

# Fact sheet: AkzoNobel Specialty Chemicals

March, 2018

## AkzoNobel

SPECIALTY CHEMICALS



Industries worldwide rely on our essential chemistry in the manufacture of everyday products such as paper, plastics, building materials, and personal care items. Building on the dedication of our employees and our shared commitment to safety, sustainability, and open innovation, we have established a world-class business and built strong partnerships with our customers.

With 9,700 employees we operate in over 80 countries around the world and our portfolio of industry leading brands includes Eka, Dissolvine, Trigonox, and Berol.

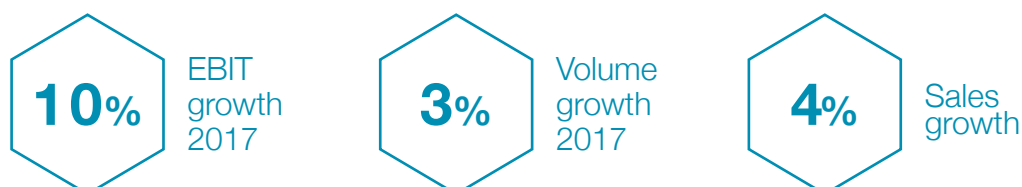
Chief Executive Officer  
**Werner Fuhrmann**

### 2017 key results

Revenue	<b>€4,985 million</b>
EBIT	<b>€689 million</b>
ROS <sup>1)</sup>	<b>13.8%</b>
ROI <sup>2)</sup>	<b>19.1%</b>

## Growth

We focus on continuous improvement and supplying sustainable solutions to grow with our customers. We have continued to expand capacity and work on product and process innovations that have allowed us to increase both volumes and profitability.



### Expanding production

We have announced or completed capacity expansion across all our businesses and regions.

These include:

- Surface Chemistry in China
- Sulfur Derivatives in the US
- Chelates and Micronutrients in Sweden
- Polymer Chemistry in China and Mexico
- Industrial Chemicals in Denmark, Germany, India, the Netherlands and Spain
- Pulp and Performance Chemicals in Sweden and Brazil

### Product and process innovations

- A newly developed flotation collector for the mining industry, part of our Lilaflot product line, provides a more sustainable option with lower toxicity than conventional products without compromising on performance.
- We have developed a novel technology platform for producing ethylene amines and their derivatives from ethylene oxide. As well as significantly reducing raw material consumption per ton of product, it also offers a substantially improved cost and sustainability profile when compared with existing processes.
- Perkadox 16-xps organic peroxide paste has several advantages over the powder-based pure form. It is pumpable and faster-dissolving as well as being safer, with a more favorable storage class. It is used in the manufacture of several key resins, including those used as sewer linings and in sanitary ware.

<sup>1)</sup> Return on sales (in %) = EBIT/revenue

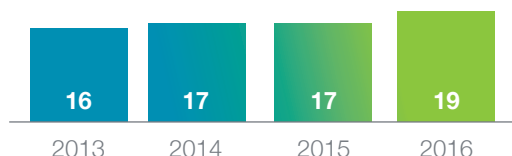
<sup>2)</sup> Return on investment (in %) = 12 months EBIT/12 months average invested capital

# Sustainability

We continue to do more with less, reducing carbon emissions through a combination of improved energy efficiency, increased use of renewable energy and higher use of bio-based raw materials in production. Downstream, we focus on expanding our portfolio of eco-premium products, which have a significant sustainability benefit over common alternatives.

## Eco-premium solutions with customer benefits

(% of revenue)



## Recent developments

- Joint agreements for the development of wind parks Krammer and Bouwdokken in the Netherlands will provide sustainable electricity equivalent to the annual consumption of 140,000 households.
- The opening of a new biosteam facility in Delfzijl, the Netherlands, will help reduce CO<sub>2</sub> emissions by 100,000 tons per year.
- A contract with Vattenfall will enable us to increase renewable electricity supply in the Nordics to 100% by 2020.
- We signed an innovative energy supply and management agreement with Vattenfall. It enables us to optimize costs as well as underlines our commitment to using more sustainable energy resources as it allows us to balance swings in supply of electricity, particularly that generated by wind and solar power.

# Innovation

We believe that breakthrough solutions require collaboration across the value chain, and we continue to forge resilient partnerships through a model of open innovation.

## Recent initiatives

- Multiple partnerships are in place to expand innovations for bio-based chemicals, including a cooperation with Photanol for chemicals from photosynthesis; with Itaconix for bio-based polymers; with Royal Cosun for chemicals from sugar; and with Avantium for chemicals from wood.
- Following a framework agreement with Itaconix for the development and commercialization of bio-based polymers, two application agreements have been signed to date.
- The global Imagine Chemistry challenge resulted in over 200 submissions in 2017 from startups, scale-ups and scientists to help solve real-life challenges for more sustainable chemistry. Ten winners will see their innovative ideas move a step closer to reality.
- We signed an agreement that will transform our RD&I site in Deventer, the Netherlands, into an innovation center for entrepreneurs, industry and knowledge institutes in highly-reactive chemistry and technology.
- Important steps towards the circular economy are made in Rotterdam, the Netherlands, where AkzoNobel is exploring the feasibility of converting waste to chemistry, together with Air Liquide, Enkernem and Port of Rotterdam.

<sup>3)</sup> AkzoNobel overall for 2016

<sup>4)</sup> In 2016

<sup>5)</sup> AkzoNobel overall

40%<sup>3)</sup>

Fraction of energy portfolio based on renewable energy

9%<sup>4)</sup>

Improvement CO<sub>2</sub>(e) per ton of sales from 2012 cradle-to-grave carbon footprint

#1

in the Dow Jones Sustainability Index<sup>5)</sup>



€100 million

Invested in RD&I per year

5,000+

Patents

**AkzoNobel**  
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# Business units

## Polymer Chemistry

Organic peroxides, metal alkyls, organometallic specialties, and polymer additives.

### Key brands

**Butanox®**  
**Trigonox®**  
**Perkadox®**

### Did you know?

The “bounce” in your shoe is provided by crosslinking plastics and rubbers, a technique made possible thanks to our organic peroxides.

## Ethylene and Sulfur Derivatives

Cellulosics, ethylene amines, ethylene oxide, chelates, micronutrients, polysulfides, and sulfur products.

### Key brands



### Did you know?

Our ethylene amines make asphalt stronger and more durable, reducing the need for road work and keeping roads safe so you can sit back and enjoy the ride.

## Industrial Chemicals

Salt, chlorine, caustic lye, hydrochloric acid, chloromethanes, and monochloroacetic acid (MCA).

### Key brands

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### Did you know?

Salt is not only an essential ingredient in our kitchen, but the chlorine derived from it also serves as the basis for a range of products, including PVC.

## Pulp and Performance Chemicals

Sodium chlorate, hydrogen peroxide, silica-based technologies, and expandable microspheres.

### Key brands

**eka**  
**Levasil** Colloidal Silica

**Expancel**  
**Kromasil**

### Did you know?

Expancel is not only lightweight, but can grow up to 60 times in volume when heated, providing resilience to products ranging from wine corks to lightweight boats.

## Surface Chemistry

Amines, alkoxylates, special polymers, and natural oil and fat-based nitrogen surfactants.

### Key brands



### Did you know?

AkzoNobel is the global market leader in film formers for hairsprays. This is the “glue” that holds your hair in place and helps maintain your hairstyle in high humidity.

### An industry leader achieving its full potential

Industries worldwide rely on our specialty chemicals to manufacture everyday essentials such as paper, plastics, detergents, and ingredients for the construction, agricultural, and pharmaceutical sectors.

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