

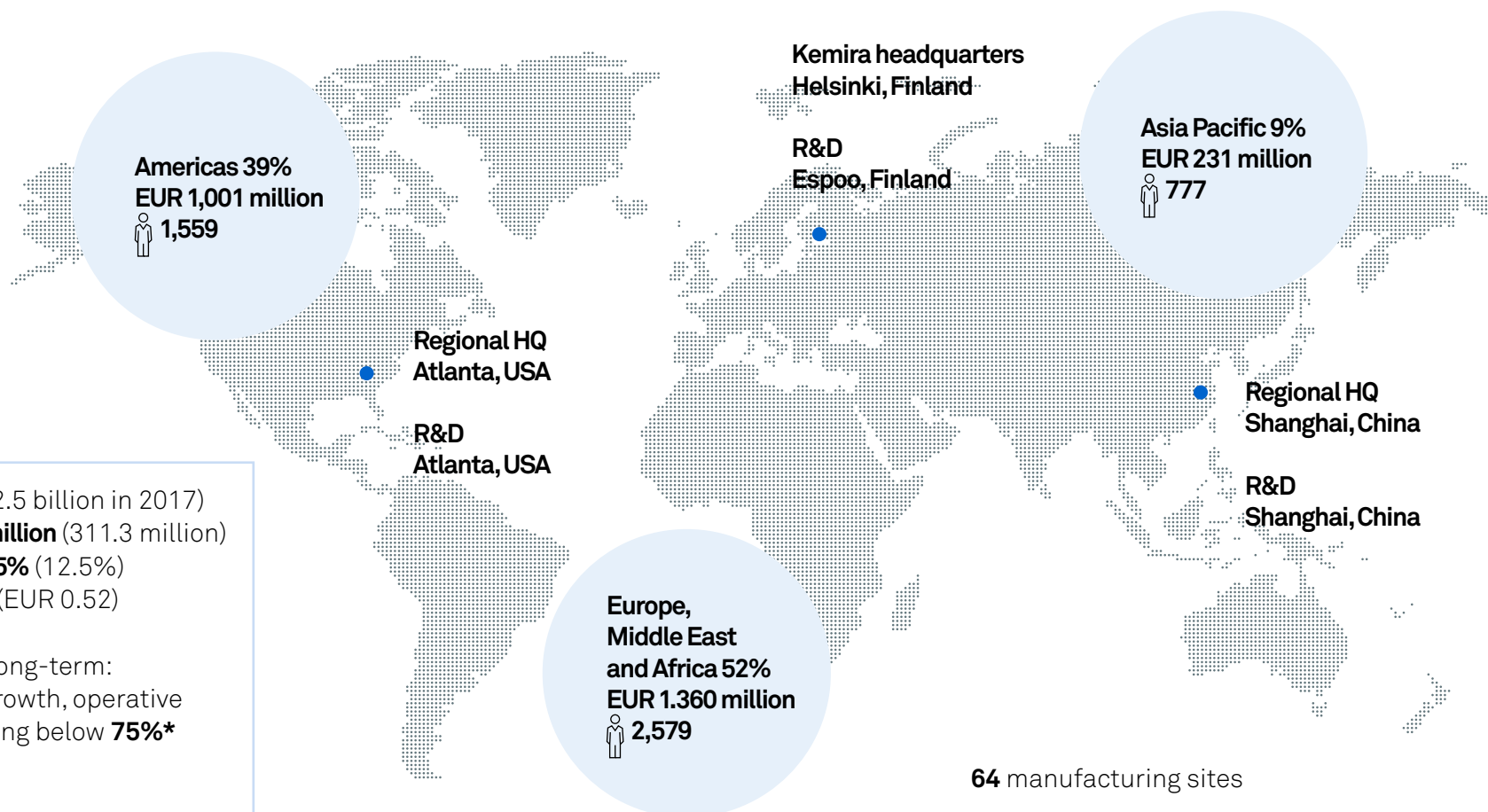
# Business Overview 2018



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## Key figures 2018

**Kemira** is a global chemicals company serving customers in water intensive industries. We provide expertise, application know-how and chemicals that improve our customers' product quality, process and resource efficiency. Our focus is on pulp & paper, oil & gas and water treatment. Kemira shares are listed in the Nasdaq Helsinki Ltd.



Revenue **EUR 2.6 billion** (EUR 2.5 billion in 2017)  
 Operative EBITDA **EUR 323.1 million** (311.3 million)  
 Operative EBITDA margin **12.5%** (12.5%)  
 Earnings per share EUR **0.58** (EUR 0.52)

Financial targets on mid- to long-term:  
 Above-the-market revenue growth, operative  
 EBITDA margin **15–17%**, gearing below **75%\***

Total employees **4,915**

\*Financial targets updated due to adoption of IFRS 16 accounting change.

<p>OPERATIVE EBITDA 2018</p> <p>EUR <b>323</b> million</p> <p><b>12.5%</b></p> <p>2017: EUR 311 MILLION, 12.5%</p>		<p>REVENUE 2018</p> <p>EUR <b>2.6</b> billion</p> <p>2017: EUR 2.5 BILLION</p>	
<p>CLIMATE CHANGE: KEMIRA CARBON INDEX</p> <p>2018: <b>83</b></p> <p>TARGET 2020: 80 2017: 85</p>	<p>WORKPLACE SAFETY, TRIF</p> <p>2018: <b>3.5</b></p> <p>TARGET 2020: 2.0 2017: 3.9</p>	<p>PRODUCTS DESIGNED FOR RESOURCE EFFICIENCY, % REVENUE</p> <p>2018: <b>51%</b></p> <p>TARGET 50% BASELINE AVERAGE 2016-2017 49%</p>	<p>EMPLOYEE ENGAGEMENT</p> <p><b>71%</b> (67% 2015)</p> <p>TARGET: above the external norm</p>





## CEO Review

Building a solid business foundation to meet the changing needs of customers and society

**At Kemira, we use our chemistry to improve your everyday. We add optimal quality, functionality and strength to paper and board products, we ensure safety and hygiene of water and food packaging, and we maximize yield from energy resources. Our strategic focus is on pulp and paper, water-intensive industries, municipal water treatment, and oil and gas industries.**

In 2018, strong global demand helped us see solid organic growth and results. Our full year revenue for 2018 was EUR 2.6 billion (2017: 2.5) and we met our outlook for the year, with our operative EBITDA increasing to EUR 323 million (311 million) with a margin of 12.5% (12.5).

### THE BUSINESS CONTEXT IS CHANGING

Megatrends are shaping the long-term market and segments that we operate in. These are urbanization and the growing middle class, scarcity of resources and tighter environmental regulations. In addition, rising living standards, and today's fast-paced lifestyles drive demand not only for more water and energy, but also for all kinds of packaging material. This is happening at a time when we are facing up to the reality of resource scarcity and the need to do more with less.

Similarly, the steady implementation of tighter limits on greenhouse gas emissions means that there is pressure on

suppliers like us to reduce our own emissions. The world has also woken up to the challenge of tackling plastic waste. As regulators begin to set new standards and limits on the types of plastics that can be used, this creates new challenges for many industries, and packaging in particular. Improving resource efficiency – for both our customers and society as a whole – is a pressing need.

### GENERATING CUSTOMER VALUE WITH SUSTAINABLE PRODUCTS AND SOLUTIONS

As a response to doing more with less in the changing business context, we have set a target to improve our ability to help our customers develop more sustainable products.

We have continued to develop digital service offerings for our customers. The combination of digital technologies and our industry-leading expertise provides us with powerful tools



Improving resource efficiency - for both our customers and society as a whole - is a pressing need.

to differentiate Kemira from the competition. Our digital solutions not only help our customers ensure that their production process is, and will continue to be, for example, fully compliant with the latest water regulations, but also enables efficiency in terms of water, energy, and raw material usage.

We aim to have at least 50% of our revenue generated through products that improve customers' resource efficiency. In 2018, our performance is in line with this target and we are confident that customers value their relationship with Kemira, as evidenced by steady improvements in our Net Promoter Score, up by 10% to 33 (30).

## HOLDING OURSELVES TO HIGH OPERATIONAL STANDARDS

In 2018, we have continued to make systematic improvements to maintain operational excellence, in the face of changing markets dynamics. This requires tight cost control and improved efficiency throughout our production network, in our operations and processes. To this end, integrated end-to-end production and supply-chain planning with an optimal distribution network, including a new operations model for road transportation in EMEA and North America, is underway. Furthermore, a harmonized, automated order-to-cash system is increasing efficiency and providing better visibility over orders and deliveries. We have

also made improvements in low-profitability areas, including all product lines and regions.

Our globally integrated management system is providing full online visibility not only over our business, but also over the safety performance across our manufacturing sites, R&D centers and office locations. One of our sustainability commitments is to ensure responsible operations and supply chain. We aim to improve our workplace safety performance towards zero harm to people. In 2018 our performance improved (TRIF 3.5; 2017 TRIF 3.9), but we still need to focus more on developing our safety culture.

We are also making good progress in reducing our carbon emissions. Measured by Kemira carbon index with a target of 80 by 2020 (2012 = 100) we achieved 83 in 2018 mainly due to higher share of low carbon energy.

## OUR PEOPLE AND INTEGRITY AS AN ASSET IN OUR FUTURE SUCCESS

We believe that our chemistry expertise is our biggest competitive advantage, so we need to be able to continue attracting, retaining, and developing the right mix of talent to further improve our globally diverse, result-oriented, and collaborative work environment. We also need to maintain our integrity and ensure compliance with the Kemira Code of Conduct in everything we do. Our targets in this area are to

maintain an employee engagement index score that meets or exceeds the external industry norm, to increase leadership development activities, and to maintain the Integrity Index level above the industry benchmark. Last year our employee engagement was 71% (2 percentage points above the external norm), and integrity was 87% (10 percentage points above the external norm).

Our approach to sustainability is guided by the increasing expectations of our customers, investors, and other stakeholders, as well as by our own strategy and code of conduct, and internationally defined principles. Corporate responsibility is integrated into our strategy, and our Board of Directors engages in our sustainability performance in a consistent and regular manner.

## A HISTORY THAT SHAPES OUR FUTURE

In 2020, Kemira will celebrate its 100 years anniversary. From a company that was originally established to meet needs for food security, we are now a global chemistry and technology leader meeting new societal challenges for water, energy and raw material efficiency. We believe that Kemira can succeed by helping our customers and stakeholders respond to these challenges, sustainably and together.

**JARI ROSENDAL**  
PRESIDENT AND CEO

## OUR PURPOSE

**We enable our customers to improve their water, energy and raw material efficiency**

### GLOBAL TRENDS



#### **Growing middle class and urbanization**

Higher use of water, energy, tissue and board  
E-commerce/online shopping



#### **Scarcity of resources**

New materials to enable circular economy  
Material and resource efficiency



#### **Regulation**

Safe drinking water  
More stringent wastewater discharge limits

### OUR CUSTOMERS

**Pulp & paper**  
**Water treatment**  
**Oil & gas**



### OUR OFFERING

We provide expertise, application know-how and chemicals that improve our customers' product quality, process and resource efficiency.

### OUR VISION

**Our vision is to be the first choice in chemistry for water intensive industries**

### OUR STRATEGY

Kemira is a great product company with chemistry and selling of chemicals at the core of our business. We win with best suited products and tailored services.

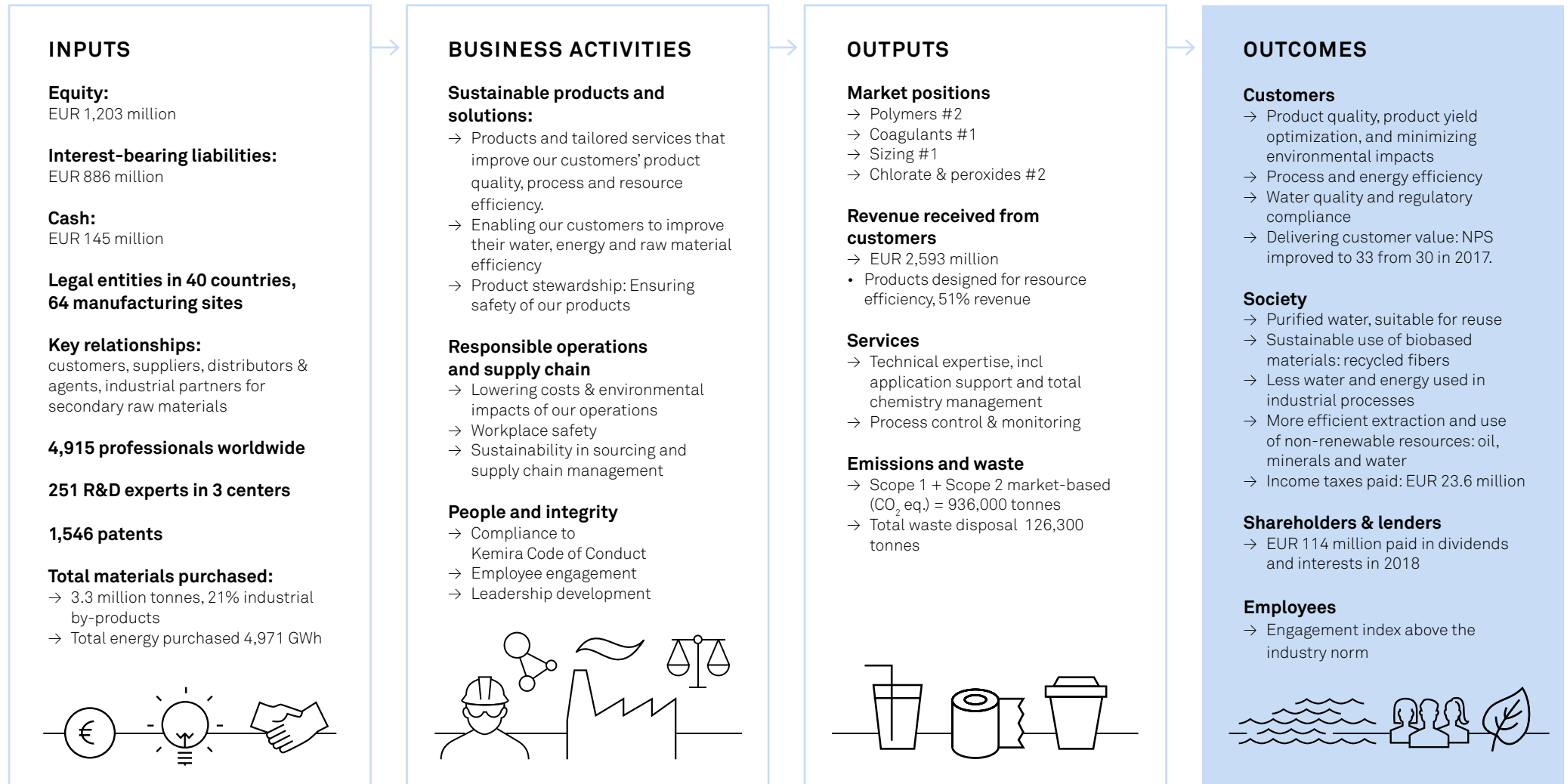
Our target is to grow above-the-market with an operative EBITDA margin of 15-17%\*.

\*Financial targets updated due to adoption of IFRS 16 accounting change.

## OUR VALUES

**We drive performance and innovation. We are dedicated to customer success. We care for people and the environment. We succeed together.**

## Business model





## Global megatrends favor Kemira

MEGATREND	IMPACT	HOW KEMIRA BENEFITS FROM THE MEGATREND, FOR EXAMPLE
<b>GROWING MIDDLE CLASS &amp; URBANIZATION</b>	Higher use of water, energy, tissue and board	Water reuse and treatment, absorbency and softness of tissue, light-weight high-quality board, energy savings in oil production are a few examples of how our chemistry can be utilized.
	Fast growth in e-commerce / online shopping	We are supporting production of light and strong packaging board in a growing market.
<b>SCARCITY OF RESOURCES</b>	New materials to enable circular economy	Single-use plastics can be partially replaced with fiber-based products where we play a key role with its pulp and paper chemistry.
	Higher efficiency in material and resources	With our chemistry, customers can enhance their resource efficiency: e.g. reuse of water, less energy needed in oil production, and lighter board, creating cost savings.
<b>REGULATION</b>	Safe drinking water	Our products are used to purify the equivalent of 320 million people's annual water usage – the demand for safe drinking water is growing globally.
	More stringent wastewater discharge limits	Wastewater discharge limits are tightening and with our water treatment chemicals, customers can meet the limits.





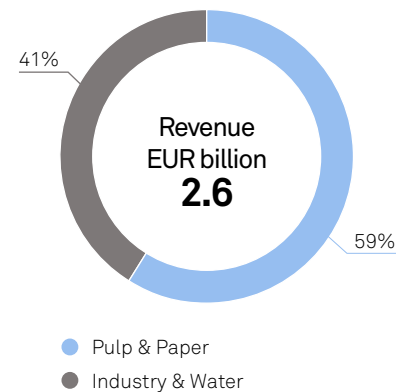
## OUR BUSINESS FOCUS

In Pulp & Paper, we have unique expertise in applying chemicals and in helping pulp and paper producers to innovate and constantly improve their operational efficiency and reduce environmental impact. Kemira is the only company in the industry with a major global presence in pulp, packaging and paper chemicals. Thanks to an increased focus on this business, combined with strategic investments and selective acquisitions, we have been able to grow and become the global market leader in pulp, paper and packaging chemicals for industries.

Industry & Water supports municipalities and water-intensive industries in the efficient and sustainable utilization of resources. In water treatment, we help in optimizing every stage of the water cycle. In Oil & Gas applications, our chemistries enable improved yield from existing reserves and reduced water and energy use.

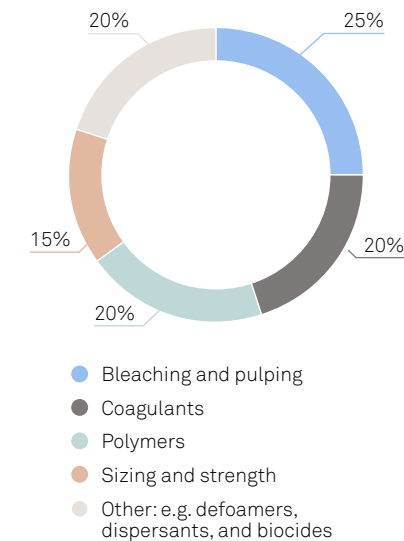
From the product category point-of-view, we will continue to focus on four main areas: bleaching and pulping, sizing and strength, polymers, and coagulants. In these categories, being over 80% of our Group's revenue, we have application knowhow, enough scale and most importantly, growing customer demand. Our recent investments have been in the first three categories as we have added capacity to fuel growth.

**SEGMENT SPLIT**  
%



**PRODUCTS %**

Revenue by product category rounded to the nearest 5%

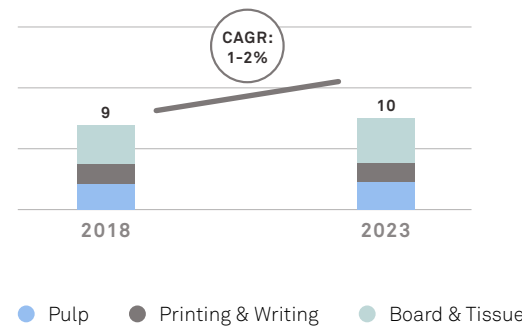


## OUR PRESENCE IN GROWING MARKETS

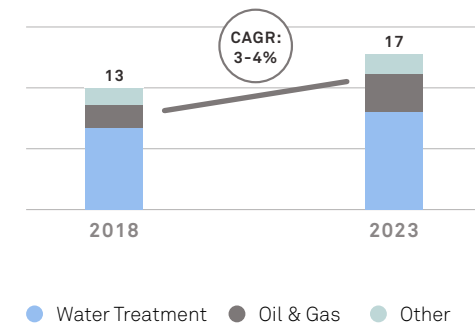
Both of our segments, Pulp & Paper and Industry & Water, operate in growing markets with a combined expected annual market growth rate of around 2-3%. Growth is driven by global megatrends such as growing middle class and urbanization, scarcity of resources, and regulation.

In 2018, organic growth for the Group was +7%, of which Pulp & Paper had +6% and Industry & Water had +9% organic growth, driven by both sales prices and volumes.

**PULP & PAPER RELEVANT MARKET**  
EUR billion



**INDUSTRY & WATER RELEVANT MARKET**  
EUR billion



## Our strategy

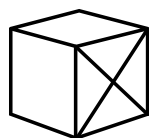
We succeed with best-suited products and tailored services that improve our customers' product quality, process and resource efficiency. Our target is to grow above-the-market with an operative EBITDA margin of 15-17%\*. The gearing target is below 75%.\*

### OUR STRATEGIC ENABLERS



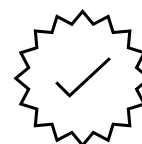
#### CUSTOMER EXCELLENCE

Customer intimacy and ability to capture value  
Optimized service levels



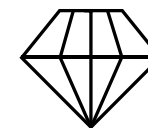
#### PRODUCT & SERVICE EXCELLENCE

Best suited products in terms of performance, efficiency and cost  
  
Complemented with service and application knowledge



#### OPERATIONAL EXCELLENCE

Safe and efficient production, operations and processes  
  
Reliable deliveries  
  
Efficient sourcing

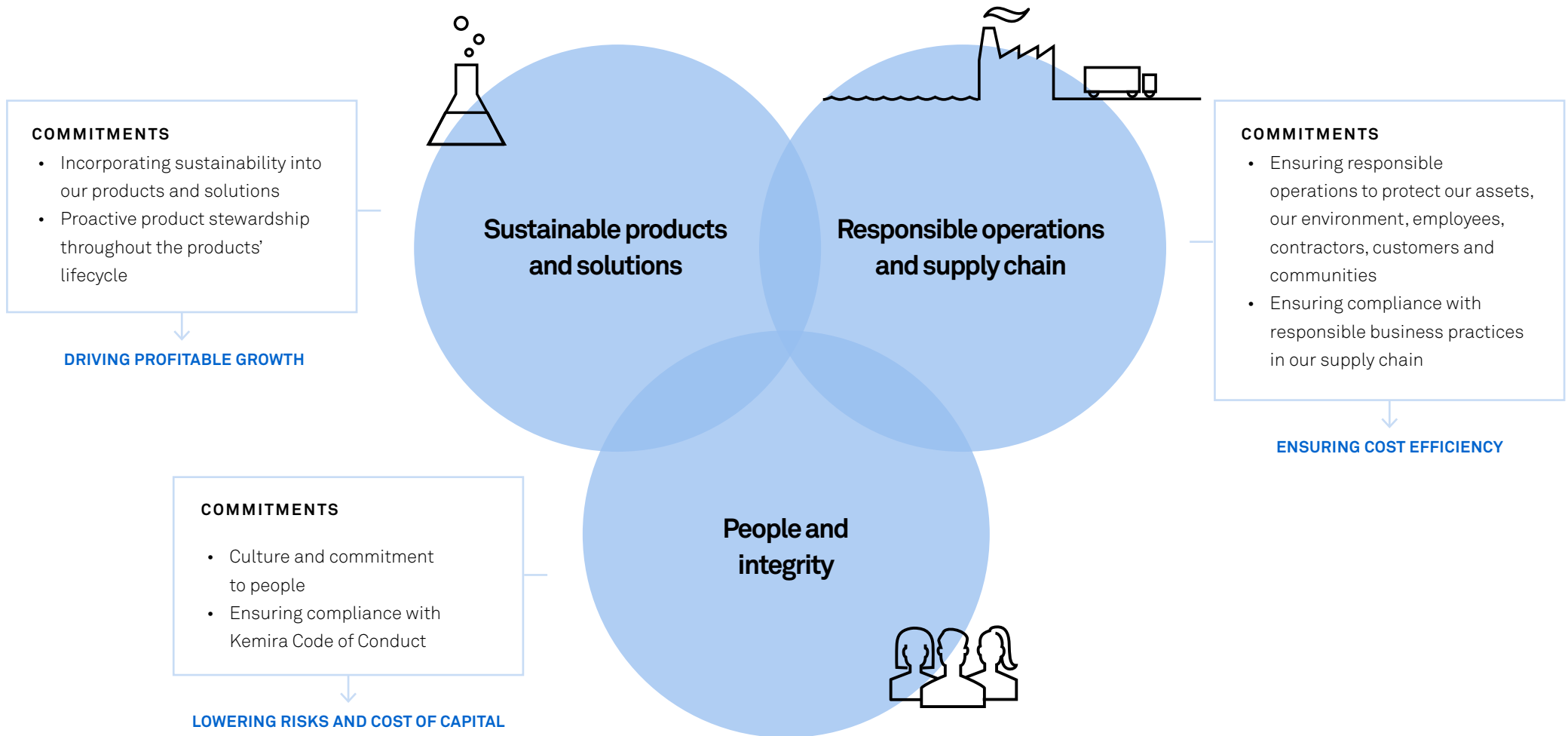


#### MARGIN EXCELLENCE

Improvement of profitability across all products and regions  
  
Optimized output from the assets

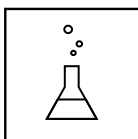
\*Financial targets updated due to adoption of IFRS 16 accounting change.

## CORPORATE RESPONSIBILITY PROGRAM SUPPORTING VALUE CREATION





# Risks and opportunities



## SUSTAINABLE PRODUCTS AND SOLUTIONS

### OPPORTUNITIES

- Products to capitalize on global trends for recycling, e-commerce, growing middle class, regulation and scarcity of resources.
- Products enabling our customers' product quality, process and resource efficiency.
- Products addressing transition towards low-carbon and enabling circular economy.
- Growing regulatory demands for stricter requirements for water treatment and to replace plastics in single-use products.

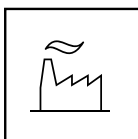
### RISKS

- Disruptive technologies in our value chain, slow renewal of our product portfolio and lack of differentiation, and failure to commercialize new products and service concepts.
- Regulatory constraints related to our products or use of our products are always evolving. The outcome of regulatory processes can lead to a ban, authorization or restrictions of use which can affect our ability to place products on the market.

### MANAGEMENT APPROACH

We focus our innovation work on products addressing global trends and resource efficiency. This is based on systematic monitoring of market developments, competitive activities, and emerging technologies to enable responsiveness to changing customer needs. Our approach to collaborative product development is aimed to ensure a fast response to market needs and effective product launches through targeted marketing activities and training of sales.

All our products, raw materials and intermediates need to comply with all applicable chemical regulatory requirements in the countries where we manufacture and / or sell chemicals. We actively monitor changes both in chemical legislation and in regulations relating to the use of our products by customers. Our Product Lifecycle Management process covers assessments on regulatory compliance, human health impact, safety issues and environmental impact in every lifecycle phase, from conception and development to manufacturing and sales, and finally to product elimination.



## RESPONSIBLE OPERATIONS AND SUPPLY CHAIN

### OPPORTUNITIES

- Digital solutions and streamlining of our business processes to improve our operational efficiency and asset utilization.
- Our globally integrated management system provides a platform for change management and to quickly comply with new regulatory requirements and stakeholder expectations.
- Raw material portfolio and energy mix development to reflect the needs of circular and low-carbon economy.

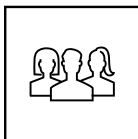
### RISKS

- Chemical operations involve harmful and hazardous substances controlled with a wide range of physical and chemical parameters. Malfunction in processes can lead to incidents with possible impact on environment, employee health and safety, or our assets. This can happen due to human behavior, technical failures or process safety deficiencies.
- Failure to develop safety management practices may increase risk of safety incidents causing supply and manufacturing disruptions.
- Raw material supply disruptions due to force majeure situations at market or single source.
- Failure by our vendors / suppliers to meet or comply with local environmental regulations.
- Some of our major product lines are very energy-intensive with environmental impact through carbon emissions. There are regulations emerging which set a price for carbon emissions.

### MANAGEMENT APPROACH

Our integrated management system provides a solid platform for systematic risk management and continuous improvements in competences, procedural, technical and physical protection mechanisms. We systematically develop and implement certifiable management systems for environment, occupational health and safety, quality, and energy management. Legal reviews of changing regulatory requirements are a part of management frameworks, and legal compliance issues are part of management system reviews.

Our strategic sourcing through segmentation and the supplier management program aims to manage and develop performance and good governance throughout our supply chains, to reduce our risks related to the availability of raw materials, price volatility, and non-compliance, as well as to responsible business practices. Other measures include backward integration for critical raw materials and reducing the number of single / sole source situations, as well as effective contingency plans on core materials. We secure cost-effective energy supply through strategic investments and by hedging.



## PEOPLE AND INTEGRITY

### OPPORTUNITIES

- Ability to attract, retain and develop the right mix of talent, leveraging our strong employer brand and globally diverse, result orientated, and collaborative work environment.
- Culture of talent management, performance management and development, and employee engagement.
- Strong leadership competences, skilled technical expertise / industry knowhow and competent workforce.

### RISKS

- Operating in 40 countries with sales to over 100 countries creates an environment characterized by multiple ethics and compliance risks, including risk of corruption, fraud, competition compliance, trade compliance and human rights.
- Failure to enable safety culture development.
- Non-compliance to Code of Conduct and related policies.

### MANAGEMENT APPROACH

To implement our strategy, we must ensure that we have committed people, a strong leadership bench and the indispensable competencies in place to implement our strategy. We need to invest in a strong culture and commitment to people to retain our talents in a highly competitive employee market.

- Continued emphasis on talent and succession development to ensure we have a strong platform for the future, through growing leadership and talents from within the organization.
- Focus on performance management, employee engagement, learning and development, and building a strong employer brand which includes a market competitive employee brand promise.
- Continued development of safety culture by whole organization.

We continuously develop our management practices to ensure compliance with regulatory requirements and high ethical standards. We have a global Ethics & Compliance program in place to monitor and mitigate any observed risks or violations.

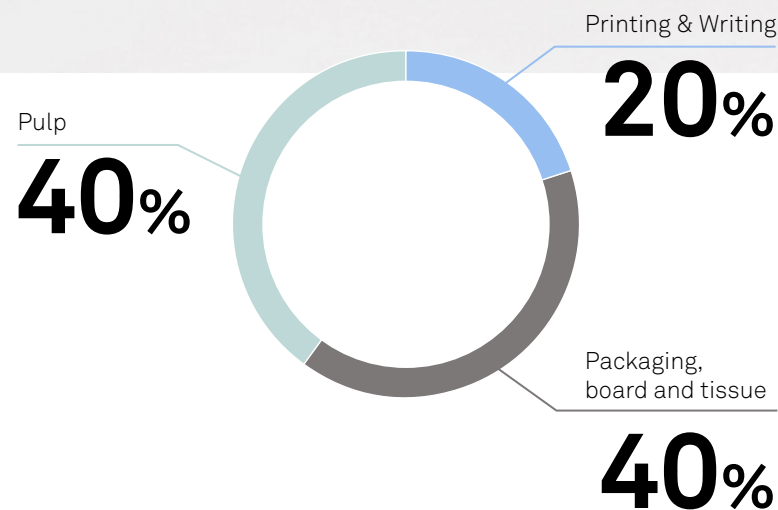
- Continued communication and training for Code of Conduct and channels for feedback of violations.

## Pulp & Paper

# Leading global chemical provider to the growing pulp and paper industry

Global megatrends, such as urbanization, a growing middle class, and sustainability, are shaping the pulp and paper industry. We work in close co-operation with industry-leading companies to address these trends, and the evolving needs and opportunities. Combining best-in-class application expertise, latest technologies for smart process management and a complete chemistry portfolio, we help customers improve their process efficiency, productivity and end-product quality

KEMIRA PULP & PAPER CUSTOMERS





## KEMIRA'S EXPERTISE HELPS PULP AND PAPER PRODUCERS

### PULP

The beauty of all kinds of paper grades begins with the right pulp quality. We work together with pulp producers to reach targeted pulp properties for strength, brightness and cleanliness. We can help producers improve total production efficiency and save costs. Our chemical island concept and in-house patented technology development show the commitment we have in the industry.

### BOARD

Producing strong, light-weight, visually appealing, protective and safe packaging board requires a special expertise in chemistry. With the help of our broad experience, board producers can add value to board making and tailor products that meet the strictest of end-use demands – from food safety to brand appeal.

### TISSUE

Tissue is largely driven by the end-user preferences for softness, strength, absorbency, flexibility and sustainability. It's extremely lightweight and produced at very high speeds, which makes runnability a challenge. We help tissue makers optimize the highest machine productivity, while at the same time enhancing sheet quality to fully meet end-user requirements.

### PRINTING AND WRITING PAPER

Using deep paper-chemistry expertise, Kemira can help paper producers create profitable new grades for dynamic digital markets, and squeeze costs out of present paper-making operations.



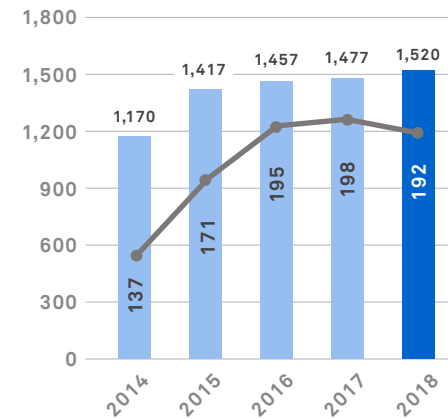
## PULP & PAPER – SOLID BUSINESS WITH A GOOD TRACK RECORD

Growth in the use of pulp and paper chemicals is driven by higher production volumes for board and tissue grades. Kemira has unique expertise in chemical applications, and we are well-placed to help our pulp and paper producing customers to innovate and constantly improve their operational efficiency and end-product quality. We are working to support our customers through the transition to a bio-based economy, by enabling production with fewer inputs, lower environmental impact and a reduced water footprint.

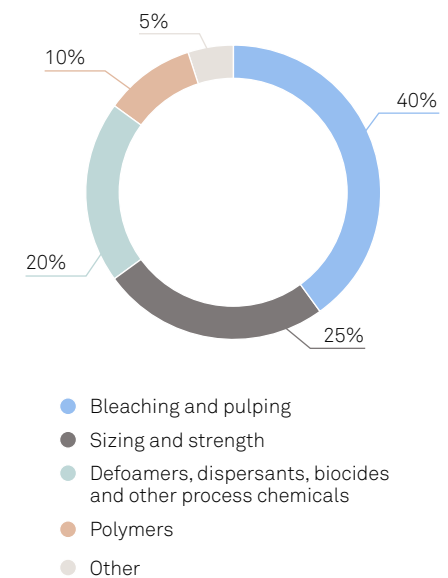
### MARKET ENVIRONMENT

- #1 SOLENIS (PAPER)
- #2 KEMIRA (PULP AND PAPER) M.S. ~16%
- #3 NOURYON (PULP)
- #4 ECOLAB (PAPER)
- #5 KURITA (PAPER)

**REVENUE AND OPERATIVE EBITDA**  
EUR million



**REVENUE BY PRODUCT CATEGORY**  
%



## CASE

### E-COMMERCE DRIVES THE NEED FOR MORE PACKAGING MATERIAL

#### MEGATREND

- Growth in e-commerce drives packaging material production volumes

#### IMPACT ON PULP AND PAPER PRODUCERS

New board capacity regularly announced, especially in APAC and EMEA, for example

- Chinese Nine Dragon to add 3 million tonnes of packaging paper annual capacity
- APP to expand production in Guangxi, China by two new board machines with annual production of 1.8 million tonnes
- Hamburger Rieger to invest in Germany into a new containerboard machine with annual production of 0.5 million tonnes

#### IMPACT ON KEMIRA

- We serve board producers with process and functional chemicals
- We have strong references in conversions and new start-ups
- E-commerce is beneficial also for our pulp bleaching business, as pulp is the intermediate product for board



## Industry & Water

# Strong market positions in chosen categories

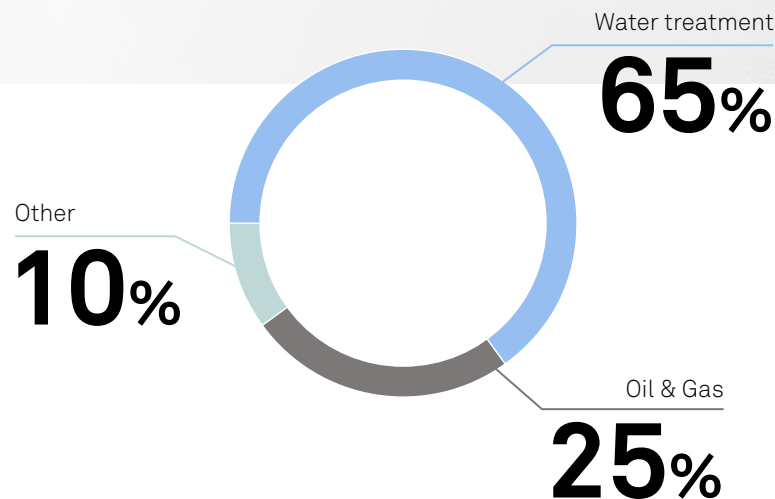
People are putting more demands on our water resources all the time. The more we produce, manufacture, consume, and dispose, the more water we use. How can we replenish the water cycle and keep up with our growing needs?

To help water treatment plant operators do this, while optimizing the Total Cost of Ownership, at Kemira we work in close co-operation with customers to reduce expenses for energy, labor and chemicals, while safely achieving the targeted water quality.

In oil and gas, our chemistries enable improved yield from existing reserves and reduced water and energy use.

Our deep R&D and application knowhow, secure supply network and complete technology portfolio are some of the reasons why we are a safe, efficient and sustainable partner for our customers.

INDUSTRY & WATER APPLICATION SPLIT





## KEMIRA'S EXPERTISE HELPS CUSTOMERS IN THE INDUSTRY AND WATER SEGMENT

### RAW WATER

Drinking water producers are faced with deteriorating quality of raw water, as well as tightening regulations. With Kemira's R&D and technology expertise, we can help to meet the requirements for safe drinking water. Our reliable and responsible supply chain ensures the peace-of-mind municipalities need for steady delivery.

### WASTEWATER

Effective wastewater treatment plants are vital around the world. They face tight operating budgets, tighter regulation, and are constantly looking for ways to improve efficiency. Chemicals can bring substantial energy-savings in the wastewater treatment process. Using coagulants can save up to 50% of aeration energy in organic removal. Our unique range of water treatment expertise and products offer solutions to all wastewater challenges.

### INDUSTRIAL WATER

Each process water system is different and requires customized products, depending on the water quality, branch of industry and process parameters. With the right technologies, water can be reused through several cycles. We help customers optimize the total cost of process, with lower energy and water consumption, and keep equipment running reliably with less maintenance required.

### OIL & GAS

Oil and gas producers are searching for ways to produce more with less. Our operations in shale and conventional oil recovery are designed to help operators extract more production with less resources. In oil sands, Kemira's water treatment expertise and know-how from oil and gas customers creates a unique market position. We add value to customers' mandatory tailings treatment process.



## INDUSTRY & WATER – STRONG GROWTH DRIVEN BY OIL AND GAS

The water treatment market is driven by regulation. We are the only manufacturer offering a full product portfolio of coagulants, polymers and other water treatment chemicals. This makes our position in the market unique.

In oil & gas, we are well-positioned in the shale industry and growing fast in water treatment related to unconventional oil recovery in Canada, and polymers used in Chemical Enhanced Oil Recovery (CEOR). In CEOR, we are currently investing in new polymer manufacturing capacity in Europe.

### KEMIRA #1 IN COAGULANTS IN EUROPE AND NORTH AMERICA

#### Main competitors in coagulants:

- Feralco (Europe)
- Kronos (Europe)
- Chemtrade (North America)
- USAlco (North America)

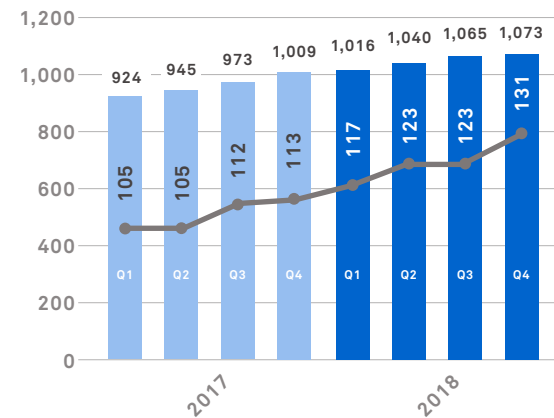
### KEMIRA GLOBALLY #2 IN POLYMERS USED IN WATER TREATMENT AND OIL & GAS APPLICATIONS

#### Main competitors in polymers:

- SNF
- Solenis
- Solvay (only oil & gas)

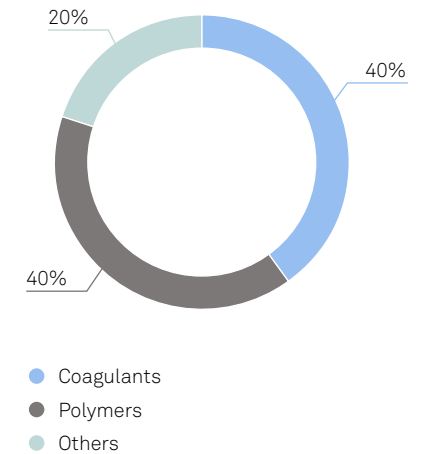
### REVENUE AND OPERATIVE EBITDA ROLLING 12 MONTHS

EUR million



### REVENUE BY PRODUCT CATEGORY

%

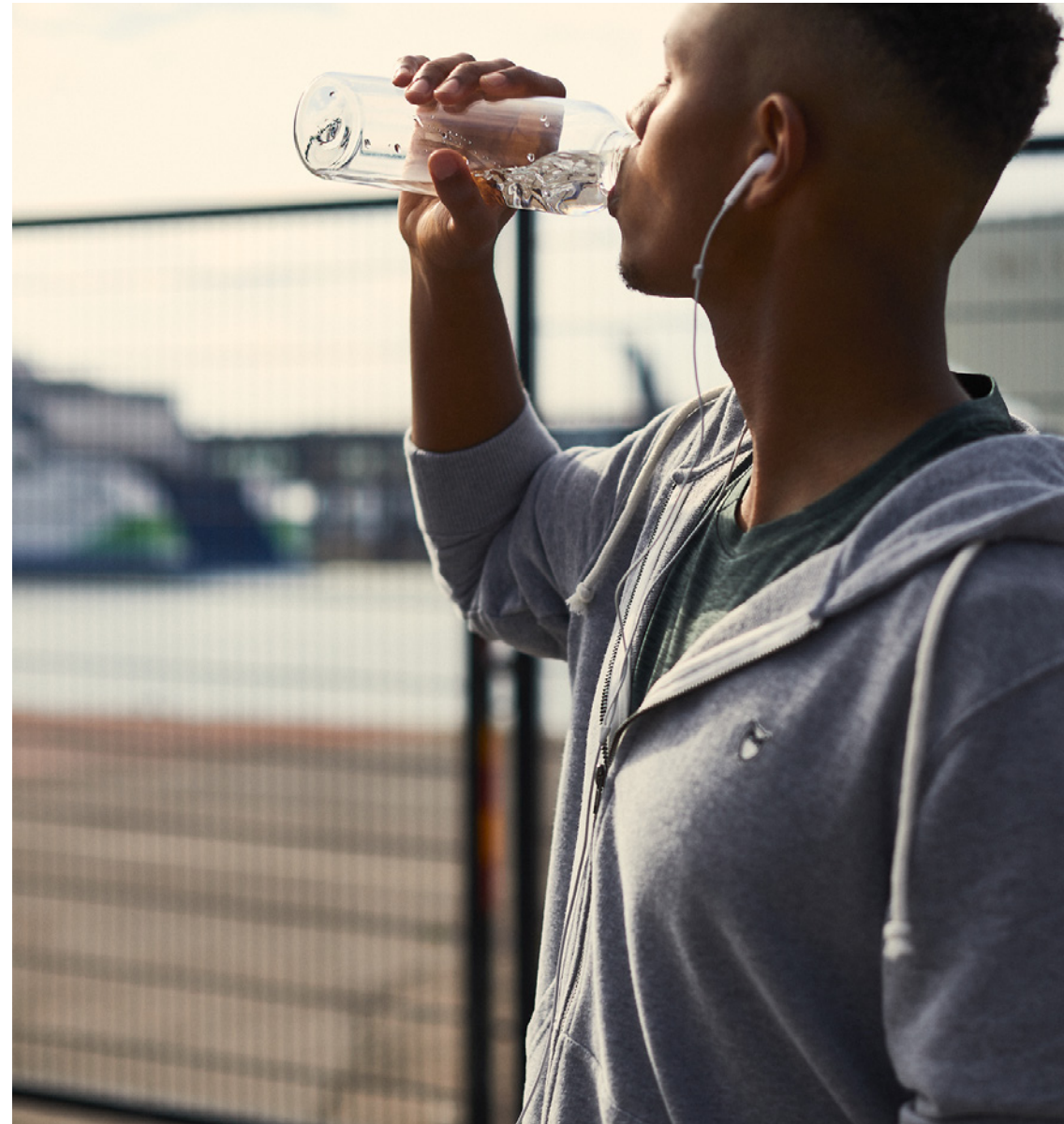


CASE

## GLOBAL REGULATORY TRENDS FAVORABLE TO DEMAND FOR WATER TREATMENT CHEMICALS

### DEMAND FOR WATER TREATMENT CHEMICALS IS EXPECTED TO INCREASE DUE TO THE FOLLOWING DYNAMICS:

- Water reuse is driven by resource efficiency requirements and water scarcity.
- More stringent discharge limits are expected to be imposed.
- Demand for better dewatering of sludge is increasing due to higher transportation costs and lack of land space for disposal.
- Phosphorus removal is becoming mandatory in many countries.
- Contaminants (pharmaceuticals, microplastics) are causing harm and successful removal requires careful use of water treatment chemicals.
- Prevention of pollution from storm-water overflows requires disinfection measures.



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