activities in 2017 included a repayment of a guarantee received relating to the divestment of SKS of EUR 37 million. In consolidated statement of cash flows, these was reported as other financing cash flow.

Regarding cash and cash equivalents, the reconciliation of cash effective and non-cash movements is presented in the consolidated statement of cash flows.

Bonds

€ million	Interest rate, %	Outstanding amount 2018	2017
2018 fixed rate bond maturing on June 18, 2024	4.125	**250**	–
2016 fixed rate bond maturing on June 16, 2021	7.250	**–**	203
		250	203

Convertible bonds

€ million	Interest rate, %	Outstanding amount 2018	2017
2015 fixed rate bond maturing on Feb 26, 2020	3.250	**250**	250

The convertible bond is convertible into ordinary shares of Outokumpu. The current conversion price is set at EUR 7.06. The conversion price will be subject to adjustments for any dividend in cash or in kind as well as customary anti-dilution adjustments, pursuant to the terms and conditions of the notes. Outokumpu has the right to redeem all outstanding bonds on or after March 13, 2018 if the volume-weighted average price of the Outokumpu share calculated for a specified period of time exceeds 130% of the then prevailing conversion price. Subject to a certain triggering event, there can be a coupon step-up by 0.75 percentage points.

Finance lease liabilities

Minimum lease payments

€ million	2018	2017
Not later than 1 year	**12**	14
Between 1 and 5 years	**74**	83
Later than 5 years	**147**	149
Future finance charges	**–147**	–157
Present value of minimum lease payments	**85**	90

Present value of minimum lease payments

€ million	2018	2017
Not later than 1 year	**3**	5
Between 1 and 5 years	**54**	56
Later than 5 years	**28**	29
Present value of minimum lease payments	**85**	90

28. Trade and other payables

€ million	2018	2017 Restated
Non-current		
Accruals	**35**	34
Current		
Trade payables	**1,200**	1,162
Accrued employee-related expenses	**63**	77
Accrued interest expenses	**5**	6
VAT payable	**24**	26
Withholding tax and social security liabilities	**21**	19
Payables related to factoring programs	**46**	50
Advance payments received	**10**	8
Other accruals	**49**	48
Other payables	**52**	48
	1,471	1,442

Customer contract liabilities related to unperformed transportation service amounted to EUR 1 million on December 31, 2018 (Dec 31, 2017 and Jan 1, 2017: EUR 1 million). These liabilities and advances received are expected to be recognized as revenue during the first quarter of 2019.

On December 31, 2018, accrued volume discounts related to contracts with customers amounted to EUR 28 million (Dec 31, 2017: EUR 32 million).

On January 1, 2017, other accruals amounted to EUR 52 million and the total current trade and other payables amounted to EUR 1,461 million. The amounts were impacted by the IFRS 15 transition of EUR 1 million as described in note 2.

29. Commitments and contingent liabilities

€ million	2018	2017
Mortgages and pledges on Dec 31		
Mortgages	**3,055**	2,984
Other pledges	**28**	13
Guarantees on Dec 31		
On behalf of subsidiaries for commercial and other commitments	**28**	27
On behalf of associated companies for financing	**4**	–
Other commitments on Dec 31	**19**	21

Mortgages relate mainly to securing the Group's financing. A major part of Outokumpu's borrowings are secured by mortgage over the real property of the Group's main production plants.

Outokumpu has provided a security, including a pledge of shares of a subsidiary company, related to AvestaPolarit pension scheme in the UK.

Other pledges include Outokumpu's shares in Manga LNG Oy of EUR 13 million to secure certain liabilities of Manga LNG Oy. Outokumpu's total liability at the end of 2018 amounted to EUR 33 million (2017: EUR 31 million), and the part exceeding the share pledge and guarantee is presented under other commitments.

Outokumpu Oyj is, in relation to its shareholding in Etelä-Pohjanmaan Voima Oy, liable for the costs, commitments and liabilities relating to electricity provided by Tornion Voima Oy. Outokumpu's liability for the net debt of Tornion Voima Oy in year-end 2018 amounted to EUR 2 million (2017: EUR 2 million). These liabilities are reported under other commitments.

Minimum lease payments on operating leases

€ million	2018	2017
Not later than 1 year	**13**	11
Between 1 and 5 years	**32**	30
Later than 5 years	**44**	47
	90	88

Operating leases include lease agreements on Group companies' premises.

Outokumpu's share of the Fennovoima investment is about EUR 250 million of which EUR 79 million has been paid by the end of the reporting period. Annual capital expenditure related to the project is expected to be around EUR 15–20 million in the coming years, and approximately half of the investment is expected to be paid only at the end of the construction phase.

Group's other off-balance sheet investment commitments totaled EUR 106 million on December 31, 2018 (Dec 31, 2017: EUR 28 million).

30. Disputes and litigations

Claim in Spain related to the divested copper companies

Outokumpu divested all of its copper business in 2003–2008. One of the divested companies domiciled in Spain later faced bankruptcy. The administrator of the bankruptcy estate filed a claim against Outokumpu Oyj and two other non-Outokumpu companies for recovery of payments made by the bankrupt Spanish company in connection with the divestment. The court of first instance in Spain accepted the claim of EUR 20 million brought against Outokumpu and the two other companies. Outokumpu and the two other companies then appealed the court's decision and in March 2018 the Court of Appeal ruled in favor of Outokumpu. In May 2018, the administrator of the bankruptcy estate filed an appeal before the Spanish Supreme Court, where the case pending.

Claim in Italy related to former tax consolidation group

In December 2015, Outokumpu Holding Italia and Acciai Speciali Terni (AST) entered into a dispute relating to the tax consolidation of the former ThyssenKrupp Tax Group in Italy. AST claims payment of approximately EUR 23 million resulting from the former tax consolidation of the Italian tax group managed by ThyssenKrupp. Outokumpu Holding Italia is the former ThyssenKrupp holding company and was transferred to Inoxum as part of the carve-out in 2011. The EUR 23 million claim resulted from tax benefits (tax losses, tax credits and interest expenses) transferred by AST to the Italian tax group during the period from financial year 2007/08 until 2013, which have in AST's view not been properly settled towards them in the following years. The matter is currently pending in court in Italy.

Antitrust investigation in Germany

In September 2016, Outokumpu learned of a cartel investigation initiated by the German Federal Cartel Office involving, among others, Outokumpu Nirosta GmbH, Outokumpu's subsidiary in Germany. Outokumpu initiated an internal investigation and became convinced that the investigation is without merit, as far as Outokumpu is concerned. In May 2018, Outokumpu received an official notification from the German Federal Cartel Office confirming that the investigation against Outokumpu Nirosta GmbH was terminated.

31. Related party transactions

Outokumpu's related parties include the key management of the company and their close family members, associated companies and joint ventures, and Solidium Oy. The transactions with related parties are presented in the tables below. Key management includes Leadership Team members and members of the Board of Directors. The principal associated companies and joint ventures are listed in note 14 and subsidiaries are presented in note 32.

Solidium Oy, a limited company fully owned by the State of Finland, owned 22.8% of Outokumpu on December 31, 2018. Solidium's mission is to strengthen and stabilize Finnish ownership in nationally important companies and increase the value of its holdings in the long run.

Transactions and balances with related companies

€ million	2018	2017 Restated
Sales and other operating income	**100**	104
Purchases	**–16**	–5
Dividend income	**1**	2
Trade and other receivables	**24**	25
Trade and other payables	**3**	0

Employee benefits for the key management

€ thousand	2018	2017
Short-term employee benefits	**6,381**	7,848
Termination benefits	**519**	–
Post-employment benefits [1)]	**1,247**	1,792
Share-based payments	**55**	6,449
Remuneration to the Board of Directors	**576**	617
	8,777	16,706

[1)] Includes only supplementary pensions.

Employee benefits for CEO and Deputy CEO

€ thousand	Salaries and other short-term benefits	Bonuses	Termination benefits	Post-employment benefits	Share-based payments	Total
2018						
CEO	**1,076**	**348**	**–**	**503**	**–166**	**1,761**
Deputy to the CEO	**469**	**163**	**519**	**101**	**159**	**1,411**
2017						
CEO	1,073	701	–	612	1,787	4,173
Deputy to the CEO	440	249	–	196	700	1,584

Regarding the CEO, the figures include both the statutory pension expenses based on the Finnish Employees Pensions Act and the expenses for a defined contribution pension plan with an annual insurance premium of 25% of his annual earnings, excluding share rewards. The CEO has the right to retire at the age of 63. The deputy to the CEO resides in Germany and is entitled to the pension benefits in accordance with the German Essener Verband.

More information on key management's employee benefits can be found in chapter Corporate Governance on the page Remuneration.

Remuneration to Board of Directors

€ thousand	2018	2017
Chairman Kari Jordan, as of March 22, 2018	**164**	–
Chairman Jorma Ollila, until March 22, 2018	**2**	148
Vice Chairman Olli Vaartimo	**97**	89
Member Kati ter Horst	**77**	69
Member Heikki Malinen	**77**	68
Member Eeva Sipilä, as of March 21, 2017	**75**	67
Member Pierre Vareille, as of March 22, 2018	**77**	–
Member Markus Akermann, until March 22, 2018	**5**	74
Member Roberto Gualdoni, until March 22, 2018	**2**	78
Member Saila Miettinen-Lähde, until June 9, 2017	**–**	18
Member Stig Gustavson, until March 21, 2017	**–**	2
Member Elisabeth Nilsson, until March 21, 2017	**–**	5
	576	617

32. Subsidiaries on December 31, 2018

		Country	Group holding, %
Europe			
Outokumpu AS		Norway	100
Outokumpu Asia Pacific Ltd		China	100
Outokumpu B.V.		The Netherlands	100
Outokumpu Distribution France S.A.S.		France	100
Outokumpu Distribution Hungary Kft.		Hungary	100
Outokumpu Distribution Polska Sp. z o.o.		Poland	100
Outokumpu Distribution UK Ltd.		The UK	100
Outokumpu Europe Oy	*)	Finland	100
Outokumpu Ges.m.b.H.		Austria	100
Outokumpu India Private Limited		India	100
Outokumpu K.K.		Japan	100
Outokumpu Management (Shanghai) Co., Ltd.	*)	China	100
Outokumpu Middle East FZCO		United Arab Emirates	100
Outokumpu Nirosta GmbH		Germany	100
Outokumpu N.V.		Belgium	100
Outokumpu Prefab AB		Sweden	100
Outokumpu Press Plate AB		Sweden	100
Outokumpu PSC Benelux B.V.		The Netherlands	100
Outokumpu PSC Finland Oy		Finland	100
Outokumpu PSC Germany GmbH		Germany	100
Outokumpu Pty Ltd		Australia	100
Outokumpu (Pty) Ltd		South Africa	100
Outokumpu S.A.		Spain	100
Outokumpu (S.E.A.) Pte. Ltd.		Singapore	100
Outokumpu Service Center GmbH	1)	Germany	100
Outokumpu Shipping Oy		Finland	100
Outokumpu S.p.A.		Italy	100
Outokumpu Stainless AB		Sweden	100
Outokumpu Stainless B.V.		The Netherlands	100
Outokumpu Stainless Steel (China) Co. Ltd.		China	100
Outokumpu Stainless Oy		Finland	100
Outokumpu Tornio Infrastructure Oy		Finland	100
Sogepar UK Limited		The UK	100

		Country	Group holding, %
Americas			
Outokumpu Brasil Comercio de Metais Ltda.		Brazil	100
Outokumpu Fortinox S.A.		Argentina	100
Outokumpu Mexinox Distribution S.A. de C.V.		Mexico	100
Outokumpu Mexinox S.A. de C.V.		Mexico	100
Outokumpu Stainless USA, LLC		The US	100
ThyssenKrupp Mexinox CreateIT, S.A. de C.V.		Mexico	100
Long Products			
Fagersta Stainless AB	2)	Sweden	100
Outokumpu Stainless Bar, LLC		The US	100
Outokumpu Stainless Ltd		The UK	100
Ferrochrome			
Outokumpu Chrome Oy	*)	Finland	100
Other operations			
Outokumpu Americas, Inc.		The US	100
Outokumpu Distribution Benelux B.V.		The Netherlands	100
Outokumpu Holding Germany GmbH	*)	Germany	100
Outokumpu Holding Italia S.p.A.		Italy	100
Outokumpu Holding Nederland B.V.	*)	The Netherlands	100
Outokumpu Mining Australia Pty. Ltd.		Australia	100
Outokumpu Mining Oy		Finland	100
Outokumpu Stainless Holding GmbH		Germany	100
Outokumpu Stainless Holdings Ltd		The UK	100
Outokumpu Stainless UAB		Lithuania	100
Québec Inc.	1)	Canada	100
Viscaria AB	*)	Sweden	100
Visenta Försäkrings AB		Sweden	100

In addition Outokumpu has branch offices in South Korea, Switzerland, Taiwan, Thailand, The UK and Vietnam.

This list does not include all dormant companies or all holding companies.

The Group holding corresponds to the Group's share of voting rights.

*) Shares and stock held by the parent company

1) Name changed

2) Acquired in 2018

Parent company financial statements

Income statement of the parent company

€ million	2018	2017
Sales	**587**	505
Cost of sales	**–482**	–384
Gross margin	**105**	121
Other operating income	**87**	135
Selling and marketing expenses	**–17**	–18
Administrative expenses	**–110**	–115
Other operating expenses	**–431**	–1
EBIT	**–367**	123
Financial income and expenses	**187**	9
Result before appropriations and taxes	**–180**	132
Appropriations		
Group contribution	**185**	97
Change in depreciation difference	**1**	–2
Income taxes	**–0**	–0
Result for the financial year	**6**	227

According to the Finnish accounting standards the parent company financial statements are to be presented in addition to Group financial statements.

The parent company's financial statements have been prepared in accordance with Finnish accounting standards (FAS).The parent company Outokumpu Oyj's income statement and balance sheet items are mainly internal and are eliminated on the group level.

Balance sheet of the parent company

€ million	2018	2017
ASSETS		
Non-current assets		
Intangible assets	**100**	40
Property, plant and equipment	**9**	20
Financial assets		
Shares in Group companies	**3,776**	4,002
Loan receivables from Group companies	**1,022**	924
Shares in associated companies	**27**	31
Other shares and holdings	**80**	64
Other financial assets	**2**	1
	4,906	5,021
Total non-current assets	**5,016**	5,080
Current assets		
Current receivables		
Loans receivable	**617**	1,223
Trade receivables	**54**	64
Prepaid expenses and accrued income	**40**	16
Other receivables	**213**	167
	924	1,471
Cash and cash equivalents	**23**	61
Total current assets	**947**	1,532
TOTAL ASSETS	**5,962**	6,612

€ million	2018	2017
EQUITY AND LIABILITIES		
Shareholders' equity		
Share capital	**311**	311
Premium fund	**720**	720
Invested unrestricted equity reserve	**2,123**	2,123
Retained earnings	**169**	63
Result for the financial year	**6**	227
	3,330	3,444
Untaxed reserves		
Accumulated depreciation difference	**1**	2
Liabilities		
Non-current liabilities		
Bonds	**250**	203
Convertible bonds	**250**	250
Loans from financial institutions	**12**	18
Pension loans	**137**	149
Other non-current loans	**1**	4
	650	625
Current liabilities		
Loans from financial institutions	**36**	13
Pension loans	**3**	3
Group bank account liabilities	**1,275**	1,751
Other current loans	**464**	549
Trade payables	**163**	142
Accrued expenses and prepaid income	**10**	11
Other current liabilities	**30**	74
	1,982	2,542
Total liabilities	**2,632**	3,166
TOTAL EQUITY AND LIABILITIES	**5,962**	6,612

Cash flow statement of the parent company

€ million	2018	2017
Cash flow from operating activities		
Result for the financial year	6	227
Adjustments for		
Taxes	0	0
Depreciation and amortization	7	6
Impairments	431	–135
Gain/loss on sale of intangible assets, and property, plant and equipment	–78	0
Interest income	–94	–93
Dividend income	–171	–0
Interest expense	35	54
Change in provisions	–1	1
Exchange gains and losses	15	5
Group contributions	–185	–99
Other non-cash adjustments	1	0
	–40	–261
Change in working capital		
Change in trade and other receivables	–10	8
Change in trade and other payables	2	26
	–8	35
Dividends received	171	0
Interest received	89	96
Interest paid	–36	–59
Income taxes paid	–0	–0
	224	37
Net cash from operating activities	183	38

€ million	2018	2017
Cash flow from investing activities		
Investments in subsidiaries and other shares and holdings	–398	–15
Purchases of property, plant and equipment	–0	–0
Purchases of intangible assets	–78	–38
Proceeds from disposal of subsidiaries and other disposals	255	170
Proceeds from sale of property, plant and equipment	–10	–0
Proceeds from sale of intangible assets	27	24
Proceeds from sale of other financial assets	0	0
Change in other long-term receivables	–125	–418
Net cash from investing activities	–330	–277
Cash flow before financing activities	–147	–240
Cash flow from financing activities		
Dividends paid	–103	–41
Treasury shares purchase	–17	–20
Borrowings of non-current debt	250	190
Repayments of non-current debt	–221	–538
Change in current debt	–540	130
Cash flow from group contribution	97	0
Other financing cash flow	643	454
Net cash from financing activities	108	177
Net change in cash and cash equivalents	–39	–63
Net change in cash and cash equivalents in the balance sheet	–39	–63

Statement of changes in equity of the parent company

€ million	Share capital	Premium fund	Invested unrestricted equity reserve	Retained earnings	Total equity
Equity on Jan 1, 2017	311	720	2,123	123	3,278
Result for the financial year	–	–	–	227	227
Dividends paid	–	–	–	–41	–41
Treasury shares repurchase	–	–	–	–20	–20
Equity on Dec 31, 2017	311	720	2,123	289	3,444
Result for the financial year	–	–	–	6	6
Dividends paid	–	–	–	–103	–103
Treasury shares repurchase	–	–	–	–17	–17
Equity on Dec 31, 2018	**311**	**720**	**2,123**	**175**	**3,330**

Distributable funds on Dec 31

€ million	2018	2017
Retained earnings	**169**	62
Result for the financial year	**6**	227
Invested unrestricted equity reserve	**2,123**	2,123
Distributable funds on Dec 31	**2,298**	2,412

Commitments and contingent liabilities of the parent company

€ million	2018	2017
Other pledges on Dec 31	**13**	13
Guarantees on Dec 31		
On behalf of subsidiaries		
For financing	**378**	295
For commercial guarantees	**2**	0
For other commitments	**28**	27
On behalf of associated companies		
For financing	**4**	–
Other commitments on Dec 31	**19**	21

A major part of Outokumpu's borrowings are secured by security to the real property of selected subsidiaries.

Other pledges include Outokumpu's shares in Manga LNG Oy to secure certain liabilities of Manga LNG Oy. Outokumpu's total liability at the end of 2018 amounts to EUR 33 million (2017: EUR 31 million), and the part exceeding the share pledge and guarantee is presented under other commitments.

Outokumpu Oyj is, in relation to its shareholding in Etelä-Pohjanmaan Voima Oy, liable for the costs, commitments and liabilities relating to electricity provided by Tornion Voima Oy. Outokumpu Oyj's liability for the net debt of Tornion Voima Oy at the year-end 2018 amounted to EUR 2 million (2017: EUR 2 million). These liabilities are reported under other commitments.

Auditor's Report (Translation of the Finnish Original)

To the Annual General Meeting of Outokumpu Oyj

Report on the Audit of the Financial Statements

Opinion

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position and financial performance and cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of the financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report to the Audit Committee.

What we have audited

We have audited the financial statements of Outokumpu Oyj (business identity code 0215254-2) for the year ended 31 December 2018. The financial statements comprise:

- the consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of financial position, consolidated statement of cash flows, consolidated statement of changes in equity and notes to the consolidated financial statements, including a summary of significant accounting principles
- the parent company's income statement, balance sheet, cash flow statement and notes to the parent company financial statements.

Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

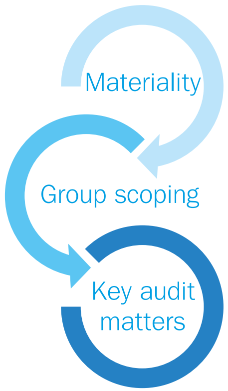
Independence

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, the non-audit services that we have provided to the parent company and to the group companies are in accordance with the applicable law and regulations in Finland and we have not provided non-audit services that are prohibited under Article 5(1) of Regulation (EU) No 537/2014. The non-audit services that we have provided are disclosed in note 6 to the Financial Statements.

Our Audit Approach

Overview



- Overall group materiality: € 32 million

- The audit scope includes all significant companies, covering the vast majority of revenues, assets and liabilities.

- Valuation of goodwill
- Valuation of Property, Plant and Equipment
- Valuation of inventories
- System environment and internal controls
- Valuation of subsidiary shares in the parent company's financial statements

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we considered where management made subjective judgements; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain.

Materiality

The scope of our audit was influenced by our application of materiality. An audit is designed to obtain reasonable assurance whether the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall group materiality for the consolidated financial statements as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements on the financial statements as a whole.

Overall group materiality	€ 32 million
How we determined it	0.5% of net sales 2018
Rationale for the materiality benchmark applied	We chose net sales as the benchmark because, in our view, it is a stable and an important benchmark in the group's current situation, against which the performance of the group is measured by users of the financial statements. As the group's profitability has not been stable, net sales is also a generally accepted benchmark. We chose 0.5% which is within the range of acceptable quantitative materiality thresholds in auditing standards.

How we tailored our group audit scope

We tailored the scope of our audit, taking into account the structure of the Outokumpu group, the accounting processes and controls, and the industry in which the group operates. The group audit scope was focused on the manufacturing companies in Finland, Sweden, Germany, USA, Mexico, the UK and Italy. We obtained, through our audit procedures at the aforementioned companies, combined with additional procedures at the group level, sufficient and appropriate evidence regarding the financial information of the group as a whole to provide a basis for our opinion on the consolidated financial statements.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

Key audit matter in the audit of the group	How our audit addressed the key audit matter
Valuation of goodwill *Refer to notes 1, 11 and 13 in the consolidated financial statements.* As at 31 December 2018 the group's goodwill balance amounted to € 467 million. Goodwill is tested at least annually, irrespective of whether there is any indication of impairment. For goodwill testing purposes, the recoverable amount is based on value in use which is determined by reference to discounted future net cash flows expected to be generated by the asset. Key assumptions used in the value-in-use calculations are discount rate, growth rate of terminal value, average global growth in consumption of stainless steel and base price development. Valuation of goodwill is a key audit matter due to the size of the goodwill balance and the high level of management judgement involved the estimation process.	Our audit of goodwill valuation focused on management's judgement and estimates used. We assessed the appropriateness of these through the following procedures: • We tested the methodology applied in the value in use calculation by comparing it to the requirements of IAS 36, Impairment of Assets, and we tested the mathematical accuracy of the calculations. • We evaluated the process by which the future cash flow forecasts were drawn up, including comparing them to medium term strategic plans and forecasts approved by the Board and testing the key underlying assumptions. • We considered whether the sensitivity analysis performed by management around key drivers of the cash flow forecast was appropriate by considering the likelihood of the movements of these key assumptions. • We compared the current year actual results to those included as estimates in the prior year impairment model to corroborate the reliability of management's estimates. • The discount rates applied within the model were assessed by PwC business valuation specialist, including comparison to economic and industry forecasts as appropriate. We also considered the appropriateness of the related disclosures provided in note 13 in the group financial statements.

Valuation of Property, Plant and Equipment

Refer to notes 1 and 12 in the consolidated financial statements.

As at 31 December 2018 the Group's Property, Plant and Equipment (PPE) amounted to € 2,659 million, which is 44% of the total assets and 97% of the total equity.

The group's business is very capital intensive and there are a lot of historical operative losses. Therefore there is a risk that the carrying value of the Property, Plant and Equipment is overstated. The carrying value of Property, Plant and Equipment is tested as part of the group impairment testing based on the discounted cash flow model.

Valuation of Property, Plant and Equipment is a key audit matter due to the size of the balance and the high level of management judgement involved the estimation process.

We assessed the appropriateness of the group's method and management's judgement and estimates in the impairment calculations for Property, Plant and Equipment.

Our audit work also included testing the operating effectiveness of key controls in place to ensure the existence and appropriate valuation of Property, Plant and Equipment. Such controls include the authorization of additions, disposals and scrapings, the evaluation of the useful economic lives and the reconciliation of fixed assets registers to the accounting records.

In addition we performed substantive audit procedures including testing of assets acquired in the year and depreciation of the fixed assets mainly through analytical audit procedures.

Valuation of Inventories

Refer to notes 1 and 21 in the consolidated financial statements.

Net inventories amount to € 1,555 million as at 31 December 2018.

Inventories are stated at the lower of cost and net realizable value (NRV). Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and the estimated costs necessary to make the sale. The most important commodity price risk for Outokumpu is caused by fluctuation in nickel and other alloy prices. The majority of stainless steel sales contracts include an alloy surcharge clause, with the aim of reducing the risk arising from the time difference between raw material purchase and product delivery. The risk is significant because the delivery cycle in production is longer than the alloy surcharge mechanism provides for. Thus, only the price for the products to be sold in near future is known. That is why a significant part of the future price for each product to be sold is estimated according to management's best knowledge in NRV calculations. Due to fluctuations in nickel and other alloy prices, the realized prices can deviate significantly from what has been used in NRV calculations on the closing date.

Due to the high level of management judgment and the significant carrying amounts and risks relating to valuation, this is one of the key audit matters.

Our audit work included testing management's key controls in place to ensure proper valuation and existence of inventories.

In addition, our audit procedures included, among other things, the following:

- We performed tests over the prices of raw materials and verified items in the product costing of work in progress.
- We performed tests over the NRV calculations and the assumptions used.
- We assessed the adequacy of the obsolescence provision and the management judgement used.
- We participated in the physical inventory counting and performed independent test counts to validate the existence of assets and accuracy of the counting performed.

System environment and internal controls	
The group has a fragmented system environment. The fragmented system environment introduces risks related to system access, change management and data transfer between the different systems, and we have accordingly designated this as a key audit matter.	Our response to the risks related to the fragmented system environment included both testing of IT controls and tests of details. We tested the group's controls around access and change management related to key IT systems. We also tested the group's controls around system interfaces, and the transfer of data between systems. We noted certain weaknesses related to access controls to certain key systems. We reported these control weaknesses to management, and performed tests of detail to reduce the related risks of material misstatement to an acceptably low level.

There are no significant risks of material misstatement referred to in Article 10(2c) of Regulation (EU) No 537/2014 with respect to the consolidated financial statements.

Key audit matter in the audit of the parent company	How our audit addressed the key audit matter
Valuation of subsidiary shares in the parent company's financial statements As at 31 December 2018, the value of Outokumpu Oyj's subsidiary shares amounted to € 3,776 million in the parent company's financial statements prepared in accordance with Finnish GAAP. The valuation of subsidiary shares is tested as part of the group impairment testing based on the discounted cash flow model. The valuation of subsidiary shares is a key audit matter due to the significant carrying amounts involved and the high level of management judgement involved. This matter is a significant risk of material misstatement referred to in Article 10(2c) of Regulation (EU) No 537/2014.	We assessed the appropriateness of the method and management's judgement and estimates in the calculations through the following procedures: • We evaluated the process by which the future cash flow forecasts were drawn up, including comparing them to medium term strategic plans and forecasts approved by the Board and tested the key under-lying assumptions. • We considered whether the sensitivity analysis performed by management around key drivers of the cash flow forecast was appropriate by considering the likelihood of the movements of these key assumptions. • We compared the current year actual results included in the prior year impairment model to corroborate the reliability of management's estimates.

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or to cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. 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 financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, 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 opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's 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 parent company’s or 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 our auditor’s report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. 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 parent company or the group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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 relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, 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 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 or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Reporting Requirements

Appointment

We were first appointed as auditors by the annual general meeting on 21 March 2017. Our appointment represents a total period of uninterrupted engagement of 2 years.

Other Information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors and the information included in the Annual Report, but does not include the financial statements and our auditor’s report thereon.

We have obtained the report of the Board of Directors prior to the date of this auditor’s report and the Annual Report is expected to be made available to us after that date.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to the report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion

- the information in the report of the Board of Directors is consistent with the information in the financial statements
- the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor’s report, 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.

Other statements based on the decision by the Annual General Meeting

The proposal by the Board of Directors regarding the treatment of distributable funds is in compliance with the Limited Liability Companies Act. We support that the Board of Directors of the parent company and the President and CEO be discharged from liability for the financial period audited by us.

Helsinki 7 February 2019

PricewaterhouseCoopers Oy

Authorised Public Accountants

Janne Rajalahti

Authorised Public Accountant (KHT)

Governance 2018

Outokumpu's Corporate Governance statement includes information on the Group's governance principles as well as remuneration and risks.

Download the Corporate Governance as PDF

Corporate Governance Statement 2018

Regulatory and structural framework

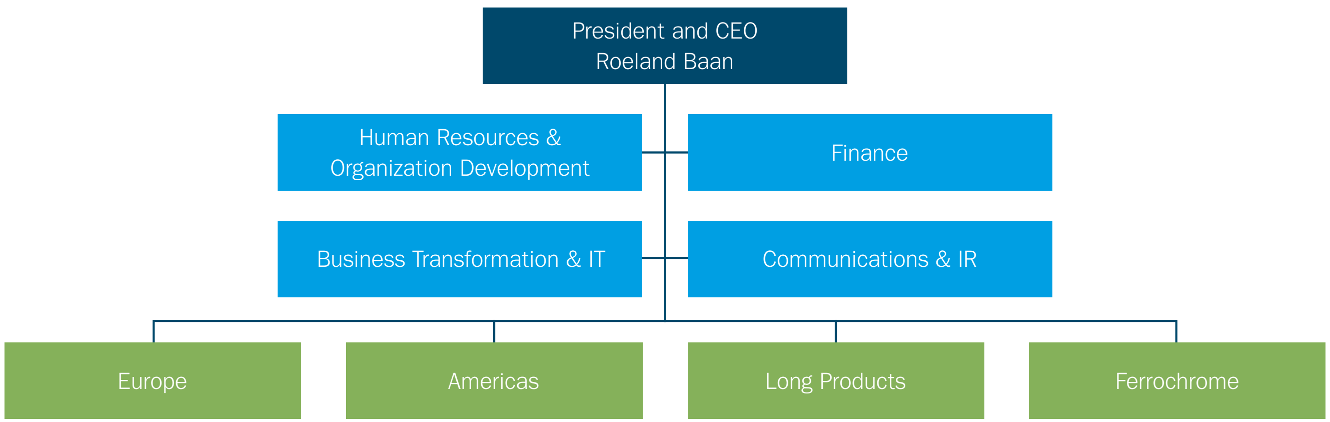
Outokumpu Oyj, the Group's parent company, is a public limited liability company, listed on Nasdaq Helsinki and incorporated and domiciled in Finland. In its corporate governance and management, Outokumpu Oyj complies with the laws and regulations applicable to Finnish public companies, the company's Articles of Association and the Corporate Governance Policy approved by the company's Board of Directors.

Outokumpu Oyj follows the Finnish Corporate Governance Code, effective as of January 1, 2016. The Finnish Corporate Governance Code is issued by the Finnish Securities Market Association and adopted by Nasdaq Helsinki.

The governing bodies of the parent company Outokumpu Oyj, i.e. the General Meeting of Shareholders, the Board of Directors, and the President and Chief Executive Officer (CEO), have the ultimate responsibility for the management and operations of the Outokumpu Group ("the Group"). The Outokumpu Leadership Team supports and assists the CEO in the efficient management of the Group's operations. The latest Corporate Governance Statement and other updated corporate governance information can be found on the Group's Corporate Governance website.

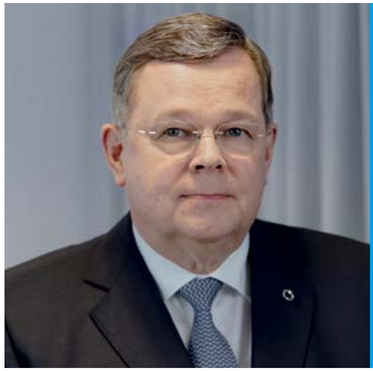
The General Meeting of Shareholders convenes at least once a year. Under the Finnish Companies Act, certain important decisions such as the approval of financial statements, decisions on dividends and increases or reductions in share capital, amendments to the Articles of Association, and election of the Board of Directors and auditors, fall within the exclusive domain of the General Meeting of Shareholders.

Organization structure



Composition and operations of the Board of Directors December 31, 2018

Chairman of the Board of Directors



Kari Jordan

Chairman of the Remuneration Committee

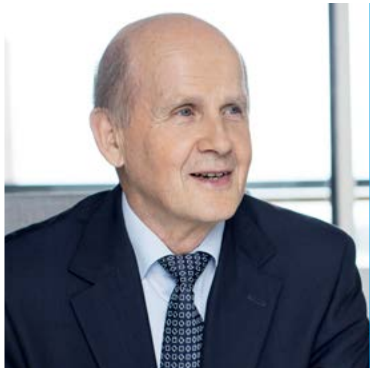
b. 1956, Finnish citizen
M.Sc. (Econ.), Vuorineuvos (Finnish honorary title)
Outokumpu Board member 2018–
Chairman of the Board 2018–
Chairman of the Remuneration Committee

Work experience
CEO: Metsäliitto Cooperative 2004–2017
President and CEO: Metsä Group 2006–2018
Chairman, Metsä Board Corporation 2005–2018
Chairman, Metsä Fibre Oy 2006–2017
Chairman, Metsä Tissue Corporation 2004–2017
Executive Vice President and Member of the Group Executive Management: Nordea AB and predecessors 1994–2004
Member of the Executive Board: OKOBANK 1987–1994

Positions of trust
Chairman of the Supervisory Board: Varma Mutual Pension Insurance Company 2015–
Vice Chairman of the Board: Nokian Tyres Plc 2018–
Chairman of the Board: Finland Chamber of Commerce 2012–2016
Member of the Board (2005–2017), Vice Chairman of the Board (2005–2008, 2014–2017) and Chairman of the Board (2009–2011): Finnish Forest Industries Federation
Member of the Board (2005–2016) and Vice Chairman of the Board (2009–2011, 2013–2014): Confederation of Finnish Industries (EK)

Independent of the company and its significant shareholders.

Vice Chairman of the Board of Directors



Olli Vaartimo

Chairman of the Audit Committee

b. 1950, Finnish citizen
M.Sc. (Econ.)
Outokumpu Board member 2010–
Vice Chairman of the Board 2011–
Chairman of the Audit Committee

Work experience
CFO: Metso Oyj 2003–2010
Executive Vice President, Deputy to the President and CEO: Metso Oyj 2003–2010
Member of the Executive Team 1999–2010 and Vice Chairman of the Executive Team 2004–2010: Metso Oyj

Positions of trust
Chairman of the Board: BMH Technology Oy 2017–
Chairman of the Board: Kuusakoski Group Oy 2016–
Vice Chairman of the Board: Kuusakoski Oy 2016–2018
Board member: Sampo-Rosenlew Oy 2016–
Board member: Black Bruin Oy (formerly Sampo-Hydraulics Oy) 2016–
Board member: Valmet Automotive Oy 2014–2018

Independent of the company and its significant shareholders.

Members of the Board of Directors

Kati ter Horst

Member of the Audit Committee

b. 1968, Finnish citizen
M.Sc. (Marketing), MBA (International Business)
Outokumpu Board member 2016–
Member of the Audit Committee

Work experience
Executive Vice President, Head of Stora Enso Paper 2014–
Senior Vice President, Paper Sales, Printing and Living: Stora Enso 2013–2014
Senior Vice President, Office Paper Sales, Printing and Reading: Stora Enso 2012–2013

Positions of trust
Board member: EURO-GRAPH asbl 2017–
Board member: Finnish Forest Industries Federation 2015–

Independent of the company and its significant shareholders.

Heikki Malinen

Member of the Remuneration Committee

b. 1962, Finnish citizen
M.Sc. (Econ.), MBA (Harvard)
Outokumpu Board member 2012–
Member of the Remuneration Committee

Work experience
President and CEO: Posti Group Corporation (formerly Itella Corporation) 2012–
President and CEO: Pöyry PLC 2008–2012
Executive Vice President, Strategy, member of the UPM Executive Team: UPM-Kymmene Corporation, 2006–2008

Positions of trust
Vice Chairman 2016–2018 and Board member: Service Sector Employers PALTA 2013–
Board member: Realia Group 2017–
Board member: East Office of Finnish Industries 2012–

Independent of the company and its significant shareholders.

Eeva Sipilä

Member of the Audit Committee

b. 1973, Finnish citizen
M.Sc. (Econ.), CEFA
Outokumpu Board member 2017–
Member of the Audit Committee

Work experience
Chief Financial Officer and Deputy to the CEO: Metso Corporation 2016–
Executive Vice President and Chief Financial Officer: Cargotec Corporation 2008–2016
Senior Vice President, Investor Relations and Communications: Cargotec Corporation 2005–2008

Independent of the company and its significant shareholders.

Pierre Vareille

Member of the Remuneration Committee

b. 1957, French citizen
Knight of the Legion of Honour in July 2003
M.Sc. (Ecole Centrale Paris), BA (Econ.) (Sorbonne University), Degree in Controlling and Finance (Institut de Contrôle de Gestion)
Outokumpu Board member 2018–
Member of the Remuneration Committee

Work experience
Chairman and CEO 2012–2013 and CEO 2013–2016: Constellium
Chairman of the Board and CEO: FCI SA 2008–2012
Chief Operating Officer: FCI SA 2007–2008

Positions of trust
Chairman of the Board: Société Bic SA 2018–
Board member and member of the Remuneration and Selection Committee: Etex SA 2017–
Board member (2017–) and member of the Audit Committee and the Compensation Committee (2018–): Ferroglobe Plc.
Board member (2015–) and member of the Audit Committee (2018–): Verallia
Founder and Co-President: The Vareille Foundation 2014–
Board member and member of the Strategic Committee: CentraleSupelec 2008–

Independent of the company and its significant shareholders.

Additional information on work experience and positions of trust to be found on the Company's website

The Board assesses the independence of the Board members and records the outcome in the Board minutes. All members of the Board of Directors on December 31, 2018 were independent of the company and its significant shareholders.

Outokumpu shares and share-based rights (parent and subsidiaries) owned by each director and their controlled corporations on December 31, 2018

Board member	Number of shares
Kari Jordan	81,387
Olli Vaartimo	55,182
Kati ter Horst	14,150
Heikki Malinen	33,598
Eeva Sipilä	12,962
Pierre Vareille	24,981
Total	222,260

Operations and appointment of the Board of Directors

The general objective of the Board of Directors is to direct Outokumpu's business and strategies in a manner that secures a significant and sustained increase in the value of the company for its shareholders. To this end, the members of the Board are expected to act as a resource and to offer their expertise and experience for the benefit of the company. The tasks and responsibilities of the company's Board of Directors are determined on the basis of the Finnish Companies Act as well as other applicable legislation.

The Board of Directors has general authority to decide and act in all matters not reserved for other corporate governance bodies by law or under the provisions of the company's Articles of Association. The general task of the Board of Directors is to organize and oversee the company's management and operations and it has the duty at all times to act in the best interest of the company.

The Board of Directors has established the rules of procedure that define its tasks and operating principles in the Charter of the Board of Directors. The main duties of the Board of Directors are as follows:

With respect to directing the company's business and strategies:

- Decide on Outokumpu's strategy and the long-term targets of the Outokumpu Group (the "Group") and monitor their implementation;
- Decide on annual business plans and monitor their implementation;
- Decide on annual limits for the Group's capital expenditure, monitor related implementation, review performance and decide on changes;
- Decide on any major and strategically significant investments and monitor their implementation;
- Decide on any major and strategically important business acquisitions and divestments and monitor their implementation;
- Decide on any significant financing arrangements;
- Decide on any other commitments by any of the Group companies that are out of the ordinary either in terms of value or nature, taking into account the size, structure, and field of the Group's operations.

With respect to organizing the company's management and operations:

- Nominate and dismiss the CEO and his/her deputy, if any, monitor his/her performance and to decide on the CEO's terms of service, including incentive schemes, on the basis of a proposal made by the Board's Remuneration Committee;
- Nominate and dismiss the members of the Outokumpu Leadership Team and to define their areas of responsibility based on a proposal by the Board's Remuneration Committee;
- Monitor the adequacy and allocation of the Group's top management resources;
- Decide on any significant changes to the Group's business organization;
- Decide on the Group's ethical values and modes of activity;
- Ensure that policies outlining the principles of corporate governance are in place;
- Ensure that policies outlining the principles of managing the company's insider issues are being observed;
- Ensure that the company has guidelines for any other matters that the Board deems necessary and that fall within the scope of the Board's duties and authority.

With respect to the preparation of matters to be resolved by the General Meetings of Shareholders:

- Establish a dividend policy and issue a proposal on dividend distribution;
- Make a proposal to the Annual General Meeting concerning the election of an external auditor and auditing fees;
- Make other proposals to General Meetings of Shareholders.

With respect to financial control and risk management:

- Discuss and approve interim reports, statements, and annual accounts;
- Monitor significant risks related to the Group's operations and the management of such risks;
- Ensure that adequate policies for risk management are in place;
- Monitor financial position, liquidity, and debt maturity structure;
- Monitor the Group's control environment;
- Reassess its activities on a regular basis.

The Board of Directors shall have a quorum when more than half of its elected members are present. A decision by the Board of Directors shall be the opinion supported by more than half of the members present at a meeting. In the event of a tie, the Chairman shall have the casting vote.

The Annual General Meeting elects the Chairman, the Vice Chairman and the other members of the Board of Directors for a term expiring at the close of the following Annual General Meeting. The entire Board of Directors is, therefore, elected at each Annual General Meeting. A Board member may be removed from office at any time by a resolution passed by a General Meeting of Shareholders. Proposals to the Annual General Meeting concerning the election of Board members that have been made known to the Board of Directors prior to the Annual General Meeting will be made public if such a proposal is supported by shareholders holding a minimum of 10% of all the company's shares and voting rights and the person being proposed has consented to such nomination.

Under the company's Articles of Association, the Board shall have a minimum of five and a maximum of twelve members. A Board consisting of 6 members was elected at the 2018 Annual General Meeting. The Board of Directors meets at least five times each year. In 2018, the Board of Directors had 10 meetings, and the average attendance rate was 97%.

Breakdown of individual attendance at Board meetings

10 meetings in 2018	Attendance
Kari Jordan, from March 22, 2018	9/9
Jorma Ollila, until March 22, 2018	1/1
Olli Vaartimo	10/10
Markus Akermann, until March 22, 2018	1/1
Roberto Gualdoni, until March 22, 2018	1/1
Kati ter Horst	10/10
Heikki Malinen	10/10
Eeva Sipilä	8/10
Pierre Vareille, from March 22, 2018	9/9

Diversity principles of the Board of Directors

Diversity of the Board of Directors supports the vision and long-term objectives of the Group. Outokumpu recognizes the importance of a diverse Board, including but not limited to age, educational and international background, professional expertise and experience from relevant industrial sectors as well as a representation of both genders. The company strives for a Board structure where both genders are represented in a well-balanced manner. The Shareholders' Nomination Board shall take the Diversity Principles into account when preparing its proposals to the Annual General Meeting and an account of the progress in achieving set objectives shall be disclosed annually. The objective of a well-balanced Board structure in terms of gender representation was achieved in 2018.

The review by the Board of Directors is found on p. 2 in the section Review by the Board of Directors and Financial statements.

Composition and operations of the Board committees

The Board of Directors has set up two permanent committees consisting of Board members and has confirmed the rules of procedure for these committees. Both committees report to the Board of Directors.

Audit Committee

The Audit Committee consists of a minimum of three Board members. The rules of procedure for and responsibilities of the Audit Committee have been established in the Charter of the Audit Committee approved by the Board of Directors. The task of the Audit Committee is, in greater detail than is possible for the Board as a whole, to deal with matters relating to financial reports and statements, the company's financial position, auditing work, fees paid to the auditors, internal controls and compliance matters, the scope of internal and external audits, the Group's tax position, the Group's financial policies and other procedures for managing Group risks. In addition, the Audit Committee prepares a recommendation to the Board of Directors concerning the election of an external auditor and auditing fees at a General Meeting. The Audit Committee met five times during 2018, and the average attendance rate was 100%.

Breakdown of individual attendance at Audit Committee meetings

5 meetings in 2018	Attendance
Olli Vaartimo	5/5
Roberto Gualdoni, until March 22, 2018	1/1
Kati ter Horst	5/5
Eeva Sipilä	5/5

Remuneration Committee

The Remuneration Committee consists of the Chairman of the Board and a minimum of two additional Board members. The rules of procedure for and responsibilities of the Remuneration Committee have been established in the Remuneration Committee Charter approved by the Board of Directors. The tasks of the Remuneration Committee are to discuss and prepare recommendations to the Board regarding new nominations in and compensation principles applicable to the Group's executive and senior management. The Board of Directors has authorized the Remuneration Committee to determine the terms of service and benefits enjoyed by the Outokumpu Leadership Team members other than the company's CEO. The Remuneration Committee met four times during 2018, and the average attendance rate was 100%.

Breakdown of individual attendance at Remuneration Committee meetings

4 meetings in 2018	Attendance
Kari Jordan, from March 22, 2018	3/3
Jorma Ollila, until March 22, 2018	1/1
Markus Akermann, until March 22, 2018	1/1
Heikki Malinen	4/4
Pierre Vareille, from March 22, 2018	3/3

Temporary Working groups

To handle specific tasks, the Board of Directors can also set up temporary working groups consisting of Board members. These working groups report to the Board of Directors. No temporary working groups were set up in 2018.

Shareholders' Nomination Board

Outokumpu's Annual General Meeting in 2012 resolved to establish a Shareholders' Nomination Board to annually prepare proposals to the Annual General Meeting for the election, composition, and compensation of the members of the Board of Directors.

In addition, the Annual General Meeting adopted a Charter of the Shareholders' Nomination Board, which regulates the nomination and composition, and defines the tasks and duties of the Nomination Board.

According to the Charter, the Nomination Board consists of the representatives of Outokumpu's four largest shareholders, registered in the Finnish book-entry securities system on October 1, who accept the assignment, and the Chairman of the Board acts as an expert member of the Nomination Board. Accordingly, to be eligible for membership in the Nomination Board, any nominee-registered shareholder needs to register the holding directly in the Finnish book-entry system for at least the said date.

Holdings by a shareholder who, under the Finnish Securities Markets Act has an obligation to disclose changes in shareholdings (flagging obligation) that are divided into several funds or registers will be added together when calculating the share of all the voting rights, provided that the shareholder presents a written request to that effect to the Chairman of the Company's Board of Directors no later than September 30 preceding the Annual General Meeting. If a shareholder does not wish to use their nomination right, the right transfers to the next largest shareholder who would otherwise not have a nomination right.

Shareholders with the right to appoint representatives to the Nomination Board in 2018 were Solidium Oy, Varma Mutual Pension Insurance Company, the Social Insurance Institution of Finland and Ilmarinen Mutual Pension Insurance Company. These shareholders nominated the following individuals as their representatives in the Nomination Board: Antti Mäkinen, Managing Director of Solidium Oy; Pekka Pajamo, CFO of Varma Mutual Pension Insurance Company; Jouko Pölönen, President and CEO of Ilmarinen Mutual Pension Insurance Company and Tuula Korhonen, Investment Manager of the Finnish Social Insurance Institution. Antti Mäkinen was elected Chairman of the Nomination Board, and Kari Jordan, Chairman of the Outokumpu Board of Directors, served as an expert member. The Nomination Board convened twice for a formal meeting, and the attendance rate was 100%. The Nomination Board has submitted its proposals regarding the Board composition and director compensation to Outokumpu's Board of Directors, and the Board has incorporated these proposals into the notice convening the Outokumpu 2019 Annual General Meeting of Shareholders.

Executive Management

Biographical details of the CEO and the Leadership Team on December 31, 2018

Roeland Baan
President and Chief Executive Officer

b. 1957, Dutch citizen
M.Sc. (Econ.)
President and Chief Executive Officer 2016–
Chairman of the Outokumpu Leadership Team 2016–
Responsibility: Group management; Business area Ferrochrome; legal, corporate affairs and compliance; safety, health and environment, and internal audit
Employed by Outokumpu Group since 2016

Work experience
President – business area Europe: Outokumpu Oyj 2016–2017
Executive Vice President and CEO: Aleris Europe and Asia 2013–2015
Executive Vice President and CEO, Global Rolled and Extruded Products: Aleris 2011–2013
Executive Vice President and CEO, Europe and Asia: Aleris 2008–2011

Current positions of trust
Board member 2016– and Vice Chairman 2017–: International Stainless Steel Forum
Supervisory Board member: SBM Offshore N.V. 2018–
Board member: World Steel Association 2016–
Board member 2015– and member of the Executive Committee 2018–: Eurofer

Christoph de la Camp
Chief Financial Officer, until March 2019

b. 1963, German citizen
MBA, B.Sc. (Eng.)
Chief Financial Officer and Deputy to the CEO 2016–
Member of the Outokumpu Leadership Team 2016–
Responsibility: Financial and business controlling and analysis, taxation, treasury, metal and risk management, global business services
Employed by Outokumpu Group since 2016

Work experience
Chief Financial Officer: INEOS Styrolution Holding GmbH 2011–2016
Chief Financial Officer: INEOS Nova LLC (INEOS Styrenics LLC) 2007–2011
Finance Director: NOVA Innovene International SA 2005–2007

Maciej Gwozdz
President – Europe

b. 1975, Polish citizen
Executive MBA, M.Sc. (Econ.)
President – Business area Europe 2018–
Member of the Outokumpu Leadership Team 2016–
Responsibility: Business area Europe, Global R&D and Operational Excellence
Employed by Outokumpu Group since 2016

Work experience
Executive Vice President – Operations, Europe: Outokumpu Oyj 2016–2017
Senior Vice President, Steering Europe: ZF Friedrichshafen AG SVP 2016
Vice President, Steering Europe: TRW Automotive/ZF Group 2013–2016
Operations Director Steering Europe: TRW Automotive 2011–2013

Kari Tuutti

President
– Long Products

b. 1970, Finnish citizen
M.Sc. (Econ.)
President – Business area Long Products 2014–
Member of the Outokumpu Leadership Team 2012–
Responsibility: Business area Long Products
Employed by Outokumpu Group since 2011

Work experience
Executive Vice President – Marketing, Communications and Sustainability: Outokumpu Oyj 2012–2014
Senior Vice President – Marketing, Communications and IR: Outokumpu Oyj 2011–2012
Director, Marketing Creation: Nokia 2009–2011

Positions of trust
Chairman of the Board: Fagersta Stainless AB 2014–2015, 2016–2017, 2018–
Board member: Fagersta Stainless AB 2015–2016, 2017–2018

Michael S. Williams

President – Americas

b. 1960, US citizen
B.Sc. (Information science)
President – Business area Americas 2015–
Member of the Outokumpu Leadership Team 2015–
Responsibility: Business area Americas
Employed by Outokumpu Group since 2015

Work experience
Senior Vice President, Strategic Planning & Business Development: United States Steel Corporation 2013–2015
Senior Vice President, North American Flat-Roll Operations: United States Steel Corporation 2009–2013
Vice President, Midwest Flat-Roll Operations: United States Steel Corporation 2008–2009

Positions of trust
Board Member: Specialty Steel Industry of North America 2015–
Board Member: Mobile Chamber of Commerce 2017

Liam Bates

Executive Vice President – Supply Chain Management, Europe

b. 1971, British citizen
B.Sc. hons Economics, MBA
Executive Vice President – Supply Chain Management, Business area Europe 2016–
Member of the Outokumpu Leadership Team 2015–
Responsibility: Supply chain management in Business area Europe
Employed by Outokumpu Group since 1993

Work experience
President – Quarto Plate: Outokumpu Oyj 2015–2016
Senior Vice President – Quarto Plate Europe: Outokumpu Stainless AB 2014–2015
Vice President – Mergers & Acquisitions: Outokumpu Oyj 2012–2014

Olli-Matti Saksi

Executive Vice President – Sales, Europe

b. 1967, Finnish citizen
M.Sc. (Eng.)
Chief Commercial Officer 2018–
Executive Vice President – Sales, Business area Europe 2016–
Member of the Outokumpu Leadership Team 2014–
Responsibility: Sales in business areas Europe and the Americas, commercial strategy and development
Employed by Outokumpu Group since 2013

Work experience
President – EMEA: Outokumpu 2014–2016
Senior Vice President – Head of Sales EMEA: Outokumpu 2013–2014
SVP and General Manager, Division Rolled Products: Aleris 2011–2013

Jan Hofmann

Executive Vice President – Business Transformation & IT

b. 1979, German citizen
M.Sc. (Econ.)
Executive Vice President – Business Transformation & IT 2016–
Member of the Outokumpu Leadership Team 2015–
Responsibility: Business transformation and IT
Employed by Outokumpu Group since 2012

Work experience
President – APAC: Outokumpu Oyj 2015–2016
Chief Financial Officer – APAC: Outokumpu Oyj 2015
Senior Vice President – Group Strategy and Business Excellence: Outokumpu Oyj 2012–2014

Reeta Kaukiainen

Executive Vice President – Communications and Investor Relations

b. 1964, Finnish citizen
M.Sc. (Soc.)
Executive Vice President – Communications and Investor Relations 2017–
Member of the Outokumpu Leadership Team 2017–
Responsibility: Communications, investor relations and marketing
Employed by Outokumpu Group since 2017

Work experience
Marketing & Communications Country Lead: Accenture Oy 2016–2017
Senior Vice President, Communications: Metsä Group 2012–2015
Vice President, Communications and Investor Relations: Tieto Corporation 2007–2012

Johann Steiner

Executive Vice President – Human Resources and Organization Development

b. 1966, German citizen
M.Sc. (Econ.)
Executive Vice President – Human Resources and Organization Development 2016–
Member of the Outokumpu Leadership Team 2013–
Responsibility: Human resources and organization development
Employed by Outokumpu Group since 2013

Work experience
Executive Vice President – Human Resources, IT, Health and Safety: Outokumpu 2013–2016
Executive Vice President – Human Resources and Health, Safety and Sustainability: Outokumpu Oyj 2013
Group HR Director: SAG Group GmbH 2012

Pia Aaltonen-Forsell

Chief Financial Officer, as of March 1, 2019

b. 1974, Finnish citizen
M.Soc.Sc. (Econ.)
Chief Financial Officer and Deputy to the CEO, 2019–
Member of the Outokumpu Leadership Team 2019–
Responsibility: Financial and business controlling and analysis, taxation, treasury, metal and risk management, global business services
Employed by Outokumpu Group since 2019

Work experience
Executive Vice President & CFO: Ahlström-Munksjö 2018
Chief Financial Officer: Munksjö 2015–2017
Chief Financial Officer: Vacon 2013–2015
Senior Vice President, Finance, IT and M&A, Building and Living: Stora Enso 2012–2013
Senior Vice President & Group Controller: Stora Enso 2009–2012
Various finance and managerial positions: Stora Enso 2000–2009

Positions of trust
Board member (2017–) and Audit Committee Chair (2018–): Uponor

Additional information on work experience and positions of trust to be found on the Company's website

Outokumpu shares and share-based rights (parent or subsidiaries) owned by the CEO and Leadership Team members and his/her controlled corporations on December 31, 2018

Member of the Leadership Team	Number of shares
Roeland Baan	997,246
Christoph de la Camp	223,440
Liam Bates	102,767
Maciej Gwozdz	145,539
Jan Hofmann	102,589
Reeta Kaukiainen	0
Olli-Matti Saksi	211,757
Johann Steiner	112,245
Kari Tuutti	130,365
Michael S. Williams	235,145
Total	2,261,093

More information on compensation can be found on p. 21 in this Governance section and in the separate Remuneration statement.

CEO and deputy to the CEO

The President and Chief Executive Officer (CEO) is responsible for the company's operational management, in which the objective is to secure significant and sustainable growth in the value of the company for its shareholders.

The CEO prepares decisions and other matters for the meetings of the Board of Directors, develops the Group's operations in line with the targets agreed with the Board of Directors, and ensures the proper implementation of Board decisions. The CEO is also responsible for ensuring that the existing legislation and applicable regulations are observed throughout the Group.

The CEO chairs the meetings of the Outokumpu Leadership Team. The deputy to the CEO is responsible for attending to the CEO's duties in the event that the CEO is prevented from doing so. Since 2011, the Group's Chief Financial Officer has acted as deputy to the CEO.

Leadership Team

The Outokumpu Leadership Team assists the CEO in the overall management of Outokumpu's business. The members of the team have extensive authorities in their individual areas of responsibility, and their duty is to develop the Group's operations in line with the targets set by the Board of Directors and the CEO. At the end of 2018, the members of the Outokumpu Leadership Team held the following positions:

- President and Chief Executive Officer (Group management, legal, corporate affairs and compliance, safety, health and environment, and internal audit)
- Executive Vice President – Chief Financial Officer (financial and business controlling and analysis, taxation, treasury, metal and risk management, global business services)
- President – Europe (business area Europe)
- President – Americas (business area Americas)
- President – Long Products (business area Long Products)
- Executive Vice President – Sales, Europe (sales in business area Europe)
- Executive Vice President – Supply Chain Management, Europe (supply chain management in business area Europe)
- Chief Commercial Officer (commercial strategy and development)
- Executive Vice President – Business Transformation and IT (business transformation and IT)
- Executive Vice President – Communications and Investor Relations (communications, investor relations and marketing)
- Executive Vice President – Human Resources and Organization Development (human resources and organization development)

The Leadership Team typically meets at least once a month.

Internal control procedures and the main features of risk management systems

Internal control and risk management

According to the Finnish Limited Liability Companies Act and the Finnish Corporate Governance Code, the Board of Directors is responsible for ensuring that the company's internal controls are appropriately organized. The purpose of this section is to provide shareholders and other parties with a description of how internal control and risk management of financial reporting is organized in Outokumpu. As a listed company, the Group has to comply with a variety of regulations. To ensure that all the stated requirements are met, Outokumpu has introduced principles for financial reporting and internal control and deployed them throughout the company's organization.

Control environment

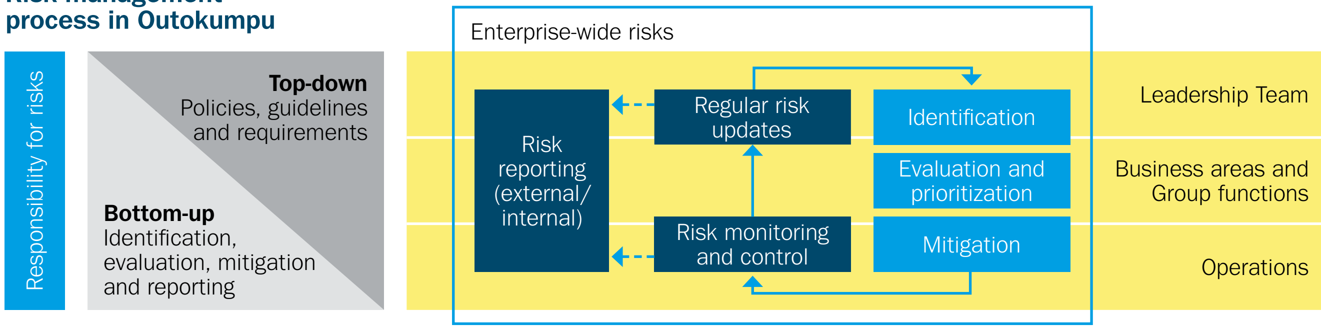
The foundation of Outokumpu's control environment is the business culture established within the Group and its associated methods of operation. The basis for the company's compliance and control routines is provided by Group policies and principles, which define the way in which Outokumpu's organization operates. These policies and principles include, for example, the Group's Corporate Responsibility Policy and Ethical Principles. The Outokumpu Code of Conduct describes the Group's basic values and offers standardized, practical guidelines for managers and employees to follow. Outokumpu's compliance program is described on Outokumpu's website.

The Outokumpu performance management process is a key management activity and an important factor in enabling an efficient control environment. In all sections of the Group's operations, planning activities and the setting of both operational and financial targets are executed in accordance with Outokumpu's overall business targets. Management follow-up of related achievements is carried out through regular management reporting routines and in performance review meetings.

Risk management

Outokumpu operates in accordance with the risk management policy approved by the company's Board of Directors. The policy defines the objectives, approaches, and areas of responsibility in the Group's risk management activities. In addition to supporting Outokumpu's strategy, the aim of risk management is identifying, evaluating, and mitigating risks from the perspective of shareholders, customers, suppliers, personnel, creditors, and other stakeholders.

Risk management process in Outokumpu



Risk management organization

The Board of Directors carries ultimate responsibility for risk management within Outokumpu. The CEO and members of the Leadership Team are responsible for defining and implementing risk management procedures, and for ensuring that risks are both properly addressed and taken into account in strategic and business planning.

Outokumpu's Risk Management Steering Group, led by the CFO, is the governing body for risk management in Outokumpu. The Business areas and Group functions are responsible for managing risks connected with their own operations. The Risk Management Steering Group, the Board Audit Committee and the Board of Directors review both key risks and actions taken to manage these risks on a regular basis. The Treasury and Risk Management function supports the implementation of Outokumpu's risk management policy, facilitates and coordinates risk management activities, and prepares quarterly risk reports for management, the Board Audit Committee and Auditors.

Risk management process

Outokumpu has defined risk as anything that could have an adverse impact on achieving the Group's objectives. Risks can, therefore, be threats, uncertainties, or lost opportunities connected with current or future operations. Outokumpu's appetite for risk and risk tolerance are defined regularly in relation to earnings, cash flows and capital structure. The risk management process is divided into four stages: risk identification, evaluation/prioritization, mitigation and reporting. The Risk management process in Outokumpu is two-fold: a top-down approach to manage the Group's key risks and a bottom-up approach focusing on the operational level.

Within Outokumpu, the risk management process is monitored and controlled at different organizational levels. Regular risk updates are carried out to capture relevant information. The monitoring of results and risk updates also ensure that accurate information is provided both internally – to business area management teams and members of the Leadership Team – and externally to relevant parties such as shareholders and other stakeholders. Risk mitigation actions are defined based on the information captured and the impact/likelihood assessments.

Focus areas

The focus in risk management in 2018 was on implementing the actions for the mitigation of identified risks, supporting improvements in operational reliability in Outokumpu e.g. by modelling business interruption risks and on improving the efficiency of the risk management process. The efforts also included actions to support the reduction of Group's costs, improvements in metal and commodity risk management processes as well as improving the controls of Outokumpu's operations as part of a large business process transformation program. Outokumpu continued its systematic fire safety and loss prevention audit program, which focused also in operational reliability to prevent machinery breakdown related business interruptions. In total, some twenty fire safety loss prevention audits were carried out in 2018 using in-house expertise in cooperation with external advisors.

The main realized risks in 2018 were related to increased costs in certain supply materials, inadequate profitability of business area Americas, market volatility as a result of trade political actions related to Section 232 and delayed implementation of the business transformation program.

Internal controls for financial reporting

Outokumpu's control process for financial reporting is based on Group policies, principles, and instructions relating to financial reporting as well as on the responsibility and authorization structure within the Group. Policies relating to financial reporting are usually owned and approved by the CEO and the CFO. Financial reporting in Outokumpu is carried out in a harmonized way using a common chart of accounts.

Financial reporting is prepared in accordance with International Financial Reporting Standards (IFRS). The Outokumpu Accounting Principles (OAP) are Outokumpu's application guidance on IFRS. The aim of the OAP and other financial reporting policies and instructions included in the Outokumpu Controller's Manual is to ensure that uniform financial processes and reporting practices are used throughout the Group. Policies and instructions for financial reporting are reviewed on a regular basis and revised when necessary. During the 2018 financial year, Outokumpu has implemented the new IFRS 15 and IFRS 9 standards, as well as changes to the IFRS 2 standard, and continued to prepare for IFRS 16 implementation at the beginning of 2019. In 2017, Outokumpu carried out an evaluation and preparation work for these IFRS changes. Outokumpu will implement the IFRS 16 standard as of the beginning of 2019 and continue to follow other changes in IFRS standards closely. The impacts of the IFRS 16 implementation will be disclosed during the first quarter of 2019.

Financial statements by the parent company and stand-alone Finnish subsidiaries are prepared in accordance with generally accepted accounting principles in Finland, while foreign subsidiaries follow local accounting principles. Outokumpu also complies with the regulations regarding the financial reporting published by the Financial Supervisory Authority (FINFSA) Nasdaq Helsinki and ESMA.

Identification and assessment of risks related to financial reporting

Risks related to the Group's financial reporting are managed according to Outokumpu's risk management process and classified as operational risks which can arise as consequences of inadequate or failed internal processes, employee actions, systems, or other events such as misconduct or crime. The risks related to financial reporting are identified and typically assessed in risk workshops, which were recently arranged in connection with Outokumpu's ongoing project to further improve its governance, risk and compliance processes. All major risks are reported to and evaluated by the Audit Committee on a regular basis

Control activities

In addition to the Board of Directors and Audit Committee, operational management teams in Outokumpu are responsible for ensuring that internal controls relating to financial reporting are in place in Outokumpu units. The aim of control activities is to discover, prevent, and correct potential errors and deviations in financial reporting. Control activities also aim to ensure that authorization structures are designed and implemented in such a way that conflicting divisions of work would not exist (i.e. one person performing an activity and also being responsible for controlling that activity). Control activities consist of different kinds of measures and include reviews of financial reports by Group management and in business area management teams, the reconciliation of accounts, analyses of the logic behind reported figures, forecasts compared to actual reported figures, and analyses of the Group's financial reporting processes, among others. A key component is the monitoring of monthly performance against financial and operational targets. These control activities take place at different levels of the organization. The most important accounting items in Outokumpu are the valuation and reporting of inventories and other items of working capital as well as other items calling for management judgement. Moreover, in difficult market situations, asset impairment calculations and related sensitivity analyses are equally important. These items are carefully monitored and controlled, both within business areas and at the Group level, on a regular basis.

Information technology and solutions play an important role in ensuring appropriate structures for the Group's internal controls. The Group's consolidation system provides timely and uniform financial and management reporting from the Group entities and an effective closing process within the whole Group. Outokumpu is also running a business transformation program to develop and improve business capabilities and to renew parts of its fragmented system environment. This will be achieved mainly by harmonizing and improving the Group's core business processes and implementing supporting IT systems (e.g. ERP). Outokumpu has also recently centralized the majority of its accounting and financial reporting in its global business service centers. As part of this development, internal controls based on systems and processes are being further developed and improvements to the control environment are in the process of being implemented. The quality and consistency of the controls around the financial closing process are addressed separately in a project started in 2018. First rollouts of the new ERP will take place during 2019.

Information and communication

Group-wide policies and principles are available to all Outokumpu employees. Instructions relating to financial reporting are communicated to all the parties involved. The main communication channels employed are Outokumpu's intranet and other easily accessible databases. Face-to-face controller meetings are also organized. Senior controller meetings are organized regularly to share information and discuss issues of topical interest to the Group.

Outokumpu has established different networks and communities in which financial reporting and internal control issues and related instructions are discussed and reviewed. These networks usually consist of personnel from the business areas and Group functions. The aim of these networks, communities and common instructions is to ensure that common financial processes and reporting practices are followed throughout the Group. The networks and communities play an important role in establishing the effectiveness of internal controls relating to financial reporting.

Follow-up

Both management in all Outokumpu companies and personnel in the accounting and controlling functions are responsible for the follow-up and monitoring of internal controls connected with financial reporting. Through its activities, the Internal Audit function monitors that an appropriate control environment exists across the Group. Risk management and external auditors are also engaged in the follow-up of control activities. The findings of the follow-up procedures are reported to the Audit Committee and the Outokumpu Leadership Team on a regular basis.

Internal audit

Internal Audit is an independent and objective assurance, control, and consulting function designated to add value, to improve operations, and to monitor and support the organization in the achievement of its objectives. Through a systematic, disciplined approach, Internal Audit determines whether governance processes, the internal control system, and the risk management system, as designed and represented by the Board of Directors and the Leadership Team, are effective and efficient. As a basic principle, all large units are visited at least once per year, all medium size units once every 3 years and all small units once every 5 years.

With a strong commitment to integrity and accountability, Internal Audit provides value to governing bodies and senior management as an objective and direct source of correct, reliable information, and independent advice. Internal Audit also monitors adherence to Group principles, policies, and instructions, and investigates fraudulent and noncompliant behaviors and activities. Internal Audit performs its function on behalf of and directly reports to the Audit Committee and to the Leadership Team but is functionally assigned to the CEO. The annual internal audit plan is approved by the Audit Committee.

In 2018, Internal Audit performed 12 scheduled operational audits including the Outokumpu Global Business Services Europe in Lithuania, the worldwide IT hardware refresh program, the Ferrochrome business area in Finland, and audits of the Outokumpu subsidiaries in China and South America. The results of all the audits carried out including their risk appraisals are reported and distributed in writing. In view of the Outokumpu Code of Conduct and the Corporate Responsibility Policy a previously identified potential risk in the context of sales is deemed to be resolved and controlled adequately. The 2019 internal audit plan covers for instance the following topics: the Outokumpu Global Business Services Americas in Mexico, the procurement of raw materials, the Outokumpu subsidiaries in Singapore and Australia, the controls in procurement and payroll processing in Sweden, the Long Products operations in the United Kingdom and Sweden and, and the Coil Service Centers in Germany and France.

The confidential whistleblowing hotline ("Helpline") available on the company intranet and via the Internet is set up to anonymously inform Internal Audit and the Audit Committee of suspicions of financial misconduct or unethical behavior. Fourteen unscheduled investigations of potential misconduct were performed in 2018, thereof one case reported via the Helpline and thirteen recognized through other channels. Internal Audit observed a small number of cases involving inappropriate behavior, but none of these cases was financially material. Various attempts of fraud through faked e-mails received from external sources resulted in no harm to the company.

Compliance

Outokumpu is strongly committed to the highest ethical standards and observes the laws and other regulations of the countries in which it operates, and it complies with agreements and commitments it has made. Outokumpu's Code of Conduct sets out these ethical standards and provides guidelines for a common way of working with the aim of ensuring that all Outokumpu employees live up to Outokumpu's ethical standards. Outokumpu's Legal, Corporate Affairs and Compliance function is responsible for managing and continuously developing Outokumpu's compliance program. Outokumpu's compliance program is described in more detail as part of Outokumpu & society at www.outokumpu.com. The Legal, Corporate Affairs, and Compliance function reports to the CEO and also reports to the Outokumpu Leadership Team and directly to the Board Audit Committee on compliance-related matters. Compliance-related matters are also regularly handled in the Compliance Steering Group (former Compliance Committee), consisting of the CEO, CFO, Head of HR and Organization Development, Corporate General Counsel and Group Compliance Officer. The Compliance Steering Group met four times in 2018.

Insider management

The company's Insider Rules and the insider laws and regulations, including the EU Market Abuse Regulation, Finnish Securities Act and the Guidelines for Insiders issued by Nasdaq Helsinki, constitute the primary legal framework for the insider issues relevant to the Group and its employees.

Furthermore, the Regulation on EU Energy Market Integrity and Transparency sets forth similar requirements as the Market Abuse Regulation on dealing with inside information relating to wholesale energy products. As the company is a participant in the wholesale energy market, the company's Insider Rules apply to such energy-related inside information, as applicable.

The persons discharging managerial responsibilities in Outokumpu, in the meaning of the Market Abuse Regulation, include members of the company's Board of Directors, the CEO and other members of the Outokumpu Leadership Team ("the Management"). The Management together with the persons or companies closely associated with a member of the Management constitutes the so-called "Notifying Persons". Outokumpu maintains a non-public list of the Notifying Persons.

Outokumpu applies a restricted period of thirty (30) calendar days before the announcement, as well the day of the announcement, of an interim financial report, interim financial statement and a year-end report (the "Closed Window"). During this period, the Management, the persons subject to trading restrictions and any legally incompetent persons under their custody shall not conduct any transactions, on his/her own account or for the account of a third party, directly or indirectly, relating to the company's shares or debt instruments, or derivatives or other financial instruments linked thereto. Separate, non-public, project-specific insider registers are maintained for insider projects. Persons defined as project-specific insiders are those who, in the course of their duties in connection with a project, receive inside information concerning the Group which, if or when realized, is likely to have a significant effect on the value of the company's publicly traded securities.

The company has the obligation to inform the public as soon as possible of inside information that directly concerns the company, unless the company has decided that the publication of the inside information shall be delayed, in accordance with the applicable insider regulations. The publication of inside information shall be made in accordance with the company's Disclosure Policy.

Outokumpu's Head of Legal, Corporate Affairs and Compliance function is responsible for the coordination and supervision of insider topics.

Auditors

Under its Articles of Association, the company shall have a minimum of one and a maximum of two auditors. The auditors must be Authorized Public Accountants (KHT) or accounting firms whose mainly responsible auditors are Authorized Public Accountants (KHT). The auditors shall be independent of the company.

The Board of Directors has the duty to make a proposal to the Annual General Meeting as to the election and fees of the auditor. The Annual General Meeting elects the auditors for a term of office ending at the close of the next Annual General Meeting. A proposal to the Annual General Meeting on the election of auditors that has been made known to the Board of Directors prior to the Annual General Meeting will be made public if it is supported by shareholders holding a minimum of 10% of all the company's shares and voting rights and the person or company proposed has consented to such nomination.

The company's auditors submit the statutory auditor's report to the company's shareholders in connection with the company's financial statements. The auditors also report their findings to the Board Audit Committee on a regular basis and at least once a year to the full Board of Directors. The parent company, Outokumpu Oyj, is audited by PricewaterhouseCoopers Oy, and the responsible auditor is Janne Rajalahti, Authorized Public Accountant. PricewaterhouseCoopers Oy is also responsible for overseeing and coordinating the auditing of all Group companies. PricewaterhouseCoopers Oy was elected as the Group Auditor in the Annual General Meeting held on March 22, 2018 and has been the Auditor of Outokumpu for two consecutive terms. Both Outokumpu and PricewaterhouseCoopers Oy emphasize the requirement that the auditor be independent of the company being audited. The PwC Network Independence policy is based on the International Ethics Standards Board for Accountants' (IESBA) Code of Ethics for Professional Accountants.

Outokumpu's Board Audit Committee continuously monitored non-audit services purchased by the Group from PricewaterhouseCoopers Oy at a global level. In 2018, auditors were paid fees totaling EUR 2.3 million, of which non-auditing services accounted for EUR 0.1 million. ■

Key risks

Strategic and business risks

Risks related to Outokumpu's business priorities and targets

Outokumpu is progressing to become the best value creator in stainless steel by 2020 through customer orientation and efficiency. The company has made significant improvements since the launch of the vision and is solidly on track to achieve its financial targets for 2020, which are:

- Adjusted EBITDA of EUR 750 million
- ROCE of 12%
- Gearing below 35%.

Outokumpu's current expectations regarding the impact and timing of the abovementioned targets are based on a number of assumptions and expectations that are subject to various risks and uncertainties.

Stainless steel industry and markets

Outokumpu believes that the long-term prospects for stainless steel demand remain firmly positive. Global mega-trends including population growth, urbanization, increasing mobility and climate change will drive the need for sustainable materials. There are risks that such mega-trends will realize more slowly than expected and that the occurrence of natural catastrophes or other adverse changes in the global political and economic environment can impact the stainless steel industry, thereby reducing growth prospects in Outokumpu's core markets. Nonetheless, demand growth in Outokumpu's main regions and customer segments is expected to be robust and will continue to support long-term growth.

The risk of global overcapacity in stainless steel has the potential to disrupt industry economics. The commissioning of further export-driven capacity in Asia, particularly in China and Indonesia, has created a regional demand imbalance. This results in a risk of adverse trade flows to Outokumpu's core markets, which when further coupled with trade protectionist measures, can distort the stainless steel market. Given the global nature of its operations Outokumpu has significant exposure to the effects of trade actions and barriers which create a risk to market access, continued growth and stable profitability.

This risk was realized on March 8, 2018 with the implementation by the United States of America of additional tariffs on imports of aluminium and steel under Section 232 of the 1962 Trade Expansion Act. The resulting reduction in imports to the United States, and diversion of trade flows towards the European market, has disrupted the balance in both markets. The European Commission's imposition of provisional safeguard measures on steel imports on 19 July, 2018 has only been partially successful in mitigating the risks. Definitive measures consisting of a tariff-rate quota system were announced in January 2019 which should support the restoration of traditional market supply levels and reduce the profitability risk. Outokumpu also retains concerns about the possible impacts were China to be granted Market Economy Status which would make it more difficult for other countries to impose trade defense measures against it.

With increasing global demand for stainless steel, Outokumpu expects global demand for ferrochrome, a key ingredient in stainless steel production, to increase correspondingly. From its cost competitive chromite mine in Kemi and ferrochrome production facilities in Tornio, Outokumpu supplies a significant amount of ferrochrome to its own stainless steel operations. As a result, Outokumpu is well placed to maintain high utilization rates and support the group's growth and profitability. Risks resulting from its production of ferrochrome are typical operational risks and uncertainties that may cause significant financial impacts due to the costs for power and coke, production downtimes and business interruptions. Risks associated with its external sales of chromite and ferrochrome relate to those from foreign exchange rates, particularly the US dollar.

Raw materials, supplies, and energy

Outokumpu is exposed to price changes of alloy metals in multiple ways. The underlying exposure consists of price fixed purchase contracts; price fixed sales contracts and physical stocks of priced inventories of nickel, molybdenum, carbon, steel and stainless steel scrap as well as various grades and forms of stainless steel. Price changes of alloy metals lead to impacts on earnings, cash flows, and balance sheet structure. Pricing systems are applied in many markets and may cause volatility in demand of stainless steel. This typically leads to reduced demand when metal prices decline, which may also lead to an increase in inventories causing an even higher adverse impact on earnings. Another possible adverse consequence of volatility in demand is the negative impact on capacity utilization ratios. In addition, the monetary value of discounts in purchasing (e.g. in connection with purchases of stainless steel scrap) depends on the level of alloy metal prices. Therefore, the price levels of alloy metals are likely to have long-term impacts on profitability.

Stainless steel production requires substantial amounts of certain raw materials, primarily nickel, recycled stainless steel, ferrochrome, molybdenum, recycled carbon steel as well as energy and supplies. Most of these are subject to significant price volatility due to fluctuating customer demand, speculation, and scarcity, which may, from time to time, be compounded by decreases in extraction and production due to natural disasters, political or financial instability, or unrest.

Increases in the prices of certain raw materials, such as nickel, ferrochrome, molybdenum, and iron, are generally passed on to customers through alloy surcharges. Outokumpu has hedged part of its exposure to changing nickel prices and, on a case-by-case basis, molybdenum prices. Although the alloy surcharge

Operational risks

mechanism is intended to allow stainless steel producers to pass on the costs of raw materials to customers, it does not eliminate Outokumpu's exposure to raw material price volatility. Therefore, Outokumpu may not be able to pass on all of its raw materials costs to customers, which can have negative impacts on Outokumpu's profitability. Financial risks related to raw materials and energy prices are described in note 19 to the consolidated financial statements.

In addition, the production of stainless steel products and ferrochrome requires significant amounts of energy, particularly electricity and, to a lesser extent, propane, natural gas, and light fuel oil. Energy costs represent a substantial portion of Outokumpu's total cost of sales and energy prices have historically varied, and may continue to vary significantly, as a result of political and economic factors beyond Outokumpu's control.

Legal risks

In connection with its business activities Outokumpu may become subject to various legal claims and litigations. In addition to legal claims resulting from Outokumpu's daily business, Outokumpu is also exposed to typical litigation risks in connection with mergers and acquisitions. For further information on existing major litigations, please see note 30 to the financial statements.

Outokumpu's products are used in a wide range of applications. For instance, certain products are used in safety-critical applications in the oil, gas, chemical, and petrochemical industries. In addition, a part of Outokumpu's products are used in the automotive and aviation industries, where key customers require extensive third-party certification regarding the products purchased. Therefore, Outokumpu is exposed to product quality related liability claims. Such claims may result in severe damages, impacting Outokumpu's profitability. Outokumpu manages and mitigates its legal risks by running internal processes as well as governance and compliance programs and policies, some of which extending beyond the local minimum legal requirements.

Risks related to environmental regulation

The European Union's unilateral Emission Trading System (ETS) forms a risk for Outokumpu, indirectly in electricity prices and directly in emission allowance costs. Outokumpu's European units cannot transfer these costs to product prices due to global competition.

However, Outokumpu has secured part of its future electricity supply – and the associated prices – through long-term contracts. Furthermore, Outokumpu is participating in nuclear power projects in Finland.

Outokumpu operates in accordance with the prevailing laws and regulations, including environmental, chemical, and product safety legislation. EU regulatory activity in this area has developed rapidly. Some non-fact based changes in this legislation, as proposed in the EU, could have long-term impacts on Outokumpu's operations. Strict compliance with all of the relevant environmental regulations causes increased costs and impacts Outokumpu's competitive position. Outokumpu mitigates these impacts through the systematic identification and management of environmental, chemical, and product safety risks, through emission trading, and by maintaining a proactive dialog with stakeholders involved in the framing of environmental legislation.

Major disasters and business interruptions

Outokumpu's production processes are dependent on the continuous operation of critical production equipment, including smelters, furnaces, continuous casters, rolling mills, and electrical equipment, e.g. electric motors and transformers, and production downtime may occur as a result of unexpected mechanical failures. Operations may also be disrupted for a variety of other reasons, including fire, explosion, flooding, release of substances harmful to the environment or health, failures in information technology, strikes, or transportation disruptions.

Furthermore, accidents may lead to production downtimes that affect specific items of machinery or production plants, or possibly result in plant closures, including closure for the duration of any ongoing investigation. This type of disruption may cause significant business interruptions and have a negative impact on Outokumpu's profitability. Primarily because of the high temperatures required for production, fire is a significant risk for Outokumpu. Most of the production facilities are located in extensive industrial zones and a fire could lead to major damage to property and interruptions in production. Extreme weather conditions and natural disasters may also affect Outokumpu's operations, especially as a result of damage to property or the loss of production through extremely low temperatures, flooding, hurricane, tornado, or drought. Outokumpu monitors such risks by continuously evaluating its production facilities and production processes from a risk management perspective and also by arranging regular fire-safety and loss prevention surveys. Insurance covers a large proportion of the associated risks.

Environmental accidents

The main environmental accident risks at production sites relate to use of acids, hazardous waste, gases, landfill activities, gradually developing pollution and long-term contamination of soil or groundwater or effects of hazardous pollutants. Outokumpu also has environmental liabilities and risks at closed mines and sites. Certified environmental management systems are in place at all production sites to manage the environmental accident risks in a systematic way, including external environmental audits. In addition, Outokumpu has an internal environmental auditing program to monitor and ensure local legal compliance and the level of environmental risk management.

Project risks

Outokumpu has (through a holding company Voimaosakeyhtiö SF) committed to a 14% stake in Fennovoima Oy, which has a parliamentary decision-in-principle to construct a new nuclear power plant in Pyhäjoki, Finland. The company has selected Rosatom Overseas CJSC as the plant supplier. Fennovoima Oy submitted a construction license application to the government in June 2015, however it is not likely that the construction license will be granted in 2019 as earlier expected. The construction of the plant will begin after the construction license has been obtained and the infrastructure work has sufficiently progressed, original schedule for construction period being 2018–2024. The project involves a number of potential risks for Outokumpu, including project completion risks such as new delays, cancellations, non-completion, technical risks, possible tightening nuclear safety regulations in the future, and financial risks such as budget overruns, non-competitive cost of power, financing risks, cost and availability of the financing, fair value of shareholding, political and public acceptance risks, and environmental risks. When operational, shareholders will be liable for their pro rata share of the company's fixed energy procurement costs and the right to procure their pro rata share of the energy produced by the company at cost (the "Mankala principle"). Considering the risks involved in the project, there can be no assurance that one or more of the project risks will not occur or that Fennovoima Oy will have adequate financing for the project in the event of any future defaults by the direct or indirect shareholders in Fennovoima Oy.

Outokumpu also faces project risks related to other ongoing investments in the Kemi mine expansion and the digital transformation project Chorus, which focuses on harmonizing business processes, including the ERP renewal. These and other ongoing investments and projects include similar project risks which Outokumpu manages through its project management process.

IT dependency and cyber security risks

Outokumpu relies on various applications and other information technologies that are used globally in all business areas and group functions. Many of these applications and underlying infrastructure are outdated, making them more vulnerable to failure, and could result in business interruptions, for example, in the production and supply chain processes. In addition, the enterprise architecture is complex, and the large number of different and unharmonized information systems increases the risk of loss of critical applications. Furthermore, cyber threats and other security threats could exploit possible weaknesses in Outokumpu's security controls, which in turn, could cause leaks of sensitive information, theft of intellectual property, production outages, or damage to Outokumpu's reputation. Outokumpu is taking necessary steps to ensure that the IT systems and solutions are reliable, and also aims to ensure secure information management at all company locations to avoid data loss or situations in which business-critical information becomes unavailable. Moreover, Outokumpu has improved its cyber readiness in order to prevent possible cyber-attacks, by running and initiating various security development activities based on the detailed cyber threat and risk exposure analyses. Outokumpu has also taken actions to mitigate its earlier dependence on certain people in application support and has improved IT incident management with a special focus on major incidents. Outokumpu continued the business transformation program to harmonize its enterprise level data, processes, and IT systems as well as to develop or enhance business capabilities in 2016–2020.

Safety and personnel

Outokumpu has set its safety vision and principles on high level. Safety takes priority over all other activities. All Outokumpu employees are responsible for their own safety, but also for the safety of their colleagues. Outokumpu strongly believes that all injuries can be prevented and the target is zero accidents. Furthermore, as a part of its vision for 2020, Outokumpu has introduced must-win battles to reach its short-term targets, safety being one of them, aiming at fully implemented, a standardized and disciplined approach to safety that correlates with improved quality and operational efficiency, leading to a top decile position in the industry.

Despite the ongoing efforts and actions, serious incident or fatal accident may occur during working time. Outokumpu considers the risk of fatalities and serious injuries having a significant impact on its safety culture and its reputation as an employer. Moreover, Outokumpu believes that great focus and the systematic development of safety performance and safety culture will have a positive impact on operational performance and discipline. Strengthening the safety competence and awareness of our leaders, safety professionals and employees was one of the focus areas in 2018 along with driving for full implementation of our company safety standards. Outokumpu has systematic and continuous monitoring and reporting practices in place, including reactive and proactive measures of safety performance on monthly level and full reviews on a quarterly basis.

Outokumpu's ability to continue and grow its business as well as provide high-quality products depends, to a large extent, on the contributions made by its key personnel. The loss of key individuals or other employees who have specific knowledge of, or relationships with, trade customers in markets in which Outokumpu operates could have significant impacts on Outokumpu's business. If Outokumpu is unable to attract, retain, motivate, train, and develop qualified employees at all levels, it could have a material adverse effect on Outokumpu's business, financial condition and results of operations. There can be no assurance that Outokumpu will be able to retain such senior managers and other key employees. However, Outokumpu has implemented HR processes to attract and retain key employees in the Group. Implementation of leadership development programs and succession planning for key positions in the Group are also undertaken as part of the talent review process to maintain development opportunities and to ensure an adequate pipeline of talent to mitigate the potential loss of senior leaders.

Compliance, crime, and reputational harm

Outokumpu operates globally and its activities span multiple jurisdictions and complex regulatory frameworks at a time of increased enforcement activity and enforcement initiatives globally in areas such as competition law, anti-corruption and bribery, anti-money laundering, data protection (including EU GDPR compliance) and trade restrictions, including sanctions. Outokumpu's governance and compliance processes may not prevent breaches of law or governance standards. Outokumpu also faces the risk of fraud by its employees, losses of critical research and development data, misconduct as well as violations by its sales intermediaries or at its joint ventures and other companies in which it has an interest, particularly if it only has a minority stake and does not control accounting or other rules and protocols for the conduct of business.

Outokumpu's failure to comply with the applicable laws and other standards could subject it to fines, loss of operating licenses, loss of business, loss of management time, company focus, breach of its financing agreements, and reputational harm. Effective internal controls are necessary for Outokumpu to provide reliable financial reports and effectively prevent and detect fraud. If Outokumpu cannot provide reliable financial reports or prevent fraud, this could have a material adverse effect on its financial results. Additionally, at the operational level, individual employees may not comply with Outokumpu's statements, policies, instructions and guidelines and, as a result, may incur compliance costs (including fines) and cause reputational damage. Inadequate internal controls could also cause investors and other third parties to lose confidence in Outokumpu's reported financial information and risk management processes, which could have a material adverse effect on Outokumpu's business, financial condition and results of operations. Outokumpu's compliance program aims to prevent and mitigate compliance risks from occurring and is further developed continuously. The compliance risk assessment forms the basis for the compliance action plan for the forthcoming year.

Financial risks

Key current financial risks for Outokumpu are:

- Changes in the prices of nickel, iron, molybdenum, electrical power, and fuels;
- Currency developments affecting the euro, the US dollar, the Swedish krona, and the British pound;
- Interest rate changes connected with the euro, the Swedish krona and the US dollar;
- Changes in levels of credit margins applied for Outokumpu;
- Risk related to prices of equities and fixed-income securities invested under defined benefit pension plans;
- Counterparty risk related to customers and other business partners, including financial institutions;
- Risks related to liquidity and refinancing;
- Breach of financial covenants or other terms and conditions leading to default;
- Changes in fair value of equity investments in energy production.

The financial risks listed above and related processes for risk management are described in further detail in note 19 to the consolidated financial statements.

Corporate responsibility risks and stakeholders' materiality analysis

Outokumpu has also identified its exposures in sustainability and corporate responsibility. Revised Corporate Responsibility Policy describes the main principles of the sustainable development of economic, environmental, and social aspects in the Group. Corporate Responsibility risks are mainly identified through a new materiality analysis based on an extensive data tool study of the emerging trends in the steel industry and compared these trends with the material topics of Outokumpu's main peers, customers and suppliers. The company has regular dialog with stakeholders (customers, suppliers, investors, employees, NGOs, authorities, communities, associations) and also assesses the corporate responsibility risks through Outokumpu's risk management process. In the materiality analysis, the five focus sustainability issues for business were Occupational health, safety and well-being; Responsible business practices; Energy management; Material efficiency; and Customer experience. Climate change is included by the direct impact by the energy management and material efficiency aspects.

Additional information on the materiality analysis is available in Outokumpu's sustainability report in the section "Focus on material sustainability topics". These main topics from the materiality analysis are also partially considered as Outokumpu's key risks, which are explained above within several risk scenarios, including: risks related to environmental regulation; environmental accident risks; raw materials, supplies and electricity; compliance; and reputational harm.

Safety is one of the cornerstones in Outokumpu's strategy and ensuring the safety and good health of our employees is the first priority. In addition, Outokumpu takes all labor practice violations and related threats as well as its full transparency and compliance in Environment, Social and Governance (ESG) topics seriously. In order to also improve the identification of sustainability risks, the Global Reporting Initiative standard has been taken into use for the responsibility reporting.

Remuneration

Board of Directors

As confirmed at Outokumpu's Annual General Meeting 2018, the annual remuneration for the members of the Board is EUR 160,000 for the Chairman of the Outokumpu's Board of Directors, EUR 90,000 for the Vice Chairman and EUR 70,000 for the other members of the Board. The Annual General Meeting 2018 decided that 40% of the annual remuneration will be paid in the Company's shares to be purchased from the market at a price formed in public trading and in accordance with the applicable insider regulations.

The annual fee is paid once a year and members of the Board are not entitled to any other share-based rewards. In addition to their annual remuneration, all the members of the Board of Directors are paid a meeting fee of EUR 600 per meeting for each member of the Board of Directors and EUR 1,200 per meeting when travelling to a meeting held outside the Board member's country of residence.

CEO

Compensation and benefits

The President and CEO's remuneration consists of base salary, taxable benefits (housing benefit, car benefit, phone benefit, pension, medical and life insurance), share-based incentive and annual short-term incentive determined by the Board based on the company's key targets.

The annual short-term incentive payable based on the targets set for 2018 could not exceed 95% of the CEO's annual base salary, and it was based on the achievement of EBITDA, occupational safety, delivery reliability and individual targets.

Pension benefits and terms of service

The CEO has the right to retire at the age of 63. He participates in the Finnish TyEL pension system in addition to which he is included in a defined contribution pension plan with an annual insurance premium of 25% of his annual earnings, excluding share rewards.

The service contract of the CEO is valid until further notice. The CEO is not entitled to a specific severance payment, and the notice period is three months for both parties.

Other Leadership Team members

Compensation and benefits

The performance-based short-term incentive payable to the members of the Leadership Team based on the targets set for 2018 was based on the achievement of EBITDA, occupational safety, delivery reliability and individual objectives. The maximum payment varies between 50% and 100% of the annual base salary in line with local market practices for similar positions.

The Leadership Team members are also included in the share-based incentive plans for Outokumpu management. No separate remuneration is paid to the Group CEO or members of the Leadership Team for membership of the Group's internal governing bodies.

Pension benefits and terms of service

For the deputy to the CEO (i.e. CFO), the service contract can be terminated by both parties with six months' notice. To the extent that the service contract would be terminated by the company, other than for a cause without notice or with an ordinary notice due to misconduct, the CFO would receive additional compensation equivalent to 12 months' salary. For the other members of the Leadership Team, the notice period is six months for the employee and either twelve months for the company, without additional severance compensation and with the possibility to stop salary payment during the notice period if the executive finds other employment before the end of the notice period, or 18 months' base salary at the maximum, including salary for the notice period and severance compensation.

The retirement age for the members of the Leadership Team is 63 or 65 years, depending on the country of employment and date of appointment and they participate in the local retirement programs applicable to employees in the country where their employing company is located.

The members employed in Germany are entitled to pension benefits in accordance with the rules of the German Essener Verband. The members employed in Finland participate in the Finnish TyEL pension system, in addition to which they are entitled to a defined contribution pension plan for which the maximum premium is 25% of an individual's annual earnings, excluding share rewards. The pension benefits of the other Leadership Team members vary in line with the local market practices.

Share-based incentive programs

Outokumpu's Board of Directors has confirmed that share-based incentive programs are part of the incentive and commitment scheme for the company's key personnel. The objectives are to reward key personnel for good performance and thereby support Outokumpu's strategy, and to direct management attention towards increasing Outokumpu's profitability and shareholder value. The programs offer the possibility of receiving Outokumpu shares as an incentive, provided that the criteria set by the Board for each earnings period are fulfilled.

Other terms

According to the share ownership plan of the Outokumpu Group, the members of the Leadership Team are obliged to own Outokumpu shares received under share-based incentive programs to the value of their annual gross base salary. Half (i.e. 50%) of the net shares received from the share-based programs must be used to fulfil the above ownership requirement.

Guarantees and business relationships

Outokumpu did not provide any guarantees or other similar commitments on behalf of members of its Board of Directors in 2018.

No members of the Board of Directors or the Leadership Team or closely related persons or institutions have any significant business relationships with the Group. ■

Fees, salaries and benefits paid

2018	Salaries and fees with employee benefits [1)]	Performance/ project-related bonuses [2)]	Annual remuneration	Share-based incentives [3)]	Total
Board of Directors					
Chairman of the Board, Jordan	4,200	–	160,000	–	164,200
Chairman of the Board, Ollila	2,400	–	–	–	2,400
Vice Chairman of the Board, Vaartimo	6,600	–	90,000	–	96,600
Board member, Akermann	4,800	–	–	–	4,800
Board member, Gualdoni	2,400	–	–	–	2,400
Board member, ter Horst	6,600	–	70,000	–	76,600
Board member, Malinen	6,600	–	70,000	–	76,600
Board member, Sipilä	5,400	–	70,000	–	75,400
Board member, Vareille	7,200	–	70,000	–	77,200
CEO, Baan	1,075,835	700,997	–	929,081	2,705,913
Deputy to the CEO	469,111	249,044	–	211,861	930,016
Other Leadership Team Members	3,380,035	1,595,081	–	2,041,259	7,016,375

[1)] For Board members, meeting fees. For Leadership Team members, salaries and employee benefits.
[2)] Actual Short Term Incentive 2017 payout.
[3)] Gross, including the value of the shares on the date of delivery and taxes.

2017	Salaries and fees with employee benefits [1)]	Performance/ project-related incentives	Annual remuneration	Share-based incentives [2)]	Total
Board of Directors					
Chairman of the Board, Ollila	7,800	–	140,000	–	147,800
Vice Chairman of the Board, Vaartimo	9,000	–	80,000	–	89,000
Board member, Akermann	14,400	–	60,000	–	74,400
Board member, Gualdoni	18,000	–	60,000	–	78,000
Board member, ter Horst	9,000	–	60,000	–	69,000
Board member, Malinen	7,800	–	60,000	–	67,800
Board member, Sipilä	6,600	–	60,000	–	66,600
Board member, Miettinen-Lähde	4,200	–	13,315	–	17,515
Board member, Gustafsson	2,400	–	–	–	2,400
Board member, Nilsson	4,800	–	–	–	4,800
CEO, Baan	1,073,219	947,629	–	2,083,469	4,104,317
Deputy to the CEO	440,000	168,000	–	491,835	1,099,835
Other Leadership Team Members [3)]	2,724,872	2,988,248	–	2,759,509	8,472,629

[1)] For Board members, meeting fees. For Leadership Team, salaries and employee benefits.
[2)] Gross, including the value of the shares on the date of delivery and taxes.
[3)] Erkkilä January 1–31, 2017, Tahvanainen January 1–February 28, 2017, Kaukiainen March 1–December 31, 2017.

December 31, 2018 status of the ongoing Performance Share Plans

Performance Share Plans	PSP 2016–2018	PSP 2017–2019	PSP 2018–2020
Number of participants	107	137	148
Maximum number of gross shares to be paid [1]			
CEO Baan	165,000	92,000	72,000
Other Leadership Team members	615,000	482,000	398,000
Other participants	1,536,750	1,193,600	1,012,200
Total maximum number of gross shares to be paid [1]	2,316,750	1,767,600	1,482,200
Earning criteria	Outokumpu's return on operating capital compared to a peer group, and Outokumpu's gearing in 2018.	Outokumpu's return on operating capital compared to a peer group in 2019.	Outokumpu's return on operating capital compared to a peer group in 2020.
Share delivery year	2019	2020	2021

[1] The maximum number of gross shares (taxes included) payable if the set performance targets are achieved in full.

December 31, 2018 status of the ongoing Restricted Share Plans

Restricted Share Pool	RSP 2016–2018	RSP 2017–2019	RSP 2018–2020
Number of participants	17	58	48
Maximum number of gross shares to be paid [1]			
CEO Baan	–	–	–
Other Leadership Team members	–	–	–
Other participants	35,000	90,200	111,000
Total maximum number of gross shares to be paid [1]	35,000	90,200	111,000
Share delivery year	2019	2020	2021

[1] The gross number of shares (taxes included) payable if the employment has continued until the delivery date of the shares and no notice of termination has been given prior to the delivery date.

December 31, 2018 status of the ongoing Matching Share Plans

Matching Share Plans	CEO Plan	Management Plan
Number of participants	1	30
Number of gross shares [1]		
CEO Baan	1,157,156	–
Other Leadership Team members	–	1,262,152
Other participants	–	762,948
Total number of gross shares [1]	1,157,156	2,025,100
Shares delivered (net of taxes) [2]	555,231	569,630
Gross shares to be paid [3]	289,289	1,015,105
Share delivery years	2016, 2017, 2018, 2019	2017, 2018, 2019, 2020

[1] The gross number of shares (taxes included) payable for the Matching Share Plan.
[2] For the CEO, the same net amount was delivered in 2018, 2017 and 2016.
[3] The gross number of shares (taxes included) still payable.

Shares and shareholders

Shares and share capital

Outokumpu's shares are listed on the Nasdaq Helsinki Large Cap list under the trading code OUT1V and are incorporated into the Finnish book-entry securities system. The total share capital was EUR 311 million at the end of the year. All shares in Outokumpu carry equal voting and dividend rights.

On December 31, 2018, the total number of Outokumpu shares was 416,374,448. On December 31, 2018, Outokumpu held 5,810,729 treasury shares (Dec 31, 2017: 3,702,899).

Outokumpu in the capital markets

Outokumpu continued its regular and active dialogue with investors and analysts in 2018.

Key topics discussed with investors were Outokumpu's progress in reaching its vision and financial targets for 2020, the performance of the Americas business area, Ferrochrome operations, balance sheet as well as market-related topics. Outokumpu held its Annual General Meeting in Helsinki, Finland, in March. The Capital Markets Day was held in London, the UK, in November. Outokumpu arranged 14 roadshows in Europe and in the US during the year. The company also met investors at four industry seminars in New York, London and Miami. In total, over 176 one-on-one meetings and conference calls were held with investors during the year.

International shareholders held 26.7% of the total shares at the end of December 2018 compared to 38.2% at the end of the previous year. Prudential plc group and JPMorgan Chase & Co are the largest non-Finnish shareholders with holdings of over 5%. The largest Finnish shareholder Solidium Oy held 22.8% of Outokumpu shares. The share of Finnish households and private persons increased from 19.7% in 2017 to 27.3% at the end of 2018.

Principal shareholders on December 31, 2018

	Shares	%
Solidium Oy	95,044,385	22.83
Varma Mutual Pension Insurance Company	18,500,112	4.44
The Social Insurance Institution of Finland	9,298,652	2.23
Ilmarinen Mutual Pension Insurance Company	8,300,000	2.00
State Pension Fund	4,827,142	1.16
Elo Mutual Pension Insurance Company	2,500,000	0.60
Keva	2,365,000	0.57
Mandatum Life	2,299,830	0.55
OP Life Assurance Company Ltd.	2,138,025	0.51
OP-Finland Fund	2,005,724	0.48
Nordea Life Assurance Finland Ltd.	1,841,089	0.44
Skagen vekst verdipapierfond	1,400,000	0.34
Evli Finland Small Firms Fund	1,330,000	0.32
OP-Finland Small Firms Fund	1,113,356	0.27
Solesol Oy	1,000,000	0.24
	153,963,315	**36.98**
Nominee accounts held by custodian banks	107,418,829	25.80
Treasury Shares	5,810,729	1.40
Other Shareholders	149,181,575	35.82
Total	**416,374,448**	**100.00**

Shareholders by group on December 31, 2018

- Nominee registered and non-Finnish holders **27%**
- Finnish institutions, companies and foundations **23%**
- Solidium Oy [1] **23%**
- Households **27%**

[1] Solidium Oy is wholly owned by the Finnish state

Share price development and market capitalization

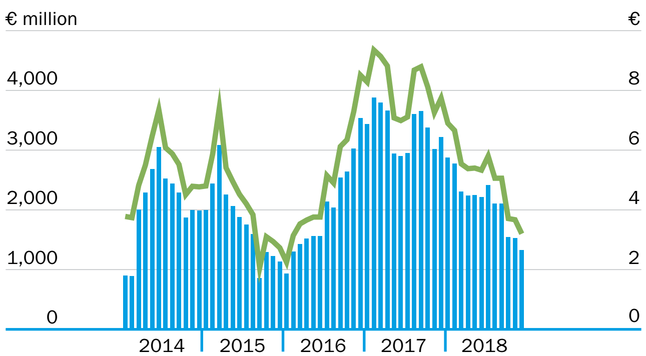
During 2018, Outokumpu's share price peaked at EUR 8.26 and was EUR 3.18 at its lowest (2017 high/low: EUR 10.05/ EUR 6.61). The share price closed at the end of the year at EUR 3.20, marking a decrease of 58.7% from the closing price of EUR 7.74 at the end of 2017. At the end of 2018, the company's market capitalization was EUR 1,330 million, compared to EUR 3,223 million at the previous year's end.

In 2018, the average daily trading volume in Outokumpu shares on Nasdaq Helsinki was 3.3 million shares. In total, 827 million Outokumpu shares were traded on Nasdaq Helsinki during 2018, representing a value of EUR 6,277 million (2017: 1,022 million shares, which corresponded to EUR 8,295 million).

In addition to Nasdaq Helsinki, Outokumpu's shares are traded also on various alternative trading platforms. The volume of Outokumpu's shares traded on Nasdaq Helsinki represented approximately 40% of the total volume of Outokumpu's shares traded in 2018 (source: Fidessa Fragmentation Index).

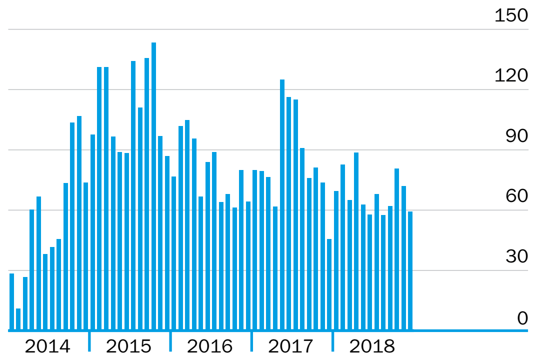
More information about the shares on our website

Market capitalization and share price development



Month-end market capitalization, € million — Share price, €/share
Source: Nasdaq

Monthly trading volume, million shares

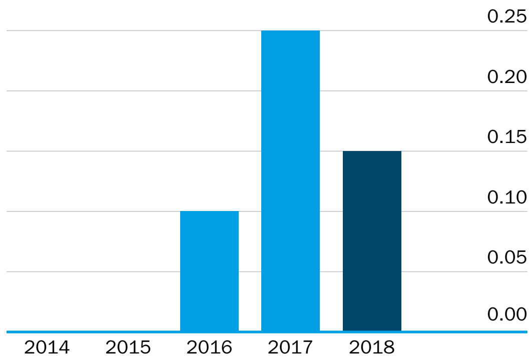


Includes trading on Nasdaq Helsinki. The graph does not include trading on 28 February, 2014 because of an extraordinary peak as a result of ThyssenKrupp selling its shares in Outokumpu.
Source: Nasdaq

Outokumpu share price development in 2018, %

Outokumpu
Nasdaq Helsinki

Dividend/share, €



In 2014–2015 no dividend was paid.
The dividend for 2018 is a proposal by the Board of Directors.

Information for shareholders

Annual General Meeting 2019

Notice is given to the shareholders of Outokumpu Oyj to the Annual General Meeting to be held on Wednesday, March 27, 2019 at 1.00 pm EET at Finlandia Hall, Congress Wing, address: Mannerheimintie 13 e, 00100 Helsinki, Finland, entrances M1 and K1. The reception of persons who have registered for the meeting and the distribution of voting tickets will commence at 12.00 pm EET.

Each shareholder, who is registered on March 15, 2019 in Outokumpu's shareholder register held by Euroclear Finland Oy, has the right to participate in the Annual General Meeting.

A holder of nominee registered shares has the right to participate in the Annual General Meeting by virtue of such shares, based on which he/she on March 15, 2019 would be entitled to be registered in the shareholders' register of the company held by Euroclear Finland Oy. Participation in the meeting also requires that the shareholder has been registered into the temporary shareholders' register held by Euroclear Finland Oy at the latest by March 22, 2019 by 10.00 am EET. A holder of nominee-registered shares who wants to participate in the Annual General Meeting has to be registered into the temporary shareholders' register by the account management organization of the custodian bank latest by the time stated above.

A shareholder, who is registered in the shareholders' register of the company and who wants to participate in the Annual General Meeting, shall register for the meeting no later than March 19, 2019 by 4.00 pm EET by giving a prior notice of participation, which shall be received by the company no later than on the above-mentioned date. Such notice can be given as of February 7, 2019 at Outokumpu's Annual General Meeting website, by e-mail: agm.outokumpu@innovatics.fi, by telephone: +358 50 532 5582 (From Monday to Friday at 12.00–4.00 pm EET), by telefax: +358 9 421 2428, or by mail to

Outokumpu Oyj
Share Register
P.O. Box 245
FI-00181 Helsinki, Finland

A shareholder may participate in the Annual General Meeting and exercise his/her rights at the meeting by way of proxy representation. Proxy documents should be delivered to Outokumpu Oyj, Share Register, P.O. Box 245, FI-00181 Helsinki, Finland before the end of the registration period.

A complete notice to the Annual General Meeting and additional information about it is available at Outokumpu's Annual General Meeting website.

Payment of the dividend

The Board proposes a dividend of EUR 0.15 per share based on the balance sheet adopted for the financial year ending December 31, 2018. The dividend will be paid to shareholders registered in the shareholders' register of the company held by Euroclear Finland Oy on the dividend record date March 29, 2019. The Board proposes that the dividend be paid on April 5, 2019. ■

Working towards a world that lasts forever

We believe in a world that is efficient, sustainable, and designed to last forever. The world deserves innovations that can stand the test of time and are ready to be born again at the end of their life cycle. Stainless steel is vital in enabling a sustainable world with economic prosperity.

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