

Kemira

Where water
meets chemistry™

BUSINESS OVERVIEW

2016

The Kemira Annual Report 2016 consists of four modules. By clicking the titles below, you can go directly into each module with its own table of contents.

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BUSINESS OVERVIEW

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All forward-looking statements in this report are based on the management's current expectations and beliefs about future events, and actual results may differ materially from the expectations and beliefs such statements contain.

Kemira

– KEY FIGURES 2016

- Revenue: EUR 2.4 billion (2.4 billion in 2015)
- Operative EBITDA: EUR 302.5 million (287.3 million)
- Operative EBITDA margin: 12.8% (12.1%)
- Earnings per share: EUR 0.60 (0.47)
- Employees 4,818 (4,685)
- Manufacturing network of 63 (64) sites,
products sold in more than 100 countries
- Financial targets on mid- to long-term: above-the-market
revenue growth, operative EBITDA margin 14–16%,
gearing below 60%
- Headquartered in Helsinki, Finland and
listed on the Nasdaq Helsinki Ltd.

Kemira

TODAY



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, mining and water treatment.

VISION

The first choice in chemistry for water intensive industries

VALUES

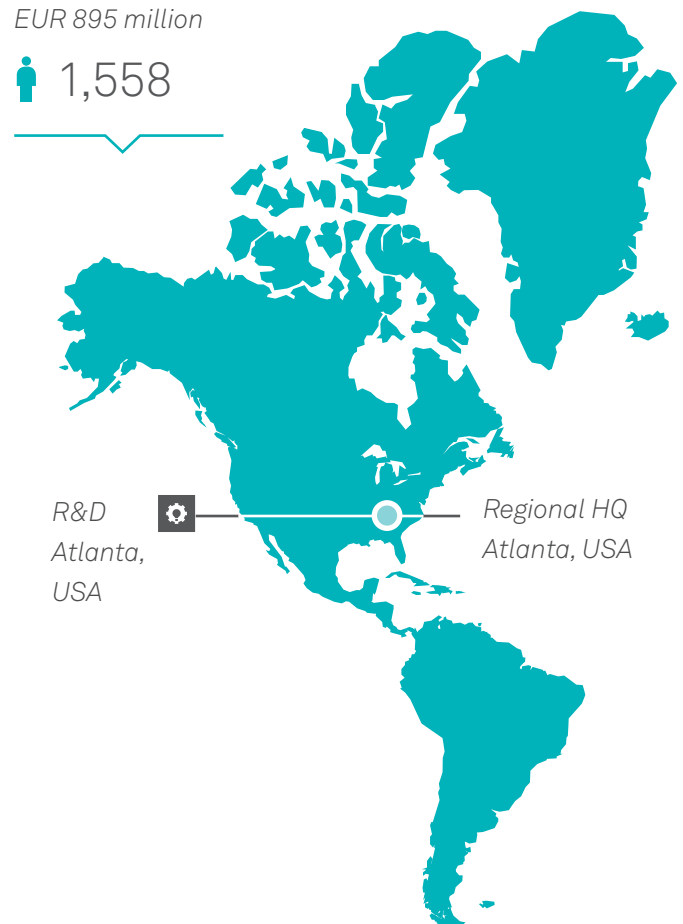
- We are dedicated to customer success
- We drive performance and innovation
- We care for people and the environment
- We succeed together

THE AMERICAS 38%

EUR 895 million



1,558



BUSINESS SEGMENTS:

PULP & PAPER

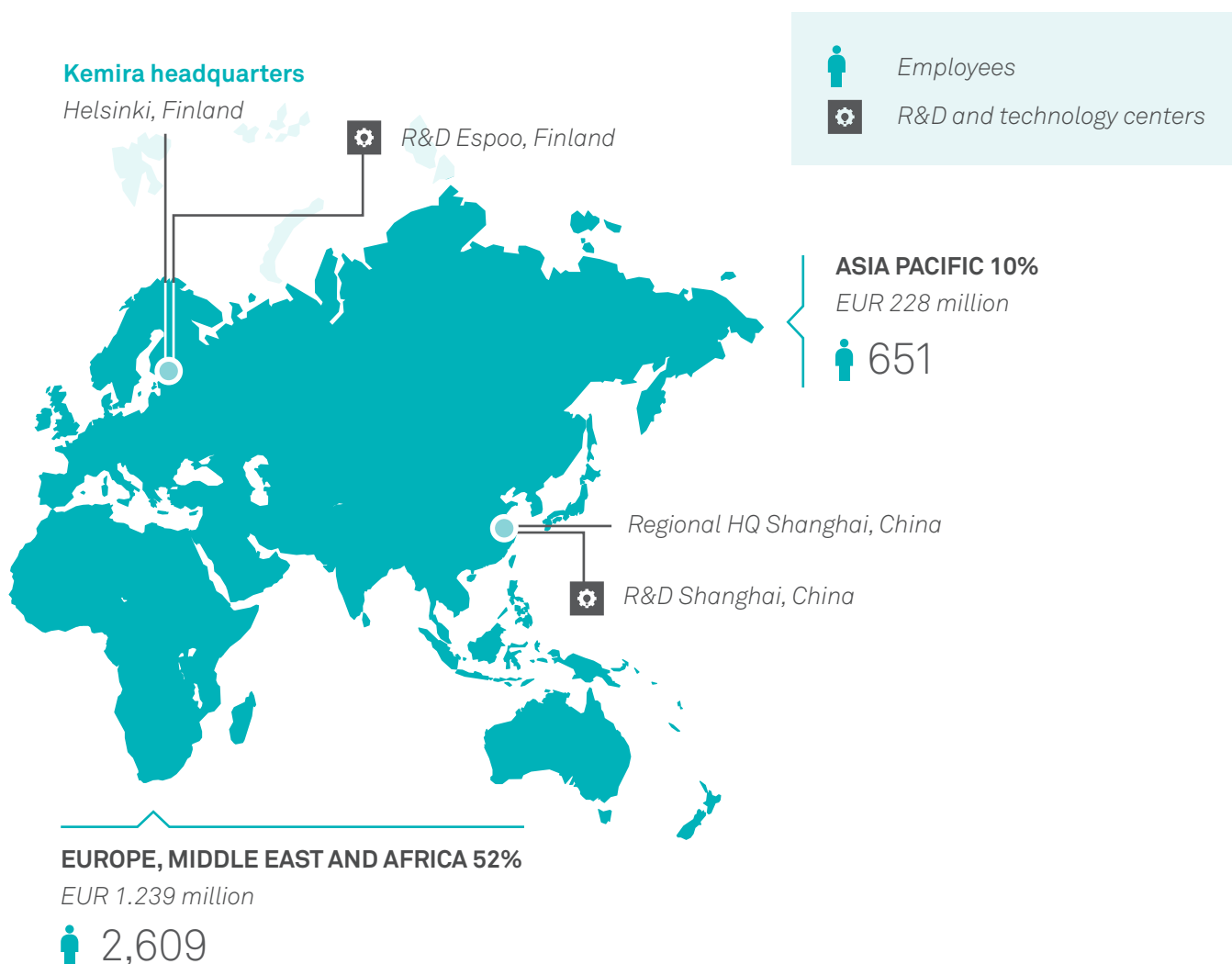
A leading global bleaching, process and functional chemical supplier, #1–2 in all regions.

MUNICIPAL & INDUSTRIAL

Market leader in raw and waste water treatment chemicals, #1 in Europe and North America.

OIL & MINING

A growing chemical supplier to the oil & gas and mining industries, #2 in global polyacrylamide polymers.



CONTINUED IMPROVEMENT IN

profitability



Jari Rosendal | President and CEO



In 2016, we continued to improve our profitability. We have systematically followed our strategic plan, and we are on our way towards our mid-to-long-term financial targets. Our goal is to deliver revenue growth above-the-market with improving profitability.

THE YEAR 2016 IN BRIEF

The year 2016 showed that our action plan is delivering continued improvement in profitability despite adverse developments in oil and gas markets. We progressed a step forward towards our profitability target and achieved operative EBITDA margin of 12.8% (12.1%). Organic revenue growth remained challenging, mainly due to the deflationary pricing environment, declines in oil and gas markets, and tightening competition in the pulp and paper chemicals market. Our full-year revenue amounted to EUR 2.4 billion with organic growth of -2%, mainly due to drop in oil and gas markets.

In September 2016, we updated our mid- to long-term financial targets. Kemira aims for above-the-market revenue growth with operative

EBITDA margin of 14–16%. The gearing target is maintained at below 60%.

OUR STRATEGY FOR PROFITABLE GROWTH

Kemira's vision is to be the first choice in chemistry for water intensive industries. This means we must provide first class expertise, application know-how and chemicals that improve our customers' product quality as well as their process and resource efficiency. It also means that we must operate sustainably, efficiently and safely, while employing the best people with the right service attitude and a passion for our business.

Over the past three years we have been focusing on the following four areas: driving growth, acquisitions, cost discipline, and efficiency. In March 2016, we announced an investment of approximately EUR 50-60 million in the expansion of our production capacity in Joutseno, Finland, aiming to capture growth opportunities in the pulp and paper industry. We have also expanded our production in San Giorgio, Italy, and in Bradford, UK. Our capital expenditure in 2016 was EUR

OVER THE PAST THREE YEARS WE HAVE BEEN FOCUSING ON THE FOLLOWING FOUR AREAS: DRIVING GROWTH, ACQUISITIONS, COST DISCIPLINE, AND EFFICIENCY.

211 million (2015: EUR 305 million), and these investments have all been executed on schedule and on budget. In spring 2016, we successfully started up our new sodium chlorate plant in Ortigueira, Brazil, strengthening our capability to meet growing demand for pulping chemicals in the South American market.

The integration of the AkzoNobel paper chemicals business, acquired in May 2015, has progressed better than expected, so we raised the related cost synergy target from EUR 15 million to EUR 20 million in September. The synergy capture will be at full run-rate by the end of 2017.

During 2016 we launched a new operational excellence program known as BOOST, to improve efficiency and customer experience. We expect this program to bring annual savings run-rate of EUR 20-30 million within 2-3 years. A new partnership with Odyssey, who will start to operate Kemira's external road transportation activities in the EMEA region and North America in 2017, will make a major contribution to the BOOST program's benefits.

Our strategy execution is on track, and we will continue to move forward with regard to delivering our mid-to-long-term financial targets. We remain determined to drive profitable growth through initiatives including Total Chemistry Management (TCM) contracts and additional bleaching chemical capacity in the Pulp & Paper segment; Chemical Enhanced Oil Recovery (CEOR) and oil sands in Oil & Mining; and measures to increase revenue in Municipal & Industrial including Advanced Water Treatment (AWT) applications and geographical expansion in selected regions.

RESPONSIBILITY THROUGHOUT THE VALUE CHAIN

Our corporate responsibility work is guided by the increasing expectations of our customers and other stakeholders, as well as by our own strategy and Code of Conduct, and internationally defined principles. Our work particularly focuses on responsible business practices, sustainable products and solutions, responsible manufacturing, responsibility in our supply chain, and responsibility towards our employees, and local communities wherever we operate.

Thanks to our long-term efforts to enhance health and safety culture throughout Kemira, we have been able to significantly improve our safety performance. The frequency of reported injuries per million hours worked by our employees and contractors decreased to 3.4, compared to 7.2 in 2015. We will continue to invest a lot of time and effort to achieve further improvements in workplace safety.

We create sustainable value by innovating and improving product performance, by reducing the environmental footprint of our value chain, and by improving safety throughout product life cycles. We launched 14 new products in 2016 (2015: 3) and the share of innovation products in total sales increased to 9% by revenue (2015: 8%). Our

innovation sales target is 10% and we will continue our efforts to reach it.

Our main environmental impact is the carbon dioxide emissions from our manufacturing, which we are striving to reduce through energy efficiency improvements and the sourcing of more low-carbon energy. In 2016, we were able to source a higher share of low-carbon energy and we continued to invest in more energy efficient equipment and production lines through our E3plus energy efficiency program. The Kemira Carbon Index improved to 86, and we are on progress to reach our target of reducing the Kemira Carbon Index by 20 percentage points by the end of 2020, compared to the baseline year 2012 (index value = 100).

THE RIGHT MIX

Today, we are number one globally in bleaching, process and functional chemicals for the pulp and paper industry – and also the market leader in waste water treatment chemicals in Europe and North America. Our products are distributed to over 100 countries globally, and we have 4,818 employees in approximately 40 countries. During

WE PROGRESSED WELL
TOWARDS OUR
PROFITABILITY TARGET
AND REACHED
OPERATIVE EBITDA
MARGIN OF 12.8% IN
2016.

the three years I have worked as Kemira's CEO, I have clearly seen that we are a global technology house with excellent in-house chemistry expertise and a profound understanding of different industrial processes. Creating the right mix of these elements will make us the first choice for our customers.

Jari Rosendal
President & CEO

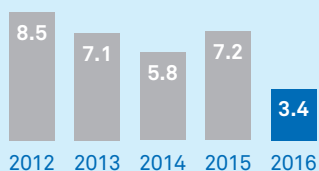
PERFORMANCE 2016

Responsibility towards employees

Occupational health and safety target:

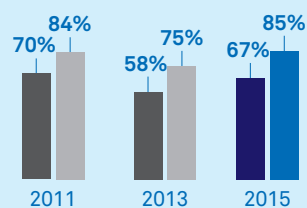
Achieve zero injuries
(TRIF 2.0 by 2020)

Total Recordable Injury Frequency (TRIF), per million hours, Kemira + contractor, 1 year rolling average.



Engagement target:

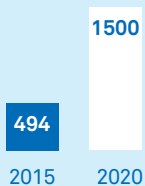
Employee engagement index at or above the external industry norm, participation rate 75% or above.



■ Employee engagement index, % (external norm 2015: 68%)
■ Participation rate, % of total employees

Leadership development target:

Two (2) leadership development activities per people manager position during 2016–2020



Responsibility in our supply chain

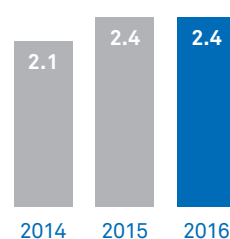
Target: 5 suppliers audited every year during 2016–2020, average.



Financial performance

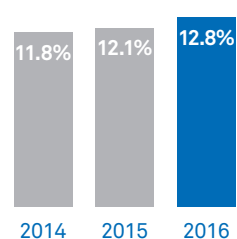
Revenue (EUR billion)

Target: above market growth



Operative EBITDA (%)

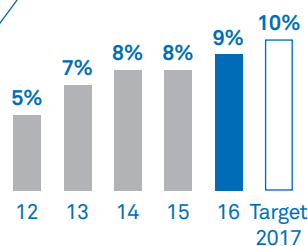
Target: 14–16%



Sustainable products and solutions

Innovation sales target:

10% of total revenue by the end of 2017

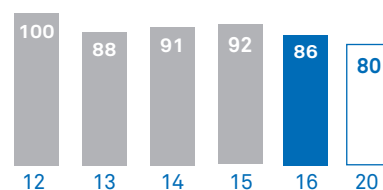


Responsible manufacturing

Climate

change target:

Kemira Carbon Index ≤ 80 by the end of 2020



Business model

Equity: EUR 1,183 million

Interest-bearing liabilities:
EUR 807 million

Cash: EUR 173 million

**Business units in 40 countries,
63 manufacturing sites**

Key relationships: customers, suppliers,
distributors & agents, industrial partners for
secondary raw materials

INPUTS

4,818 professionals worldwide

**250 R&D experts in 3 centers,
over 1,200 patents**

Total materials purchased:

→ 3.5 million tons, 27% recycled

→ Total energy purchased (GWh) 4,426

Differentiation:

→ Unique strategy based
on expertise, application
knowhow and chemicals
for customers in water-
intensive industries.

Product stewardship

→ Ensuring safety of our products

Responsible business practices

→ Compliance to Kemira Code of Conduct

BUSINESS ACTIVITIES

Responsibility for employees

→ Workplace safety
→ Employee engagement
→ Leadership development

Responsible supply chain

→ Sustainability in sourcing and supply
chain management

Responsible manufacturing

→ Lowering costs & environmental
impacts of our operations

OUTPUTS

**Sustainable products and
solutions, market position**
→ Polyacrylamide polymers #2
→ Coagulants #1
→ Sizing #1
→ Chlorate & peroxides #2

Income received from customers

→ EUR 2.4 billion

Services

→ Application support
→ Process control & monitoring
→ Total Chemistry Management

Emissions and waste

→ Scope1 + Scope2 (CO2 eq. tonnes) = 931,000
→ Total waste disposal 82,300 tonnes

OUTCOMES

Customers

→ Product quality or product yield
optimization
→ Process and energy
efficiency
→ Water quality and regulatory
compliance
→ Customer Net Promoter Score: 28
(industry average 26)

Shareholders & lenders

→ EUR 114 million paid in dividends*

Society


→ Purified water, suitable for reuse
→ Sustainable use of biobased materials:
recycled fibers
→ Less water and energy used in
industrial processes
→ More efficient extraction and use of
non-renewable resources: oil, minerals
and water
→ Income taxes paid: EUR 23 million*

on cash basis including interest expenses

OUR STRATEGY FOR

profitable growth

THREE CORE SEGMENTS WITH
STRONG MARKET POSITIONS

 Our focus will continue to be on promoting and supporting profitable growth in three business segments. We gain synergies through similar production technologies and shared manufacturing sites. Polymers are the largest product group used throughout these segments.

PULP & PAPER

62%

of group revenue



Operative EBITDA

13.4 %

Market Position

#1

OIL & MINING

13%

of group revenue



Operative EBITDA

5.9 %

Market Position

#2*

MUNICIPAL & INDUSTRIAL

25%

of group revenue



Operative EBITDA

14.9 %

Market Position

#1

*in polyacrylamide polymers

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 environmental impacts. 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 **Oil & Mining**, we provide a unique combination of innovative knowhow on chemicals and applications that can improve process efficiency and yields in oil, gas and metals recovery. Kemira is the second largest producer of polyacrylamide (PAM) polymers globally. Within the extensive global oil and gas industry we have selected a few attractive niches such as the shale fracking

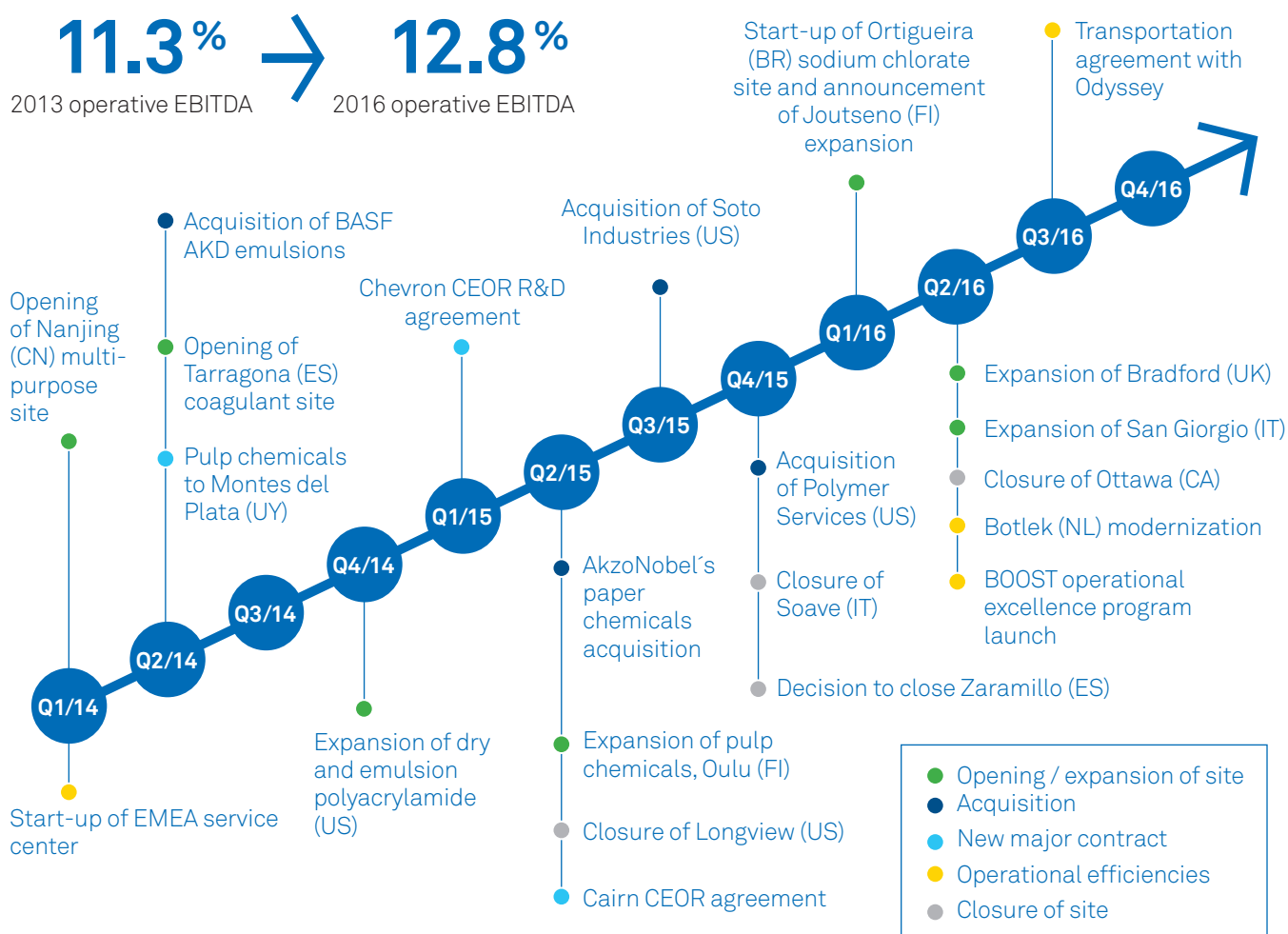
industry. We have a leading market position in friction reducers used in fracking of shale oil and gas. In addition, oil sands and Chemical Enhanced Oil Recovery (CEOR), are attractive growth prospects for the long-term.

In **Municipal & Industrial**, we enable our customers to improve their water treatment efficiency by providing expertise and chemicals for the management of raw and waste water. In this segment we have a market share of around 30% in Europe and North America, but we have also gained ground in selected growth markets such as Singapore and Shanghai. In our focus regions, we are the leading supplier for raw and waste water treatment chemicals.

PROFITABLE GROWTH THROUGH clear, defined actions

ACHIEVEMENTS & ONGOING PROJECTS

11.3% → **12.8%**
2013 operative EBITDA 2016 operative EBITDA



MID- TO LONG-TERM TARGETS

	2014	2015	2016	FINANCIAL TARGETS (mid- to long-term)
Revenue	→ 2.1 <small>EUR billion</small>	2.4 <small>EUR billion</small>	2.4 <small>EUR billion</small> →	Above-the-market growth
Operative EBITDA margin	→ 11.8%	12.1%	12.8% →	14-16%
Gearing	→ 42%	54%	54% →	Below 60%

Over the last three years Kemira has initiated and executed multiple actions to deliver profitable growth. These actions are a key factor behind revenue growth from around EUR 2.2 billion in 2013 to around EUR 2.4 billion in 2016, as well as profitability improvements from 11.3% in 2013 to 12.8% in 2016, despite the adverse developments in the oil and gas markets. The single largest action has been the acquisition of AkzoNobel paper chemicals business, which has brought us additional annual revenue of around EUR 200 million and some 350 experts around the world. This acquisition strengthened our market position in all regions, especially in the APAC region where we are now the #1 chemicals provider to paper, board and tissue mills. The acquisition is also expected to bring around EUR 20 million in synergies on top of the EUR 19 million EBITDA (pro forma 2015) contribution from the existing business. We are very satisfied with the way integration has proceeded, and proud to have new

AkzoNobel employees and products as a part of Kemira's business today, giving us an even stronger market leadership position.

SELECTIVE INVESTMENTS TO SUPPORT FUTURE GROWTH

Kemira is currently in an investment phase, and our capital expenditure in 2016 amounted to EUR 211 million (Capital expenditure including acquisitions, 2015: EUR 305 million, 2014: EUR 145 million). Several site expansions and openings have taken place during the last three years, of which the most recent is a new sodium chlorate site in Ortigueira, Brazil. The site opened in March 2016, exclusively serving Klabin, Brazil's largest pulp producer. Other examples of the investment phase include expansions in Bradford, UK, and San Giorgio, Italy, as well as the upcoming new bleaching chemical production line in Joutseno, Finland.

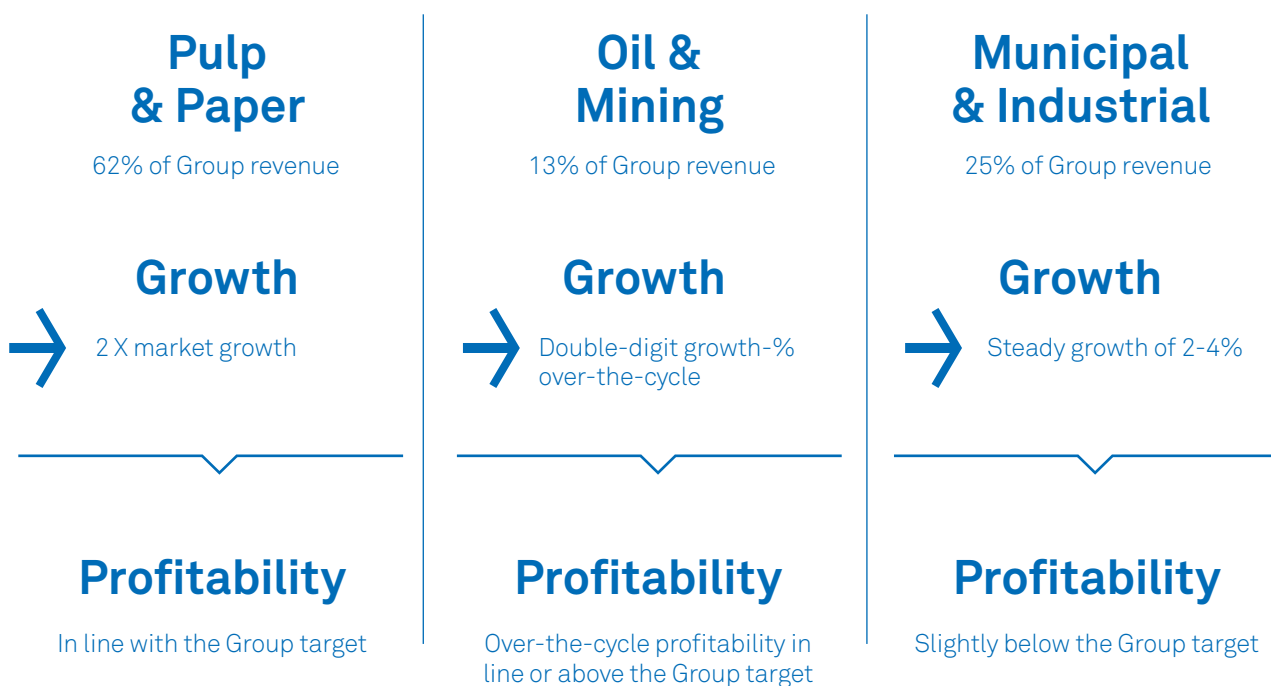
In addition, we have optimized our Group-wide production footprint through prudent cost control. This is essential, since we have to constantly take care of our efficiency to remain competitive. At the end of 2016, we had 63 production sites (compared to 64 in 2015) in 24 different countries. Kemira is well on its way towards its mid- to long-term financial targets. However, the world is unpredictable. Economic cycles affect the supply and cost of certain important raw materials. Currency rates have also been fluctuating substantially, and geopolitical issues such as Brexit have recently arisen. The issues may not impact Kemira directly, but they certainly may have consequences for some of our customers and for entire economies, and therefore they may have indirect impacts on Kemira.

DRIVERS FOR PROFITABLE GROWTH

In **Pulp and Paper**, the cornerstone of revenue and profitability improvement is continuous excellence in all daily operations. Growth in pulp chemicals is driven by our investments in bleaching chemical capacity to meet growing demand in South America and Northern Europe. The newly built capacity in Brazil is now running at full speed, and we are in the process of building a new sodium chlorate line in Joutseno, Finland, to serve primarily the Nordic market. The new line is expected to come into operation in the fourth quarter of 2017. In paper chemicals, our newly launched Total Chemistry Management (TCM) concept has brought us multiple deals, especially in the APAC region, thanks to our one-stop-shop

ALL SEGMENTS AIMING FOR PROFITABLE GROWTH

MID- TO LONG-TERM TARGETS



approach. On the profitability side, synergies from the AkzoNobel's paper chemicals acquisition will continue to ramp up and contribute towards our profitability target.

In **Oil and Mining**, the shale oil and gas market seems to have bottomed in summer 2016. The rig count in the US is an indirect indicator of activity in shale fields, and the number of rigs has risen by 63% from the bottom in spring 2016 to 658 rigs, though the figure is still far below the 1,800 level where it was on average during 2014. We are continuing our efforts for entering Chemical Enhanced Oil Recovery (CEOR). CEOR is an area where it typically takes 12-24 months to develop and tailor the right product to fulfill all customer's needs, relating to factors including specific

conditions in a certain oilfield. This kind of know-how-based and tailored application requirement is very suitable for Kemira, as we have decades of experience in polymer applications. We have also entered oil sands, which is a growth prospect in Canada, as oil producers are required by law to conduct appropriate tailings treatment. We are also focusing on our mining business as well as our process industry portfolio in selected industries.

In **Municipal and Industrial**, we aim to continue with our successful business in existing markets, with wider offerings to the market. We are additionally looking for geographic expansion, selectively going into new areas. Some of our products, such as anti-scalants, are not yet

PROFITABLE GROWTH DRIVERS

Group wide drivers

- BOOST program – operational excellence
- Selective acquisitions

Pulp & Paper

- Winning Formula – Excel in basic game
- Bleaching chemical capacity additions
- New Total Chemistry Management (TCM) contracts
- Capture acquisition synergies

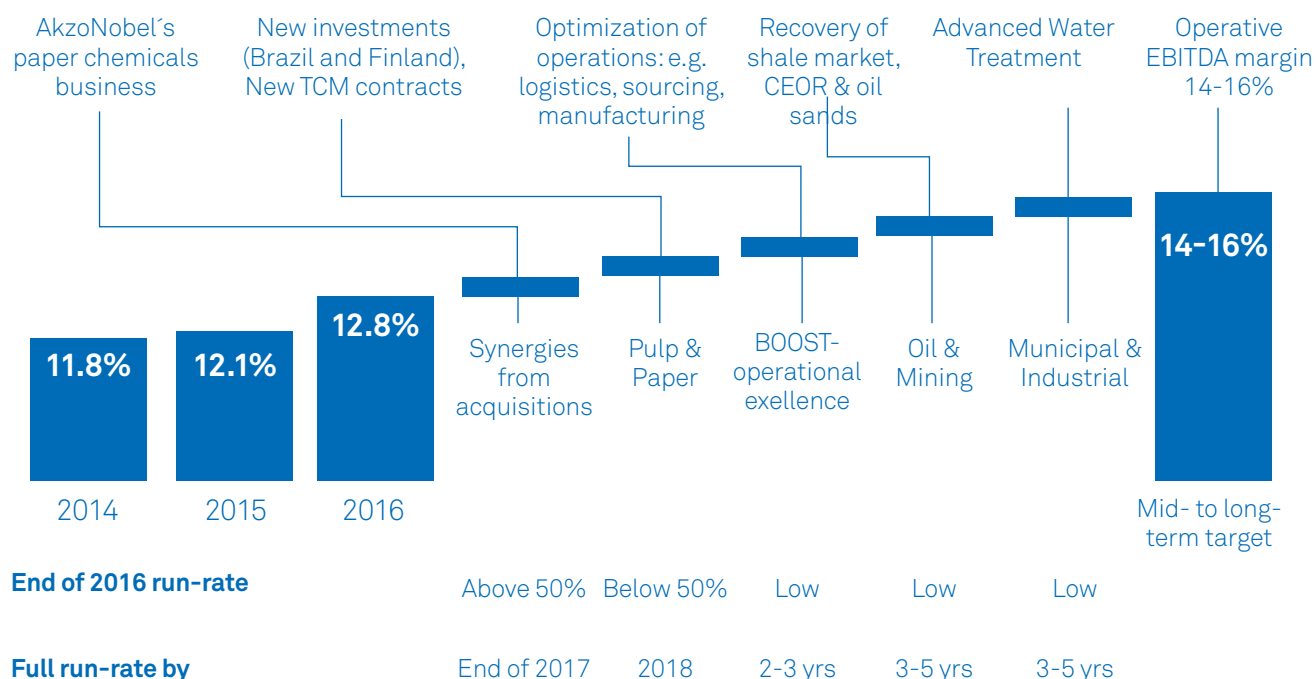
Oil & Mining

- CEOR – tailored polymers for harsh conditions in Chemical Enhanced Oil Recovery
- Oil sands – tailings treatment
- Recovery of shale market

Municipal & Industrial

- Geographic expansion
- Expansion in product offering
- Advanced Water Treatment (AWT)

OUR KEY ACTIONS FOR HIGHER MARGINS



offered to all of our customers. There is an increasing demand for Advanced Water Treatment (AWT) among municipalities for such solutions. We are currently expanding our capabilities and knowhow to serve this market.

In 2016, we launched the new BOOST program to enhance our operational excellence. We operate in 63 manufacturing sites, serving 16,000 ship-to-customers in over 100 countries with a wide product portfolio of more than 2,000 products and we feel convinced that we can extract more out of the company in the future.

Kemira targets above-the-market growth. Annual market growth in the respective chemicals is estimated to be around 2% until

2020. For profitability, the target is operative EBITDA margin of 14–16%. The range takes into account economic cyclicality. We have set clear targets and launched purposeful initiatives how we will improve our financial performance.

People

– MAKING AN IMPACT TOGETHER

EMPLOYER OF CHOICE – OUR JOURNEY SO FAR

We aim to be an employer of choice by ensuring that our diverse workforce enjoy a safe and engaging working environment. We also strive to attract, develop and retain the right mix of talented people for the continued success and growth of Kemira.

BUILDING OUR SAFETY CULTURE

Safety is our first priority in all our locations globally, and our long-term goal is zero harm to people. We are continuously investing a lot of training time and resources to further enhance our safety culture. As an example, in 2016 we started a group-wide Behavior Based Safety program which will be rolled out to all locations. During 2016, the frequency of reported injuries per million hours worked (TRIF) decreased significantly to 3.4, compared to 7.2 in 2015 (covers both Kemira employees and contractors working at our sites and facilities).

EMPLOYER BRANDING

During 2016, we renewed our employer brand concept. We aim to offer employees the right mix of opportunities and challenges in a global and

diverse working environment. Our result-oriented and collaborative culture empowers employees to solve the challenges of tomorrow in an inspiring company, so that together we can have a major impact on the future. We have started implementing the new Employer Brand concept by renewing our Kemira.com/careers site and the implementation will be completed during 2017.

LEADERSHIP DEVELOPMENT

Skilled leaders are key to the successful execution of Kemira's strategy. We continue to help our leaders to develop by running on-the-job learning, stretch projects, coaching and mentoring schemes, and development programs. In 2016, 494 leadership development activities were completed, exceeding our target of 300 for the year.

EMPLOYEE ENGAGEMENT

An engaged workforce is the cornerstone for becoming the employer of choice. We currently measure employee engagement with our biennial Voices@Kemira survey and intervening pulse surveys. In 2016, we ran a brief pulse survey, whose results suggest that our employee engagement levels are stable and in line with industry norms. The latest Voices@Kemira survey was done in 2015.

DIVERSITY

We are an equal opportunity employer. A total of 60 nationalities are represented in our workforce, and our gender split is 74% male and 26% female. The diversity of our workforce supports our organizational performance. In 2016, we defined the diversity principles for the composition of our Board of Directors.

We have defined three differentiating themes for our employer brand:



Making an impact together



Empowering your full potential



Delivering innovation

Innovating together

WITH CUSTOMERS

Kemira's main goal in terms of innovation is to help our customers improve their process efficiency and product quality to make us their first choice. We innovate for the future through customer collaboration, partnerships and open innovation. We utilize the opportunities of digitalization to improve our own efficiency as well as the services offered to customers.

Customers benefit by using our products and solutions to:

- Improve product properties and quality
- Enhance process and energy efficiency
- Ensure that water quality meets end-use specifications and regulatory requirements.

We focus on customer-driven, sustainable innovation. Sustainability reviews are required at every stage of Kemira's New Product Development (NPD) process to ensure that sustainability criteria are met. These evaluations consider impacts on Kemira's own operations as well as on customers' processes. We also aim to identify more sustainable alternatives for raw materials with the help of our NPD process. We always push for solutions that improve sustainability compared to those already available on the market.

Our technical customer support in the field provides a feedback loop to let us know how our products are working in our customers' industrial facilities, how they are serving our customers, and what needs our customers might have in the

future, so we can develop our products further. We are a technology house for chemistry, able to tailor solutions and solve customers' problems – and this is an important differentiator in competition with our peers.

INNOVATING TOGETHER
TO IMPROVE OUR
CUSTOMERS WATER,
ENERGY AND RAW
MATERIAL EFFICIENCY

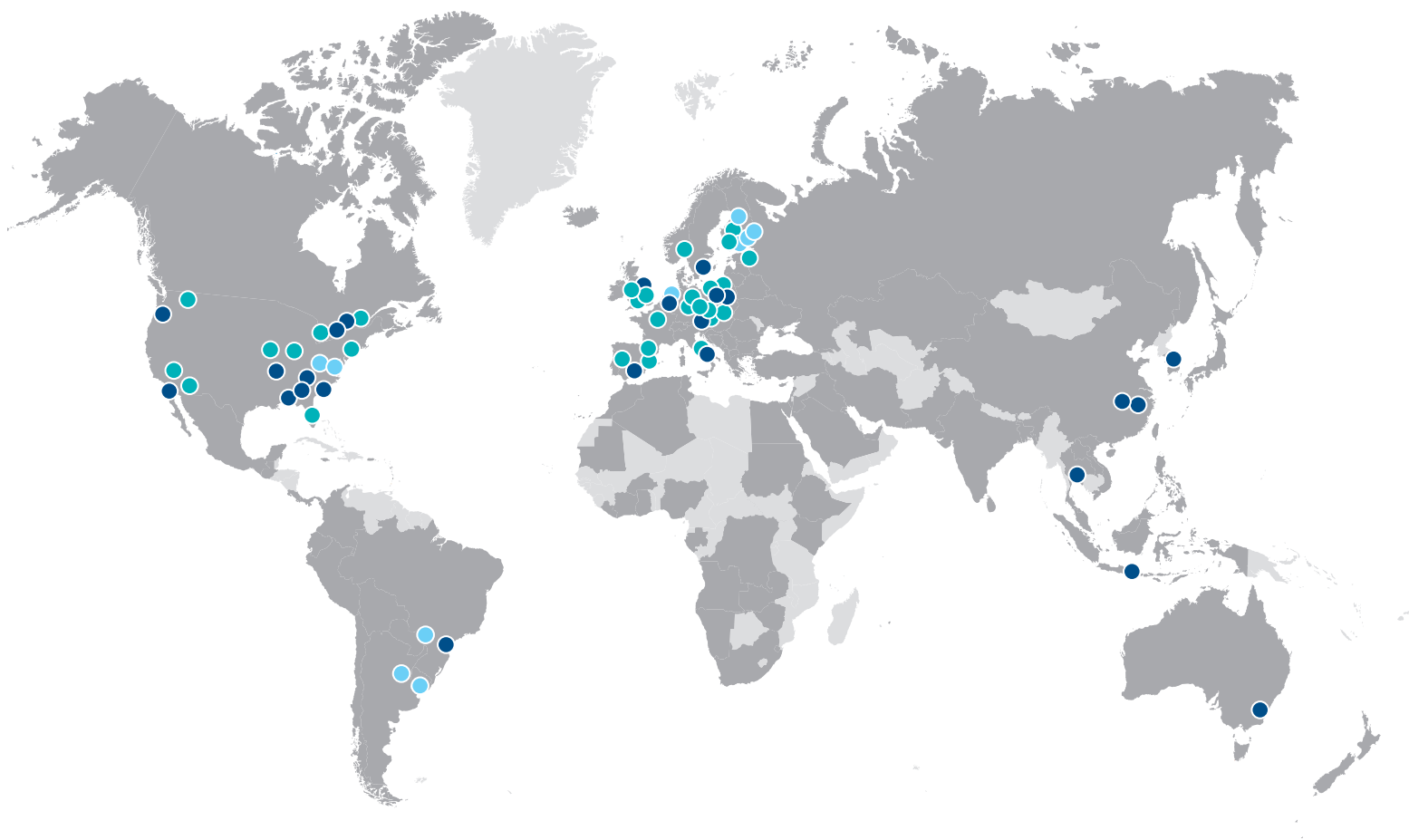
→ 250 EXPERTS IN 3 R&D
CENTERS IN FINLAND,
CHINA AND US

→ 348 PATENT FAMILIES

→ 1,236 GRANTED
PATENTS

→ 860 PENDING PATENTS

Our global network



● Polyacrylamide
polymers and
other process
chemicals (24)

● Coagulants (29)

● Bleaching and
pulp (10)

● Ship-to countries

63 manufacturing
sites

Pulp & P

13.4
%

Operative EBITDA

#1

Market Position

Growth
2 x market growth

LEADING
global pulp and
paper chemical supplier

62%
of group revenue

Profitability
In line with Group target

Profitable growth drivers

Winning Formula –
excel in basic game

Bleaching chemical
capacity additions

New Total Chemistry
Management (TCM)
contracts

Acquisition synergies

Paper

THE LEADING GLOBAL PROVIDER OF CHEMICALS FOR THE PULP AND PAPER INDUSTRY

Growth in the use of pulp & 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 & 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 impacts and a reduced water footprint.



RESULT 2016

Revenue

1,457

EUR million, growth 3%

Operative EBITDA

195

EUR million, margin 13.4%

MARKET POSITIONS

#1 IN EUROPE

#2 IN AMERICAS

#1 IN APAC

PRODUCTS

Share of segment revenue:

35% Bleaching and pulping

25% Strength and sizing

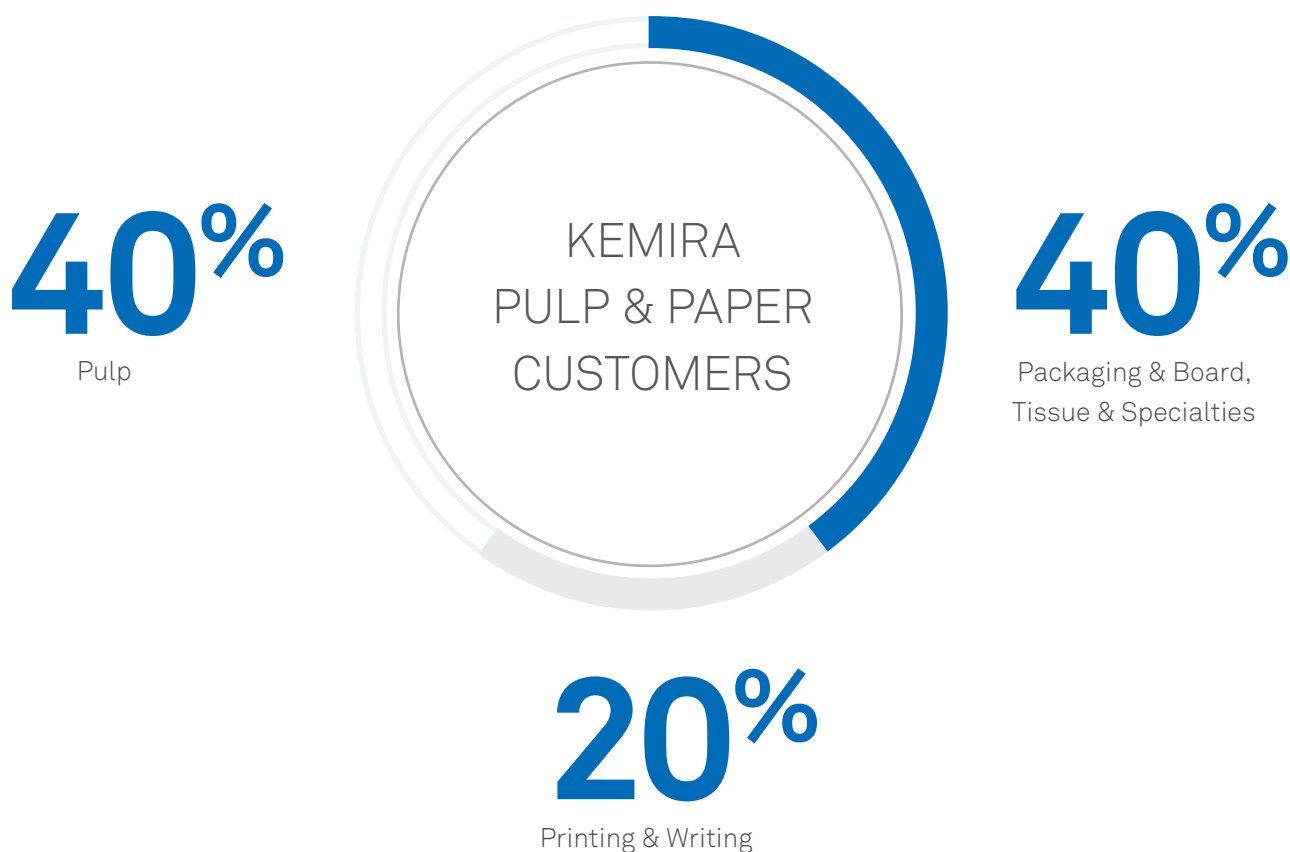
20% Defoamers, dispersants, biocides
and other process chemicals

10% Polymers

10% Other (e.g. paper colorants)

MAJOR RAW MATERIALS

Acrylonitrile, olefins, cationic monomer, tall oil soaps
and crude tall oil, electricity, fatty acids, heavy fuel
oil/natural gas, maleic anhydride, sodium chloride,
sulfur



2016 IN BRIEF

- Volume growth continued, supported by Total Chemistry Management deals in the APAC region, and paper-to-board conversion start-up contracts in the EMEA region.
- Revenue growth impacted by lower sales prices and unfavorable currency fluctuations.
- Strong improvement in profitability, driven by acquisition synergies, new production capacity, higher utilization, and improved gross margin
- Inauguration of a new bleaching chemical plant in Ortigueira, Brazil for Klabin.
- Synergy realization from the AkzoNobel's paper chemicals acquisition proceeded ahead of plan, with the target increased from EUR 15 million to EUR 20 million. Current run-rate at the end of 2016 was EUR 14 million. Contract manufacturing insourcing successfully completed in the Americas. Insourcing progressing according to plan in the EMEA and APAC regions, with completion expected during 2017.
- Announcement of new line for bleaching chemical capacity in Joutseno, Finland. The new capacity is expected to come into operation during the fourth quarter of 2017.

MARKET OUTLOOK

Our Pulp & Paper segment is expected to grow at double the market growth rate. The market's compounded annual growth rate (CAGR) is estimated to be 1.0%. The majority of the growth is expected to occur in emerging markets in South America and the APAC region. Though market growth in the APAC region is expected to slow down slightly, it is still expected to be some 2–3% per annum. There is also an increased demand for pulp chemicals in the Nordic region, where several expansion projects are ongoing or have been announced. Thanks to our comprehensive offering, our global reach and our strong application knowhow, Kemira remains well positioned to serve the pulp and paper industry.

BUSINESS SPECIFICS

- Strategic commitment to the pulp & paper industry
- Customer and application-driven approach
- Offerings adapted to regional requirements
- Innovative partner for customers in the pulp & paper industry

KEMIRA'S COMPETITIVE ADVANTAGES

- Application know-how
- Product performance
- Backward integration into key raw materials
- Comprehensive offering
- Global reach

CUSTOMER VALUE

Improved

- Process efficiency
- End-product features and quality
- Raw material, energy and water efficiency: sustainable innovations

STRATEGIC OBJECTIVE

2 x market growth with improved profitability

How?

- Improve customer experience
- Maximize capacity utilization
- Manage fixed costs
- Reduce complexity
- Enhance performance culture
- Invest in growth and R&D

Oil & Mir

5.9
%

Operative EBITDA

2*

Market Position

* in polyacrylamide polymers

Growth

Double-digit growth-%
over-the-cycle

GROWING
chemical supplier to
oil, gas and mining
industries

13%

of group revenue

Profitability

Over-the-cycle profitability
in line or above the Group target

Profitable growth drivers

Recovery of shale market

CEOR - tailored polymers for harsh
conditions in Chemical Enhanced
Oil Recovery

Oil sands – tailings treatment

mining

INNOVATIVE KNOWHOW ON CHEMICALS AND APPLICATIONS FOR THE OIL, GAS AND MINING INDUSTRIES

Kemira provides a unique combination of knowhow on innovative applications and chemicals that can improve process efficiency and yields in oil, gas and metals recovery. We tailor chemistries for specific process needs, ensuring each customer has the most cost-effective and best-performing product for their particular application and field. We help our customers to extract oil, gas and certain ores with higher resource efficiency, getting more out of existing resources, while also utilizing less water and energy.



RESULT 2016

Revenue

310

EUR million, growth -12%

Operative EBITDA

18

EUR million, margin 5.9%

MARKET POSITION

#2 IN GLOBAL POLYACRYLAMIDE POLYMERS
PRODUCTION

PRODUCTS

Share of segment revenue:

60% Polyacrylamide polymers

40% Other products such as
dispersants, antiscalants,
biocides, emulsifiers,
defoamers

MAJOR RAW MATERIALS

Acrylonitrile, acrylic acid, various monomers

35%

Other industries
through distributors



40%

Oil & Gas

25%

Mining

2016 IN BRIEF

- Revenue decreased due to weak oil and gas markets.
- Signs of recovery in the US shale oil and gas market towards the year end, albeit fragile and at early phase.
- Further business gained in the Canadian oil sands market.
- Progress in the development of tailored products for Chemical Enhanced Oil Recovery (CEOR).
- Restructuring of a manufacturing plant in Botlek, Netherlands.
- Continue to selectively grow our process industry portfolio.

MARKET OUTLOOK

Volatile market conditions are likely to continue going into 2017. Being a technology and value provider, Kemira is well positioned to weather the fluctuations in the market. Recovery of shale market, oil sands and Chemical Enhanced Oil Recovery (CEOR) present long-term growth opportunities in Oil & Mining segment.

BUSINESS SPECIFICS

- Application-driven approach
- Focus on rapid innovation to solve our customers' critical challenges

KEMIRA'S COMPETITIVE ADVANTAGES

- Innovative knowhow on chemicals and applications
- 2nd largest manufacturer of polyacrylamides worldwide

CUSTOMER VALUE

Improved

- Process efficiency
- Yield
- Cost efficiency
- Water efficiency
- Energy efficiency
- Compliance with environmental regulation

STRATEGIC OBJECTIVE

Recovery in shale business, and growth in new applications like Chemical Enhanced Oil Recovery and oil sands.

How?

- Improve customer experience
- Maximize capacity utilization
- Manage fixed costs
- Reduce complexity
- Enhance performance culture
- Invest in growth and R&D

Municipal Indus

14.9
%

Operative EBITDA

1

Market Position,
EU & North America

Growth

Steady growth of 2-4%

MARKET LEADER
in water treatment
chemicals in Europe
and North America

25%

of group revenue

Profitability

Slightly below Group target

Profitable growth drivers

Geographic expansion

Expansion in product offering

Advanced Water
Treatment (AWT)

& Industrial

MARKET LEADER IN RAW AND WASTE WATER TREATMENT CHEMICALS

The market for Kemira's Municipal & Industrial segment is driven by regulation. Kemira is helping municipalities, private operators and water intensive industries to advance through the transition towards a circular economy by enabling water to be reused, and by improving the efficiency of water treatment at every stage of water management. We are the leading chemicals supplier for raw water, waste water and sludge treatment applications in Europe and North America, and the only manufacturer offering a full product portfolio of coagulants, polyacrylamide polymers and other water treatment chemicals. This makes our position in the market unique.



RESULT 2016

Revenue

596

EUR million, growth -2%

Operative EBITDA

89

EUR million, margin 14.9%

MARKET POSITIONS

#1 IN EUROPE

#1 IN NORTH AMERICA

PRODUCTS

Share of segment revenue:

65% Coagulants

20% Polyacrylamide polymers

15% Other products such as antiscalants,
defoamers and biocides

MAJOR RAW MATERIALS

- 60–70% secondary input materials:
participating in local and flexible by-product
streams
- Acrylonitrile, sulfuric acid, hydrochloric acid,
aluminum hydrate, iron ore, pickling liquor,
copperas (ferrous sulfate)

40%

Industrial customers



60%

Municipal customers

2016 IN BRIEF

- Volume growth in line with market growth. Lower sales prices have impacted revenue development.
- Market position remains strong in our key markets.
- Advanced Water Treatment initiatives progressing well, e.g. on-line monitoring and control based applications for sludge dewatering and odor control.
- Strong operative EBITDA margin improvement from 13.7% to 14.9%, driven by better operational performance, customer focus and lower raw material prices.
- North American business impacted by raw material supply disruption, which was solved operationally during the year.
- Closures of manufacturing plants in Zaramillo, Spain, and Ottawa, Canada.

MARKET OUTLOOK

Our Municipal & Industrial segment's strategic intent is to grow by 2–4% annually, and to further improve profitability and maximize cash flow. For us to achieve greater growth figures, water treatment will need to be more strongly regulated and enforced – especially in emerging markets.

BUSINESS SPECIFICS

- Regulation-driven business
- Local business
- Municipal tenders
- Raw material backward integration
- Large customer base

KEMIRA'S COMPETITIVE ADVANTAGES

- Security of supply, speed, and logistics flexibility
- Expertise and decades of knowledge in water treatment applications
- Comprehensive portfolio
- Backward integration into other industries' by-products through long-term partnerships
- Extensive manufacturing network in mature markets

CUSTOMER VALUE

Improved

- Water treatment process reliability and efficiency: total water cycle management
- Regulatory compliance and beyond

STRATEGIC OBJECTIVE

Steady growth and cash flow generation

How?

- Further strengthen the base business in raw and waste water treatment
- Build on top of our strong existing customer base with innovation-driven Advanced Water Treatment applications
- Selective geographic expansion in Middle East, Africa and APAC
- Expand product offering by introducing existing products into new markets

RISKS & OPPORTUNITIES

CHANGES IN CUSTOMER DEMAND



OPPORTUNITIES

- Rising demand for sustainable solutions for: packaging, board and tissue grades; chemistries enabling water recycling and reuse; and technologies enabling unconventional oil and gas recovery and enhanced conventional oil recovery

RISKS

- Further decline in demand for printing and graphical paper grades, leading to mergers and mill closures
- Prolonged/further slowdown in oil, gas and mining activity, due to soft market conditions
- Shift in demand towards water treatment technologies with lower chemical consumption
- Unforeseen customer production slowdowns

CHANGES IN LAWS AND REGULATIONS



OPPORTUNITIES

- Increased demand for chemical treatment of water, due to stricter regulation and enforcement
- Regulatory developments expected to favor recycling and reuse of resources

RISKS

- Regulatory developments creating pressure to replace chemicals with other substances or technologies
- Bans/restrictions on substances used in Kemira's production
- Changing regulations on import/export and customs, increasing the need to effectively monitor and master global trade compliance

CHANGES IN COMPETITION



OPPORTUNITIES

- Large customers looking for a strategic supplier with a global footprint and commitment to their line of industry
- New product and service concepts such as all-encompassing chemistry management and increased use of digitalization
- Sustainability and compliance aspects emphasized in partner selection

RISKS

- Major competitor or customer consolidations that could reshape market positions
- New standard commodity chemical producers entering the market

CHANGES IN RAW MATERIAL COSTS & AVAILABILITY



OPPORTUNITIES

- Efficiencies brought by active price and inventory management and forecasting
- Bio-based materials increasingly favored as an alternative to fossil-based materials

RISKS

- Increased costs impact profitability
- Dependency on a single source for raw material supply
- Breaks or disturbances in the availability of key raw materials

MANAGEMENT APPROACH

- Systematic monitoring of market development
- Focus on improved sustainability of products and solutions
- Customer intimacy and innovation
- Geographic and customer-industry diversity
- Comprehensive & diversified portfolio
- Flexible manufacturing network with competitive scale
- Active communications spotlighting the benefits of Kemira's technologies

MANAGEMENT APPROACH

- Proactive follow-up and participation in regulatory discussions relating to chemical substances, water treatment and the circular economy
- Active evaluation of alternatives to debated substances
- Focus on R&D: innovations enabling more efficient use and recycling of resources
- Increased focus and resource allocation for company compliance matters (incl. trade compliance)

MANAGEMENT APPROACH

- Regular strategy reviews to reflect changes in the competitive situation
- Close follow-up of competitive activity
- Investments in competencies and capabilities
- Differentiation and customer intimacy
- Participation in market consolidation and active M&A monitoring
- Continuous systematic and joint development of new product and service concepts

MANAGEMENT APPROACH

- Comprehensive strategic approach to sourcing
- Strategic purchase contracts, backward integration, tracking of prices of key raw materials
- Captive manufacturing of critical raw materials
- Strategic investment in energy-generating companies, and the hedging of a portion of the Group's energy and electricity spend

COMPETITION FOR KEY TALENT



OPPORTUNITIES

- Attractive employer status in many areas, thanks to market-leading knowhow and people processes

RISKS

- Key talent attracted by value chain players

POTENTIAL FOR HAZARD & REPUTATIONAL DAMAGE



OPPORTUNITIES

- Ability to demonstrate high performance and compliance with standards and expectations, giving us an advantage over smaller players

RISKS

- Possible harmful incidents such as process safety deficiencies, machinery breakdowns, environmental damage, or employee health and safety incidents, together with the consequent financial losses and brand damage
- Unauthorized IT system access or damage caused by computer malware/viruses, resulting in physical damage or financial losses

ADVERSE DEVELOPMENTS IN INNOVATION CAPABILITY



OPPORTUNITIES

- Kemira's ability to innovate for resource efficiency, circular economy and bioeconomy together with customers

RISKS

- New disruptive technologies by competitors
- Slow product portfolio renewal, lack of differentiation
- Failure in raising awareness regarding new products and service concepts and related competitive advantages

GEOPOLITICAL CHANGES



OPPORTUNITIES

- New geographical markets become accessible

RISKS

- Business interference or other adverse consequences caused by political actions, trade-related political decisions or economic uncertainties, either globally or in countries strategically important to Kemira

MANAGEMENT APPROACH

- Continuous identification of high potentials and key competencies for meeting future needs
- Development and improvement of compensation schemes, learning programs, and career development programs
- Systematic approach and commitment to employee engagement
- Collaboration with educational institutes, employer branding

MANAGEMENT APPROACH

- Systematic focus on achieving set targets and implementing certified management systems, efficient hazard prevention programs and related reporting, crisis management procedures, and personnel competency development
- Insurance programs protecting the company against the financial impacts of eventual hazards
- Systematic risk analyses and continuous improvements in procedural, technical and physical protection mechanisms

MANAGEMENT APPROACH

- Customer intimacy and co-creation
- Innovation metrics and sustainability checks
- Differentiated products and technologies, application knowhow
- Monitoring and scouting for new technologies
- Ensuring adequate marketing and technical sales expertise and training

MANAGEMENT APPROACH

- Continuous monitoring and consideration of geopolitical movements and changes, followed by appropriate business adjustments

kemira

Where water
meets chemistry™

