Division
Smart Materials

Introduction

September 13, 2023

Lauren Kjeldsen
President Smart Materials

EVONIK
Leading Beyond Chemistry

Next Generation Evonik: Embarking on the next phase of our transformation
Sustainability fully integrated into all three strategic levers

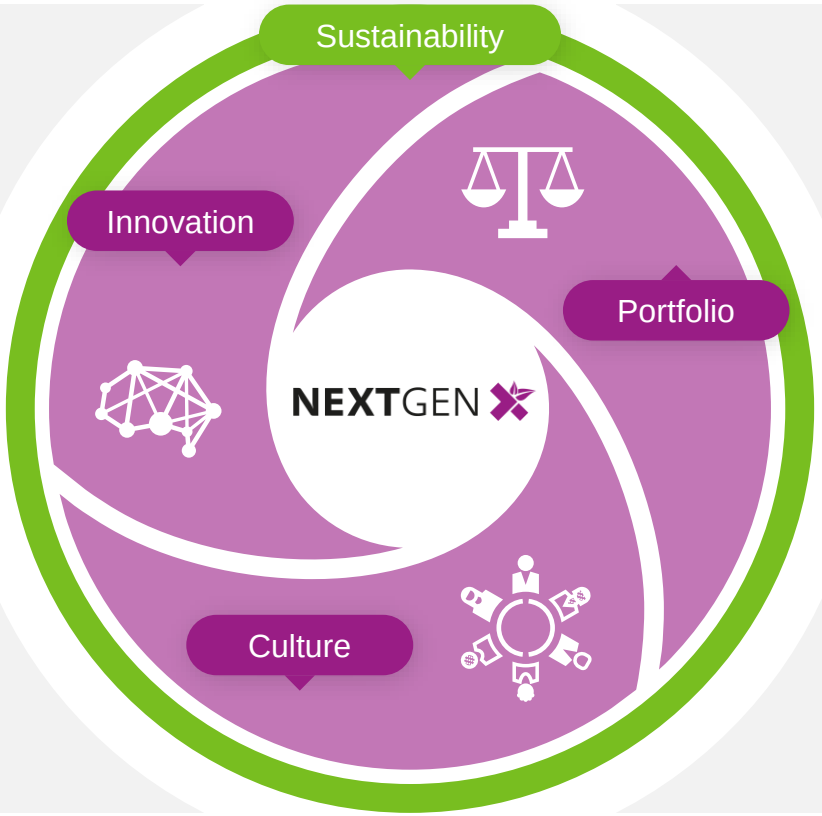
Three major strategic levers…

Next Generation Portfolio
+ Exit Performance Materials
+ Full focus on three attractive growth divisions

Next Generation Innovation
+ €1 bn new sales well on track
+ Growth areas beyond 2025 already launched

Next Generation Culture
+ Diversity as key to successful strategy execution
+ ESG targets integrated into mgmt. compensation

… with sustainability fully integrated …



… delivering on ambitious targets

ESG Targets
+ >50% sales share of NEXTGEN Solutions
+ -25% CO_2 emission reduction, e.g. via NEXTGEN Technologies

Financial Targets
+ Organic growth >4%
+ EBITDA margin 18-20%
+ ROCE ~11%
+ FCF Conversion >40%

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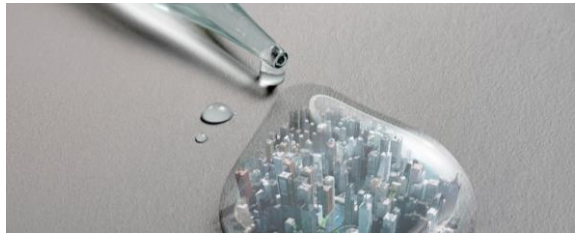
Portfolio transformation – Clear portfolio roles

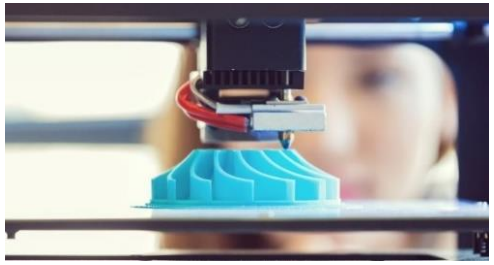
Focus on three growth divisions - Exit Performance Materials

Specialty Additives	Nutrition & Care	Smart Materials	Performance Materials
			
Growth focus			**Exit**
▪ Strong innovation pipeline ▪ High sustainability focus: Expand portfolio share of “Next Generation Solutions” ▪ Targeted M&A in complementary products and technologies ▪ Selected efficiency measures to strengthen cost leadership and improve portfolio quality			▪ Aiming to find new owners/partners for two of the three businesses remaining

Smart Materials overview

We find solutions for the needs of today and tomorrow.

FY 2022 financials	Margin[1]: **14%**	Sales[2]: **€4,833 m**	ROCE: **7%**
Two strong technology platforms	Sales: **€3,484 m** **Inorganics**		Sales: **€1,349 m** **Polymers**
Growth highlights	 Accelerating Energy Transition (e.g. PA12, Battery Materials, Membranes)		
	 Enabling Circularity (e.g. Active Oxygens, Catalysts, Green Silica)		



1. Adjusted EBITDA margin
2. Prior to restatement for Alcoxides as of 1st Jan, 2023

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We are “smart(er)” since…

… we develop innovative solutions

Rohacell

PMI[1]-based structural foam at the core of lightweight high-performance fiber composites for demanding aerospace applications

Anion Exchange Membrane (AEM)

Ion-conducting membranes for water electrolysis in alkaline conditions – the more efficient way to green hydrogen

… we tailor our solutions to the customers’ needs

>100 individual Silica grades to solve our customers’ challenges

High performance polymers: **~500** customer/application-specific products

Specialized polymer powders for 3D printing process allowing for series production of complex and individualized products

… we help our customers with individual know-how and services

840 employees in product, application and process development

Service teams for equipment, installation and full start-up support (e.g. to ensure dosing accuracy for Peracetic Acid in poultry anti-microbial interventions)

80 years of catalysts development expertise

External partners contributing in close cooperation to technology development

1. Polymethacrylimide.

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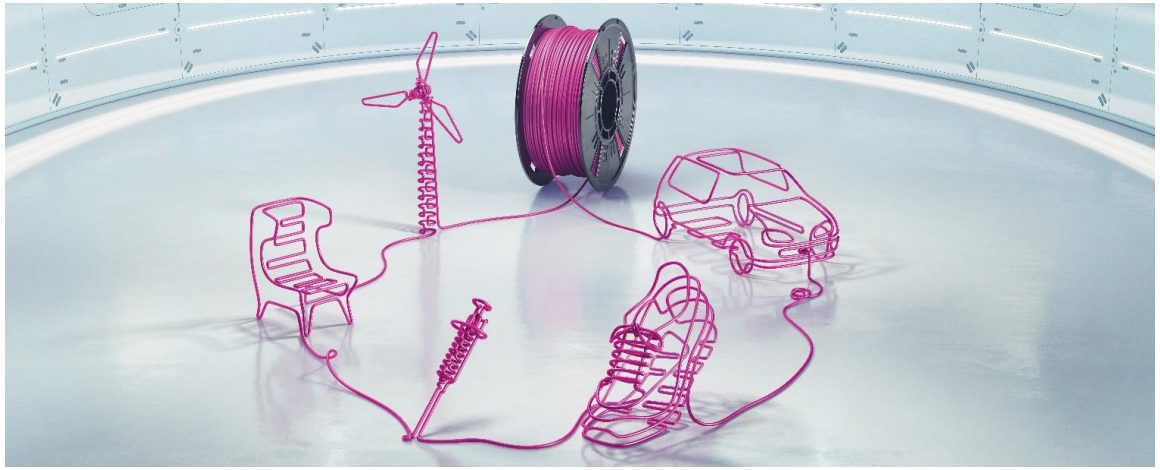
Smart Materials enables the transformation towards a greener future

Energy transition

Mobility	▪ Silica/polymers for battery materials ▪ Polymers for lightweight composites
Environment & Utilities	▪ Biogas/Hydrogen membranes ▪ Recyclable catalysts ▪ Carbon capture and usage

Circularity



Process industries	▪ Next generation process catalysts ▪ H_2O_2 for HPPO, HPPG
Consumer Goods	▪ H_2O_2 for electronics and food ▪ PA12 recycling

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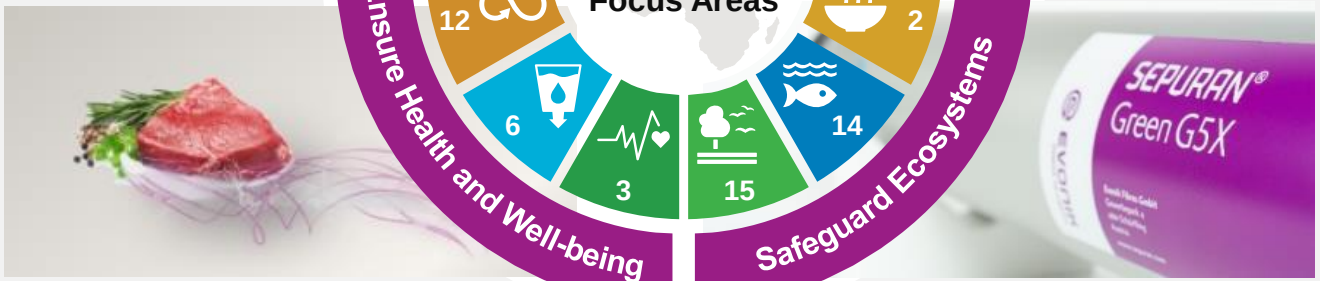
Above-average growth of existing “Next Generation Solutions”
Growth fields addressing our four Sustainability Focus Areas

Future Mobility solutions

- Lightweight applications: PA12 portfolio
- Batteries: additives for electrodes / separators
- “Green tire” technology

Excel® technology for catalysts

- Rejuvenation of catalysts avoids waste and reduces CO2 by >50%
- Excel® technology to reduce the CO2 footprint of hydro-processing in refineries



- Environmentally friendly oxidizer for food sanitation meeting stricter governmental regulations
- Hydrogen peroxide purified and diluted to various concentrations

Active Oxygens for food safety

- Superior biogas upgrading with hollow-fiber membranes
- Superior methane efficiency and low methane slip

Biogas membrane

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Innovation Growth Field “Membranes” as blueprint for future innovation

~2008

Idea for gas separation membranes **created within Creavis**

2010

Business handed over to BL High Performance Polymers

Commercialization in first reference plants focusing on biogas separation

2014 – today

Expanding into separation of further gases such as helium, nitrogen and natural gas

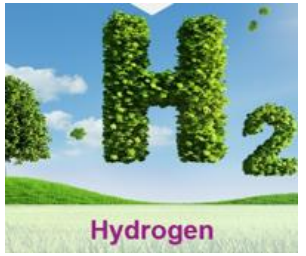
2022

>1,000 reference plants worldwide

>€30% sales CAGR since 2015 to mid-double-digit million sales in 2021

Beyond today

Big growth opportunity esp. in hydrogen



Continuous RD&I efforts to improve product characteristics and scope of application

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Capital allocation into our green transformation

Priority on growth investments and targeted portfolio changes

Milestones / Major strategic measures in Smart Materials

	2020	2021	2022	2023
Major investment projects	**Expansion Perf. Foams** Mobile, US	**Fumed Silica JV** China	**PA12** Marl, Germany **Membranes** Schörfling	**ALU5** Yokkaichi, Japan **Membranes** **Specialty Peroxides Solutions**
Acquisitions and portfolio changes	PeroxyChem ✔ Integration ongoing POROCEL ✔ Integration ongoing		rpc Rhein PerChemie ✔ Divestment to Calibre in 11/2022	ALKOXIDES ✔ Joined SM from PM in 01/2023

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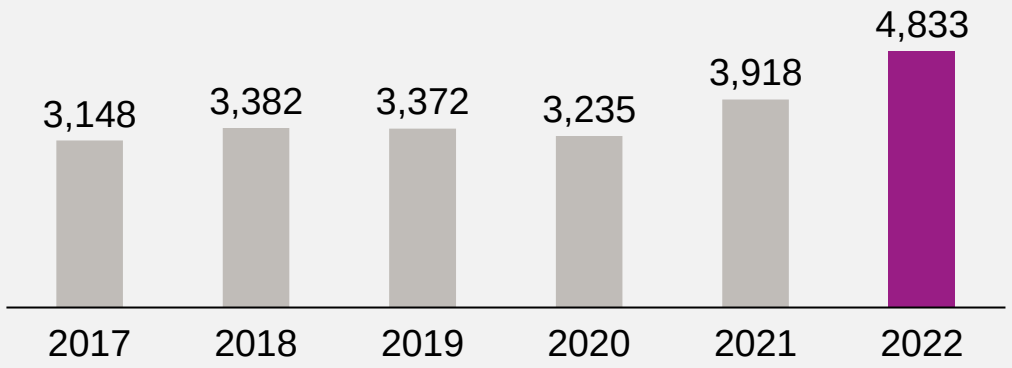
Our financial track record
Strong contributor to the Group

Sales (in € m)

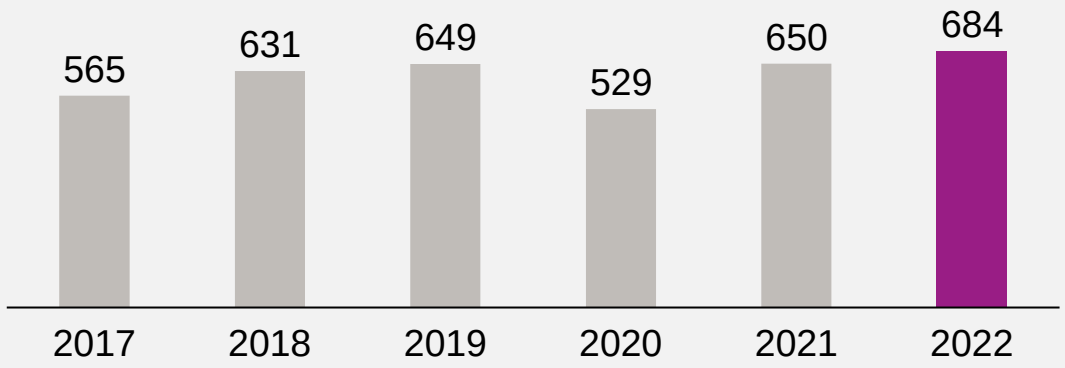
	2017	2018	2019	2020	2021	2022
Volume	+7%	-3%	-4%	-7%	+16%	**+1%**
Price	+1%	+7%	+3%	-1%	+4%	**+18%**



- Volume development subdued in 2018-2020, back in 2021
- Strategic portfolio shift (focus on smaller-volume and higher-margin specialty applications, with positive price effect)
- Constrained product availability in 2022 (e.g. PA12)

Adj. EBITDA (in € m) / Margin (in %)

2017	2018	2019	2020	2021	2022
17.9	18.7	19.3	16.4	16.6	**14.2**



- Strategic portfolio/mix shift and ongoing efficiency measures resulting in steady margin expansion by 200bp from 2015-2019
- 2020/2021 impacted by PA12 ramp-up costs
- 2022 margin diluted by mathematical effect

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Ambitious financial targets
… for Evonik and Smart Materials

Group Targets

Organic sales growth CAGR[2]	**>4%**
Structurally lift EBITDA margin into sustainably higher range of	**18-20%**
Cash Conversion ratio of[3]	**>40%**
ROCE **well above Cost of Capital**	**~11%**
Reliable and sustainably growing dividend	
Solid investment grade rating	

Smart Materials Targets

Next Generation Solutions[1]	**>50%**
EBITDA margin	**~20%**
ROCE	**>11%**

1: Products and solutions with a clearly positive sustainability profile that is above or well above the market reference level | 2: In growth divisions | 3: Cash Conversion ratio defined as FCF/Adj. EBITDA

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Smart Materials enables sustainable system solutions as a preferred B4B partner in industry transformations towards a greener future

Transforming end-markets served		System solution	Enabling
Energy transition	Mobility	▪ Silica/polymers for battery materials ▪ Polymers for lightweight composites	▪ Making batteries last longer ▪ Making mobility and wind power more productive
Energy transition	Environment & Utilities	▪ Biogas/Hydrogen membranes ▪ Recyclable catalysts ▪ Carbon capture and usage	▪ Making processes greener through more circular processes, alternative intermediates and next generation chemicals
Circularity	Process industries	▪ Next generation process catalysts ▪ H_2O_2 for HPPO, HPPG	
Circularity	Consumer Goods	▪ H_2O_2 for electronics and food ▪ PA12 recycling	▪ Making chips more energy efficient ▪ Making food last longer ▪ Making consumer goods greener

“We develop system solutions which enable customers to meet their sustainability commitments”

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Smart Materials – Two strong technology platforms
Inorganic Materials and Hightech Polymers

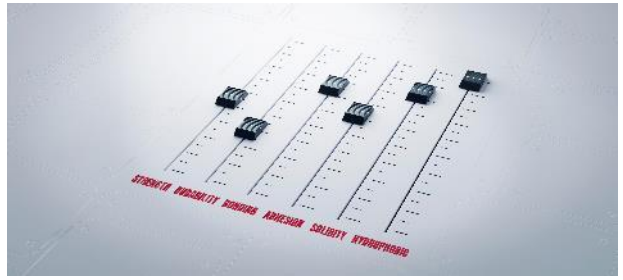
Inorganic Materials

ACTIVE OXYGENS

CATALYSTS

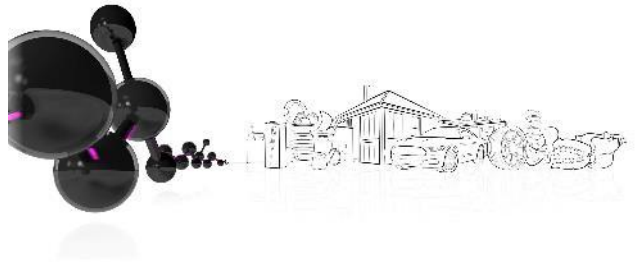
SILICA

SILANES



Hightech Polymers

COATING & ADHESIVE RESINS



HIGH PERFORMANCE POLYMERS

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Innovation: R&D as key growth driver
Cooperation, focus and global setup

Innovation approach

1. Solutions developed with key customers in close partnerships, e.g.

2. Two strong technology platforms

- **Inorganics**
- **Polymers**

3. Further strengthen our presence in Asia

4. Two innovation growth fields at the core

Additive Manufacturing

Membranes

Key facts

R&D budget
~4% of sales

13 R&D sites
3 in NAFTA
6 in Europe
4 in Asia

840 employees
in product, application and process development

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How Smart Materials is shaping the future car
Solutions in today's car

Conventional car today

- High-performance fuel lines
- Low rolling resistance tires
- Battery additives
- Polymer - Lightweight composites
- Advanced adhesives & sealants solutions

Smart Materials' solutions
in a car today represent a value of

~€30

Note: Estimation based on BLs' survey.

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How Smart Materials is shaping the future car
Solutions in hybrid and full battery car

Electric/Electronic Components
e.g. power busbar insulation

Tires
Reduced rolling resistance for extended range
Higher abrasion resistance for EV acceleration

Thermal Management
e.g. battery cooling lines

Battery
Electrode materials & additives for separators

Hybrid Car

In a hybrid car,
Smart Materials' existing solutions
with a value potential of

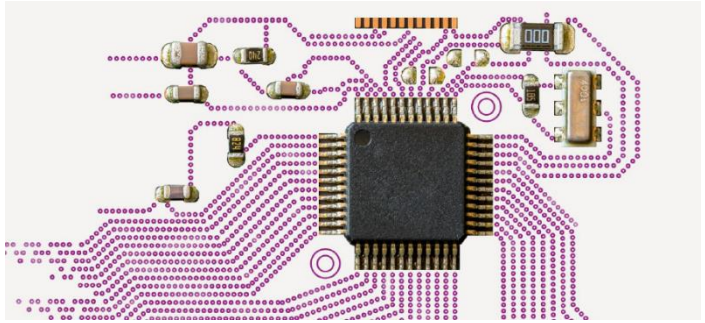
~€45

Full Battery Car

In a full battery car,
Smart Materials' existing solutions
with a value potential of

~€70

Hydrogen Peroxide and Peracetic Acid Specialties
Diverse markets addressed with strong momentum

	Ultra-high purity for wafer-cleaning	PAA for waste-water disinfection	PAA / H_2O_2 for food safety
			
Success factors	▪ Portfolio extension with PeroxyChem into dedicated ultra pure electronic-grade H_2O_2 ▪ Forward integration moving closer to the end customers ▪ Global footprint ensuring reliable supply	▪ Leading PAA supplier in the municipal water treatment industry ▪ Improved market access as integrated solution provider for water treatment	▪ Solution provider for safe and effective food disinfectant processing & packaging ▪ Global capabilities to partner with the leading equipment providers of aseptic packaging solutions
Demand drivers	▪ Trend towards smaller electronic device geometries ▪ Increasing number of process steps require ultra-high purity agents	▪ Increasing demand for wastewater treatment solutions due to demographics and climate ▪ Tightening regulations require non-toxic, environmentally friendly solutions	▪ Growing population boosts demand for proteins & trend towards packaged food ▪ Increased focus on sustainable and effective solutions

Membranes: Overview of different gas separation markets

Portfolio built on strong technology platforms, innovation, global partner network

Membranes					
Market segment	**Biogas**	**Process Gases**	**OBIGGS**	**Natural Gas**	**OSN/VOC**
					
	Heat & Power – Transportation	**Oil & Gas – Petrochemicals – Food & Beverage**	**Aircraft**	**Oil & Gas**	**Oil & Gas – Natural oils – Petrochemicals – Bio-Diesel**
Evonik brands	SEPURAN® Green	SEPURAN® Noble	SEPURAN® N_2	SEPURAN® NG	PuraMem® PuraMem® VOC

- **Attractive markets with global access:** Growth driven by increasing needs for sustainable energy supply
- **Strong technology platforms:** Backward integration, high-performance polymer expertise
- **Partnerships:** Global partner network to jointly shape further market needs with highly innovative separation technologies

Our Membranes Vision: Smart enabler to the sustainable gas economy

Contributing to the transition with superior membrane technology

With our **membrane technology**, we significantly contribute to the transition to a sustainable gas economy:

1 SEPURAN® Green

- Raw biogas from organic waste is converted into **sustainable biomethane** and "green" CO_2

2 SEPURAN® Noble

- Our **hydrogen extraction membranes** enable to **use existing natural gas pipelines** to transport and extract green hydrogen
- In the **production of synthetic biomethane** from CO_2 and green hydrogen, we ensure efficient product separation

3 Anion Exchange Membrane

- With our ion-conducting AEM membranes, we contribute to the **breakthrough of electrolytic production of green hydrogen** in the future

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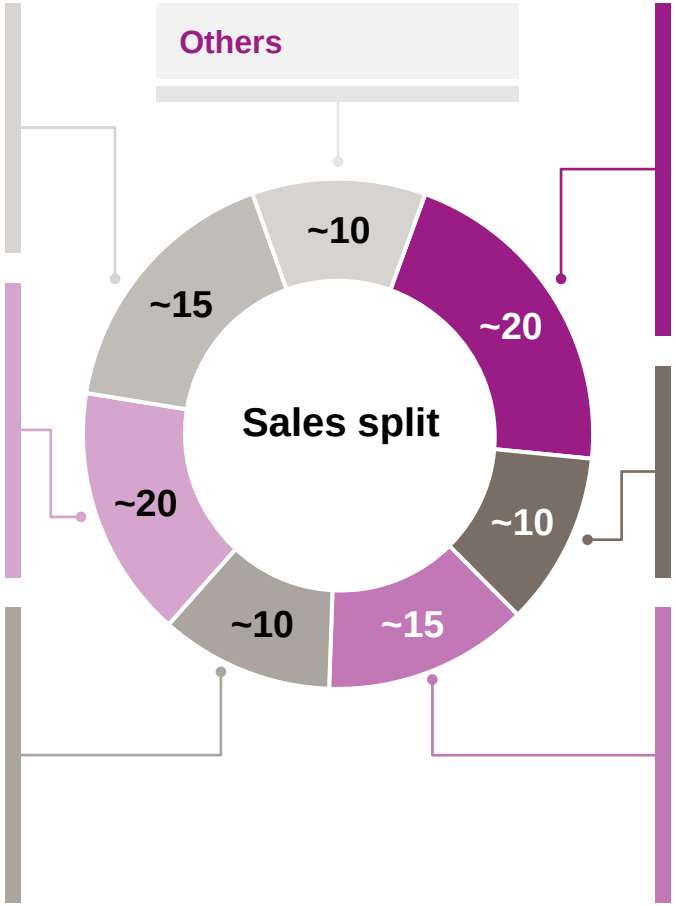
Smart Materials: Sales split & product examples

Chemicals, Oil & Gas
- Silica for silicones
- H_2O_2 for chemical synthesis (e.g. HPPO, HPPG, PA12 and PA6)
- Catalysts for refining industry

Environmental
- H_2O_2 and PAA for waste-water treatment
- Gas-separation membranes (e.g. biogas, natural gas)
- Rejuvenation of catalysts
- Catalysts for diverse applications (e.g. hydrogenation)
- Silica for adhesives in windcraft blades

Consumer Goods/Durables (incl. electronics)
- High-performance polymers for lifestyle and sporting goods
- High-purity H_2O_2 for semi-conductors
- Resins for coatings in durable goods
- Polymer powders for additive manufacturing



Automotive/Transportation
- Silica / Silanes for low rolling resistance tires
- High-performance polymers (e.g. PA12) for under-the-hood applications (e.g. fuel lines, busbars)
- High-performance foams, PEEK, PA12 for lightweight applications for aerospace
- Binders & additives for sealants & adhesives

Construction/Coatings
- Binders & additives for coil coatings
- Protective coatings for buildings
- Binders & additives for sealants & adhesives

Personal Care, Food, Feed, Pharma
- Silica for toothpaste
- Catalysts for pharma synthesis
- PEEK for medical applications
- H_2O_2/PAA for disinfection of food & beverage
- Additives for nutrition industry

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