



 **BASF**

We create chemistry

## **BASF Capital Market Story**

Dr. Hans-Ulrich Engel, Chief Financial Officer  
Société Générale Premium Review Conference  
Paris, December 4, 2019

# Cautionary note regarding forward-looking statements

*This presentation contains forward-looking statements. These statements are based on current estimates and projections of the Board of Executive Directors and currently available information. Forward-looking statements are not guarantees of the future developments and results outlined therein. These are dependent on a number of factors; they involve various risks and uncertainties; and they are based on assumptions that may not prove to be accurate. Such risk factors include those discussed in Opportunities and Risks on pages 123 to 130 of the BASF Report 2018. BASF does not assume any obligation to update the forward-looking statements contained in this presentation above and beyond the legal requirements.*

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CMD Agricultural Solutions – Highlights

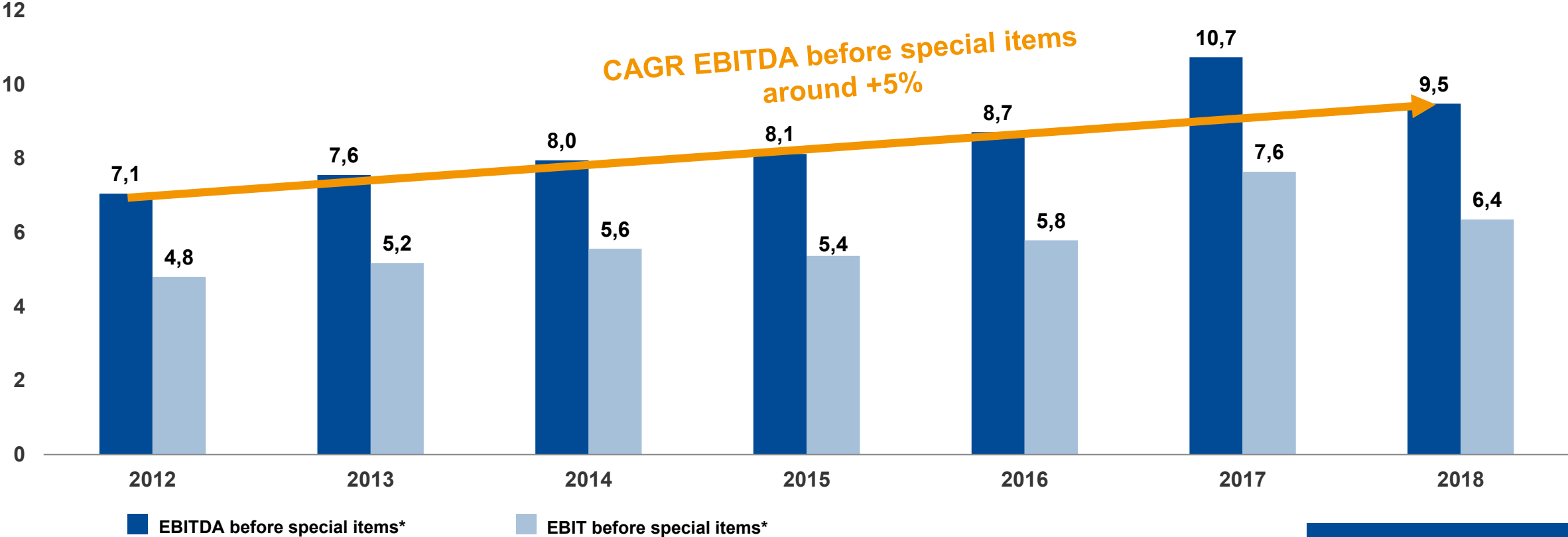
# BASF shares – an attractive investment

- **Strategy focused on participating in fast growing Asian markets**
  - driven by strong and expanding local presence
- **Industry-leading innovation platform**
  - covering a broad range of technologies and providing solutions for a multitude of customers
- **Unique Verbund concept**
  - competitive advantage based on integrated sites, operational excellence and best-in-class technologies
- **CO<sub>2</sub>-neutral growth until 2030 targeted**
  - creating value to society and contributing to a sustainable development
- **Earnings growth, strong cash flow generation and clear return criteria**
  - based on operational excellence and financial strength
- **Long-term value creation with progressive dividend policy**
  - increase the dividend per share every year

# Proven ability to achieve earnings growth above global chemical production of 3.7% per year

EBIT before special items<sup>1</sup> and EBITDA before special items<sup>1</sup>

billion €, 2012–2018

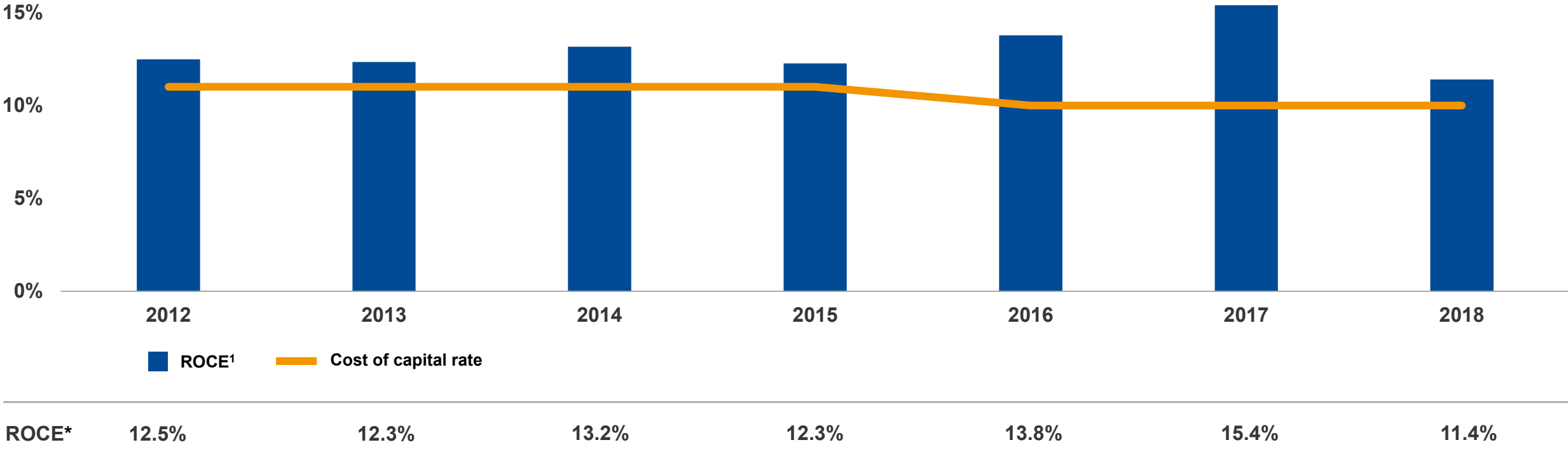


<sup>1</sup> Excluding Oil & Gas



# Return on capital employed well above cost of capital

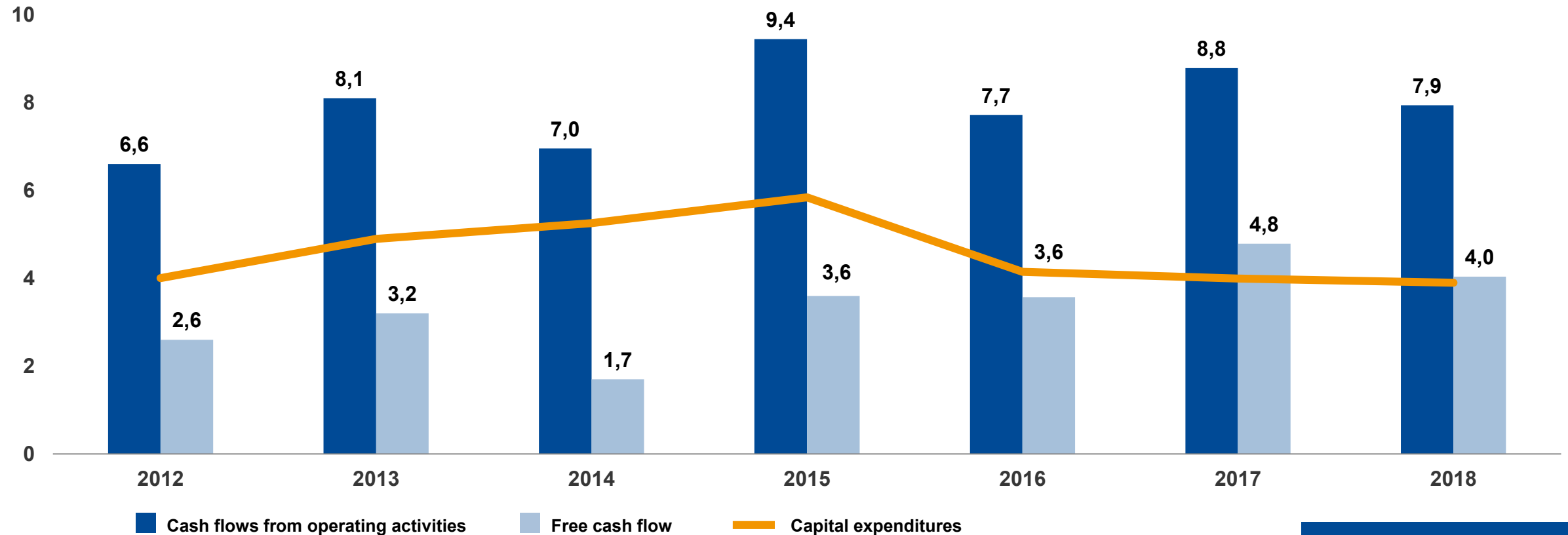
Return on capital employed  
%, 2012–2018



<sup>1</sup> ROCE: EBIT generated by the operating divisions as a percentage of the average cost of capital basis, excluding Oil & Gas

# Strong free cash flow development

Cash flows from operating activities and free cash flow<sup>1</sup>  
billion €, 2012–2018

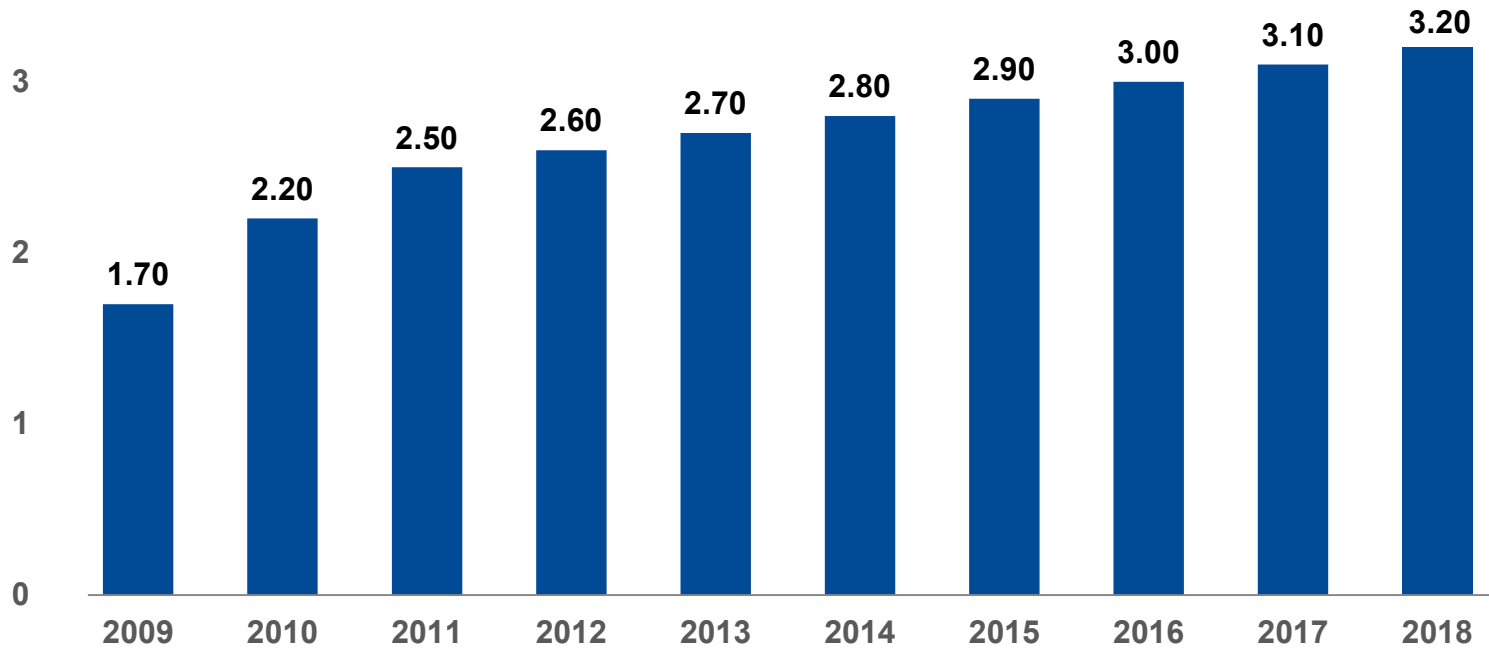


# Attractive shareholder return

## – clear commitment to progressive dividend policy

Dividend per share

€



Yield<sup>1</sup> 3.9% 3.7% 4.6% 3.7% 3.5% 4.0% 4.1% 3.4% 3.4% 5.3%

### Dividend policy

- Increase the dividend per share every year

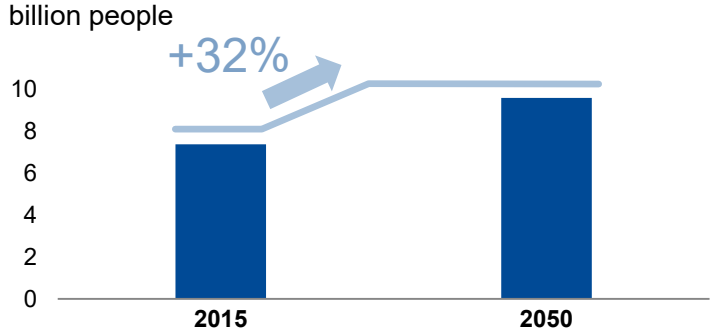
### Key facts

- Dividend of €3.20 per share, an increase of €0.10 compared to 2017
- Dividend yield of 5.3% based on the share price at year end 2018

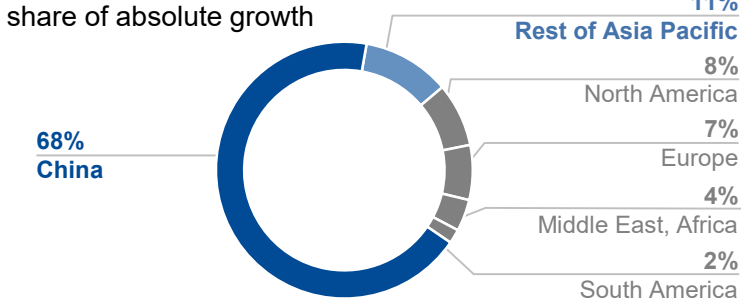


# Global trends provide opportunities for growth in the chemical industry

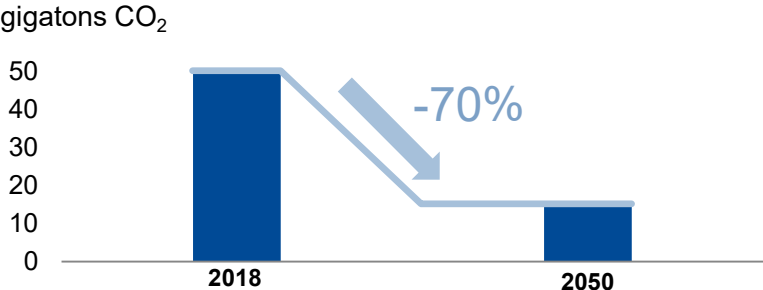
## Population growth



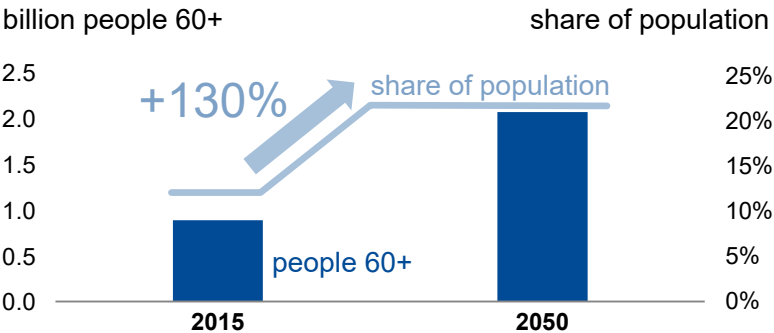
## Chemical growth 2018–2030 coming mainly from Asia Pacific



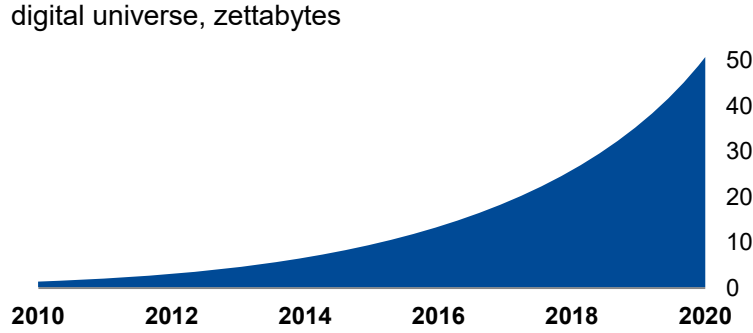
## Climate change: Strong reduction of GHG emissions necessary to achieve 2°C global warming target



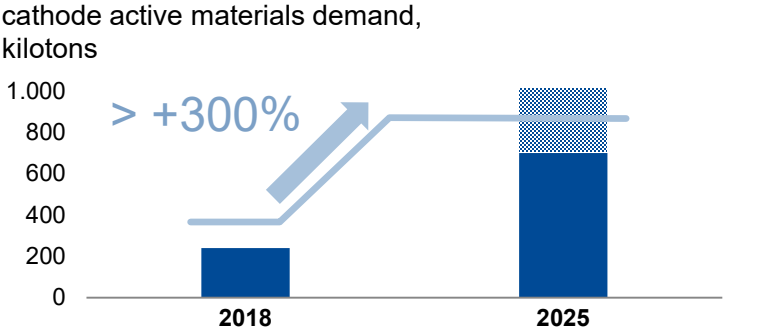
## Demographic change: Rising number of seniors



## Digitalization is surging



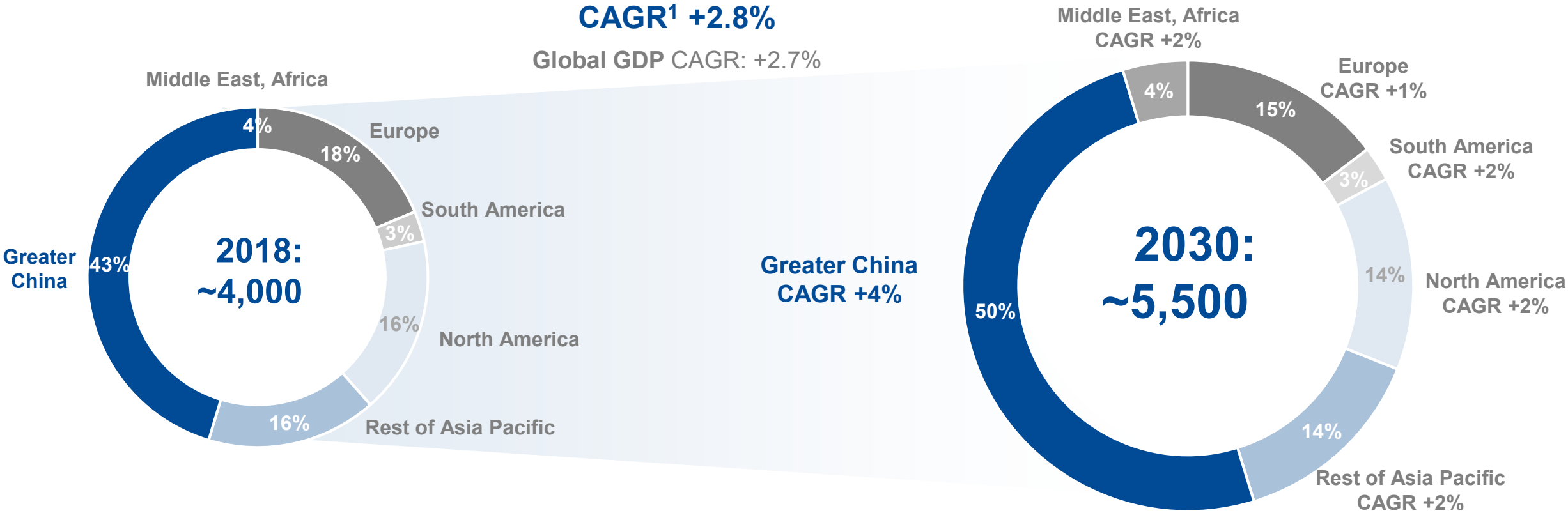
## Electromobility drives demand for battery materials



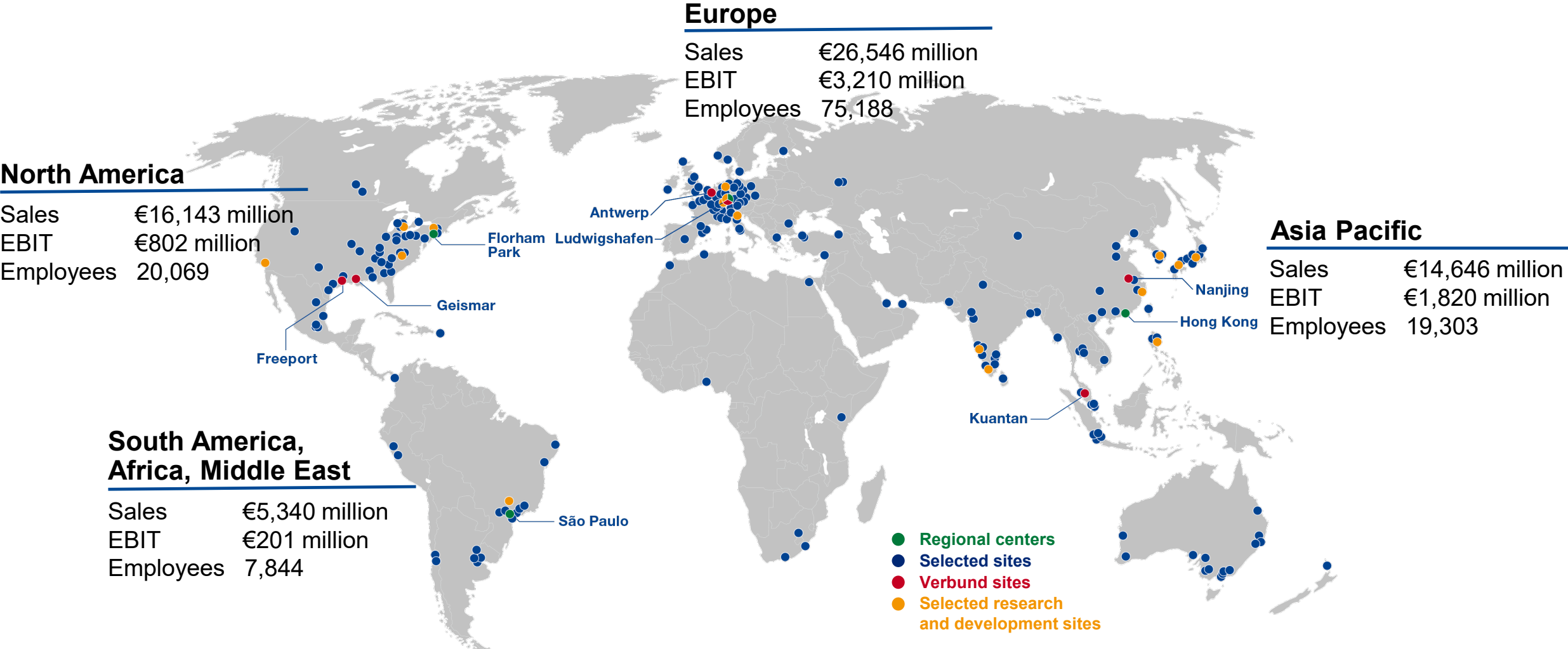
# China is the major growth driver for global chemical production

## Real chemical production excluding pharmaceuticals

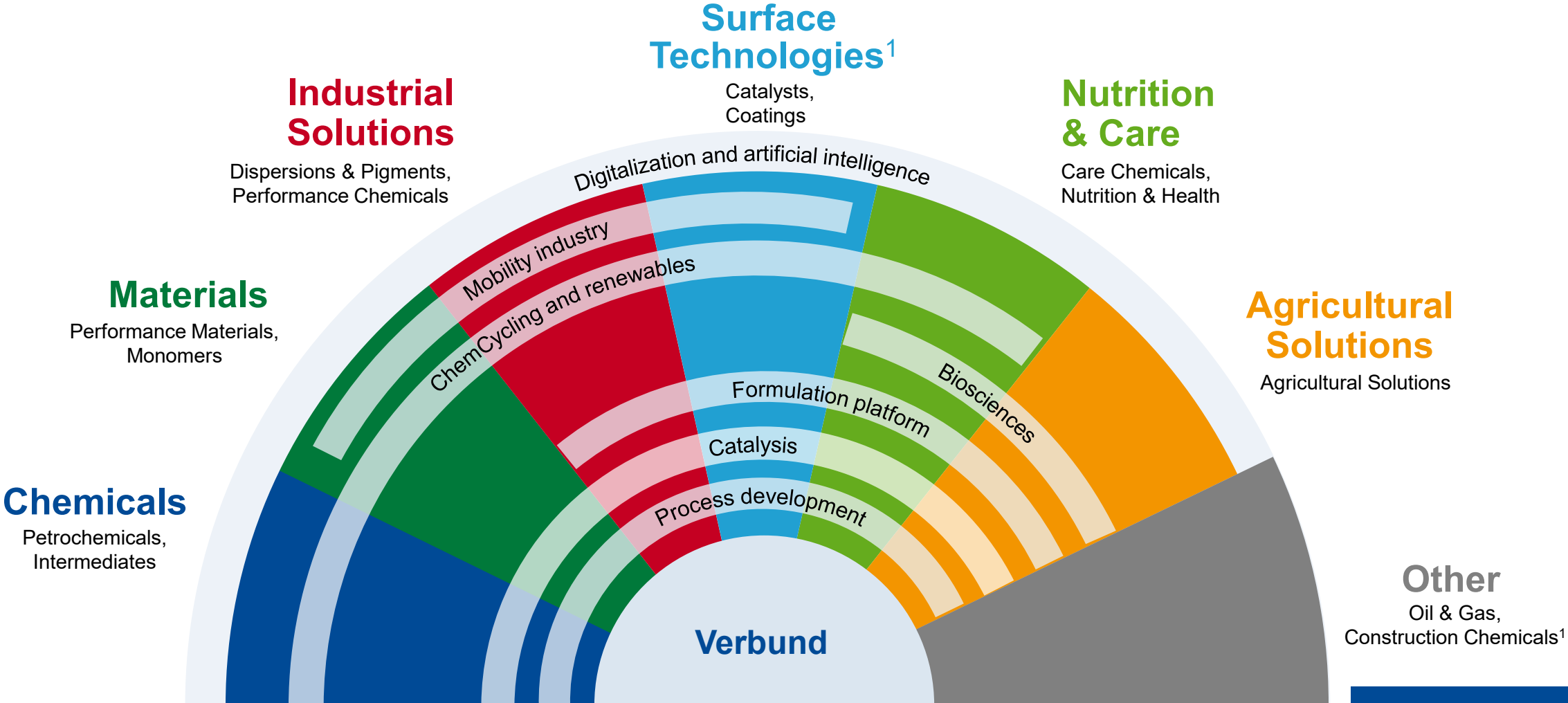
billion US\$



# Global market access through regional presence















# New segment structure strengthens performance- and market-orientation and provides more transparency



<sup>1</sup> Target picture, until signing of a transaction agreement, Construction Chemicals will be reported under Surface Technologies

# Each new segment has a clear and compelling path forward

	Chemicals	Materials	Industrial Solutions	Surface Technologies <sup>1</sup>	Nutrition & Care	Agricultural Solutions
% of sales 2018 <sup>2</sup>	19%	21%	15%	22%	9%	10%
EBIT bsi 2018 <sup>2</sup>	€1.6 billion	€2.4 billion	€0.7 billion	€0.7 billion	€0.7 billion	€0.7 billion
Core theme	Verbund	Advanced materials	Additives platform	Surface modification platform	Consumer ingredients	Integrated offering of crop protection, seeds & traits, digital
Innovation focus	Improved or new processes	Applications, biomaterials	Formulations	Battery materials, surface effects	Biotechnology, formulations	Crop protection, seeds & traits, digital farming
Capex relevance						
M&A relevance						
Sustainability	ChemCycling™	Bio-based materials	More from less	Low-emission mobility	Bio-based and natural, traceability	Better with less

<sup>1</sup> Until signing of a transaction agreement, Construction Chemicals will be reported under Surface Technologies

<sup>2</sup> Other (sales 2018: €2.8 billion, EBIT bsi 2018: €(462) million) not depicted on this slide

# We stick to our ambitious financial and non-financial targets

## Financial targets

Grow **sales volumes faster** than **global chemical production** every year

Increase **EBITDA before special items** by **3% to 5%** per year

Achieve a **return on capital employed (ROCE)<sup>1</sup>** considerably **above the cost of capital percentage** every year

Increase the **dividend per share** every year based on a **strong free cash flow**

## Non-financial targets

Grow **CO<sub>2</sub>-neutrally** until 2030

Achieve **€22 billion in Accelerator sales<sup>2</sup>** by 2025

Cover **90%** of our relevant spend<sup>3</sup> with **sustainability evaluations** by 2025, and have **80%** of our suppliers improve their **sustainability performance** upon re-evaluation

More than **80%** of our **employees** feel that at BASF, they can **thrive and perform at their best**

<sup>1</sup> Return on capital employed (ROCE) is a measure of the profitability of our operations. We calculate this indicator as the EBIT generated by the operating divisions as a percentage of the average cost of capital basis  
<sup>2</sup> Accelerator products are products that make a substantial sustainability contribution in the value chain  
<sup>3</sup> We understand relevant spend as procurement volumes with relevant suppliers



At a glance



Implementing BASF's Corporate Strategy



Q3 2019 Reporting



CMD Agricultural Solutions – Highlights





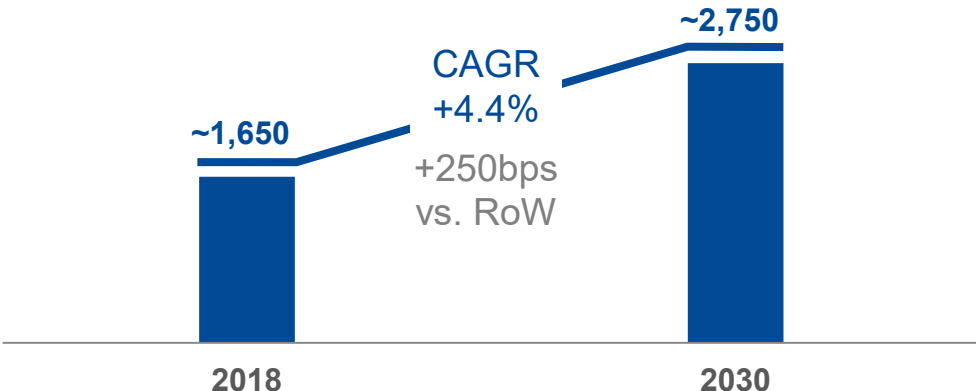
## Implementing our strategy

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# BASF is well positioned to capture future growth in China

## Well positioned in China – the major growth driver for global chemical production

Real chemical production<sup>1</sup>  
billion US\$



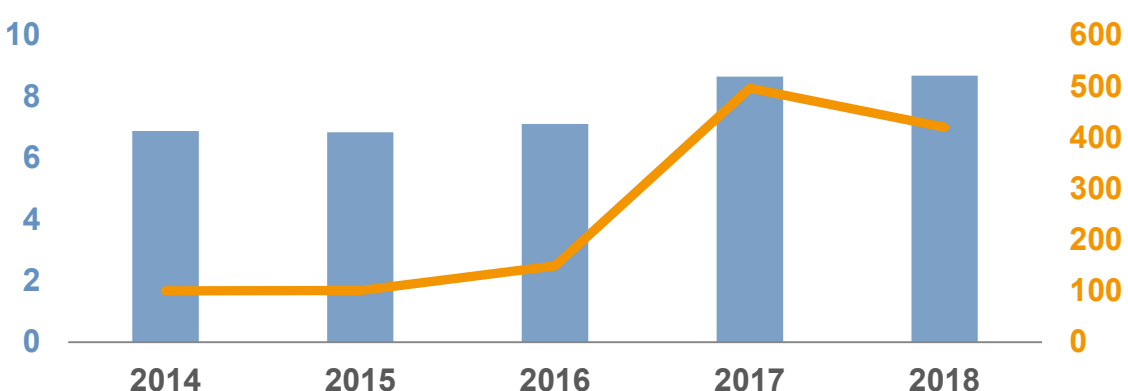
- With ~40%, China is already today the largest chemical market worldwide
- Growing above global chemical production requires a strong participation in China's growth
- BASF is a well-established and highly-recognized company in China with long-standing partnerships

<sup>1</sup> Source: BASF, real chemical production excluding pharmaceuticals

<sup>2</sup> Net sales to 3rd parties by location of customer plus 50% of sales of BASF-YPC Company Ltd. Nanjing

## Strong earnings development of BASF in Greater China

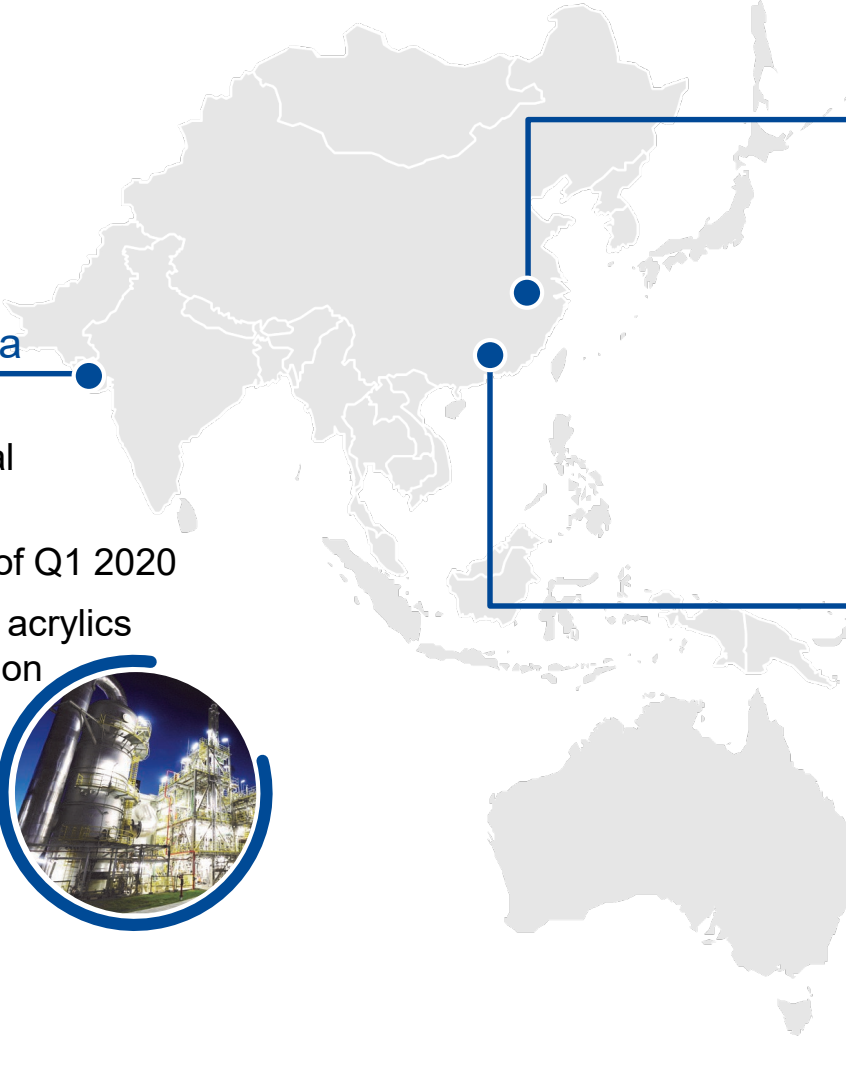
Sales<sup>2</sup>  
billion €



- Proven track record of strong earnings growth in Greater China thanks to BASF's unique position
- Serving all customer industries of BASF in the region
- State-of-the-art production facilities supported by sustainable Verbund concept



# Major investment projects in Asia Pacific on track



## Chemical production complex, Mundra

- BASF signed an MoU with ADNOC, Adani and Borealis to invest in chemical production complex
- Feasibility study to be finalized by end of Q1 2020
- PDH unit to be established as basis for acrylics value chain and polypropylene production
- First CO<sub>2</sub>-neutral site to be 100% powered by renewable energy



## Nanjing Verbund site

- BASF and Sinopec to expand Verbund site in Nanjing and potentially cooperate in battery materials
- JV BASF-YPC to have 50% in additional steam cracker
- Both projects are in the planning phase and on track



## Zhanjiang Verbund site, Guangdong

- Wholly owned and operated by BASF
- Project is currently in the feasibility phase
- First plants expected to be operational in 2022
- US\$10 billion capital expenditures to be implemented in phases until 2030



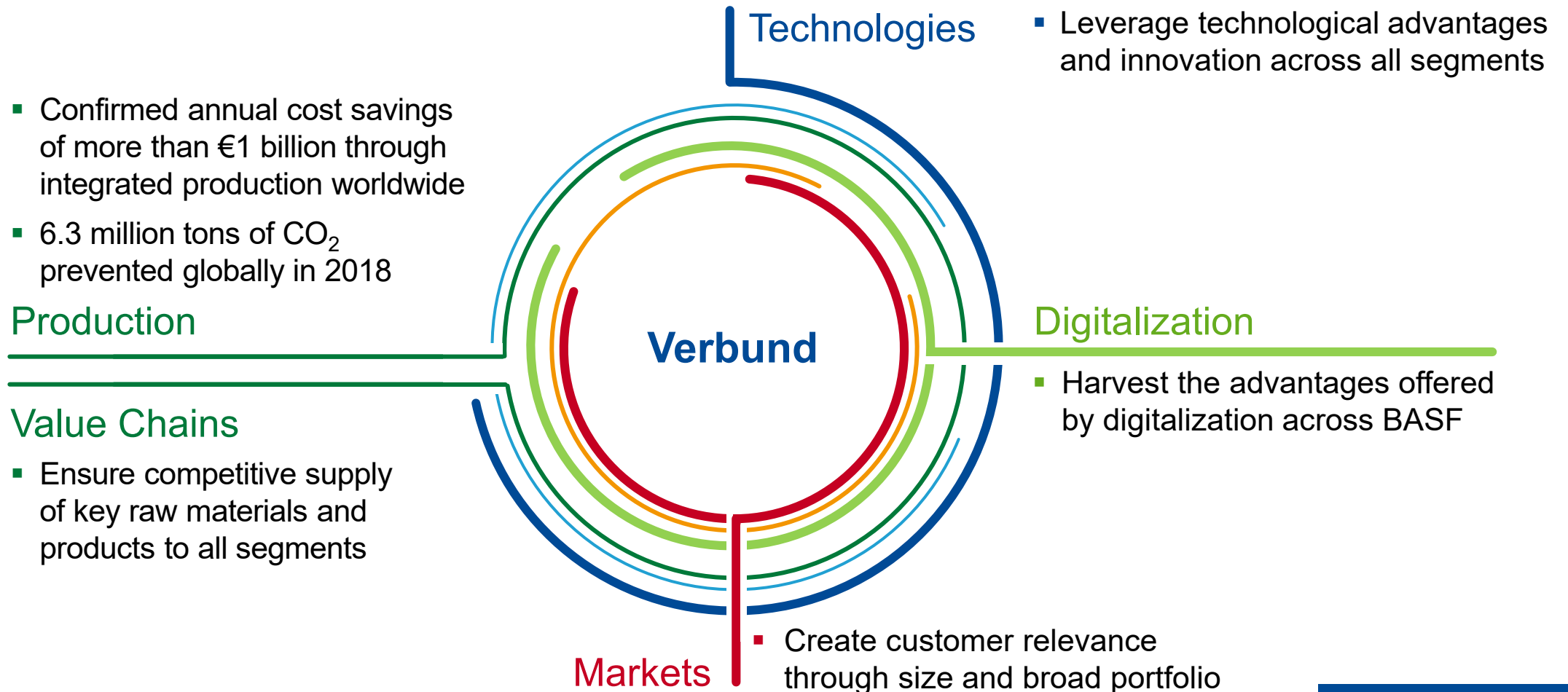




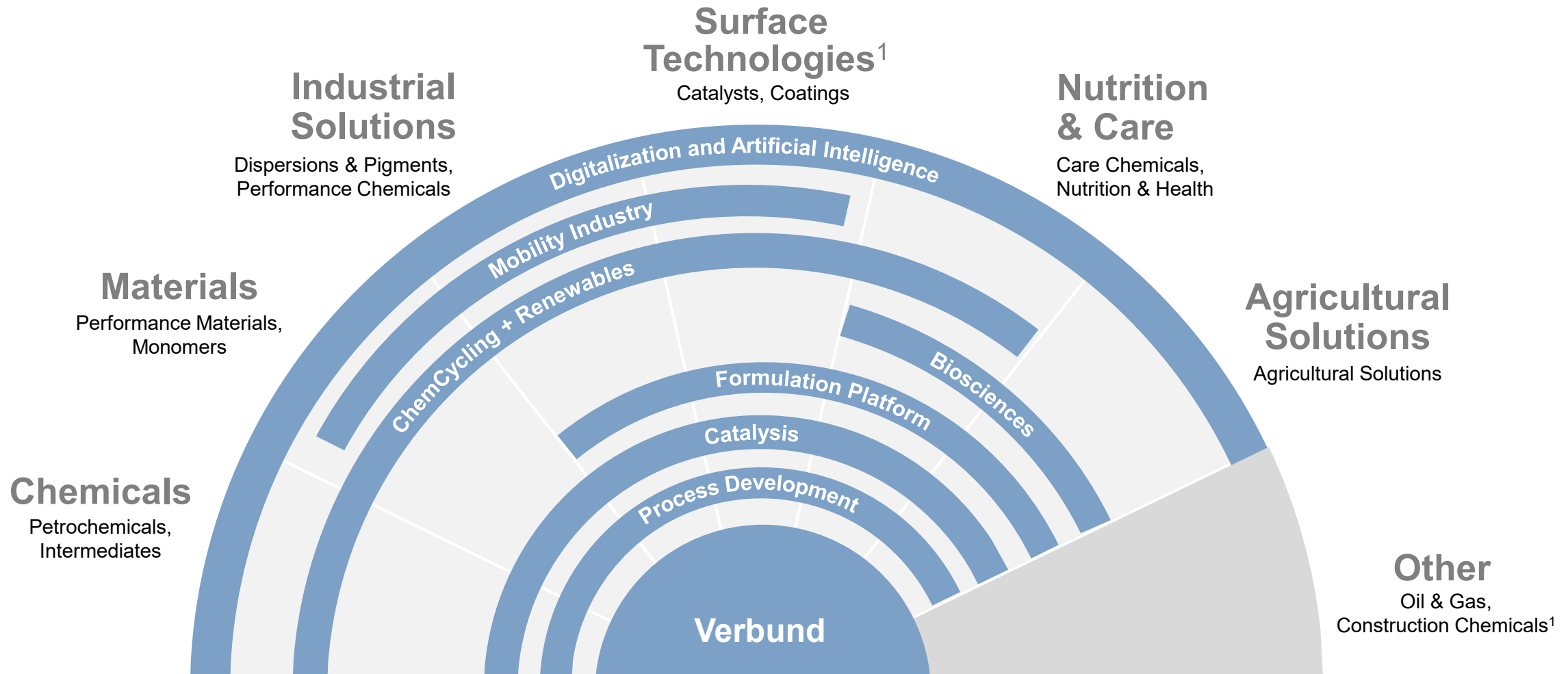
## Implementing our strategy

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- 2 **Leverage multiple Verbund strengths across the portfolio**
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# Our unique Verbund concept is one of BASF's greatest assets with multiple benefits strengthening the portfolio



# Verbund concept enables BASF to realize synergies via connectors across the segments







## Implementing our strategy

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# Transforming into an agile and customer-focused organization

## Action fields

**Embedding** to bring services closer to customers

Functions and headquarters with **streamlined back-end organization**

Regions with **sharpened roles** to increase customer focus

Process landscape to be **simplified**

People working in an **entrepreneurial performance culture**

## Progress report



On October 1, 2019, we completed the **embedding of around 20,000 employees**



On January 1, 2020, **lean corporate center with ~1,000 employees** will go live



Regions with **strengthened customer focus**, supporting and enabling the businesses locally



**Simplification measures on track:** currently ~110 projects ongoing, ~40 successfully completed



**Empowering and incentivizing** employees to take ownership in their area of expertise



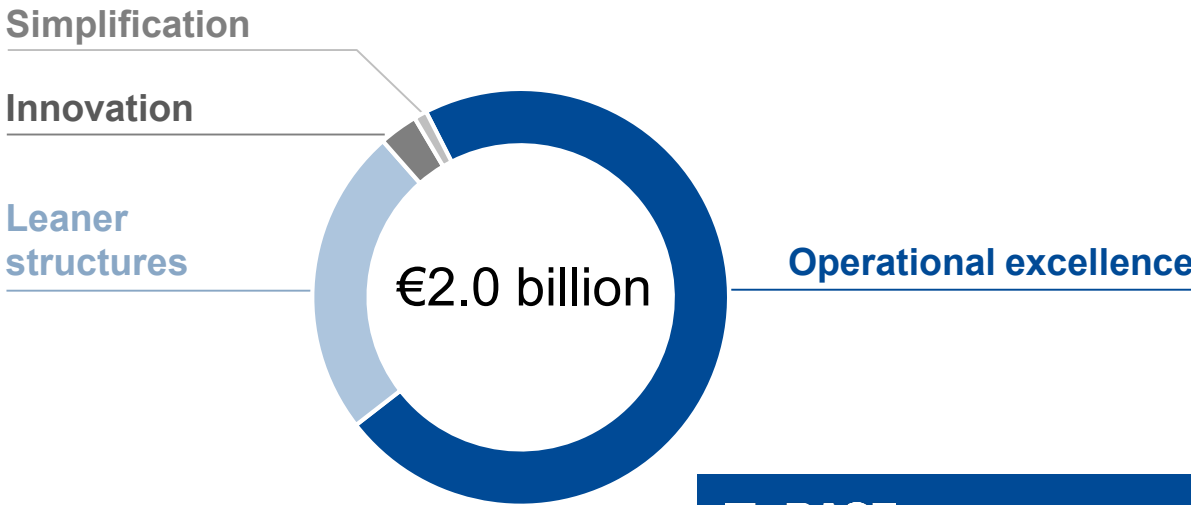
# Update on excellence program 2019 – 2021

	2019	2020	2021
<b>Annual EBITDA contribution<sup>1</sup></b>	▪ ~€0.5 billion	▪ €1.0 – €1.3 billion	▪ €2.0 billion
<b>One-time costs<sup>2</sup></b>	▪ €0.4 – €0.5 billion	▪ €0.2 – €0.3 billion	▪ €0.2 – €0.3 billion

## Category

<b>Operational excellence</b>	Measures focused on production, logistics and planning
<b>Leaner structures</b>	Personnel cost savings; reduction of 6,000 positions targeted globally
<b>Innovation</b>	R&D cost reduction via focusing budgets
<b>Simplification</b>	Increased process efficiency, e.g., in procurement

## EBITDA contribution by category





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Active portfolio management based on best-owner principle

# Creating value to society and contributing to sustainable development

## CO<sub>2</sub>-neutral growth until 2030

- Since 2002: 34% reduction in greenhouse gas emissions per ton produced
- 2018: 0.6 ton CO<sub>2</sub> per ton produced
- **2030 target: 0.4 ton CO<sub>2</sub> per ton produced<sup>1</sup>**
- Measures: CO<sub>2</sub>-neutral power, operational excellence and new technologies

## Accelerator products

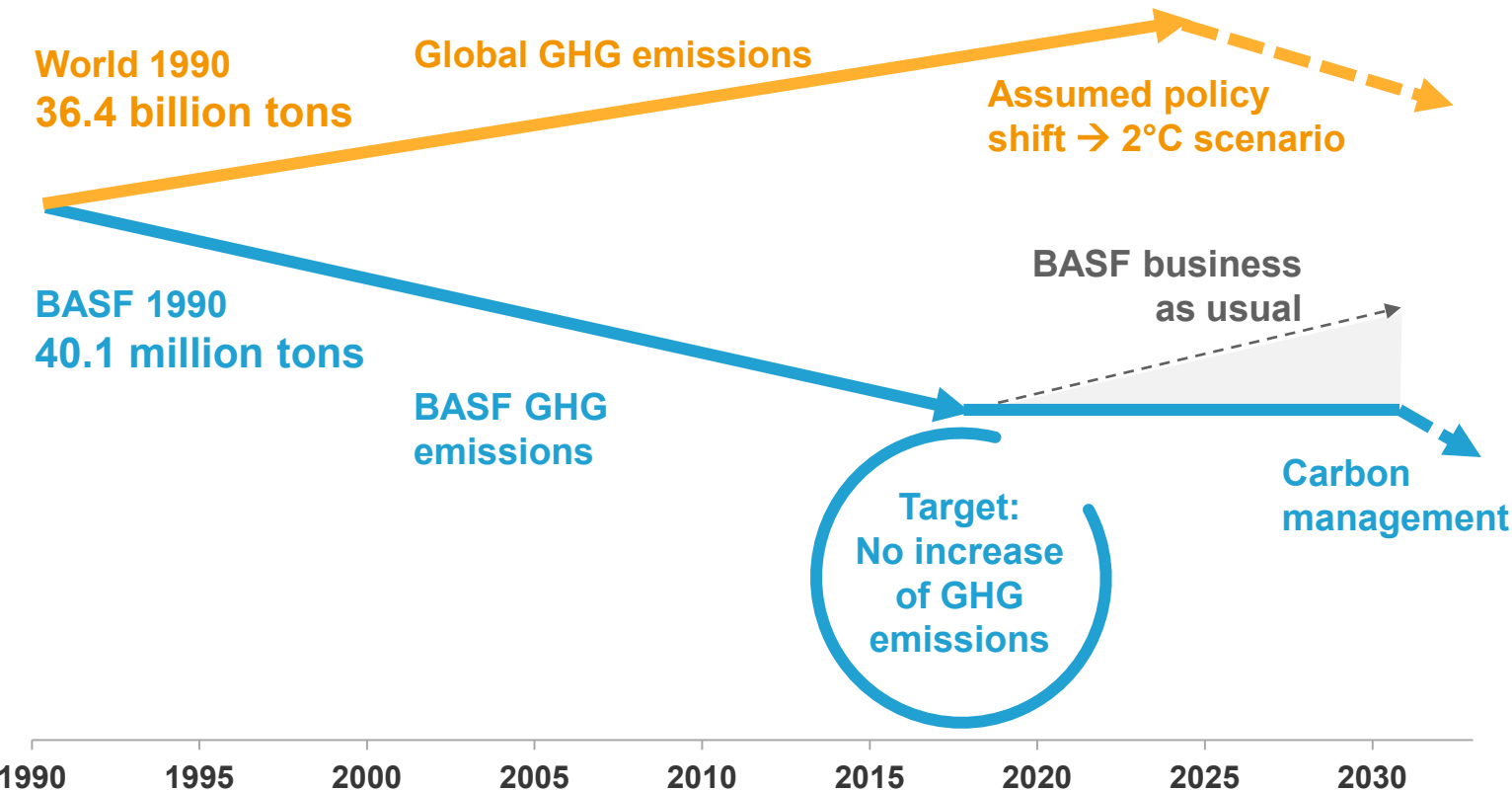
- 27.7% of BASF portfolio classified as Accelerator products with substantial sustainability contribution in the value chain
- Accelerator products
  - 2018: €15 billion sales
  - **2025 target: €22 billion sales**
  - On average margins ~6% points above the rest of assessed portfolio

## Value balancing alliance

- BASF is founding member of the cross-industry value balancing alliance established in August 2019
- Aim to standardize approaches to **make societal impact results comparable** across companies
- Value-to-society program to make monetary impact assessment of economic, social and environmental contribution

# CO<sub>2</sub>-neutral growth until 2030: Creating value to society and contributing to a sustainable development

**Absolute greenhouse gas (GHG) emissions indexed (1990 = 100)**



- Since 1990, we have doubled our production volumes and nevertheless cut our greenhouse gas emissions in half
- BASF uses carbon raw materials responsibly: 75% of carbon converted to products, 25% consumed for process energy and converted to CO<sub>2</sub>
- 22 million tons of CO<sub>2</sub> emissions by BASF worldwide in 2018 compared to 10–30 million tons per year for one coal-fired power plant
- Carbon intensity to be reduced by 30%
- We support the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)



# Leverage BASF's innovation power to achieve €22 billion in Accelerator sales by 2025 (1)

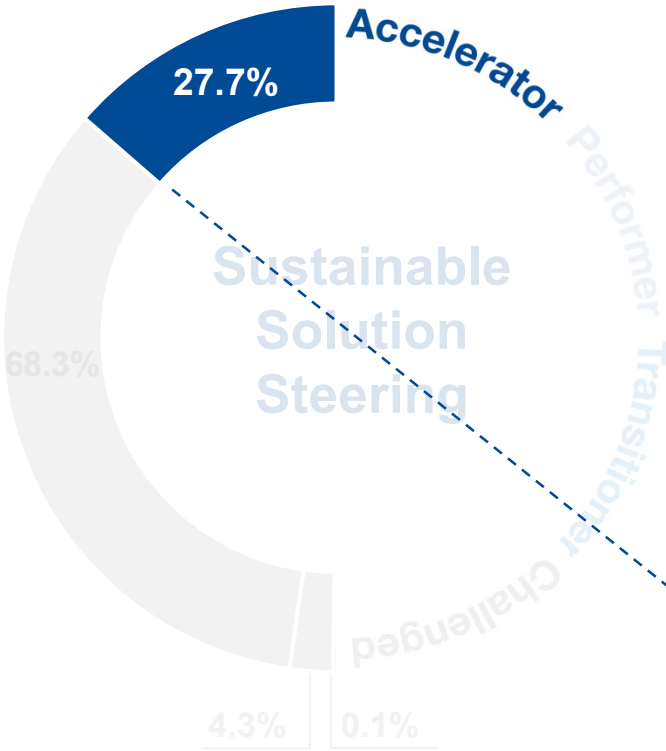
Percentage of sales 2018



- >60,000 product applications analyzed by 2018 (€56.2 billion in sales, 96.5% of relevant portfolio)
- 27.7% Accelerators
  - >12,000 solutions for enhanced quality of life
  - strong growth in their markets
  - on average margins ~6 percentage points above the rest of assessed portfolio
- Goal: €22 billion of sales with Accelerator products by 2025 (2018: €15 billion)
- Stronger integration in R&D pipeline, business strategies and M&A projects
- We will stop selling all Challenged products within maximum five years after classification

# Leverage BASF's innovation power to achieve €22 billion in Accelerator sales by 2025 (2)

Percentage of sales 2018



## Examples

**SLENTITE® – high-performance insulation material**



**Cetiol® Ultimate – 100% renewable-based emollient for personal care**



**Acronal® MB – from biomass to dispersions**





# Circular economy

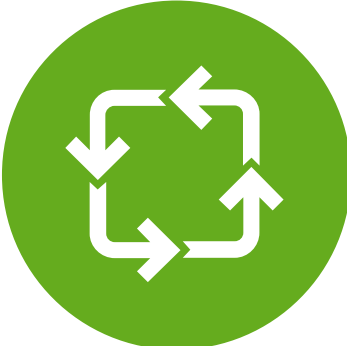
Chemical recycling represents a missing link for sustainable growth

Close the loop

Successful business proof in October 2018

## ChemCycling™

- + can handle mixed plastic waste
- + produces virgin-like raw materials
- + replaces virgin fossil resources



Plastic waste is converted into liquid feedstock and fed into BASF's value chains

Linear economy



Mechanical recycling



Landfill



Incineration



Littering



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# Guidance on the use of cash

## Organic growth

- ~€21.3 billion capex budget 2019-2023
- Around €2.3 billion R&D expenditures annually

## Progressive dividend

- Aim to increase dividend per share every year
- Strong balance sheet supports dividend policy in times of slower free cash flow generation driven by weak macro environment

## Portfolio upgrading

- Strengthen portfolio by selective M&A opportunities while maintaining price discipline
- Focus the portfolio through continued pruning measures

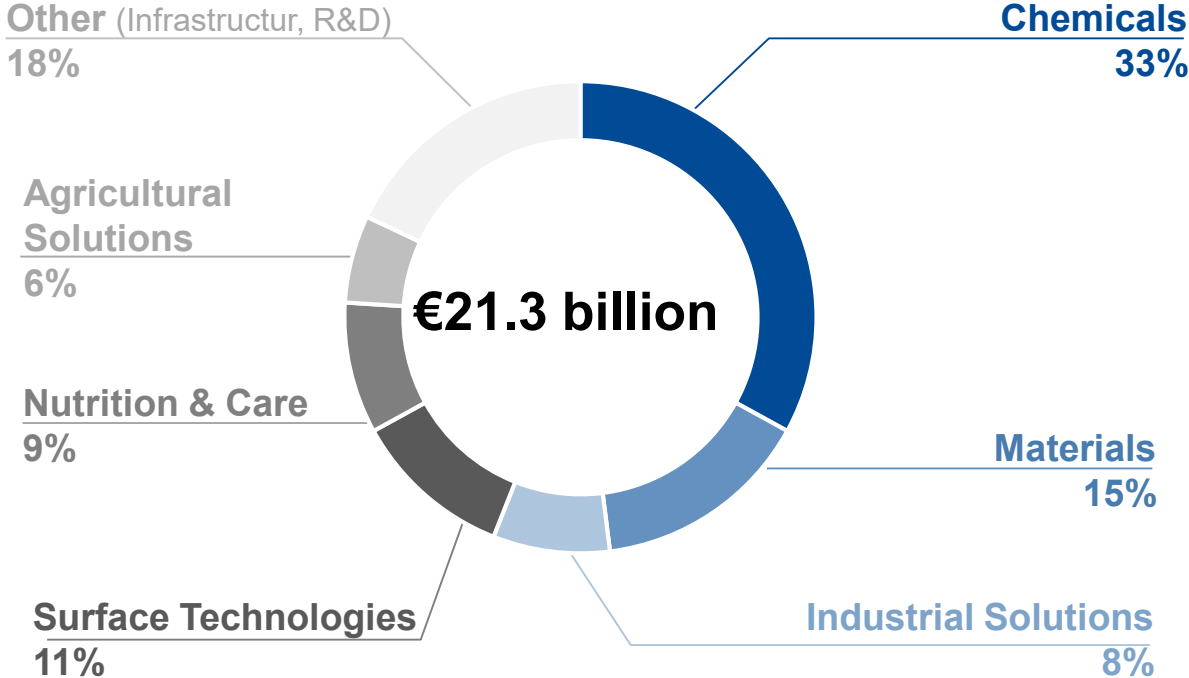
## Share buybacks

- We will also consider share buybacks, e.g., to return disposal proceeds to shareholders

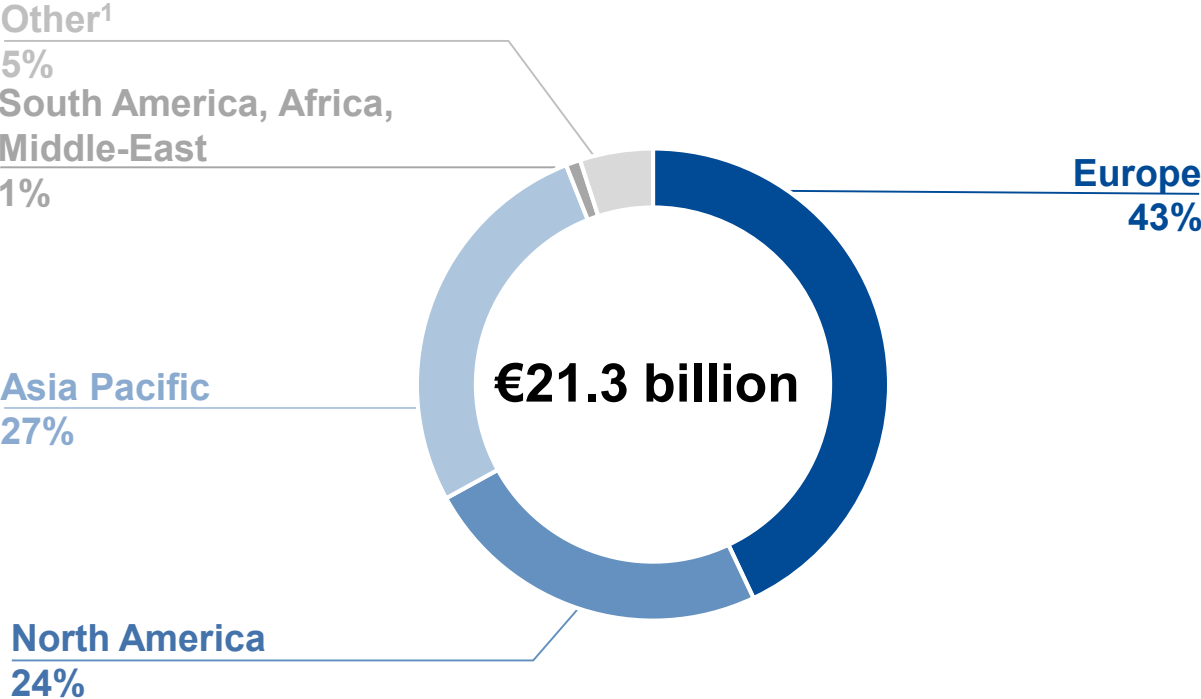
# Investments in organic growth

Investments of ~€3.8 billion planned for 2019

Capex budget 2019–2023 by segment



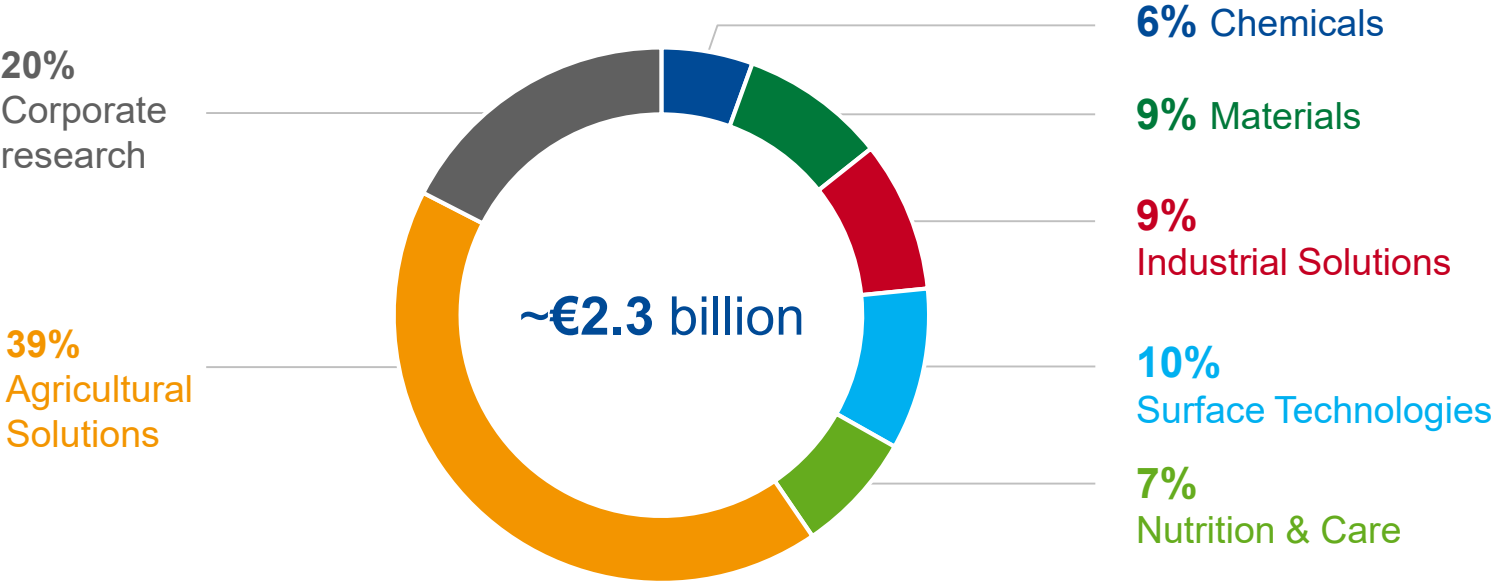
Capex budget 2019–2023 by region



<sup>1</sup> Alternative sites currently being investigated

# BASF's R&D is highly competitive, ensures long-term growth and generates a net benefit to earnings every year

## Expected annual R&D expenditures

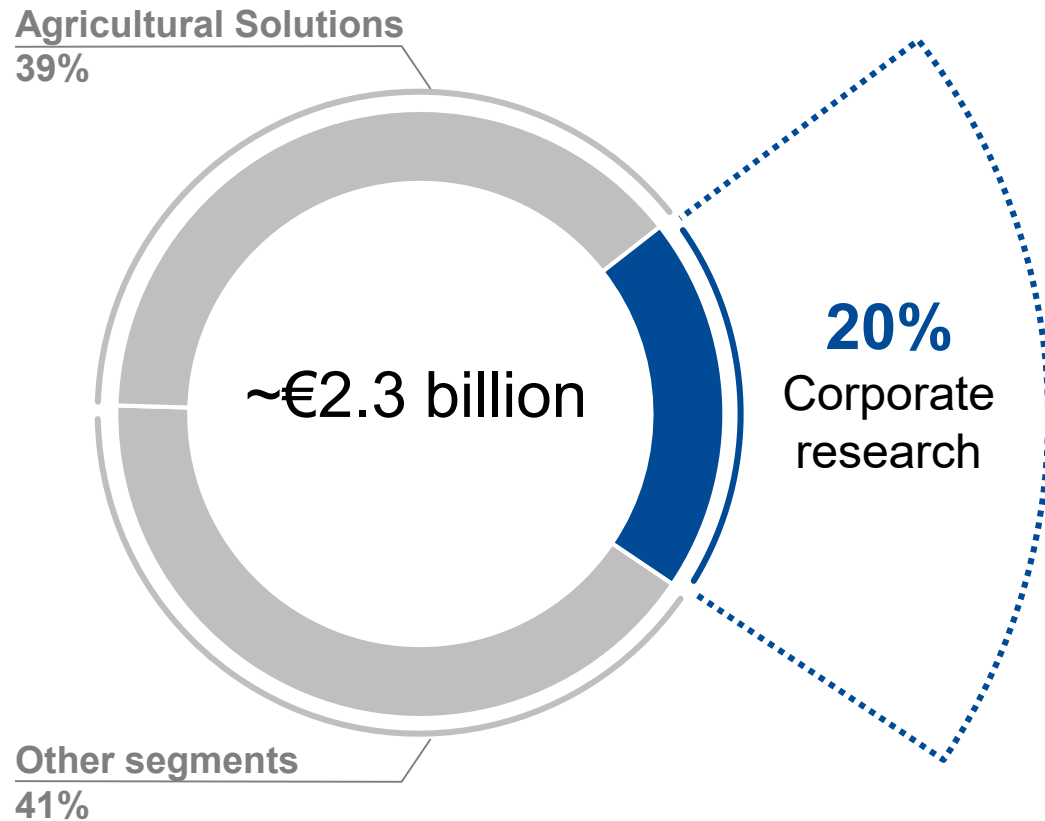


## Measures to boost innovation power

- Capitalize on innovation mindset
- Focus R&D resources on growth businesses
- Increase customer centricity
  - ▶ Stronger alignment of customer needs and R&D projects
  - ▶ Establish rapid prototyping
  - ▶ Move R&D closer to businesses
- Fully leverage artificial intelligence
- Cross-divisional corporate research strengthens existing and develops new key technologies

# BASF's corporate research ensures long-term growth of BASF Group

## Expected annual R&D expenditures



- **New businesses**
  - investment in ventures that target markets and technologies new to BASF, e.g., trinamiX, 3D printing
- **Key technology capabilities**
  - continuous investments in technologies that are decisive for BASF's core businesses, e.g., heterogeneous catalysis, enzyme technology, alternative toxicological methods
- **Corporate projects**
  - overarching topics with special relevance for BASF, e.g., Carbon Management
- **Creativity budget**
  - pragmatic approach to quickly evaluate new and radical ideas in BASF's research divisions

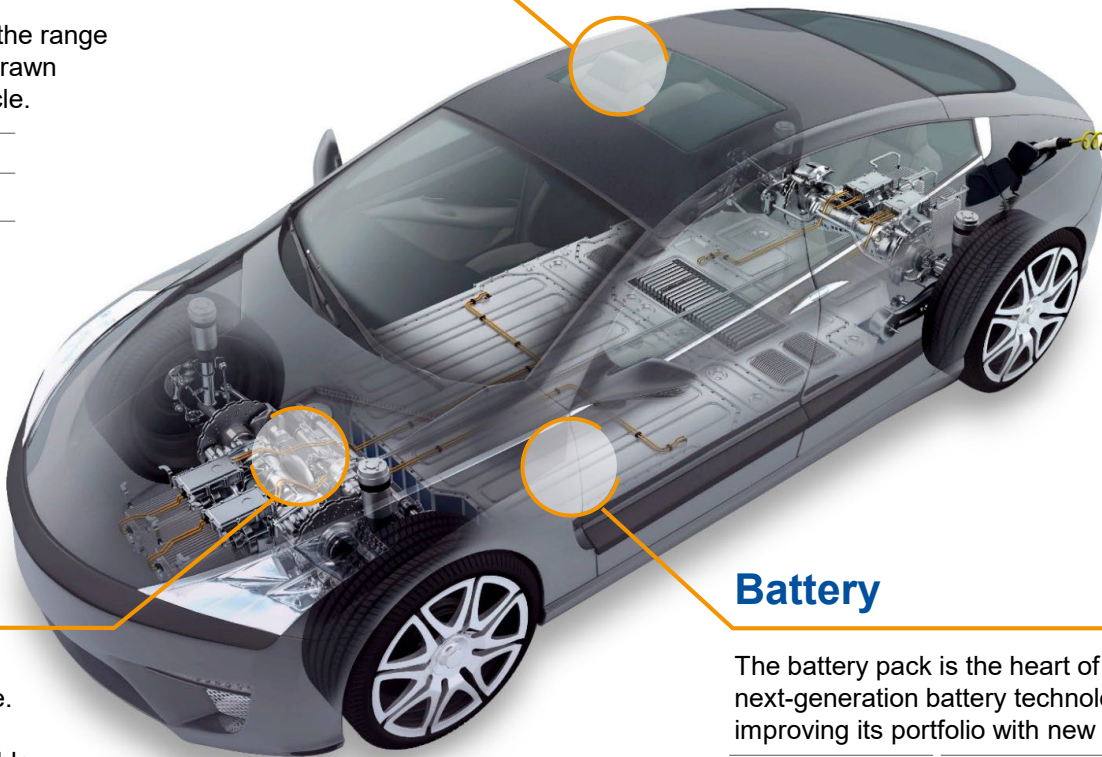


# E-Mobility is a growth driver for BASF

## Heat management

Effective heat management can increase the range of electric cars, as it reduces the energy drawn from the battery to heat and cool the vehicle.

Components	BASF materials
Chassis coatings	Chromacool®



## Charging system

Safe and easy-to-use charging devices are vital if electromobility is to become widespread.

Components	BASF materials
Charging stations	Ultradur®, Ultramid®
Charging cables	Elastollan®
Charging plugs	Ultradur®
Charging inlet	Ultradur®

## Electric powertrain

The electric motor and power electronics are core components of an electric vehicle. BASF materials help customers to reduce weight, increase design flexibility and enable components and functions to be integrated safely.

Components	BASF materials
Electric motor	Cellasto®
Power electronics	Ultradur®, Ultramid®

## Battery

The battery pack is the heart of an electric car. To support next-generation battery technology, BASF is continuously improving its portfolio with new solutions.

Components	BASF materials
Battery cells	CAM <sup>1</sup> (HED™ product family), N-methylpyrrolidone (NMP), Ethylene carbonate
Battery housing	Oxsilan®, CathoGuard®, Ultramid®
Battery bearings	Cellasto®
Battery cooling	Glycantin®, Ultramid®
High-voltage plugs	Ultramid® HR, Ultramid®

<sup>1</sup> CAM = Cathode Active Materials

# Fast-paced buildup of global cathode active materials footprint

2018



Second CAM production facility in Battle Creek, Michigan; merged with Elyria, Ohio into BASF TODA America (BTA)

2012



First CAM production facility in Elyria, Ohio

2018



First production volumes at Harjavalta, Finland

Europe planned greenfield production

China planned production

2015



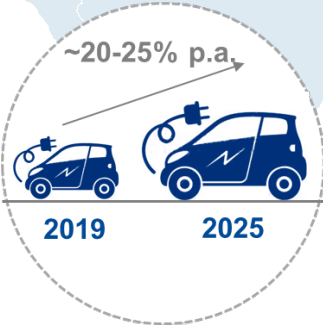
Foundation of BASF TODA Battery Materials (BTBM), Japan

2017



Tripled capacity at BTBM in Onoda, Japan

Electromobility drives battery materials growth



**Market projections for 2025:**  
 10-15 million electric vehicles built per year  
 700-1,000 kt of CAM in electromobility  
 €25-30 billion CAM market size

Chemistry of cathode active materials is key to address electromobility challenges







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# We have refocused our portfolio towards innovative growth businesses<sup>1</sup>

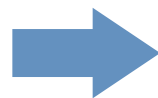
## Acquisitions

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- Functional crop care
- Personal care and food ingredients
- Omega-3 fatty acids
- Enzymes
- Battery materials
- Specialty plastics
- Refinish coatings
- Surface treatment
- Seeds and crop protection

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**~€7.8 billion sales in emerging and innovation-driven businesses**



**BASF**  
**core business**  
Selected  
transactions  
2010–today



## Divestitures

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- Styrenics
- Fertilizers
- Natural gas trading and storage
- Custom synthesis business
- Textile chemicals
- Polyolefin catalysts
- Industrial coatings
- Leather chemicals
- Water and paper chemicals
- Oil & Gas

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**~€26.0 billion sales in businesses with decreased differentiation potential**

# Ongoing active portfolio management



## BASF to acquire Solvay's non-European polyamide business

- Sales 2018: ~€1 billion
- BASF will acquire the global, non-European PA6.6 business from Solvay including its 50% share in Butachimie's adipodinitrile (ADN) production
- Purchase price of €1.3 billion<sup>1</sup>
- Closing is expected in Q1 2020



## DIC to acquire BASF's global pigments business

- Sales 2018: ~€1 billion
- BASF and DIC reached an agreement on the acquisition of BASF's global pigments business
- Purchase price of €1.15 billion<sup>1</sup>
- Closing is expected in Q4 2020<sup>2</sup>



## BASF to divest its construction chemicals business

- Sales 2018: ~€2.5 billion
- Structured divestiture process and carve-out on track
- Confirmatory bids received; negotiations ongoing
- Signing expected by the end of 2019

# Clear acquisition criteria

## Strategic acquisition criteria

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We want to acquire businesses which ...

- create more value as part of BASF's Verbund
- help achieve relevant market positions
- drive innovation or technological differentiation
- enable new and sustainable business models

## Financial acquisition criteria

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We want to acquire businesses which ...

- provide a return on capital employed above the WACC after full integration into BASF Group
- are EPS accretive by year three at the latest
- contribute to growth of EBITDA before special items



At a glance



Implementing BASF's Corporate Strategy



Q3 2019 Reporting

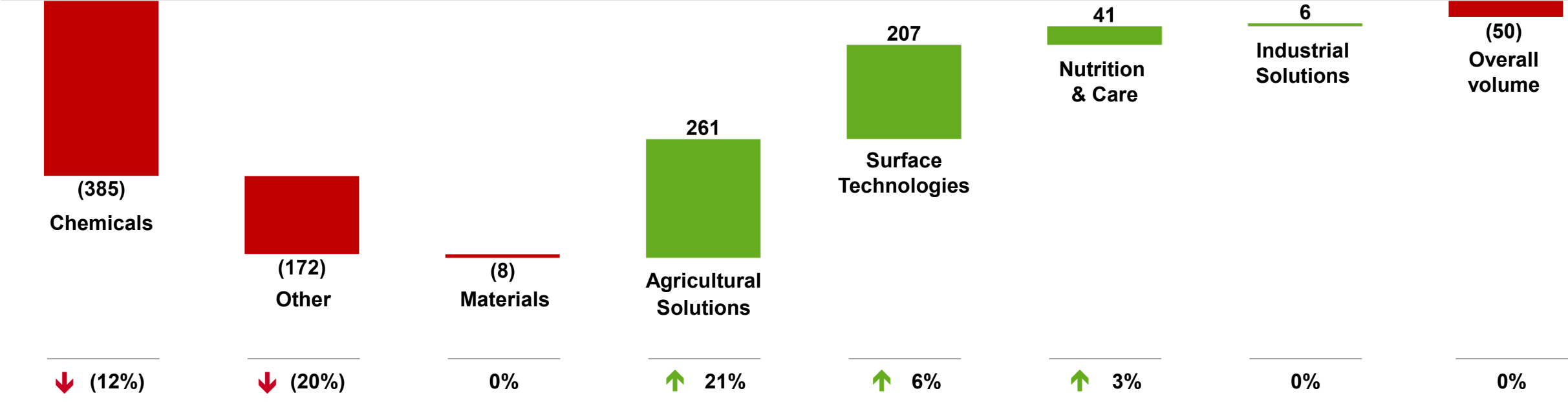


CMD Agricultural Solutions – Highlights



# BASF Group Q3 2019 – Volume development

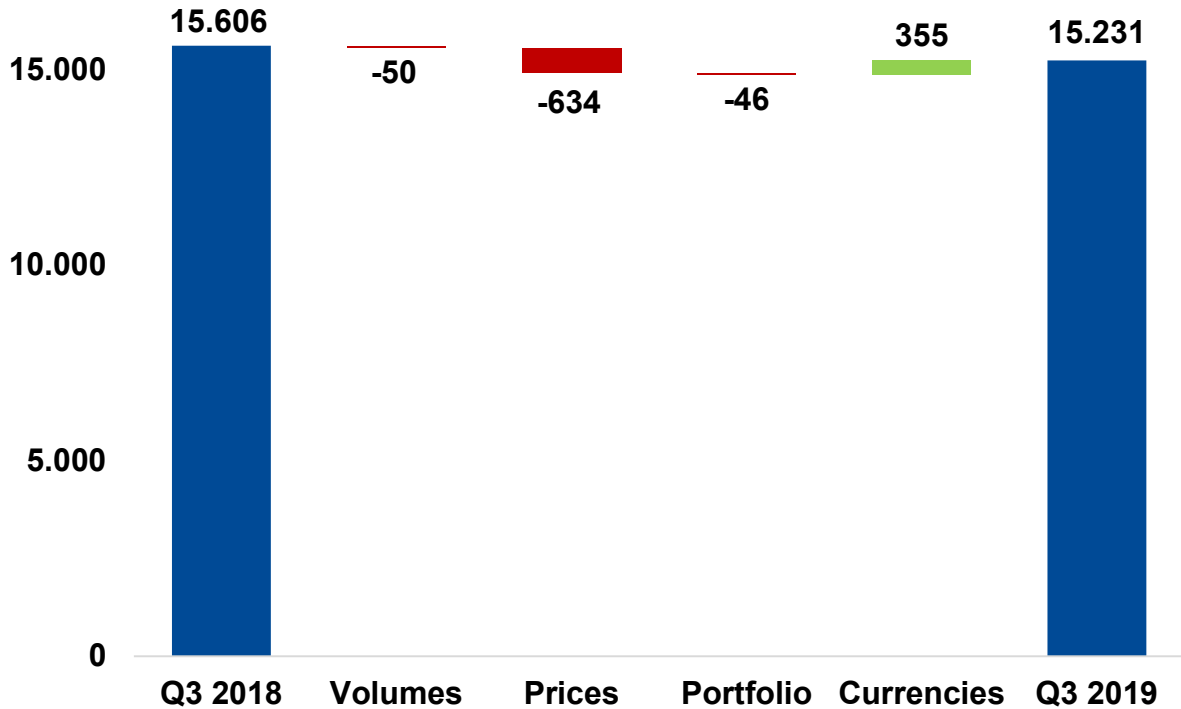
Volume development by segment  
 Q3 2019 vs. Q3 2018  
 absolute (million €) terms



relative (%) terms

# BASF Group Q3 2019 – Sales and EBIT before special items

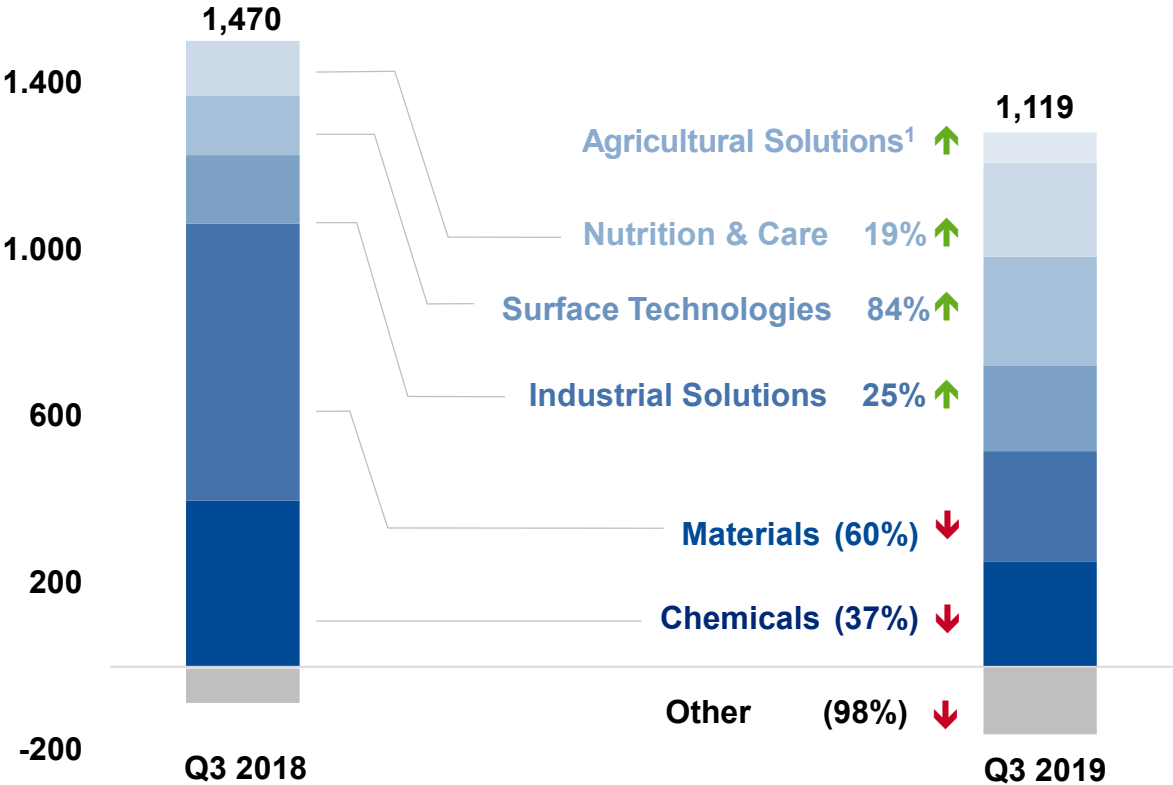
Sales bridge Q3 2019 vs. Q3 2018  
million €



**Sales development**

Q3 2019 vs. Q3 2018	0%	↓ (4%)	0%	↑ 2%
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EBIT before special items by segment Q3 2019 vs. Q3 2018  
million €



<sup>1</sup> In Agricultural Solutions, EBIT before special items increased from minus €5 million in Q3 2018 to €73 million in Q3 2019



# BASF Group Q3 2019: Sales decreased slightly; EBIT before special items 24% below prior-year quarter

Financial figures	Q3 2019	Q3 2018	Change
	€	€	%
Sales	15,231 million	15,606 million	(2)
EBITDA before special items	2,084 million	2,263 million	(8)
EBITDA	2,339 million	2,190 million	7
EBIT before special items	1,119 million	1,470 million	(24)
EBIT	1,376 million	1,395 million	(1)
Net income	911 million	1,200 million	(24)
Reported EPS	1.0	1.31	(24)
Adjusted EPS	0.86	1.51	(43)
Cash flows from operating activities	1,998 million	2,930 million	(32)

Sales development	Volumes	Prices	Portfolio	Currencies
Q3 2019 vs. Q3 2018	0%	↓ (4%)	0%	↑ 2%

# BASF Group Q1 – Q3 2019: Sales decreased slightly; EBIT before special items 32% below prior-year period

Financial figures	Q1 – Q3 2019	Q1 – Q3 2018	Change
	€	€	%
Sales	46,566 million	47,089 million	(1)
EBITDA before special items	6,722 million	7,985 million	(16)
EBITDA	6,754 million	7,830 million	(14)
EBIT before special items	3,896 million	5,723 million	(32)
EBIT	3,682 million	5,564 million	(34)
Net income	8,777 million	4,359 million	101
Reported EPS	9.56	4.75	101
Adjusted EPS	3.33	5.21	(36)
Cash flows from operating activities	4,317 million	6,385 million	(32)

Sales development	Volumes	Prices	Portfolio	Currencies
Q1 – Q3 2019 vs. Q1 – Q3 2018	↓ (3%)	↓ (3%)	↑ 3%	↑ 2%

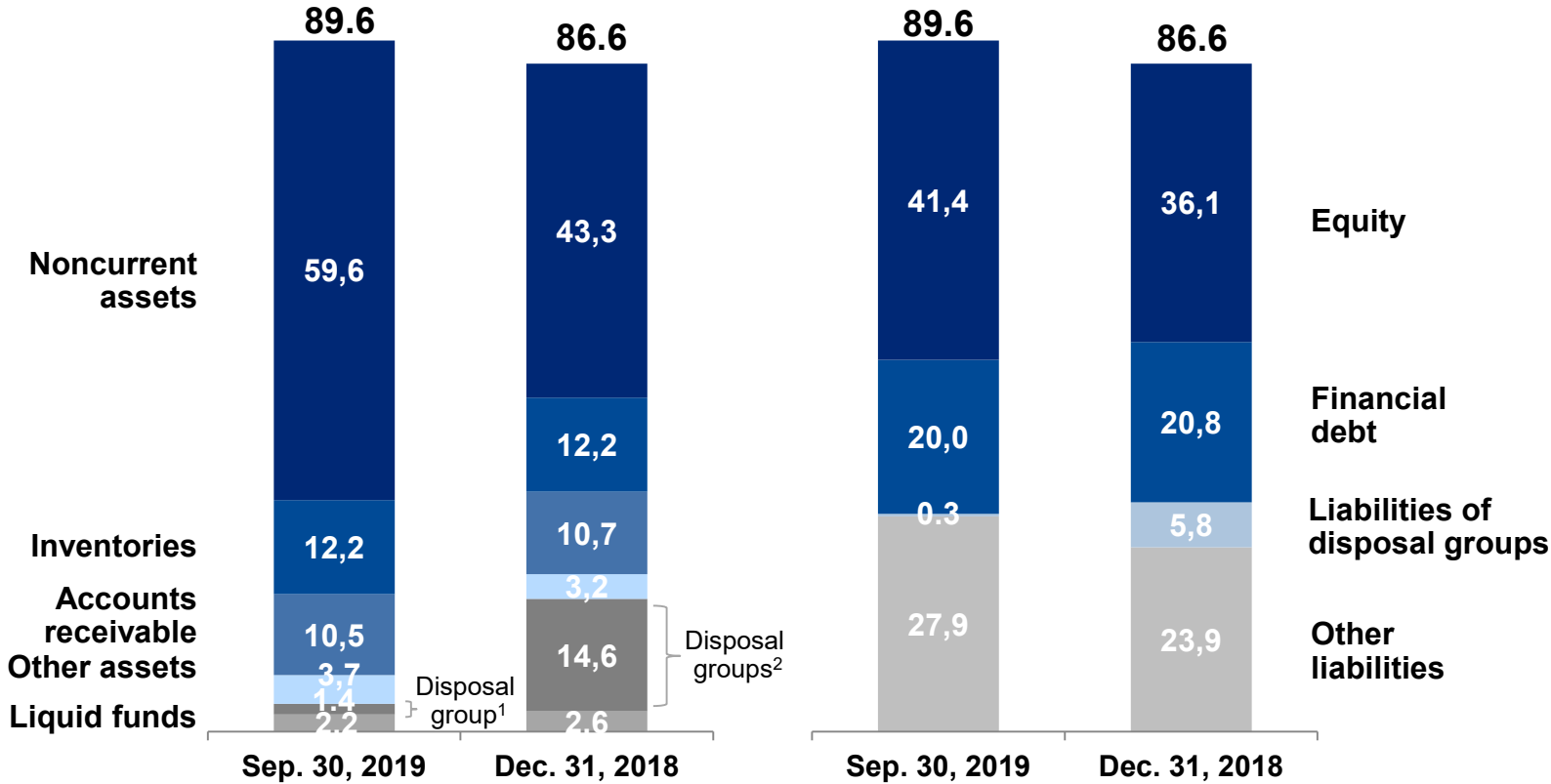
# Cash flow development Q1 – Q3 2019

	Q1 – Q3 2019	Q1 – Q3 2018
	million €	million €
<b>Cash flows from operating activities</b>	<b>4,317</b>	<b>6,385</b>
Thereof Changes in net working capital	(177)	(653)
Miscellaneous items	(7,355)	(204)
<b>Cash flows from investing activities</b>	<b>47</b>	<b>(10,036)</b>
Thereof Payments made for tangible / intangible assets	(2,648)	(2,428)
Acquisitions / divestitures	2,254	(7,120)
<b>Cash flows from financing activities</b>	<b>(4,745)</b>	<b>(127)</b>
Thereof Changes in financial and similar liabilities	(1,730)	2,926
Dividends	(3,016)	(3,057)
<b>Free cash flow</b>	<b>1,669</b>	<b>3,957</b>



# Balance sheet remains strong

Balance sheet September 30, 2019 vs. December 31, 2018  
billion €



- Total assets rose by €3.0 billion; more than one third of the increase was related to the new IFRS 16 standard on leases.
- Noncurrent assets increased by €16.2 billion, mainly due to the recognition of our participating interests in Wintershall Dea and Solenis
- Net debt decreased by €393 million to €17.8 billion
- The equity ratio increased from 41.7% (Dec. 31, 2018) to 46.2% (Sep. 30, 2019), mainly due to the book gain on the deconsolidation of Wintershall

<sup>1</sup> BASF's global pigments business; <sup>2</sup> BASF's oil & gas business and the paper and water chemicals business



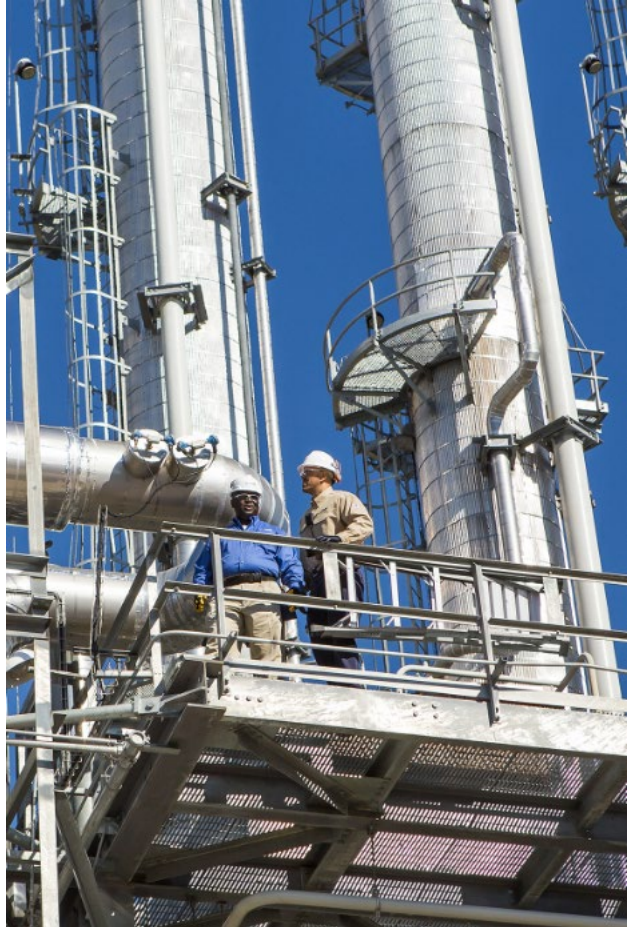
# Outlook 2019 for BASF Group

## Outlook 2019<sup>1</sup>

Sales	Slight decline
EBIT before special items	Considerable decline of up to 30%
ROCE	Considerable decline

## Underlying assumptions

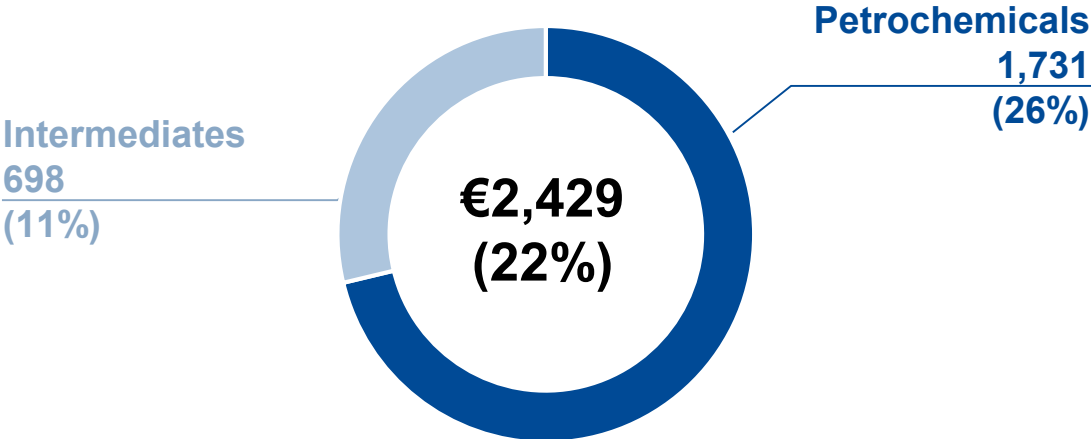
- GDP growth: +2.5% (unchanged)
- Growth in industrial production: +1.5% (unchanged)
- Growth in chemical production: +1.5% (unchanged)
- Exchange rate: US\$1.15 per euro (unchanged)
- Oil price (Brent): US\$65 per barrel (previous assumption: US\$70 per barrel)



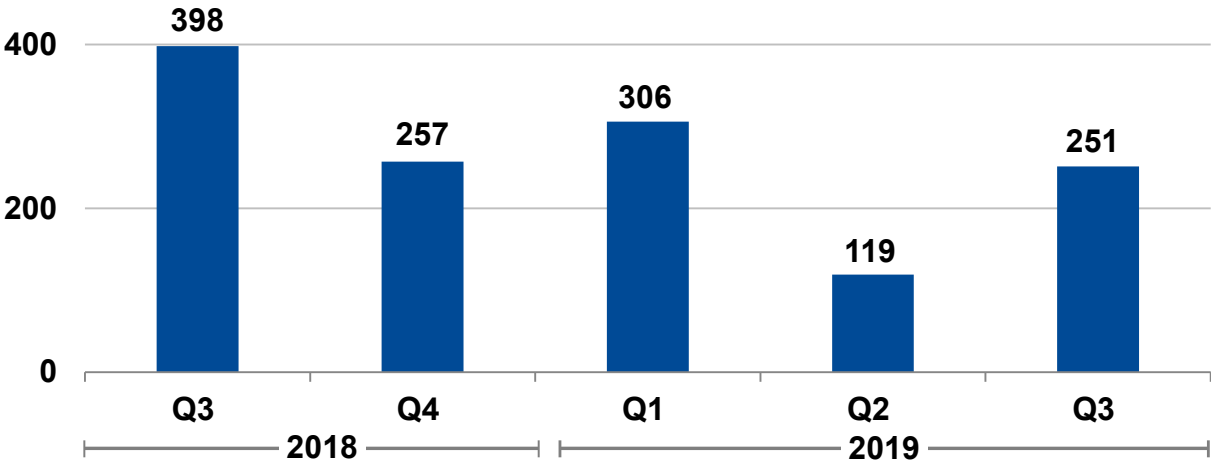
<sup>1</sup> For sales, “slight” represents a change of 1–5%, while “considerable” applies to changes of 6% and higher. For earnings, “slight” means a change of 1–10%, while “considerable” is used for changes of 11% and higher. At a cost of capital percentage of 10% for 2018 and 2019, we define a change in ROCE of 0.1 to 1.0 percentage points as “slight,” a change of more than 1.0 percentage points as “considerable.”

# Chemicals

**Sales Q3 2019 vs. Q3 2018**  
million €



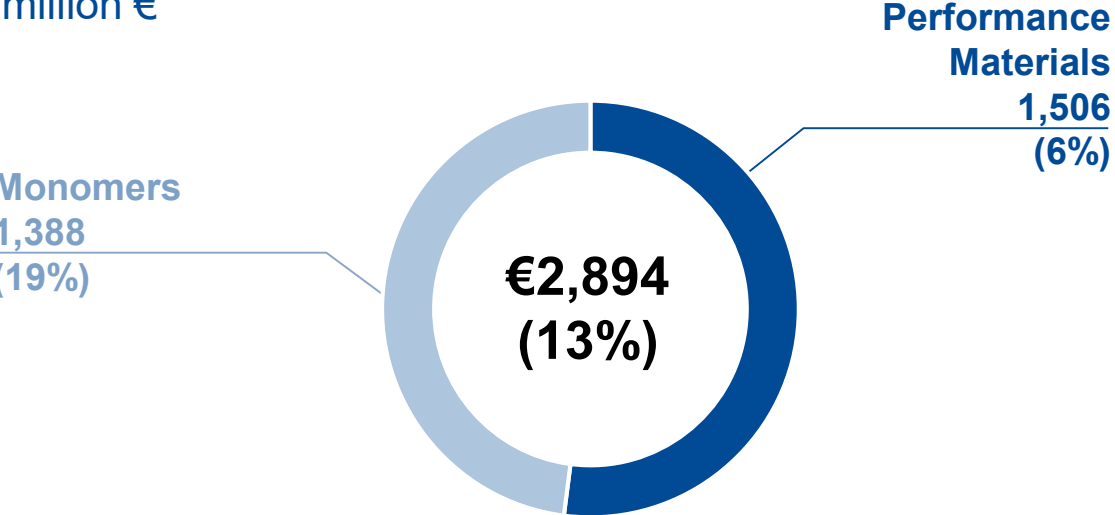
**EBIT before special items**  
million €



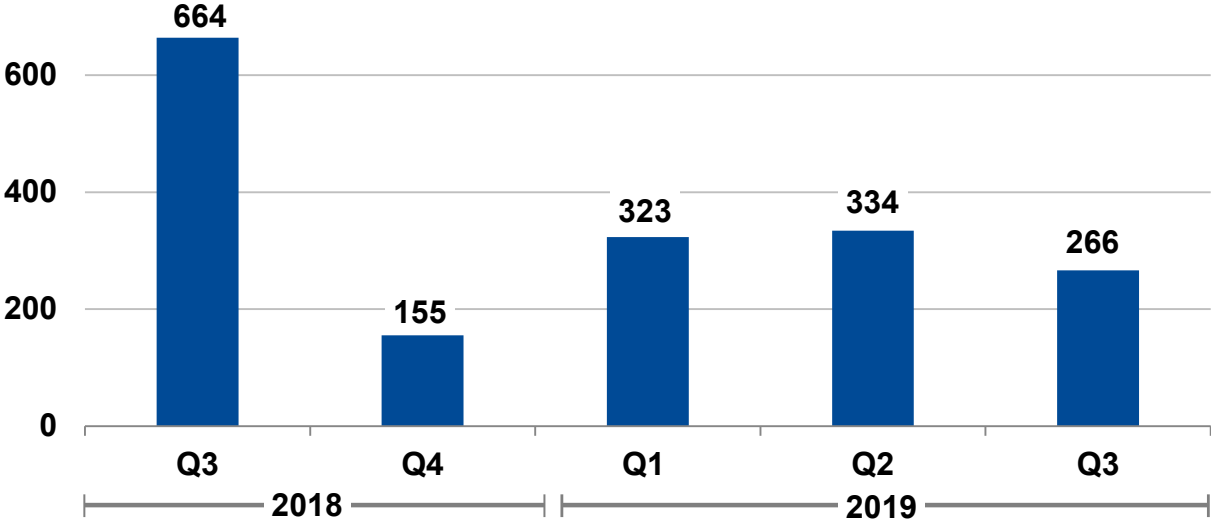
Sales development	Volumes	Prices	Portfolio	Currencies
Q3 2019 vs. Q3 2018	↓ (12%)	↓ (12%)	0%	↑ 2%

# Materials

**Sales Q3 2019 vs. Q3 2018**  
million €



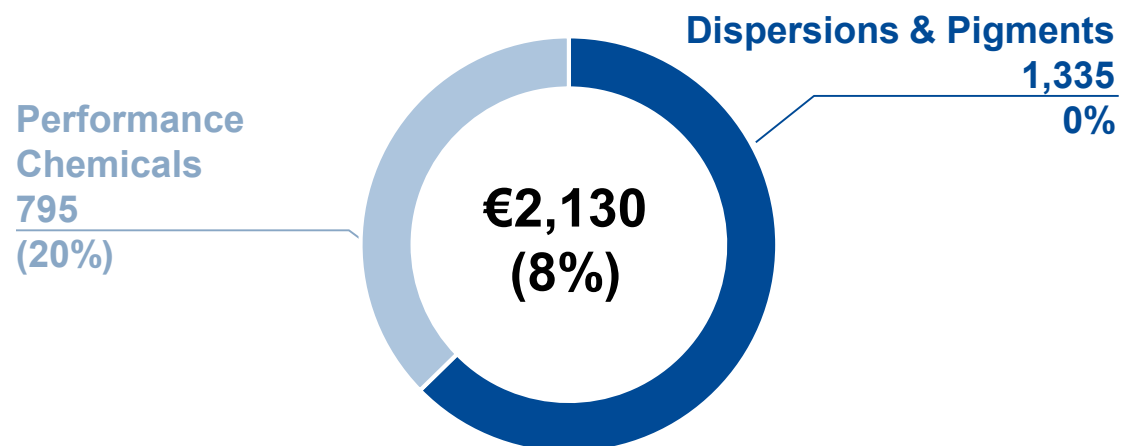
**EBIT before special items**  
million €



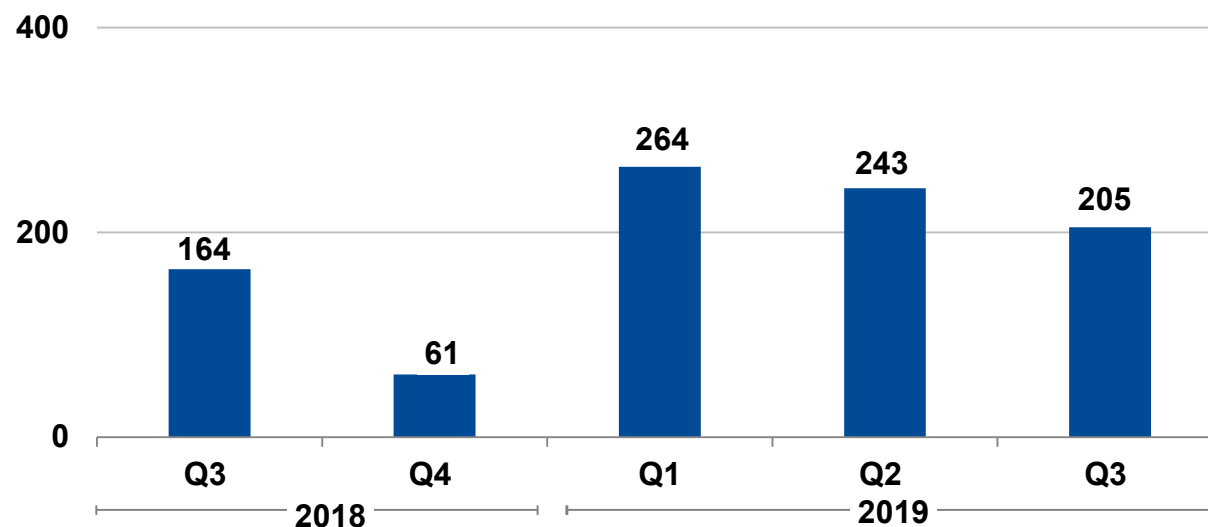
Sales development	Volumes	Prices	Portfolio	Currencies
Q3 2019 vs. Q3 2018	0%	↓ (15%)	0%	↑ 2%

# Industrial Solutions

**Sales Q3 2019 vs. Q3 2018**  
million €



**EBIT before special items**  
million €

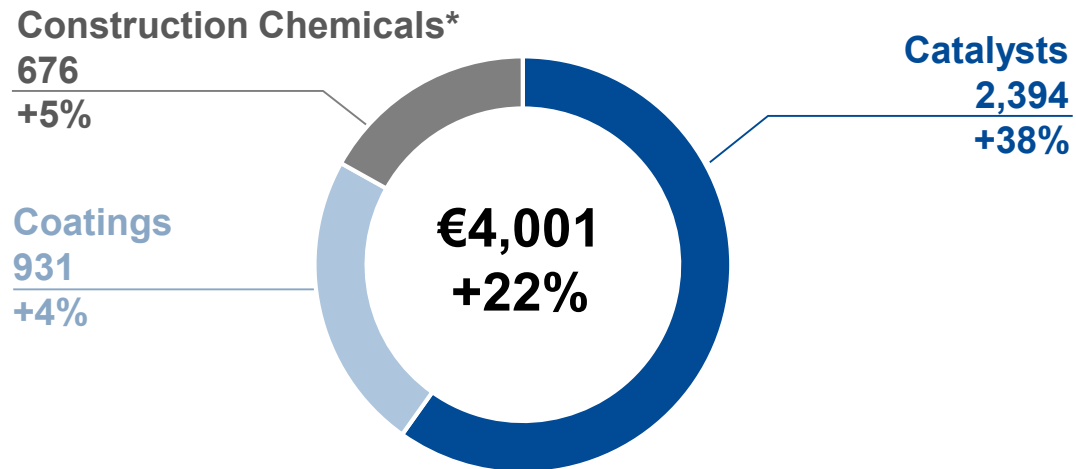


Sales development	Volumes	Prices	Portfolio	Currencies
Q3 2019 vs. Q3 2018	0%	↓ (2%)	↓ (9%)	↑ 3%

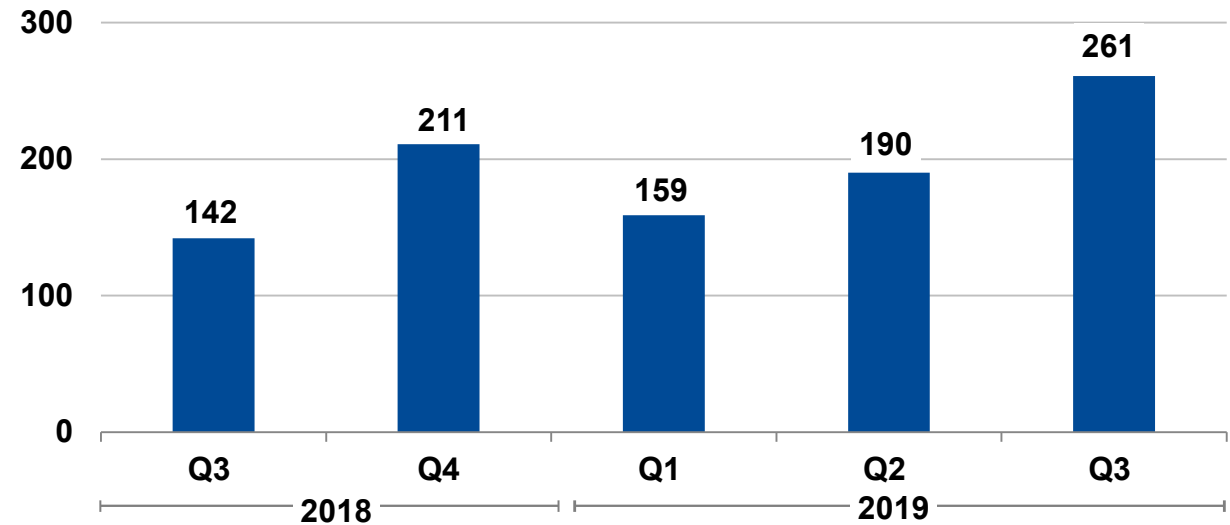


# Surface Technologies

**Sales Q3 2019 vs. Q3 2018**  
million €



**EBIT before special items**  
million €



\* Until signing of a transaction agreement, Construction Chemicals will be reported under Surface Technologies

## Sales development

Q3 2019 vs. Q3 2018

## Volumes

↑ 6%

## Prices

↑ 13%

## Portfolio

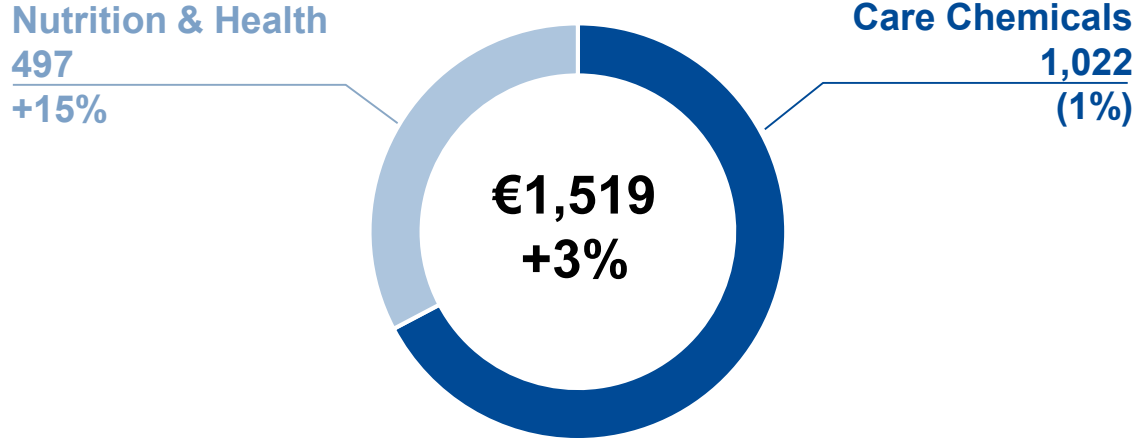
0%

## Currencies

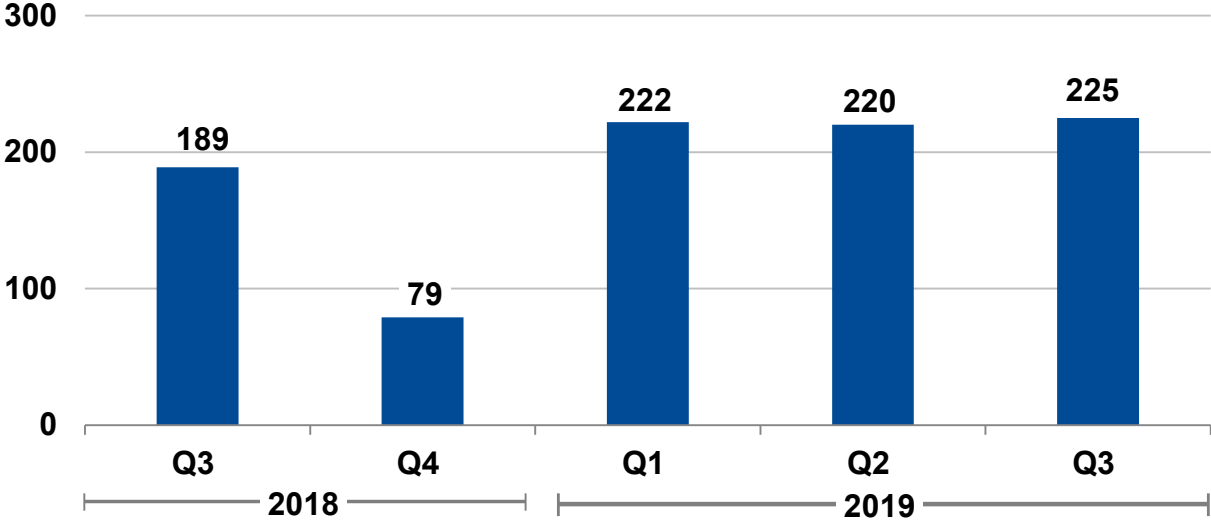
↑ 3%

# Nutrition & Care

**Sales Q3 2019 vs. Q3 2018**  
million €



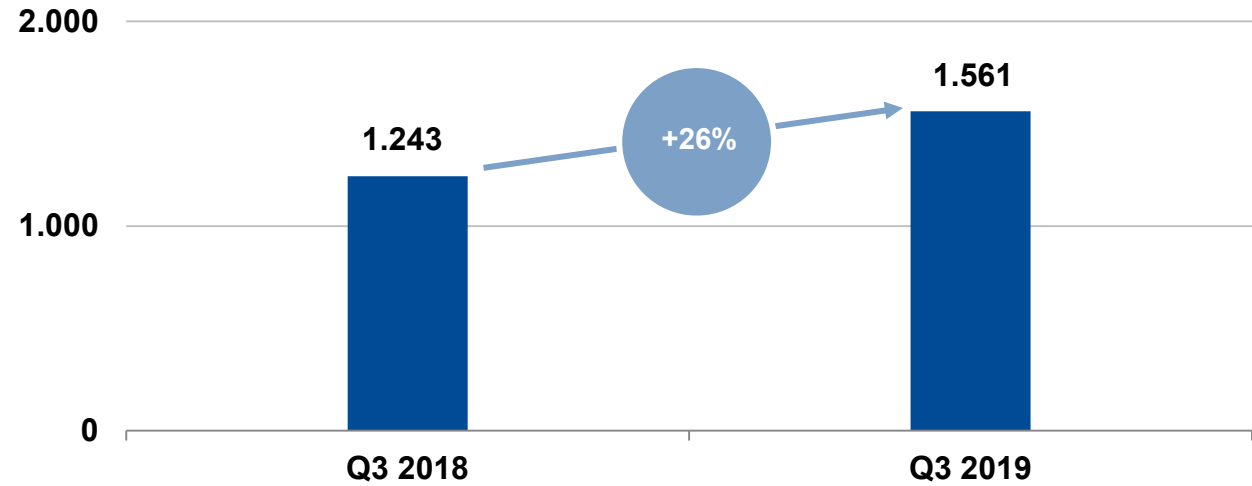
**EBIT before special items**  
million €



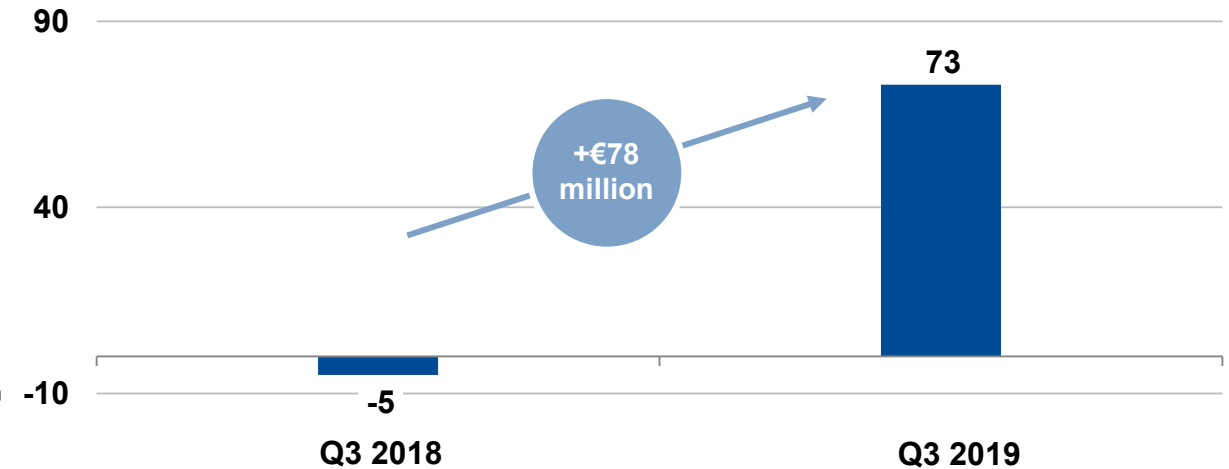
Sales development	Volumes	Prices	Portfolio	Currencies
Q3 2019 vs. Q3 2018	↑ 3%	↓ (2%)	0%	↑ 2%

# Agricultural Solutions

**Sales Q3 2019 vs. Q3 2018**  
million €



**EBIT before special items**  
million €



## Sales development

Q3 2019 vs. Q3 2018

## Volumes

↑ 21%

## Prices

↓ (6%)

## Portfolio

↑ 8%

## Currencies

↑ 3%

# Review of “Other”

Financial figures		Q3 2019	Q3 2018
		million €	million €
<b>Sales</b>		<b>697</b>	<b>845</b>
<b>EBIT before special items</b>		<b>(162)</b>	<b>(82)</b>
Thereof	Costs of corporate research	(92)	(96)
	Costs of corporate headquarters	(57)	(64)
	Foreign currency results, hedging and other measurement effects	(15)	31
	Other businesses	61	18
Special items		331	(18)
<b>EBIT</b>		<b>169</b>	<b>(100)</b>



At a glance



Implementing BASF's Corporate Strategy



Q3 2019 Reporting

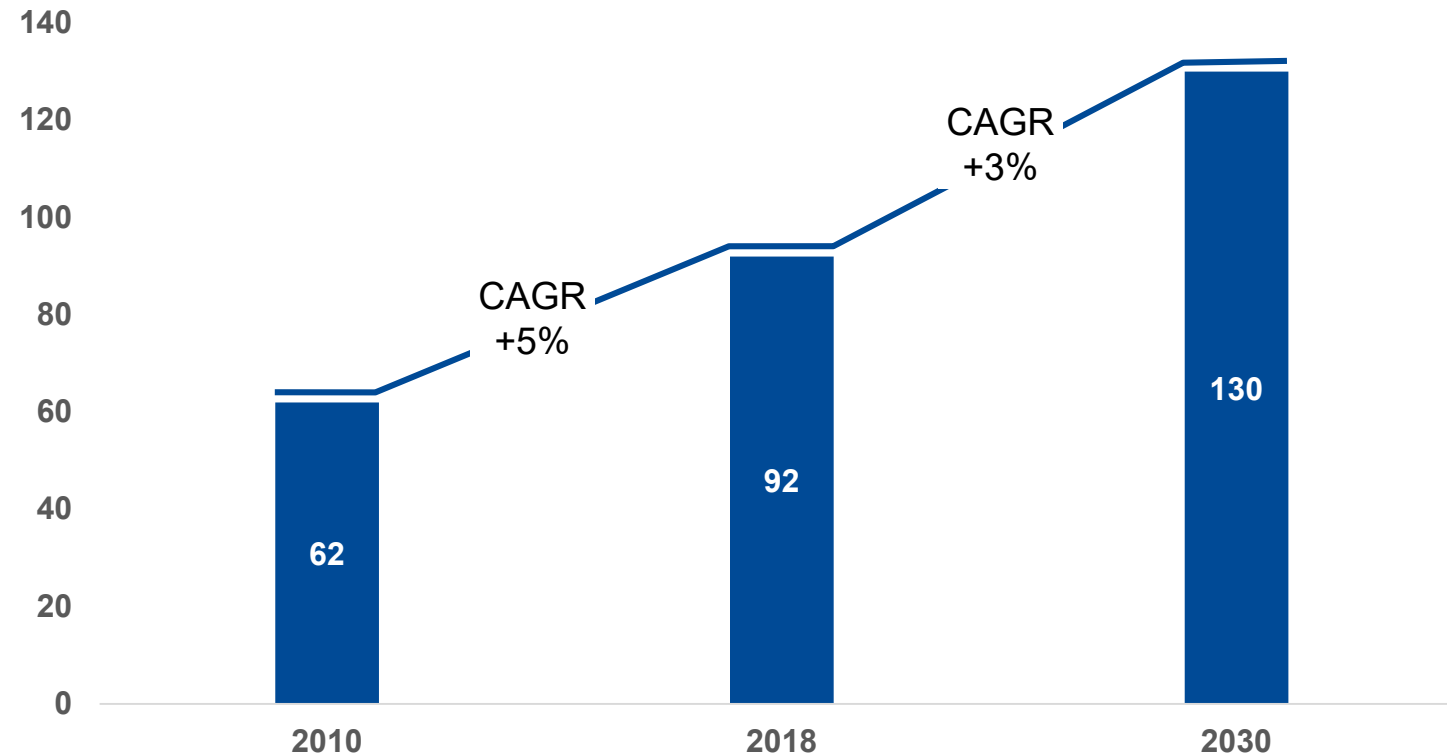


CMD Agricultural Solutions – Highlights



# Agricultural solutions is an attractive market driven by increasing demand for food

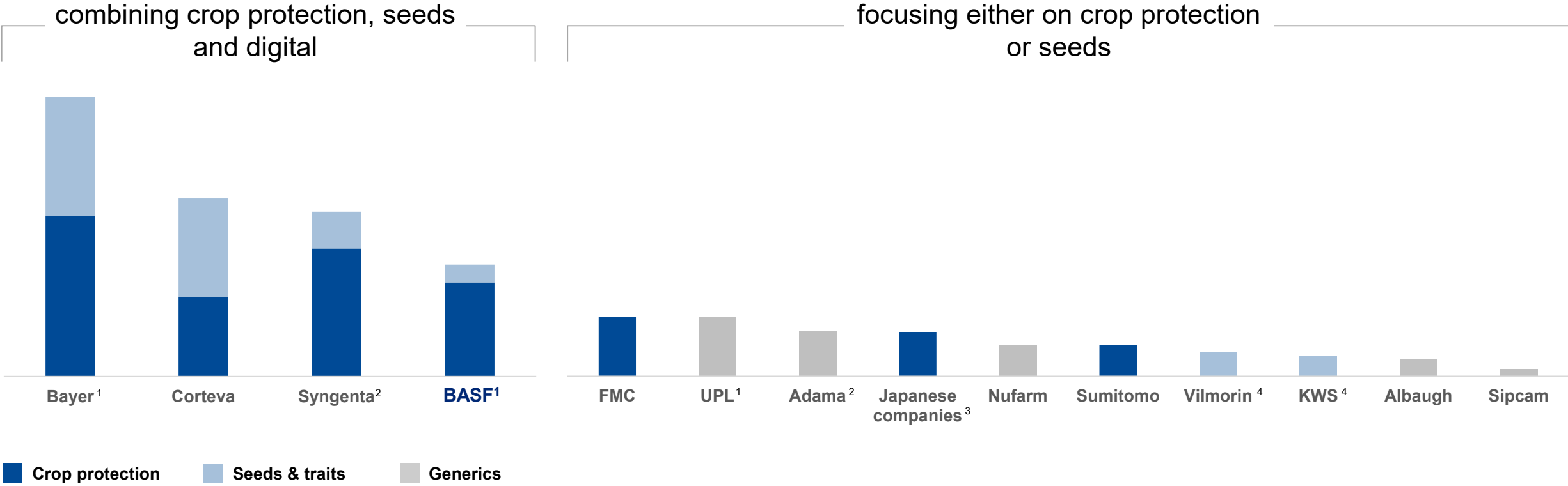
**Market size**  
billion €



- Crop protection and seeds continue to grow
- Main drivers are increasing yields and growing technology adoption
- Lower growth in crop protection products due to higher regulatory pressure and increasing application of precision farming tools
- Digital applications market grows rapidly, potentially reaching €10 billion by 2030
- Farmers will look to combine crop protection, seeds, digital and application technologies while fulfilling societal requirements

# BASF is well positioned in the group of market-leading companies

## Competitive landscape, sales 2018

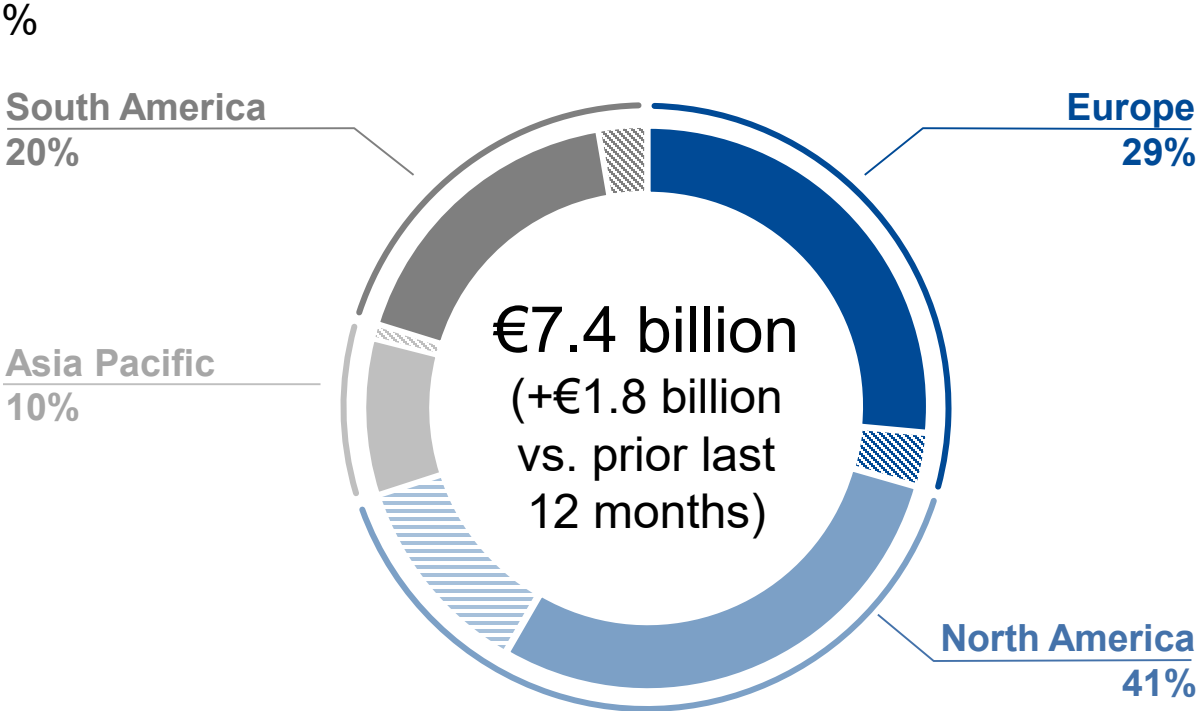


<sup>1</sup> Proforma sales; BASF Agricultural Solutions: legacy plus acquired business (FY) based on internal estimates <sup>2</sup> Part of ChemChina  
<sup>3</sup> R&D-driven Japanese companies within TOP 30 AgChem companies and sales <€1bn; <sup>4</sup> incl. 50/50 AgReliant Genetics JV split; Source: AgbiInvestor 2018

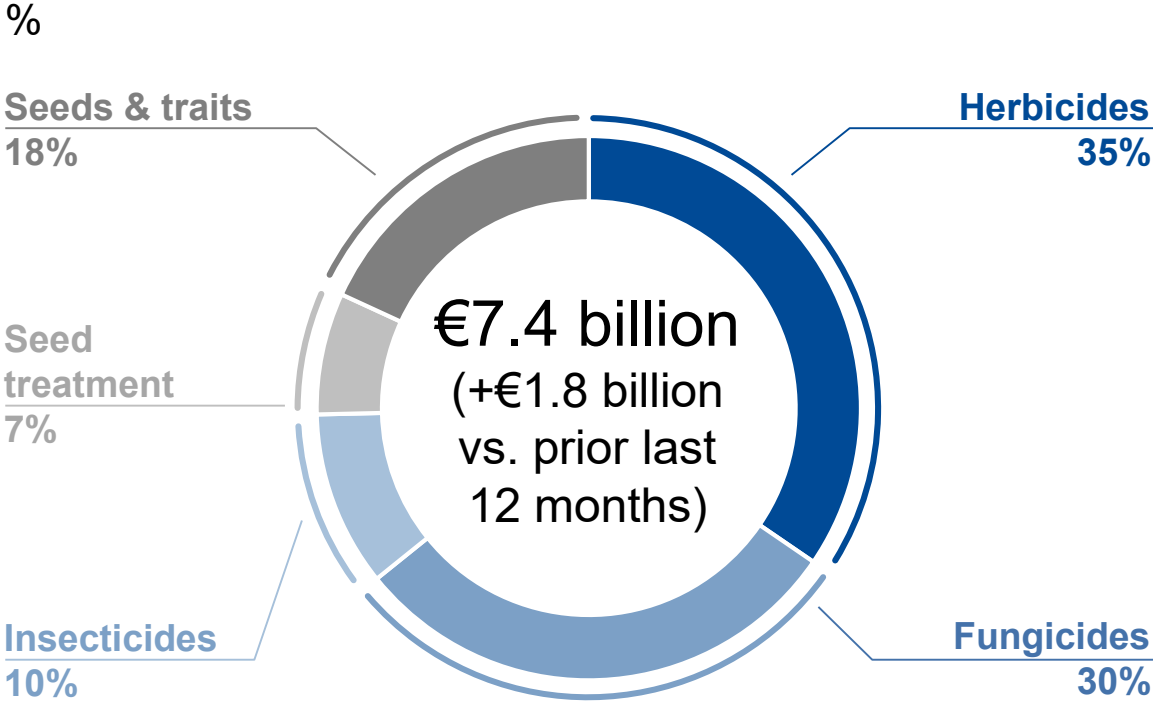


# Well-balanced portfolio with significant presence in all regions, indications and sectors

Sales by region, last 12 months<sup>1</sup>



Sales by indication and sector, last 12 months<sup>1</sup>



■ Crop protection  
 ■ Seeds & traits

<sup>1</sup> H2 2018 + H1 2019 as reported; the acquisition of businesses and assets from Bayer was closed in August 2018.

# Following the acquisition, BASF is fully enabled to offer innovative solutions with strong brands in all indications and sectors<sup>1</sup>

## Seeds & traits

-  Stoneville
-  FiberMax<sup>®</sup>  
cotton
-  Credenz
-  InVigor
-  nunhems
-  LibertyLink<sup>®</sup>
-  Clearfield<sup>®</sup>  
Production System
-  Provisia<sup>™</sup>  
Rice System

## Seed treatment

-  Standak<sup>®</sup> Top
-  ILEVO<sup>®</sup>  
Seed Treatment
-  Systiva<sup>®</sup>  
Seed Treatment
-  Nodulator<sup>®</sup> PRO
-  Poncho Votivo<sup>®</sup>  
Seed Treatment

## Crop protection

-  Revysol<sup>®</sup>
-  Kixor<sup>®</sup>
-  Basta<sup>®</sup>
-  Nealta<sup>®</sup>
-  Finale<sup>®</sup>
-  Liberty<sup>®</sup>
-  F500<sup>®</sup>
-  Xemium<sup>®</sup>
-  Inscalis<sup>®</sup>
-  Initium<sup>®</sup>
-  Engenia<sup>®</sup>

## Digital farming

-  xarvio<sup>™</sup>  
SCOUTING
-  xarvio<sup>™</sup>  
FIELD MANAGER
-  xarvio<sup>™</sup>  
HEALTHY FIELDS

● Fungicides ● Herbicides ● Insecticides



# BASF Agricultural Solutions to strategically focus on four crop systems, covering ~70% of the total market



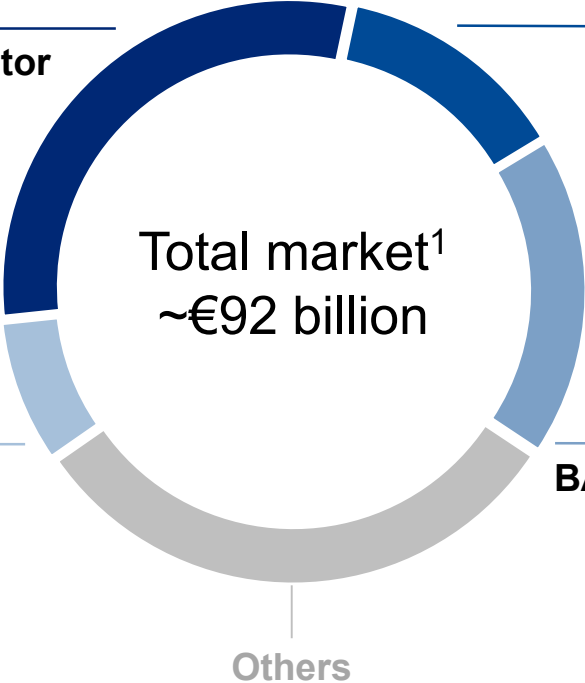
**Crop system**  
**soybean – cotton – corn**  
 in the Americas **30%**  
**BASF ambition: Strong innovator**

**Crop system**  
**wheat – canola – sunflower**  
**12%** in Europe, North America  
**BASF ambition: Market leader**



**Crop system**  
**rice**  
 in Asia **8%**  
**BASF ambition: Recognized player in Asia**

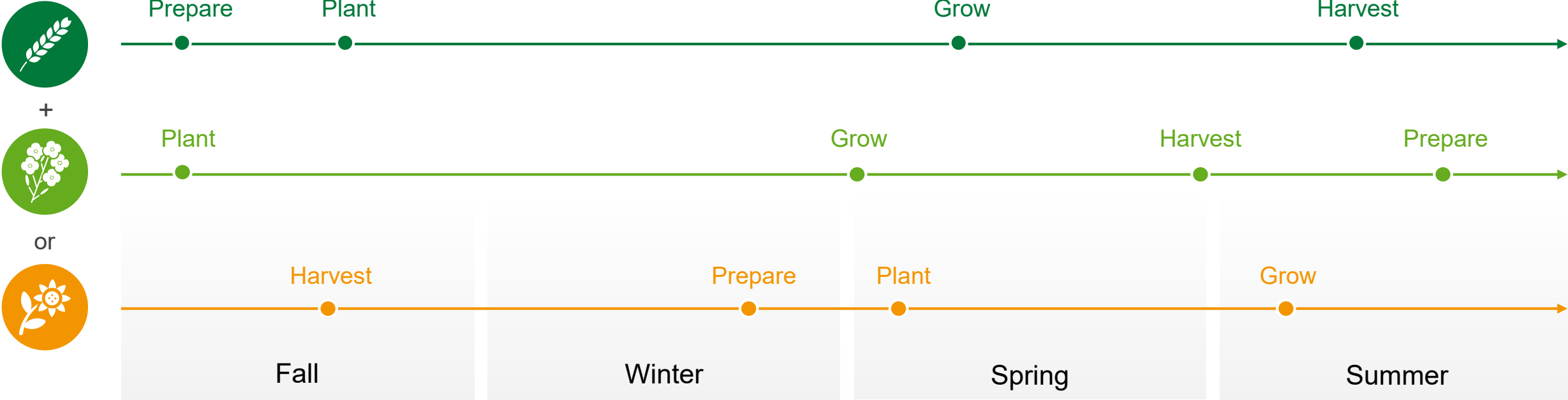
**Crop system**  
**fruit and vegetables**  
**18%** in all regions  
**BASF ambition: Global number 3**





# Seasonal patterns are the basis for crop systems

## Example: Wheat – canola / wheat – sunflower crop system



Crop systems enable long-term yield

- **Optimize:** deployment and availability of labor and machinery
- **Minimize risks:** climate, weed/pest pressure, price fluctuations
- **Maximize:** yields and profits in the combination of all crops

# Crop systems approach enables BASF to support farmers in selected crops and geographies



**soybean  
cotton  
corn**



**wheat  
canola  
sunflower**



**fruit and  
vegetables**



**rice**

## Key challenges for farmers

- Profitability and income volatility
- Pests, weeds, diseases resistant to existing technologies
- Secure farm profitability and efficient farm operations
- Address socio-political requirements, e.g., EU greening policy
- Higher quality standards from food value chain and consumers, e.g., low residues
- Capture crop value during seasonal price volatility
- Farm modernization and automation due to labor shortage or higher costs

## BASF contribution

- Differentiated traits in soybean and cotton
- New active ingredients in crop protection
- Best agronomic data-based digital recommendations
- R&D pipeline in crop protection and wheat traits
- Launch hybrid wheat
- Digital tools to address farmer needs
- Customer-consumer approach for food value chain orientation in seeds
- Superior digital tools addressing farmer and food value chain requirements
- Educate farmers about BASF's offerings
- Use sustainability to promote new, innovative crop protection technologies

# BASF will differentiate versus peers with four strategic levers



Customer experience



Innovation



Digital



Sustainability

# Crop system example: Why Western Canadian canola and wheat farmers choose BASF

## High yields

- Top yielding seeds
- Competitiveness in the global grains market
- Quality and strict grading standards

## Seasonal challenges

- Safeguard yield
- Risk management
- Establish strong, healthy crop
- Control difficult/resistant diseases, weeds and pests
- Maintain crop quality

## BASF's connected offer to keep market leadership...

InVigor® hybrid canola  
Hybrid wheat (in future)

xarvio™ FIELD MANAGER  
xarvio™ SCOUTING



Heat® herbicide  
Tirexor® herbicide  
Nexicor® fungicide  
Caramba® fungicide  
Broflanilide insecticide

Heat® LQ  
CleanFARMS®  
Sustainability in Practice  
Pod Shatter  
Reduction technology

... integrated into the farmers' operations  
and practices driven by their crop system

## Wide range growing conditions

- Agronomic decision support
- Application optimization

## Shifting the way of farming

- Greater harvest flexibility, manage workload during busy harvest season
- Tighter rotations
- High-performing production practices
- Sustainability and environmental protection



# Customer feedback<sup>1</sup>: BASF is a reliable, approachable and consistent partner for farmers

R&D, technical expertise for high-quality products

Strong credibility as an innovator

High-quality people, willing to listen

Reliable, honest, trustworthy

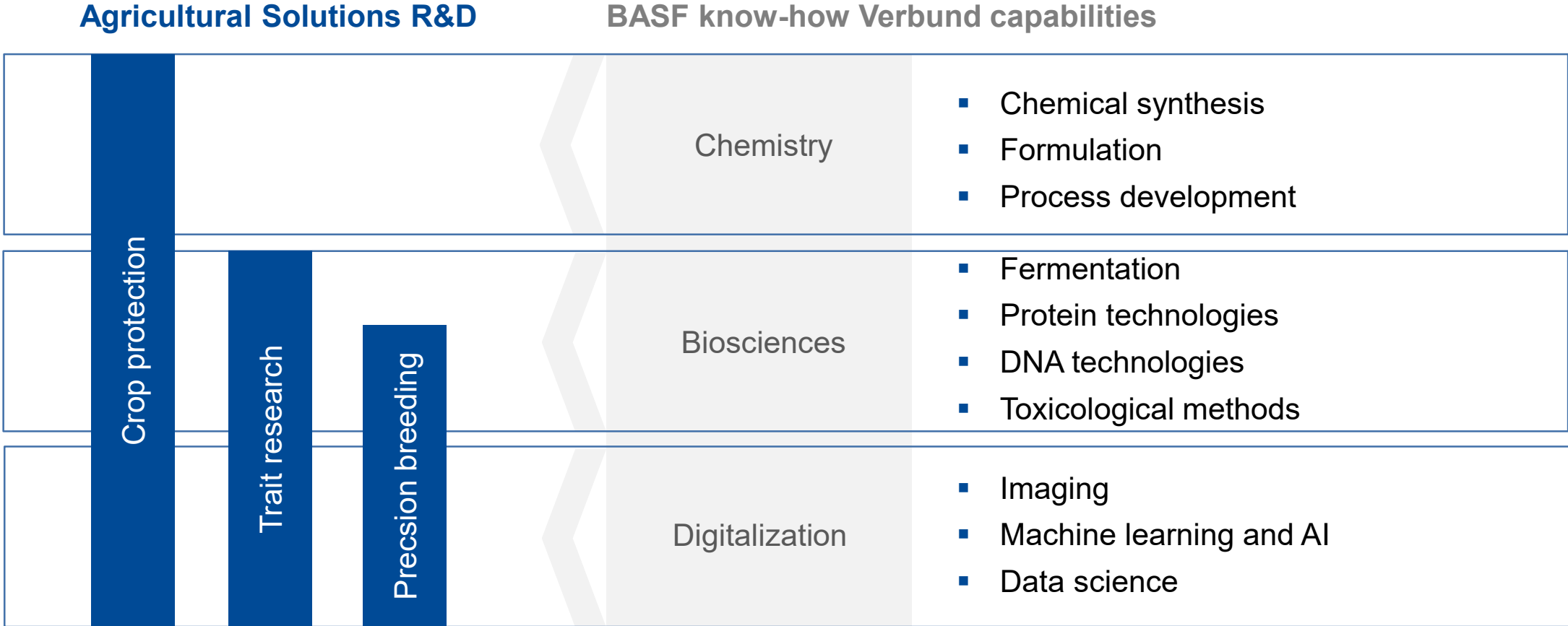
Vision, experience, expertise for new products that work





<sup>1</sup> Source: Kynetec 2017 Global Measurement Qualitative – BASF in Agriculture  
Focus groups with 137 farmers and 58 farming advisors



# Leveraging the BASF know-how Verbund gives a competitive advantage in Agricultural Solutions




# Strong pipeline with peak sales potential of >€6 billion<sup>1</sup> (1/2)

Crops	In launch	Development (2020 – 2025)	Advanced research (launch after 2025)	Early research
 <p>Soybean Cotton Corn</p>	<p>Engenia®</p> <p>Revysol®</p> <p>Inscalis®</p>	<p>Tirexor®</p> <p>Pavecto®</p> <p>Broflanilide</p> <p>Two in development</p> <p>Pavecto® seed treatment</p> <p>Teraxxa™</p>	<p>●</p> <p>●</p> <p>●</p>	<p>●</p> <p>●</p> <p>●</p>
	<p>LibertyLink®GT27™</p> <p>xarvio™ SCOUTING</p> <p>xarvio™ FIELD MANAGER</p>	<p>Herbicide tolerance trait</p> <p>xarvio™ SCOUTING</p> <p>xarvio™ FIELD MANAGER</p> <p>xarvio™ HEALTHY FIELDS</p>	<p>●</p>	<p>●</p>
 <p>Rice</p>	<p>Provisia™ herbicide</p> <p>Revysol®</p> <p>Inscalis®</p>	<p>Luximo®</p> <p>One in development</p>		<p>●</p> <p>●</p> <p>●</p> <p>●</p>
	<p>Provisia™ rice trait system</p> <p>xarvio™ SCOUTING</p>	<p>xarvio™ SCOUTING</p> <p>xarvio™ FIELD MANAGER</p>		

Herbicide   Fungicide   Insecticide   Seed treatment   Seeds & traits   Digital

<sup>1</sup> The innovation pipeline comprises products with a launch date between 2018 and 2028. Projects in "early research" and "life cycle management" are not included.

# Strong pipeline with peak sales potential of >€6 billion<sup>1</sup> (2/2)

Crops	In launch	Development (2020 – 2025)	Advanced research (launch after 2025)	Early research
 <p>Wheat Canola Sunflower</p>	Revyso <sup>®</sup>  Relenya <sup>™</sup>  InVigor <sup>®</sup> podshatter reduction InVigor <sup>®</sup> clubroot  xarvio <sup>™</sup> SCOUTING xarvio <sup>™</sup> FIELD MANAGER	Luximo <sup>®</sup> , Tirexor <sup>®</sup> Pavecto <sup>®</sup> Broflanilide One in development Pavecto <sup>®</sup> seed treatment Teraxxa <sup>™</sup> Hybrid wheat LibertyLink <sup>®</sup> yellow canola PUFA xarvio <sup>™</sup> SCOUTING xarvio <sup>™</sup> FIELD MANAGER xarvio <sup>™</sup> HEALTHY FIELDS	● ●   ● ●	● ● ●  ● ●
	Revyso <sup>®</sup> Inscalis <sup>®</sup>  Vegetable seeds innovations xarvio <sup>™</sup> SCOUTING	Tirexor <sup>®</sup> Pavecto <sup>®</sup> Broflanilide; one in development Pavecto <sup>®</sup> seed treatment Teraxxa <sup>™</sup> Vegetable seeds innovations xarvio <sup>™</sup> SCOUTING xarvio <sup>™</sup> FIELD MANAGER	● ● ●  ● ●	● ● ●  ● ●

Herbicide   Fungicide   Insecticide   Seed treatment   Seeds & traits   Digital



<sup>1</sup> The innovation pipeline comprises products with a launch date between 2018 and 2028. Projects in “early research” and “life cycle management” are not included.

# Investments into digital products support growth in crop protection and seeds, new income streams will be established

## Smartening crop protection and seeds

- Digitally enabled product launches
- Stewardship (e.g., Engenia® tool)
- Digitally enabled sales force

## Enhanced digital market access

- Establish data relationships with growers and channel partners
- 1.2 million users today in >100 countries

## New digital business models

- xarvio™ SCOUTING
- xarvio™ FIELD MANAGER
- xarvio™ HEALTHY FIELDS (launch 2020)



**xarvio™**  
SCOUTING

**xarvio™**  
FIELD MANAGER



**BASF**  
We create chemistry

AGRONOMIC  
ADVICE



**BASF**  
We create chemistry

CUSTOMER  
NAVIGATOR



**xarvio™**  
SCOUTING

**xarvio™**  
FIELD MANAGER



**xarvio™**  
SCOUTING

**xarvio™**  
FIELD MANAGER

**xarvio™**  
HEALTHY FIELDS

# Combination of unique agronomic system with high-resolution plant protection allows for disruptive business models



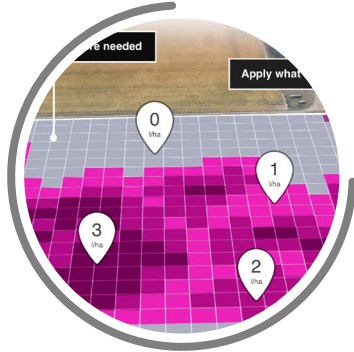
**xarvio™**  
HEALTHY FIELDS



**Farmer registration**

- Weed free<sup>1</sup>
- Disease free<sup>1</sup>
- Pest free<sup>1</sup>

**Solution purchase**



**xarvio™ decision making**



**Selection of contractor**



**Execution**

Disruptive outcome-based business models for farmers to be launched in 2020

<sup>1</sup> Thresholds to be defined, e.g., for biodiversity

# Smart Stewardship: Digital farming technologies will contribute to sustainability in agriculture



Use of digital technologies for **targeted applications**



Ensure **good agricultural practices**



Consider **current environmental conditions**



Online documentation and **transparency of application**

## Example: Buffer zone tool

- Automatic mapping and consideration of no-spray buffer zones to sensitive areas (e.g., water bodies)
- Automated control of spraying equipment (e.g., avoiding vulnerable areas)
- Responsible application of crop protection products



# Sustainable Solution Steering: Accelerator product examples in Agricultural Solutions



Revystar®  
Revysol®-based fungicide

Best foundation for farmer income and optimized farm management

- Satisfies the highest approval standards
- Essential tool for resistance management
- Outstanding biological performance



Vault® HP

Biological seed treatment system

- Improves root nodulation for more nitrogen-fixation potential
- Improved root architecture and nutrient uptake
- Greater plant vigor and optimized yield

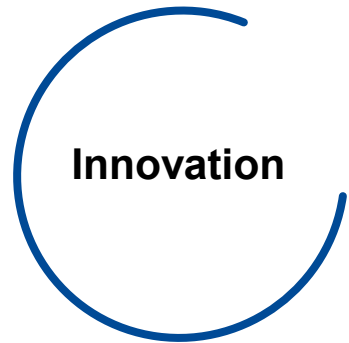


Sharpen®

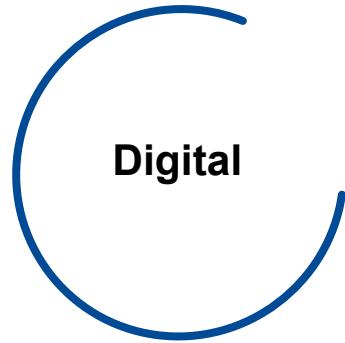
Burndown herbicide in key row crops

- Lower use rates
- Very effectively controlling resistant weeds
- Increased yield and resource efficiency

# Achievement of defined milestones will drive strong performance during the next decade



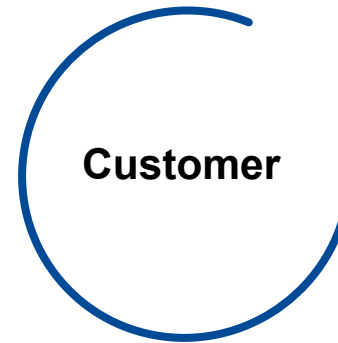
**Innovation**



**Digital**



**Sustainability**



**Customer**



**Efficiency**

## Key measures

- Implement crop systems approach
- Launch eight crop protection active ingredients
- Launch new soybean trait platform
- Launch hybrid wheat (by mid 2020s)

- Enable existing business with digital tools
- Establish data relationships with customers
- Introduce and grow outcome-based digital business models

- Introduce Revysol®-based products with excellent sustainability profile
- Connect digital tools and crop protection to improve sustainability

- Meet evolving customer needs based on continuous dialogue
- Provide winning offers based on results of systematic use of CRM and customer feedback tools

- Mid triple-digit million euro sales synergies to be realized by 2025
- Efficiency program started in 2019, to contribute ~€200 million by 2022

# Agricultural Solutions contributes strongly to achieving BASF Group's targets

## BASF targets

Grow sales volumes faster than global chemical production every year

Increase EBITDA before special items by 3% to 5% per year

Achieve a return on capital employed (ROCE) considerably above the cost of capital percentage every year

Achieve €22 billion in Accelerator sales by 2025

Grow CO<sub>2</sub>-neutrally until 2030

## Contribution of Agricultural Solutions

- Grow one percentage point above market to increase market share
- Increase sales by 50% by 2030
- Grow EBITDA before special items by on average 5% per year
- Restore EBITDA before special items margin level of ~23% within next years with high R&D intensity
- ROCE currently impacted by asset step up after acquisition
- Restore ROCE above the cost of capital percentage
- R&D pipeline with peak sales potential of >€6 billion<sup>1</sup>
- Accelerators account for approximately half of the R&D pipeline
- CO<sub>2</sub>-optimized production processes
- Offer solutions to reduce CO<sub>2</sub>-emissions in agricultural production



We create chemistry