

# Evonik

# Leading Beyond Chemistry

Strategy Update 2020

New divisional structure & Innovation

May 7, 2020

# Rationale for new management and reporting structure

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**Clearly defined strategic roles**

**3 “Growth” divisions with >3% volume growth target  
Performance Materials as “Efficiency” division**



**More homogeneous divisions**

**Common themes & trends in growth divisions**



**Higher transparency**

**4 divisions; sales split for sub-divisions**



**More efficient internal management**

**Clear-cut technology platforms**



**Leaner organization**

**Reduction of 150 FTE, €25 m p.a. savings by end of 2021<sup>1</sup>**

1: mainly in cross-segment- and administrative functions in the operating segments

# New divisional structure

## Growth divisions with common themes and attractive growth drivers

### Specialty Additives



### Nutrition & Care



### Smart Materials



### Performance Materials



### Portrait

Broad spectrum of **additives solutions** for maximum performance which **make the key difference** in industrial applications for coatings, polyurethane foam & lubricants

**Sustainable solutions** for basic human needs **in resilient end markets** like pharma, personal care & animal nutrition

Innovative materials for **resource-saving solutions** and **substitution of conventional materials** in environmental, mobility and construction end markets

**Efficient platforms** for production of high-volume intermediates for mobility, plastics & rubber as well as superabsorbent polymers for consumer applications

### Main Growth Drivers

- More sophisticated additive effects
- Environmentally-friendly additives

- Social trends in health, well-being and nutrition
- Natural-based ingredients
- Biotechnology and fermentation

- Saving resources
- Use of lightweight materials
- Stricter regulation and safety standards

- Focus on efficiency in production & procurement

# New divisional structure

## Technology platforms and end market exposure

Specialty Additives	Nutrition & Care	Smart Materials	Performance Materials
<b>Technology platforms</b>			
<ul style="list-style-type: none"> <li>▪ Silicone chemistry</li> <li>▪ Isophorone platform</li> <li>▪ Amines platform</li> </ul>	<ul style="list-style-type: none"> <li>▪ Biotechnology / Fermentation</li> <li>▪ Methionine platform</li> <li>▪ Oleo chemistry</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inorganic particle design</li> <li>▪ Specialty polymers</li> <li>▪ Active oxygens</li> <li>▪ Process catalysts</li> </ul>	<ul style="list-style-type: none"> <li>▪ C4 processing and derivatizing</li> <li>▪ Polymer know-how</li> </ul>
<b>Key products &amp; global market positions</b>			
<ul style="list-style-type: none"> <li>▪ #1-2 in Coating Additives</li> <li>▪ #1 in PU Additives</li> <li>▪ #1 in Viscosity Modifiers (for lubricants)</li> </ul>	<ul style="list-style-type: none"> <li>▪ #1 in Methionine</li> <li>▪ Strong position in Active Cosmetic Ingredients</li> <li>▪ #2 in Drug Delivery Systems</li> </ul>	<ul style="list-style-type: none"> <li>▪ #1 in Silica</li> <li>▪ #2 in H<sub>2</sub>O<sub>2</sub></li> <li>▪ Leading in Catalysts<sup>1</sup></li> <li>▪ #1 in PA12</li> </ul>	<ul style="list-style-type: none"> <li>▪ C4 Derivatives</li> <li>▪ Superabsorbers</li> </ul>
<b>End market split</b>			

1: #2 in activated nickel catalysts, #3 in Oil & fat hydrogenation catalysts

# Specialty Additives – Key characteristics

Leading Specialty Additives portfolio for maximum customer value

## Key characteristics

- Leading portfolio of **additive solutions** for maximum performance which **make the key difference**
- **Minor share of cost** in customers' end products
- **Unique formulation know-how** guarantees **deep integration** into customers' innovation processes



## Growth drivers

- Trend towards **more sophisticated additive effects**
- Constantly rising demand for **environmentally-friendly solutions**
- Leverage capabilities in **silicone and amine technology platforms** into new applications



# Specialty Additives – Growth drivers

Additives solutions making the key difference in various applications

## Less maintenance



### *Rust doesn't stand a chance*

**Crosslinkers** for composite-reinforced bars with outstanding mechanical and chemical properties

Global corrosion cost ~**US\$2.5 tn** Prevention best practices can reduce costs by **15-35%**

## Less energy



### *Colder drinks for less money*

**PU foam surfactants** create performance advantages in insulating foams for appliances and buildings

Reducing the electricity bill **with increased sustainability**

## More protection



### *The paint stays put*

**Additives for paint systems** creating a lasting barrier against chemical cleaning agents

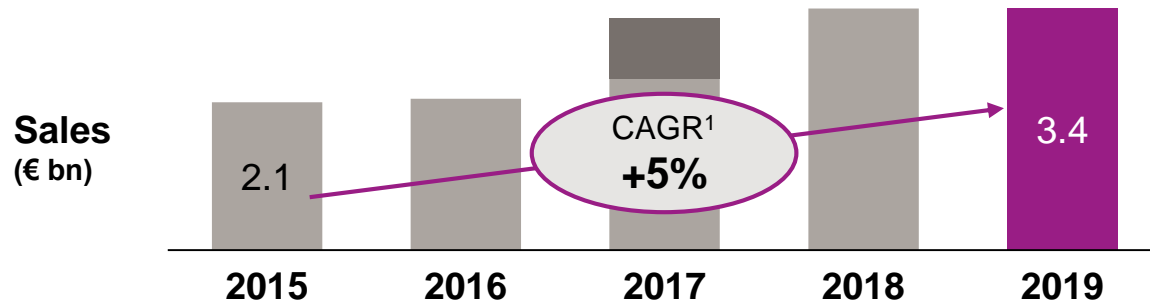
Protecting rail car surfaces and helping to **avoid €30,000 of repainting costs**

# Specialty Additives – Financials

Continue strong growth track record on very attractive margin level

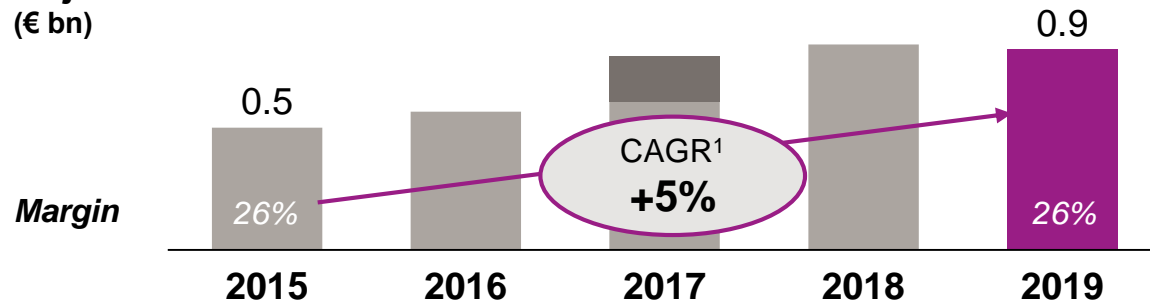
## Specialty Additives

■ APD acquisition



- Steady **earnings growth** and **outstanding 26% margin level**
- Strong track record of **pricing power** and good volume development
- Attractive **ROCE of ~18% in 2019** (including APD goodwill)

Adj. EBITDA (€ bn)



- **Ambitions going forward:**
  - Continue **strong growth track record**
  - Maintain **very attractive margin level**

1: Organic Sales / EBITDA CAGR = adjusted for APD acquisition

# Specialty Additives – Strategic agenda

Strategic agenda to drive growth and expand market leadership



## Portfolio development

- **Expand leading additives portfolio** towards environmentally-friendly systems and formulations
- Exploit new applications via **innovation** and **customer application development**



## Investments

- Continue successful **capex-light** approach
- Ongoing **expansions** and **debottleneckings**

Capex/sales:  
~4%<sup>1</sup>



## M&A

- Additives portfolio offers bolt-on **M&A opportunities** in complementary products and technologies



# Nutrition & Care – Key characteristics

## Sustainable solutions in defensive end markets

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### Key characteristics

- **Resilient business models** in defensive end markets
- Unique combination of **technology infrastructure and customer-centric formulation know-how**
- **Close partnerships and R&D collaborations** with leading personal care and pharma players



### Growth drivers

- **Social trends** for sustainable nutrition and natural-based cosmetics ingredients
- **Leading biotech / fermentation know-how** offers new growth arenas

# Nutrition & Care – Growth drivers

## Leading position in the growing market for fermentation-based materials

### Strong foundation in microbial fermentation...

- **> 30 years** industry expertise
- **> 25 fermentation-based products commercialized**
- Wide range of bacteria, yeast and algae-based organisms used in strain development and fermentation
- Global network of sites across Europe, USA and Asia
  - **> 7,000m<sup>3</sup> fermentation capacity** - One of the industry's largest players
- Internal and CMO projects in high-growth areas:
  - e.g. **protein fermentation** of food ingredients and biofabricated materials (e.g. leather)

### ...with an outstanding project pipeline



- Algae fermentation for omega-3 EPA / DHA in salmon aquaculture
- Production facility in Nebraska, USA
- Latest innovation: recombinant collagen platform
- Fermentation-based & animal-free
- ~€1.5 bn accessible collagen market for pharma & healthcare
- Contract manufacturing and industrialization projects with large & growing list of innovators
- Protein fermentation, pharma

# Nutrition & Care – Growth drivers

## Strong setup for future growth in Care Solutions

Expansion of technology portfolio  
in natural-based ingredients...

...delivering outstanding customer benefits

2016



- Botanical Extracts  
*“Consumer request for sustainable sourced botanicals”*

2017

**drstraetmans**

intelligence behind beauty

- Alternative preservatives & Formulation service  
*“Consumers demand alternative solutions to parabens – which are by far more complex to formulate”*

2020



- Natural products  
*“Plant-derived active ingredients and intermediates”*

Transformation into a  
**sustainable specialty products provider**  
to provide outstanding formulation concepts

**Peptides &  
Amino acids**



**Biopolymers**

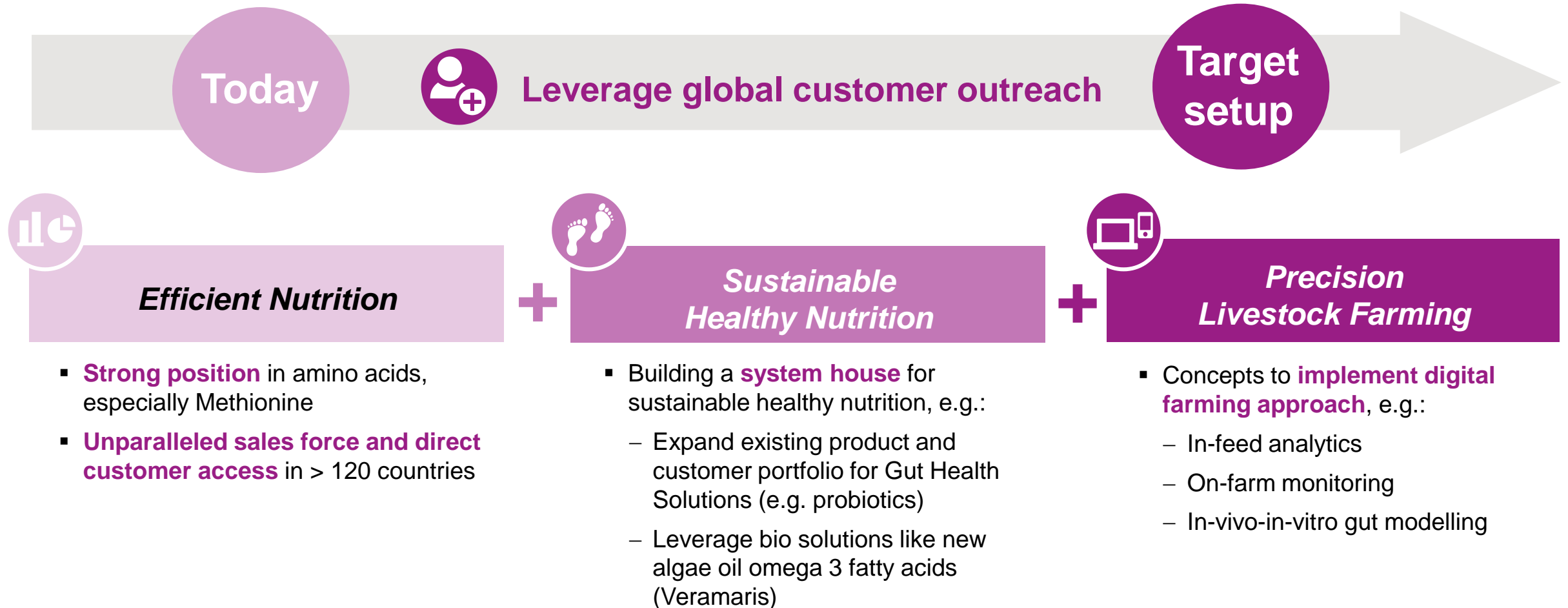


**Plant extracts &  
Phytochemicals**



# Animal Nutrition transformation

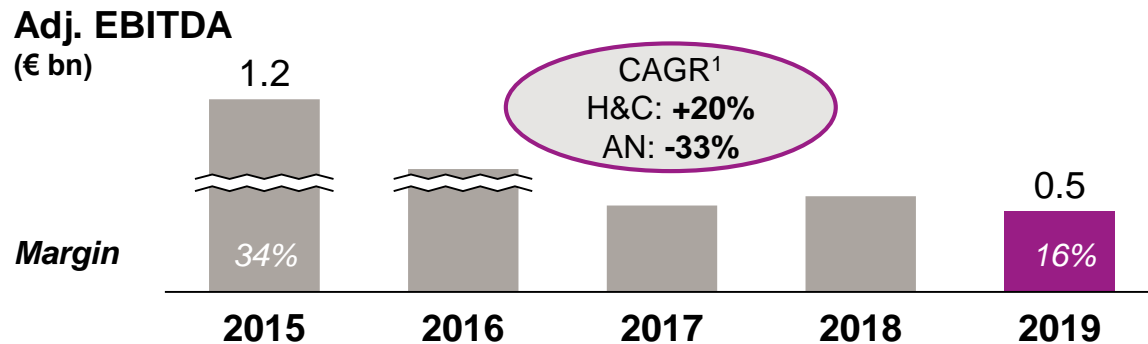
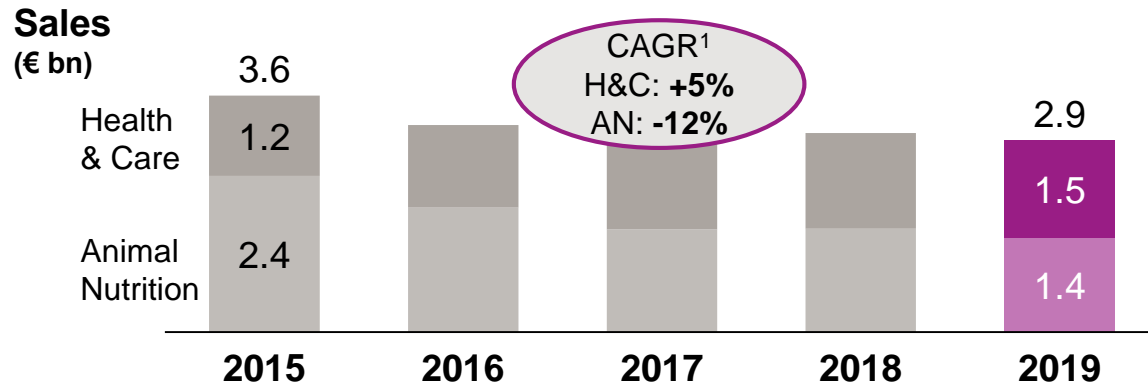
From Amino Acid producer into system house for sustainable nutrition



# Nutrition & Care – Financials

Strong H&C performance; Animal Nutrition with healthy & steady volume growth

## Nutrition & Care



- **Strong track record in Health & Care** now becoming more visible
- **Healthy & steady market growth in Methionine** (5-6% p.a.) overcompensated by price decline
- **ROCE of ~8% in 2019**
- **Ambitions going forward:**
  - Bring back margin level into **target range of 18 - 20%**
    - Foster specialty growth in **Health & Care**
    - Execute differentiated growth & efficiency strategy in **Animal Nutrition**

1: Organic Sales / EBITDA CAGR = adjusted for APD acquisition

# Nutrition & Care – Strategic agenda

Foster growth trend for sustainable nutrition and natural-based ingredients



## Portfolio development

- Expand portfolio of **natural-based ingredients**
- **Leverage strong biotechnology platform** across all businesses



## Investments

- **Well-invested asset base, limited capex needs** going forward
- Focus on **debottleneckings** and **customer-financed projects**

Capex/sales:  
~5%<sup>1</sup>



## M&A

- **M&A opportunities** to strengthen Animal Nutrition in growth areas outside amino acids
- Attractive niches for adjacent **technology acquisitions** in Health & Care

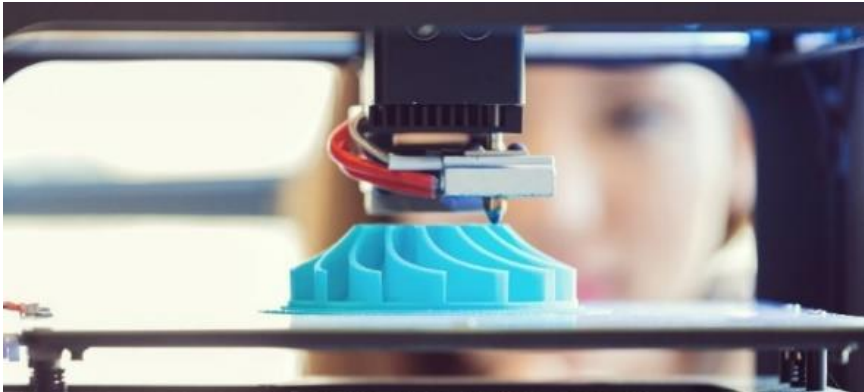


# Smart Materials – Key characteristics

## Resource-efficient and environmentally-friendly solutions

### Key characteristics

- **Environmentally-friendly solutions**
- Broad expertise and portfolio for **complex customer requirements**
- **Global market leading positions** with high economies of scale



### Growth drivers

- **Saving resources**
- Increasing use of **lightweight materials**
- **Stricter regulation** and **safety standards**

# Smart Materials – Growth drivers

## Broad-based specialty silica portfolio with >€1 bn of sales

### Facts

#1

supplier for fumed and precipitated silica as well as metal oxides

32

industries served by industry experts

>100

products to solve customer challenges

~260

R&D and Applied Technology experts

26

production sites with global coverage

### Broad specialty silica portfolio



Precipitated Silica



Fumed Silica



Metal Oxides

- **Portfolio** with exposure to various end-markets
- Growth focus on **customer-oriented solutions** in niche markets
- Strong **innovation capabilities** – 20 new products since 2017

Specialty portfolio constantly supplemented by product innovations like...



... silica for eco-friendly cosmetic

>3%  
p.a.

- SPHERILEX®
- Versatile and eco-friendly alternative to microplastics in leave-on and color cosmetic applications



... Separators for Lithium-Ion-Batteries

>5%  
p.a.

- AEROXIDE®
- High quality pure silica and metal oxides separators increase safety, lifetime and performance of batteries for EVs

1: Portfolio includes precipitated, fumed and metal oxides applications

# Smart Materials – Growth drivers

## Shifting consumer & producer preferences in food & beverage processing

### Customer challenge in aseptic packaging

- Consumer demand for **more nutritional natural drinks** (more conducive environment for microbial growth)

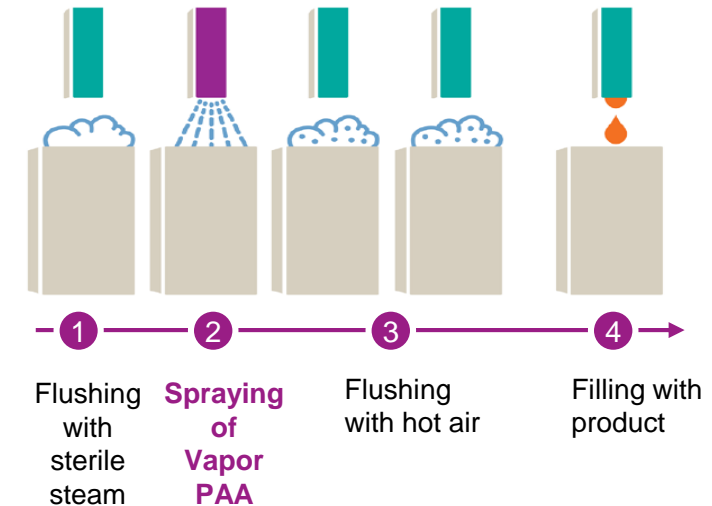


- Producer demand for **more cost effective, high speed PET bottle filling systems**
- More innovative bottle designs**
- Sustainability trend to **thinner packaging**

### Technical challenges in existing sterilants and applications

### Evonik solution: Spraying Technology “Vapor PAA”

- New Vapor PAA technology** (as alternative to liquid Peracetic Acid or Vapor  $H_2O_2$ ) for spray sterilization
- Greatly reduces water and energy consumption
- Withstands lower temperatures, which increases bottle options



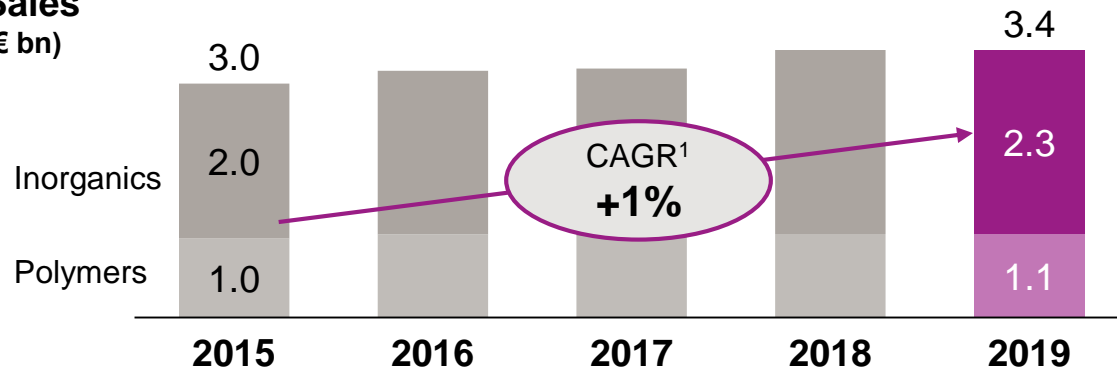
# Smart Materials – Financials

## Solid earnings growth and margin progression

### Smart Materials

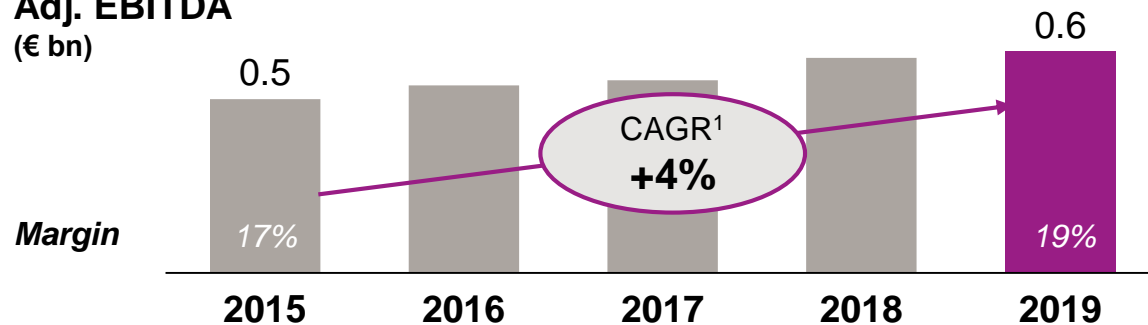
#### Sales

(€ bn)



#### Adj. EBITDA

(€ bn)



#### Margin

2015 17% 2016 2017 2018 2019 19%

- **Steady earnings & margin expansion**
  - **Strong pricing power** & shift towards lower-volume specialties
  - **ROCE of ~16% in 2019** (including Huber goodwill)
- 
- **Ambitions going forward:**
    - **Secure margin level** at least in range of 18 - 20%
    - Continue strong **track record in pricing power;** **capacity expansions** driving growth going forward

1: Organic Sales / EBITDA CAGR = adjusted for Huber acquisition

# Smart Materials – Strategic agenda

## Expand technology and cost leadership

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### Portfolio development

- Expand **specialty applications**, e.g. in Silica & H<sub>2</sub>O<sub>2</sub>
- Capture **opportunities and new markets** for non-fossil raw materials and products



### Investments

- Expand **technology and cost leadership**
- **Ramp-up** of new PA12 and Silica capacities to meet strong market growth

Capex/sales:  
~6%<sup>1</sup>



### M&A

- **Leverage** Huber Silica & PeroxyChem acquisitions
- **Selective M&A** to complement already strong positioning of current portfolio

# Performance Materials – Key characteristics

## Leading platforms and processes

### Key characteristics

- **Leading integrated C4-technology platform** with excellent exploitation of raw materials
- Reliable partner for our customers in **Superabsorbent polymers**
- Global supplier of **Alkoxides** as essential catalyst for the renewable fuel industry
- Highly **efficient processes and integrated platforms** offer reliable cash contribution



### Efficiency examples



**E-Business solutions**  
'C4Connect®' for order and availability management as well as personalized offers



Constant **process innovation and optimization** (e.g. fluid catalytic cracking to broaden raw material base)



**Consistent digitalization of the whole production Verbund** leads to a permanent improvement of manufacturing and business processes

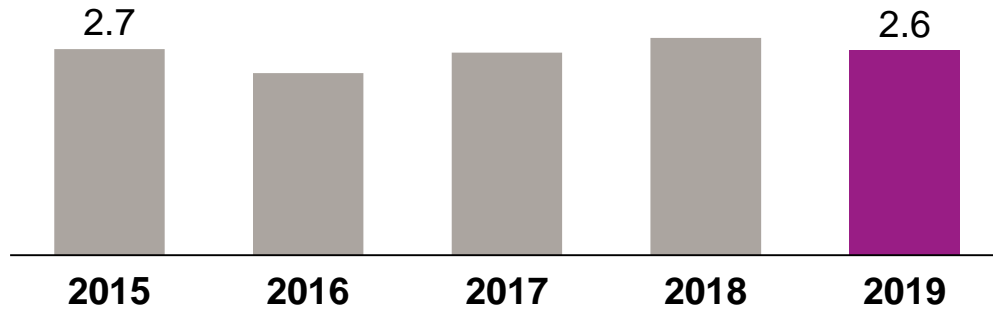


# Performance Materials – Financials

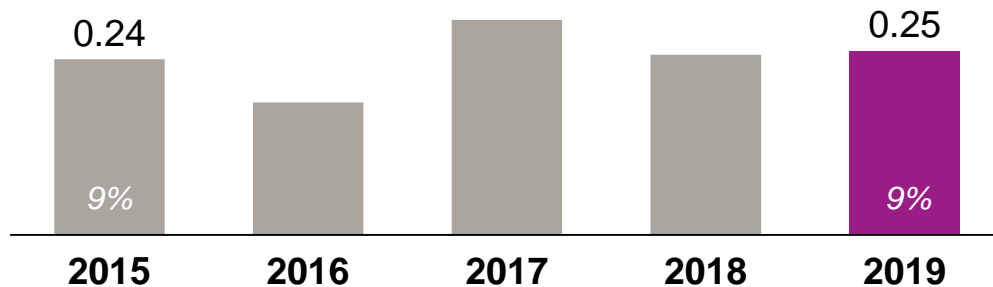
Focus on cost efficiency and cash generation

## Performance Materials

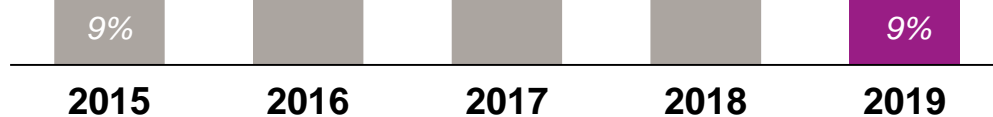
Sales  
(€ bn)



Adj. EBITDA  
(€ bn)



Margin



- Focus on **cost efficiency** and **cash generation**
- Constant **process innovation and optimization**, also by using digitalization potentials
- **Higher exploitation** of raw material streams in C4 chain

# Innovation strategy

## Targeted approach for market-leading innovations

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### Targeted approach

- **Central steering** of innovation activities
- Focus on **innovation growth fields** with clearly assigned responsibilities
- Bundling of **cross-business competencies** in dedicated R&D hubs



### Sustainability focus

- Sustainability as **key driver** for future innovation initiatives
- Sustainability criteria and KPI's **integrated** into innovation process
- Continuous **sustainability analysis** of introduced products



### Process innovations

- Higher focus on **process innovations** to drive operational excellence
- Integrate process innovations into continuous improvement process
- **Lower capex and opex levels** for capacity expansions

# Innovation pipeline

A well-filled R&D pipeline with different target horizons

Short-term



## Additive Manufacturing

- Evonik's 3D printing portfolio as beneficiary of trend from "prototyping only" into real series production

Mid-term



## Biosurfactants

- Based on Evonik's leading biotechnology know-how
- 100% renewable natural resource & biodegradable

Long-term



## Precision Livestock Farming

- Digital solutions to optimize every aspect of livestock production – in one holistic approach



# Additive Manufacturing

A strong existing base offering further growth opportunities

## Strong base established

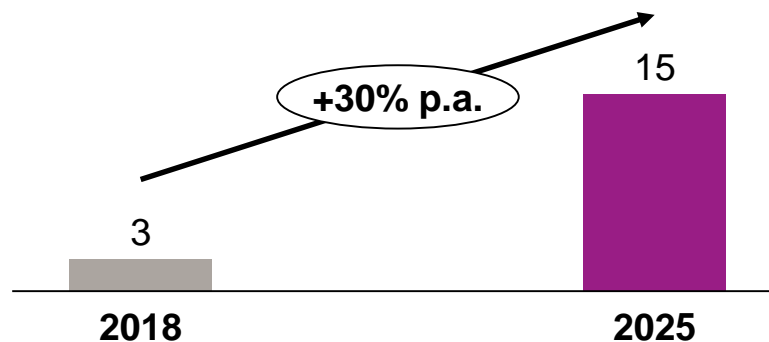
- Evonik as **market leader** in PA12 powder-based 3D printing materials
- **Several platforms available** to serve all major powder-based printing technologies
- **Close partnerships** with major printing players and innovators:



## Expand strong position to new applications and new materials

- Establish position in emerging technologies like **high performance photo-resins**
- **Expand business in medical applications** with implantable PEEK and bio-resorbable RESOMER
- **Capture growth potential** of shift from “prototyping only” into real series production:

Non-metal 3D-printing materials market (in €bn)

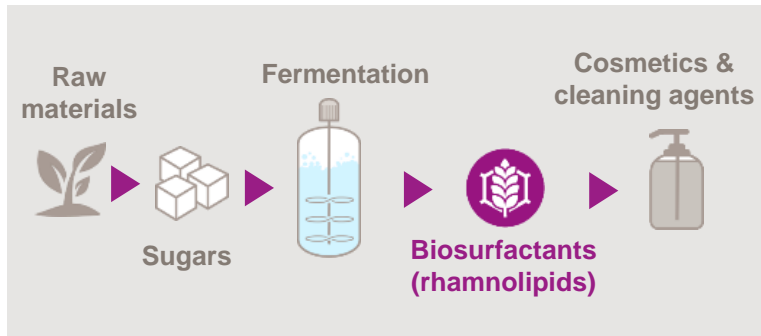


# Biosurfactants

## Large-scale production of world's first "green" biosurfactant (rhamnolipids)

2016

### Development phase



- **Renewable resource & biodegradable**
- **Plant-based sugars** as only carbon source – no oils used
- **Unique product properties**, especially cleansing & foaming

2018

### Test phase & first products



- Personal Care ingredient "RHEANCE® One" **awarded at "in-cosmetics"** 2018
- **Test launch** in selected personal care products
- **Unilever** with successful market launch of a dishwashing product in 2019

2020

### Industry-scale investment



- Commercializing **Evonik's leading biotechnology capabilities**
- Evonik will be the **first company to produce biosurfactants on industrial scale**
- Basic engineering at our **biotech hub in Slovakia**

# Precision Livestock Farming

Digital solutions to optimize every stage of livestock production



Digital in-flock monitoring of animals

Data

Data

Data



Provide real-time recommendations for

## Optimized farming

- Growth monitoring and prediction
- Efficient use of resources
- Limited Nitrogen emissions

## Better nutrition

- Analyze exact feed quality
- Optimum balance of nutrient ingredients

## Improved health

- Implement preventive measures
- Avoid disease outbreak
- Reduce antibiotics use

First offerings available

**Porphyrio**<sup>®</sup>

An Evonik product.



Big data technology & biostatistics combined with poultry science and poultry Production



PRODUCTION PLANNING



INTUITIVE DASHBOARD



ACCURATE PREDICTIONS



INTERNAL BENCHMARKING



EARLY WARNING SYSTEM



HEALTH MANAGEMENT







**EVONIK**  
**Leading Beyond Chemistry**

# New divisional structure

## Divisions, Sub-Divisions, Key products & Raw materials

