

_FACTBOOK
2020

WACKER: At a Glance

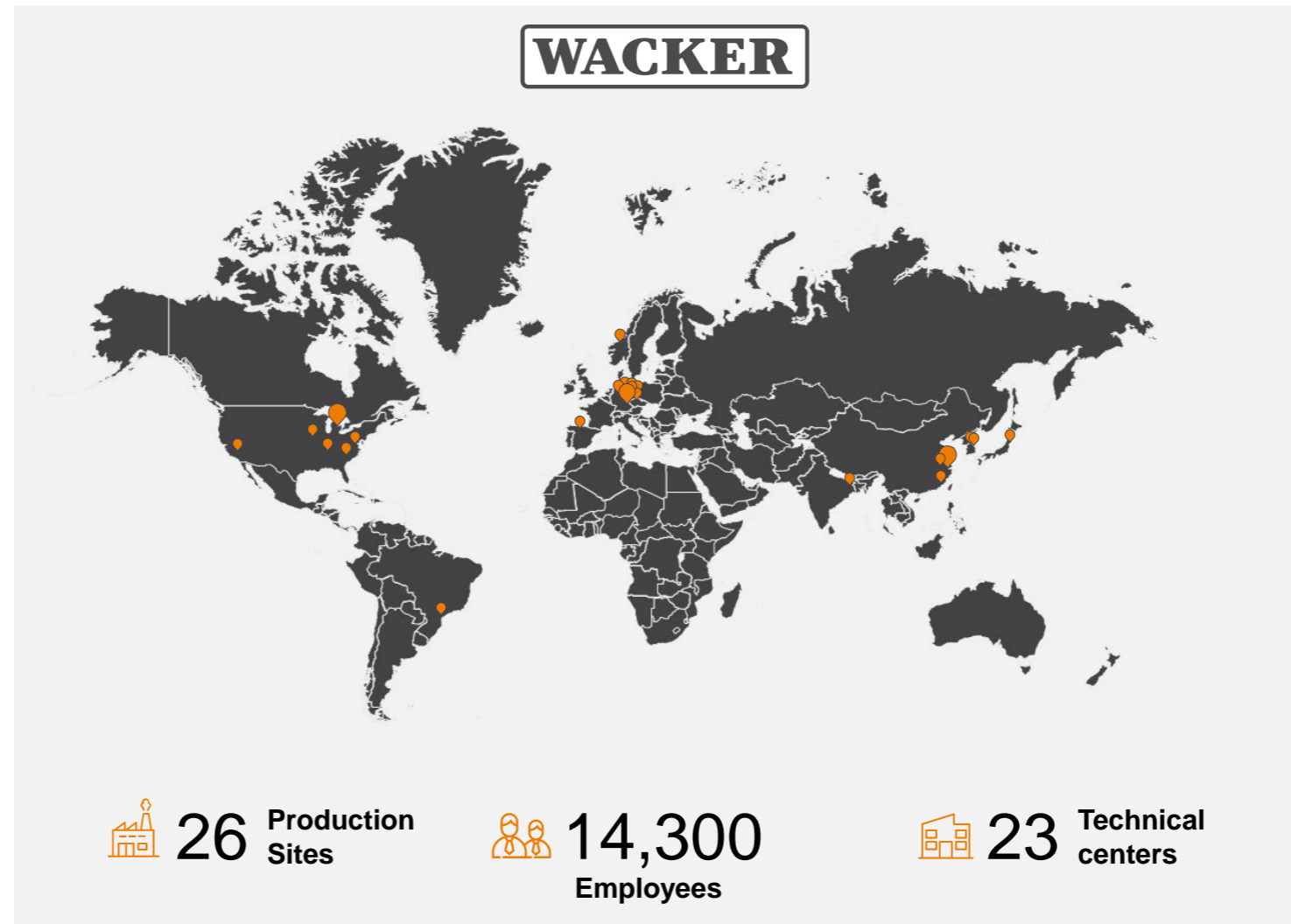
Facts & Numbers

€666m
EBITDA in 2020

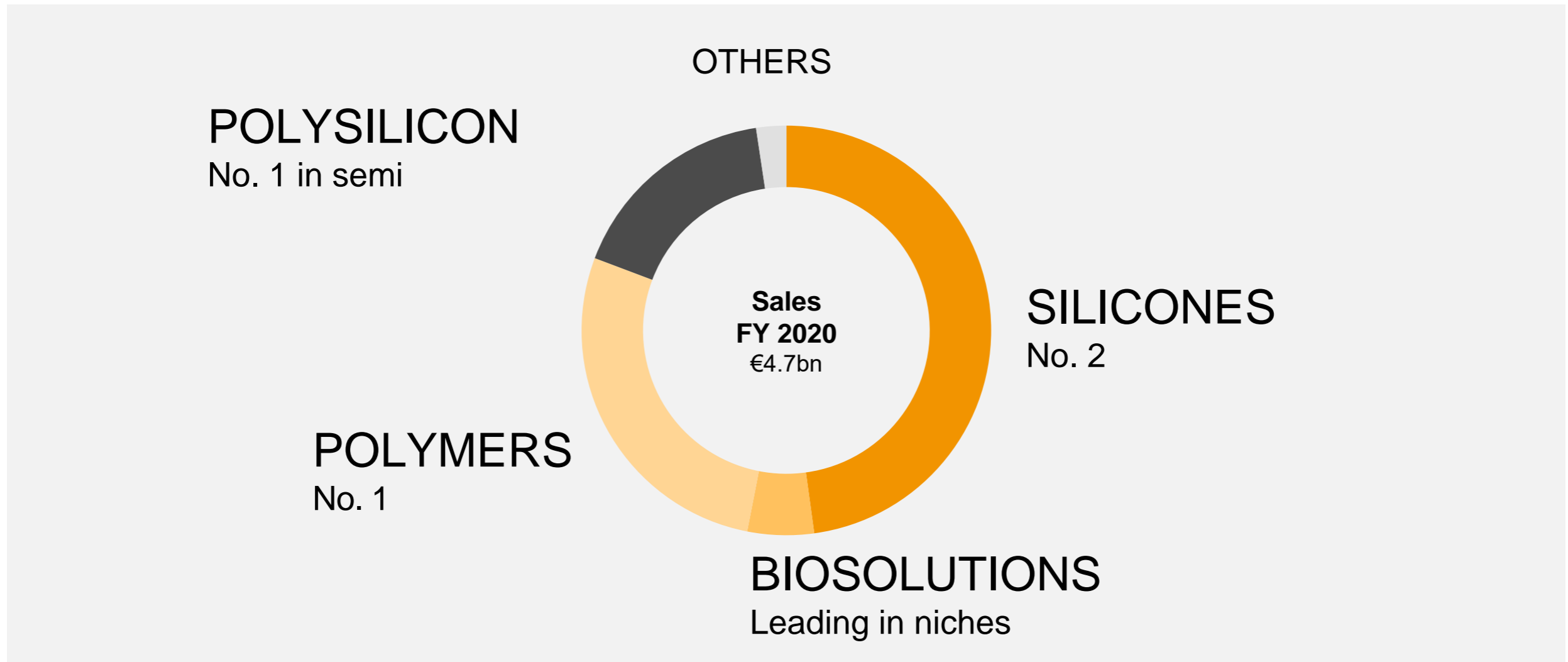
€4,692m
Sales in 2020

14.2%
EBITDA margin
in 2020

4 Business
Segments



WACKER: An Overview



Fact Book 2020: Agenda



▶ **At a glance_p.4**



▶ **Strategy_p.10**



▶ **SILICONES_p.17**



▶ **POLYMERS_p.29**



▶ **BIOSOLUTIONS_p.42**



▶ **POLYSILICON_p.57**



▶ **Sustainability_p.65**



▶ **Financials_p.76**



CREATING TOMORROW'S SOLUTIONS



WACKER – AT A GLANCE

WACKER AT A GLANCE

Over 100 Years of History

From 1914 to Today

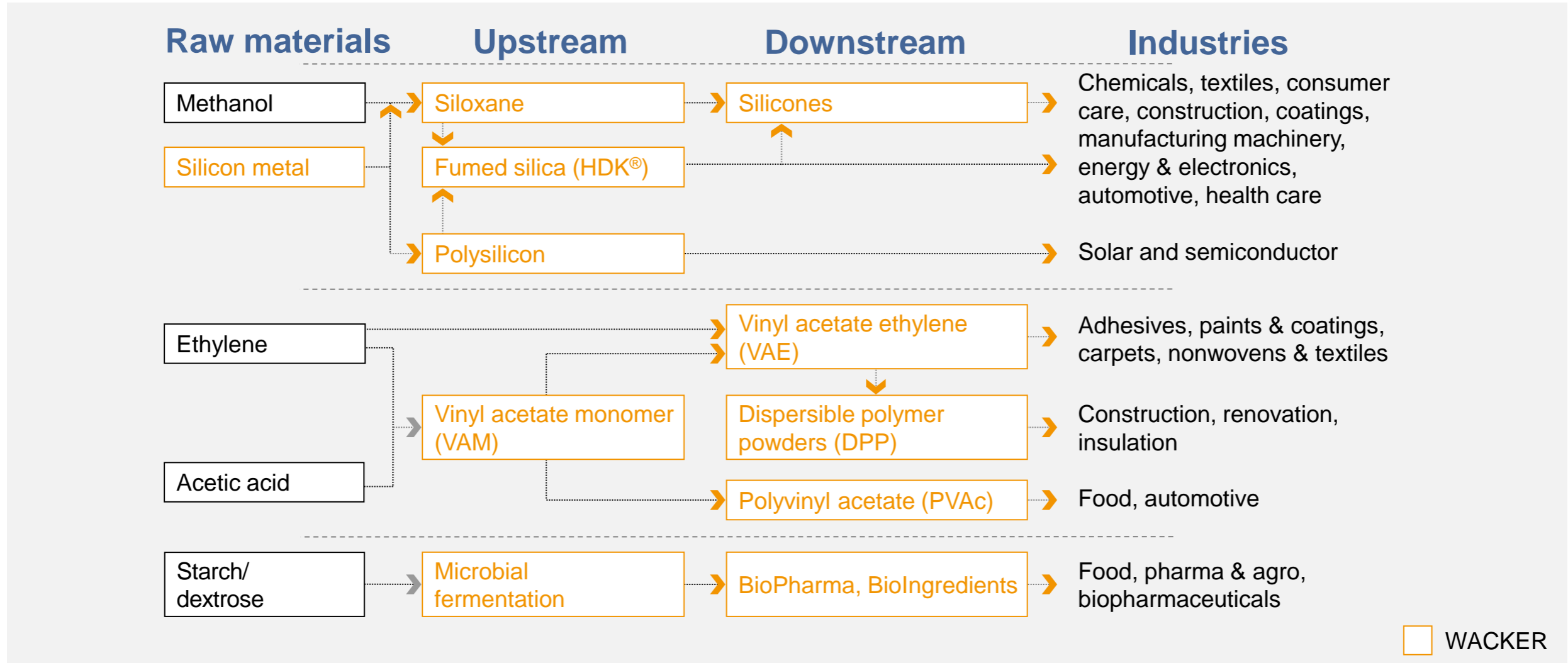


1914	1921	1947	1953	1966	1978	1998	2006	2007
Foundation "Dr. Alexander Wacker Ges. für elektro-chemische Industrie KG"	Hoechst with 50% of the share capital of WACKER	Start of work in the area of silicones	Production of semi-conductor grade polysilicon	Production of VAC-Ethylene-Copolymer Burghausen (DE)	Foundation of the Wacker Siltronic Corporation (US)	Takeover of the silicone site Nünchritz (DE), JV with APCI: APP/WPS ¹	WACKER IPO; JV with Dow Corning (CN), JV Siltronic Samsung Wafer	Acquisition of outstanding shares of APP/WPS ¹
2008	2010	2012	2015	2016	2017	2018	2019	2021
Inauguration of DPP plant in Nanjing (CN)	Acquisition of silicon smelter Holla (NO)	Inauguration of polysilicon plant in Nünchritz (DE)	IPO Siltronic, WACKER holds 58%	Inauguration of polysilicon plant in Charleston, TN (USA)	De-consolidation Siltronic, WACKER holds 30.8%	Acquisition of BioPharma site in Amsterdam (NL)	Inauguration of fumed silica plant in Charleston, TN (US)	Acquisition of plasmid DNA site San Diego, CA (US)

¹⁾ APP/WPS = Air Products Polymers/WACKER Polymer Systems

WACKER AT A GLANCE

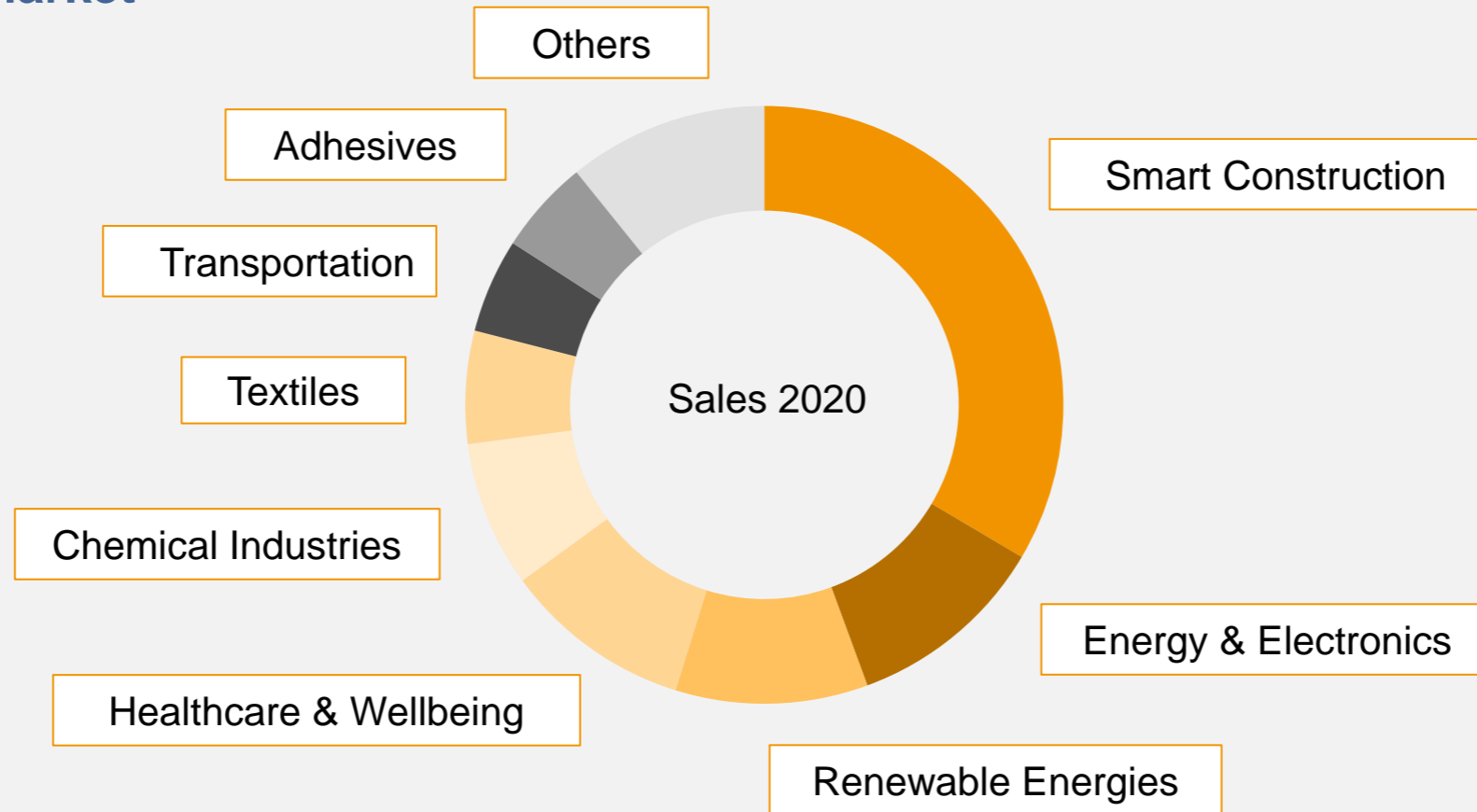
Highly-Integrated Operations Based on Five Key Raw Materials



WACKER AT A GLANCE

Well Diversified Key Markets

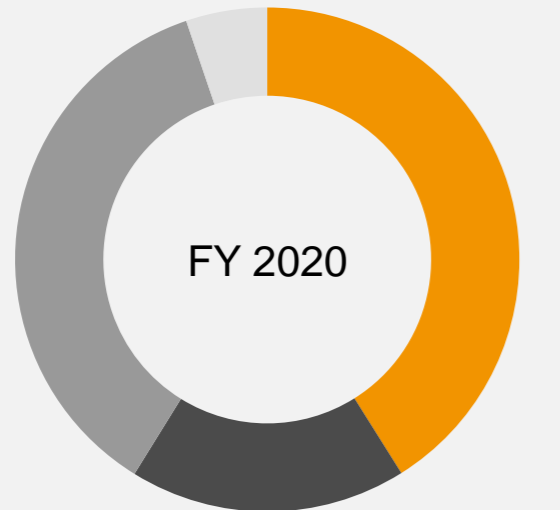
Sales by End-market



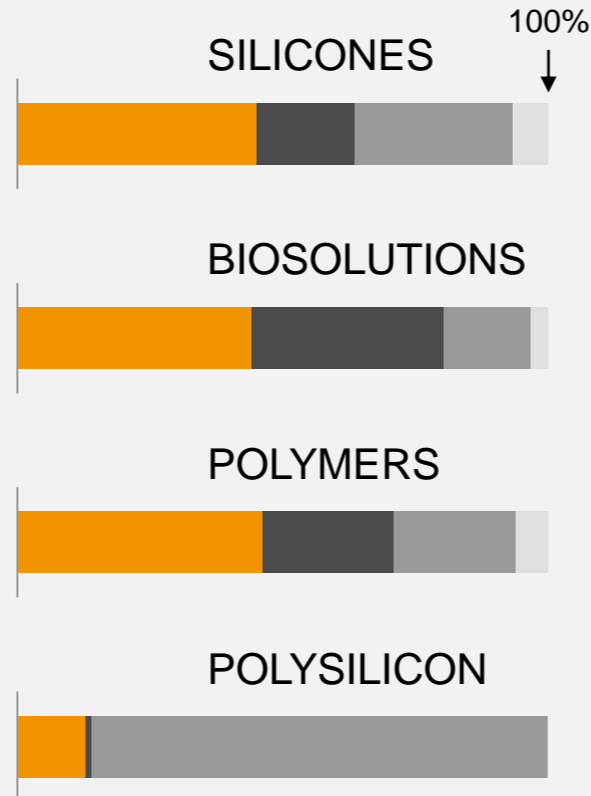
WACKER AT A GLANCE

Supporting Customers with a Global Footprint and Regional Presence

Sales per Region



Segment Sales



Employees

- ▶ Globally: 14,283
- ▶ Europe: 10,743
- ▶ Americas: 1,625
- ▶ Asia: 1,847
- ▶ Other Regions: 68

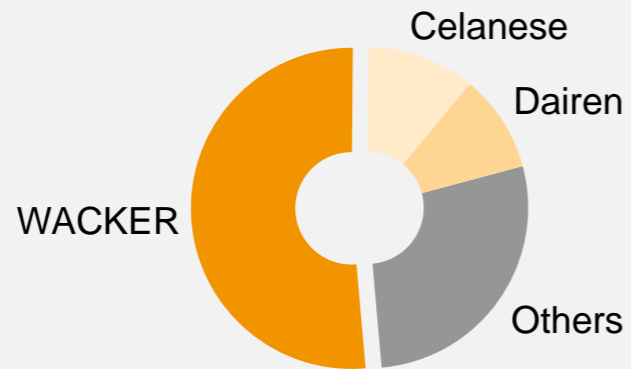


WACKER AT A GLANCE

Market Leading Positions

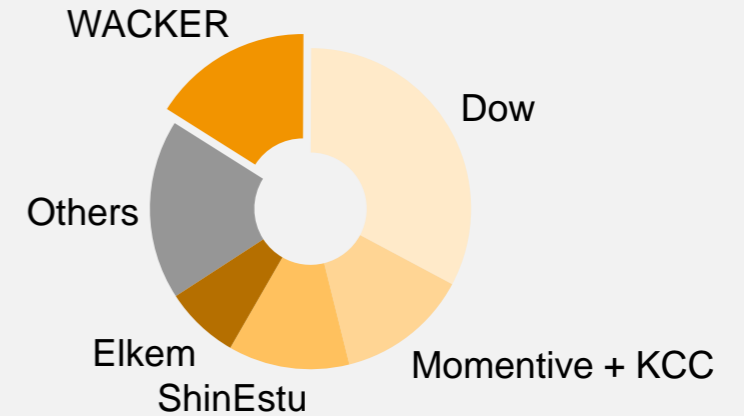
POLYMERS

#1 DPP

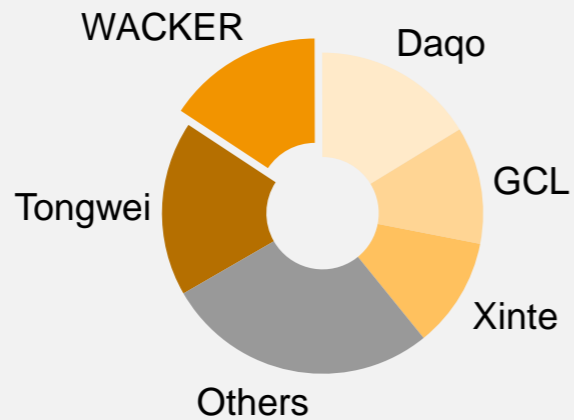


SILICONES

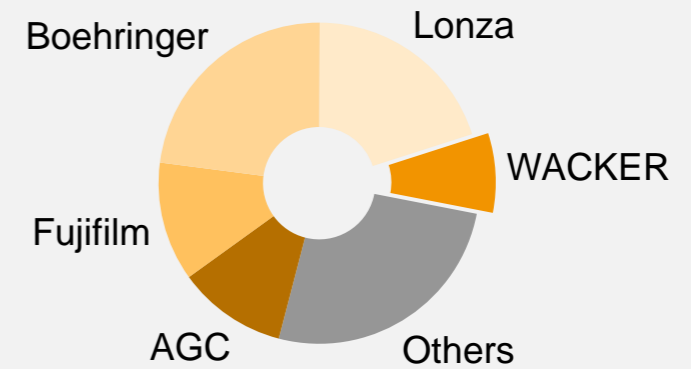
#2



POLYSILICON



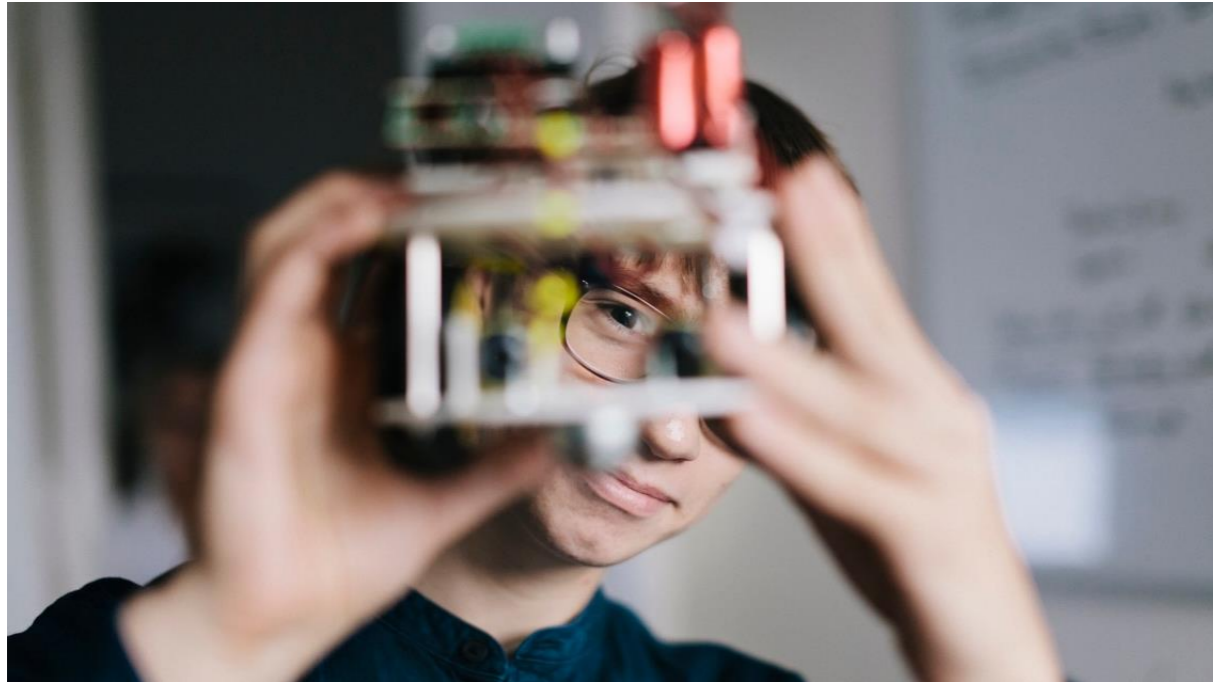
BIOSOLUTIONS BioPharma¹



Source: WACKER JV participations fully consolidated, Industry Announcements, 1) Microbial CDMO Source: Biopharmaceutical Contract Manufacturing 2020



CREATING TOMORROW'S SOLUTIONS



WACKER – STRATEGY

Cash, Growth and Sustainability

WACKER STRATEGY

Profitable Growth, Leading Market Positions and Sustainability



WACKER Five Strategic Goals

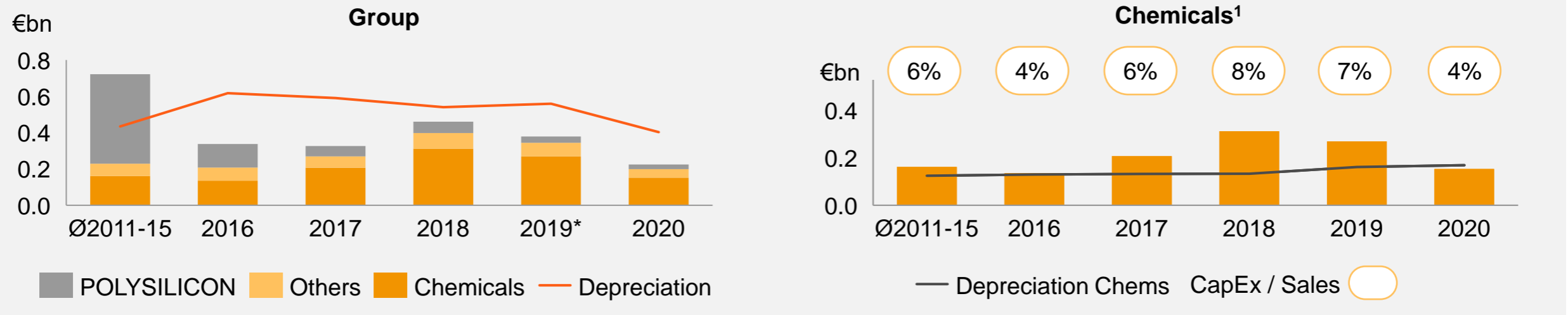
1	CapEx – Extend Leverage Phase	Capitalize on growth opportunities in Chemicals while maintaining Group CapEx < Depreciation
2	Grow Above Chemical Production	Specialties and demand for applications in smart construction drives sales above chemical production
3	Focus Strongly on Sustainability	Continuous efficiency gains lower corporate footprint while expanding sustainable product solutions
4	Achieve Attractive Margins Over the Economic Cycle	Mix improvement and excellent cost performance maintains Chemicals >16% EBITDA target
5	Generate Cash	Strong cash generation funds investments and dividends while maintaining a strong balance sheet

WACKER STRATEGY

CapEx – Extend Leverage Phase

1

Group CapEx Below Depreciation while Enabling Growth in Chemicals



Pivot to More and Smaller Projects to Support Customers Downstream

Europe

- ▶ Silicones Nünchritz: '22
- ▶ Silicones Burghausen: '21
- ▶ Polymers Burghausen: '21

Asia

- ▶ Polymers Nanjing: '22
- ▶ Polymers Ulsan: '19/20
- ▶ Silicones Zhangjiagang: '19

Americas

- ▶ Silicones Adrian: '22
- ▶ BioPharma San Diego '21
- ▶ **HDK[®]-Tennessee: '19**

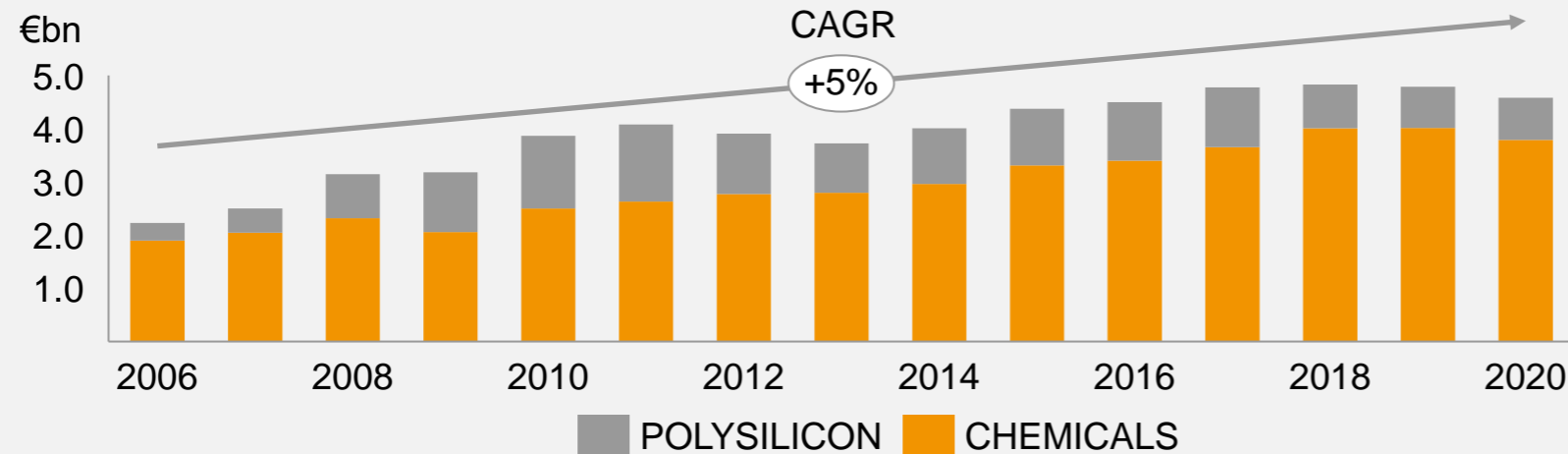
1) Chemicals = BIOSOLUTIONS + SILICONES + POLYMERS *Depreciation excl. POLYSILICON impairment; **BOLD** = Upstream & midstream

WACKER STRATEGY

Grow Above Chemical Production

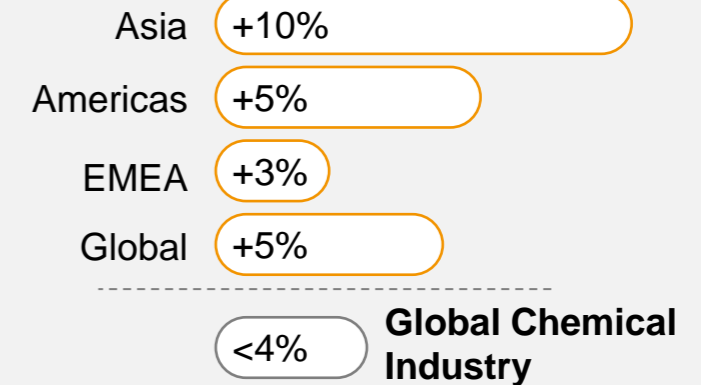
2

Doubling Sales in Chemicals since IPO



Chemicals

2006-2020 CAGR



Main Drivers for Chemicals Growth

Regional Growth

- ▶ Emerging markets catch-up
- ▶ Transformation to advanced technologies
- ▶ Higher building standards

Innovation

- ▶ ~4,200 active patents and ~1,400 pending patent applications
- ▶ Annually, the Group applies for 90-100 inventions

Substitution

- ▶ Customized solutions
- ▶ High performance materials
- ▶ Lower raw material consumption

Our Comprehensive 3-Tiered Approach to Sustainability



Value **UP**

Enable our customers to provide more sustainable solutions



Footprint **DOWN**

Create efficient operations & use resources responsibly



Collaboration **BEYOND**

Strive for a more sustainable value chain

Actively Supporting Global ESG Initiatives and Receiving Highest Recognition

Voluntary Global Initiatives

- ▶ UN Global Compact
- ▶ Responsible Care
- ▶ Together for Sustainability

Carbon Transparency

- ▶ CDP “B” in Climate Change and “B” in Water Security in 2020

ESG

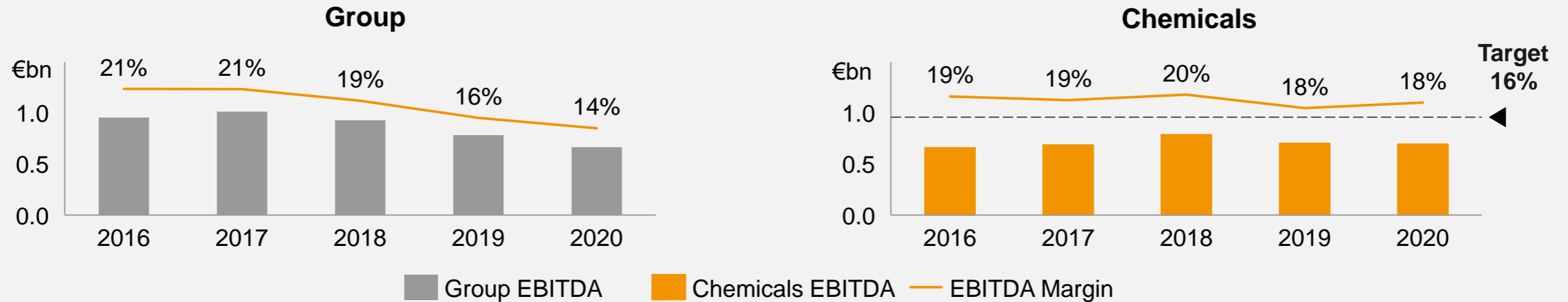
- ▶ Oekom “B- Prime” 2021
- ▶ Ecovadis “Platinum” 2020
- ▶ MSCI “BB” Rating 2020

WACKER STRATEGY

Achieve Attractive Margins Over the Economic Cycle

4

Chemicals Well Above Target EBITDA-Margin



Strong Performance in Chemicals, Competitive Environment in POLYSILICON

Group

- ▶ High plant utilisation and excellent cost performance in Chemicals
- ▶ Siltronic deconsolidation in 2017

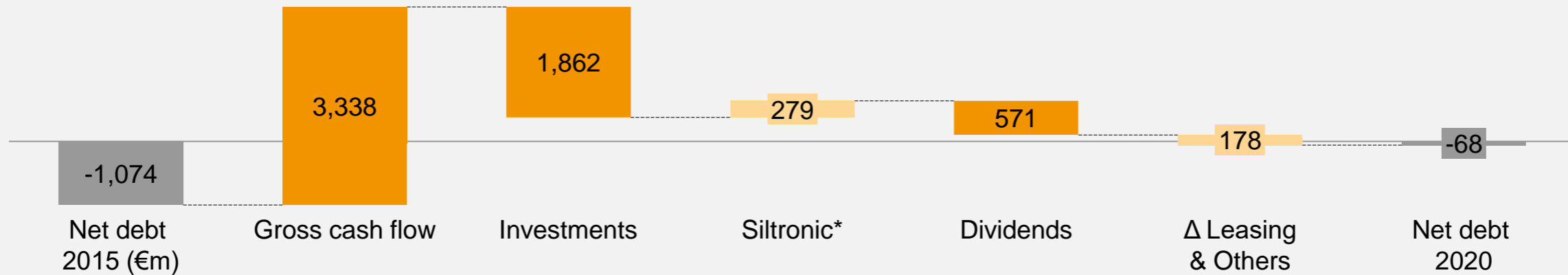
Chemicals

- ▶ SILICONES: improved product mix
- ▶ POLYMERS: rising demand for smart construction
- ▶ BIOSOLUTIONS: rapidly growing BioPharma business

POLYSILICON

- ▶ WACKER is clear #1 for semiconductors
- ▶ Good progress on cost roadmap

Cumulative Cash Generation Funds Growth and Dividends while Maintaining Low Net Debt



Specialty Focus, Budgeting and Cost Discipline Drives Strong Cash Generation

Drivers to Gross Cashflow

- ▶ Strong cash generation in Chemicals
- ▶ Strict working capital management
- ▶ Pension top-ups of €145m 2019-2020

Drivers to Net Debt

- ▶ Targeted investments upstream & downstream
- ▶ Dividend policy: 50% of net income

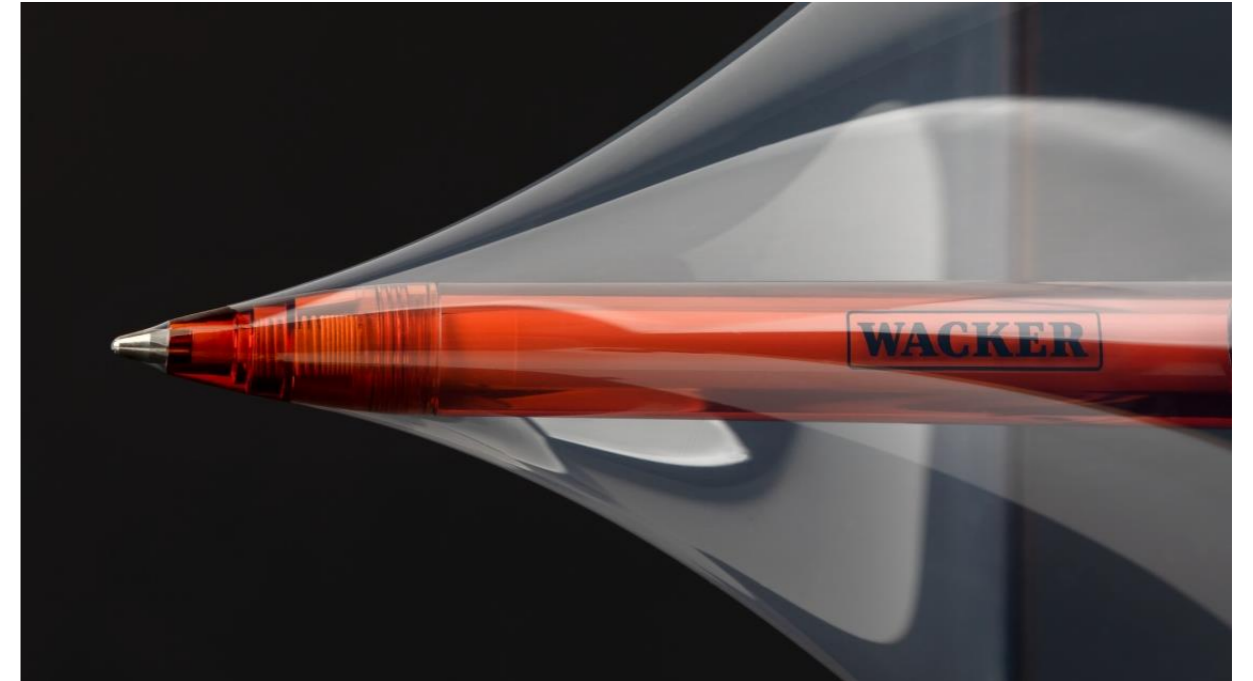
FY2020

- ▶ Working capital at a low level and very low CapEx

*Cash flow effects from deconsolidation of Siltronic in 2017



CREATING TOMORROW'S SOLUTIONS

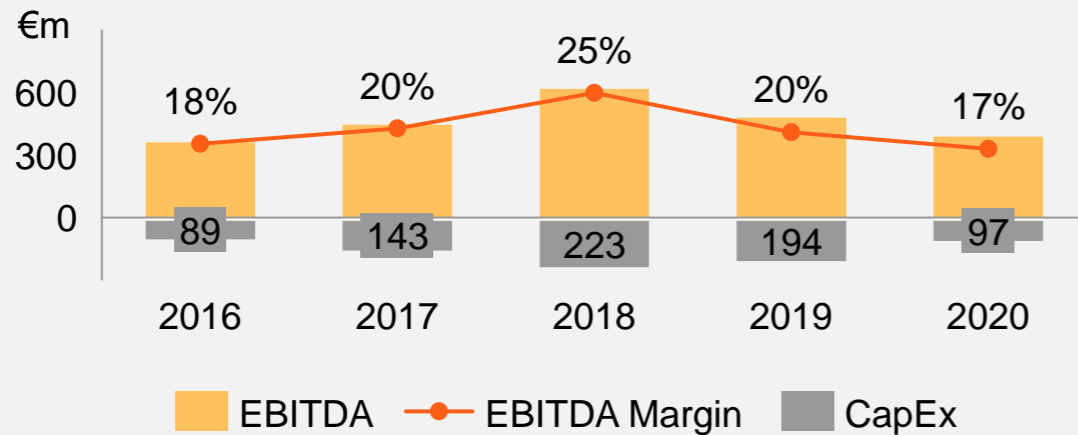


WACKER – SILICONES

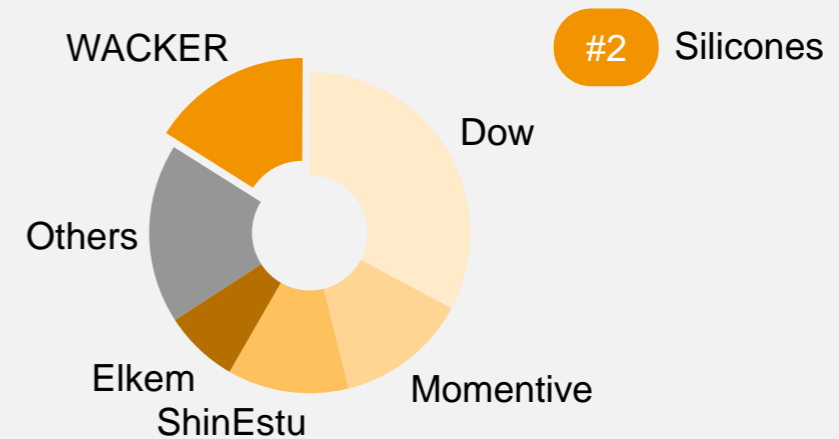
WACKER SILICONES

At a Glance

Full Portfolio Supplier with Focus on Specialties



Market Position



Drivers for SILICONES

Growth

- ▶ Versatile chemistry with excellent performance and strong substitution drive
- ▶ Reduced cyclicalty through broad market and customer diversification

Performance

- ▶ Intensive knowledge / best practice sharing between regional competence centers
- ▶ Investment focus on specialties
- ▶ Focus on cost and efficiency

Sustainability

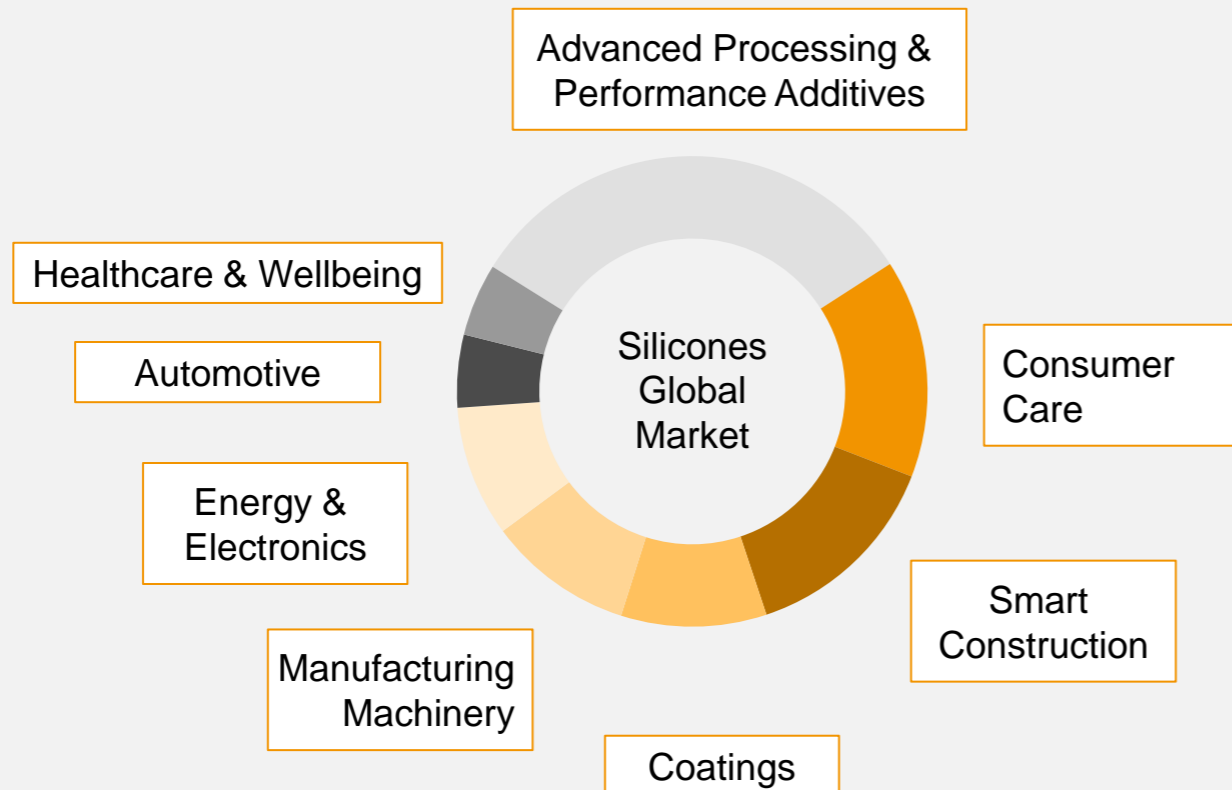
- ▶ Silicones enable CO₂ savings* in numerous applications
- ▶ Renewable raw material solutions

*Source: Silicon Chemistry Carbon Balance, Global Silicone Council

WACKER SILICONES

Serving Diversified End Markets

Broad Market Penetration and a Wide Customer Base



Market Drivers








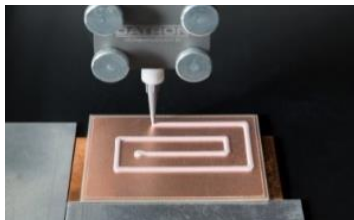
- ▶ Automotive ↔ E-Mobility
- ▶ Health Care ↔ Ageing Population
- ▶ Construction ↔ Urbanization
- ▶ Electronics ↔ Communication
- ▶ Consumer Care ↔ Living Comfort
- ▶ Sustainability ↔ Resource Efficiency

Industry Split; Source: Freedonia


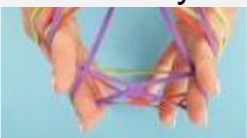


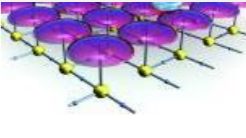





WACKER SILICONES

A Basis for Unlimited Applications

Broad Spectrum of Adjustable Properties

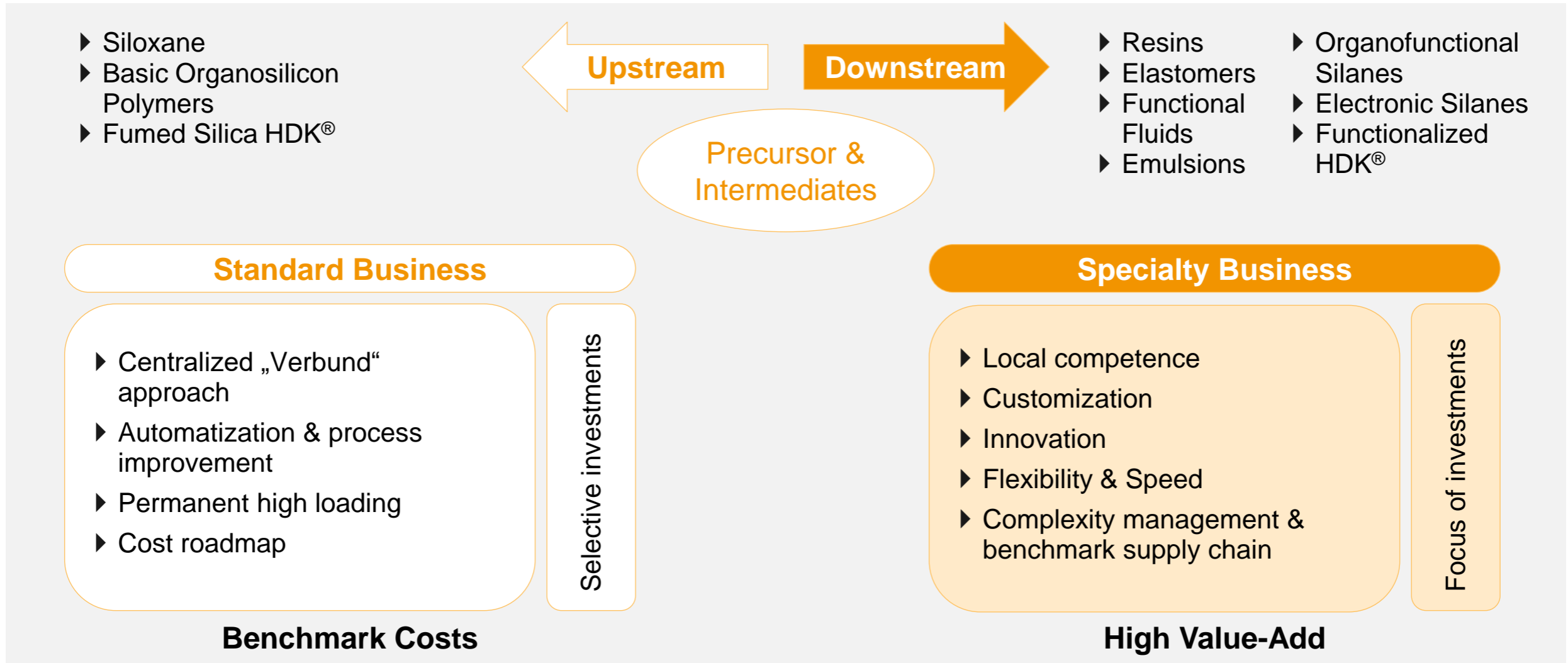
	Hydrophilic ↔ Hydrophobic	
	Adhesive ↔ Release	
	Conductive ↔ Insulating	
	Form stable ↔ Formable	

Customized Products with Unique Properties

UV stability 	Long-term elasticity 	Surface tension 
Heat stability / resistance 	Best-in-class lubrication 	Water-vapor permeable 
Chemical resistant 	Microbial resistant 	Water repellent 
Softening 	Release properties 	Weather resistant 

WACKER SILICONES

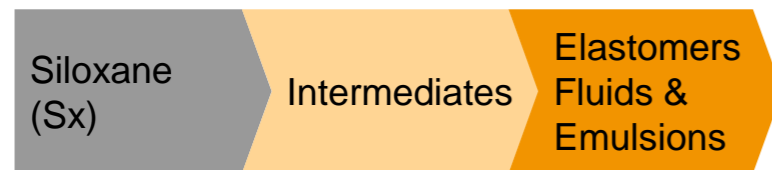
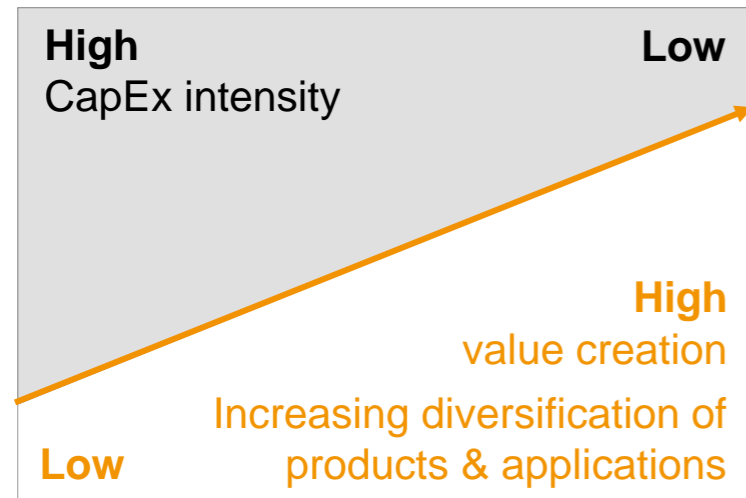
Balancing Up- and Downstream is a Key Success Factor



WACKER SILICONES

Substantial Downstream Investments to Foster Specialties Growth

Full Portfolio – Specialty Focus



Standards

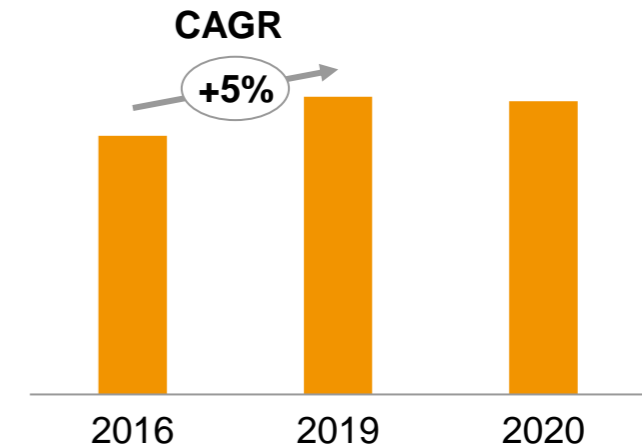
Specialties

Success Factors

- ▶ Localization of service and downstream production close to customers
- ▶ Preferred development partner
- ▶ Sufficient Sx volumes at benchmark cost to support specialties growth without upstream investments

Mix Shift Towards Specialties

Specialty volumes (kt)



- ▶ Specialties stable in 2020
- ▶ Targeted investments to support downstream growth

WACKER SILICONES

Advanced Adhesives Drives Strong Market Growth

Silane-Modified Polymers with Excellent Performance & Substitution Drive

Performance

Excellent adhesion & elasticity for nearly all material combinations

Environment

Unique α -technology enables tin-, plasticizer-, and isocyanate-free systems



GENIOSIL® STP-E



GENIOSIL® XB

Fast-Growing Market

SMP end consumer market¹ with >12% CAGR

Each Product Generation

Increases number of addressable markets



GENIOSIL® XT



GENIOSIL® XM

1) SMP = Silane Modified Polymer; Source: LP Information Market, Study, April 2020, Global Hybrid Adhesive & Sealant Market Growth 2020 – 2025

WACKER SILICONES

Wind Energy with Continued Growth on the Back of Clean Energy Policies

HDK®: Enabling Longer and Stronger Rotor Blades with Fumed Silica Bonding Pastes

30%

of the future electricity demand in the EU will be supplied by offshore wind*

Performance

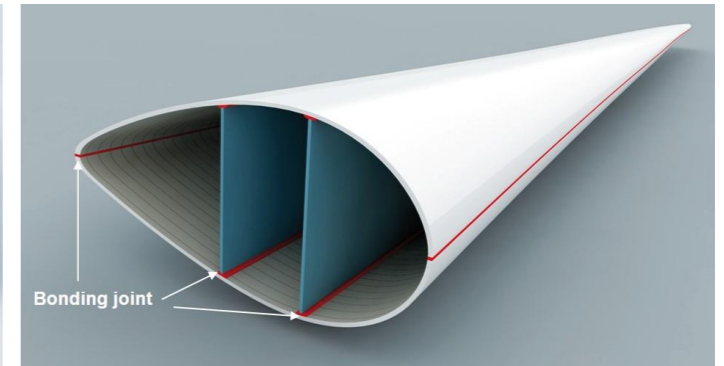
requirements increase with longer and heavier rotor blades

20% CAGR

~50 GW of offshore wind energy installed globally over next 5 years**

Bonding matters

Huge forces in harsh environment for >25 years



*Source: European Commission: EU strategy on offshore renewable energy; **GWEC Global Wind Report 2019; March 2020

WACKER SILICONES

Growing Silicones Content Due to E-mobility, Autonomous Driving & Connectivity

Silicones Protect Critical Components in Hybrids, Electric and Hydrogen-fuel Vehicles

90%

reduction of greenhouse gas emissions targeted in the European transport sector by 2050*

Essential

in batteries, sensors, power conversion, e-motors, cables, fuel cells and displays

Silicones

ensure top performance, functionality and long service life under extreme conditions

Up to 4x

higher silicone content in EV vs. ICE cars

Battery



Sensor ECU



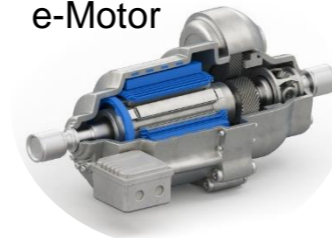
Power Conversion



Displays



e-Motor



Fuel cell



*Source: European Commission: The European Green Deal – Sustainable mobility

WACKER SILICONES

Setting the Industry Benchmark for Non Post-Cure Liquid Silicone Rubber

Low Volatile LSR Combining Performance with Excellent Productivity and a Sustainable Industry

Energy savings

and increased productivity
by avoiding post-curing

>80%

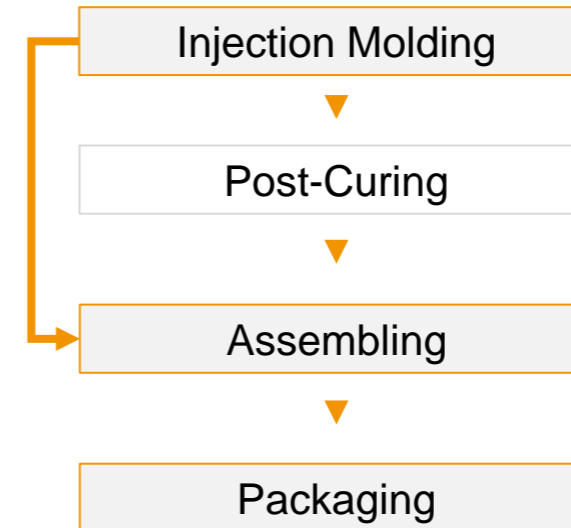
reduction of volatiles in
non post-cured state

Environment

benefits from emission
reduction

Low volatile

content designed for
sensitive applications:
food, baby care, medical
and automotive



Baby care



Automotive
wire seals

WACKER SILICONES

Huge Energy Savings with Leading Edge EAP Technology

Electro-Active Laminates: Convert Electrical Energy into Mechanical Work

99.5%

energy saving vs.
comparable solenoid
actuator

Best-in-class

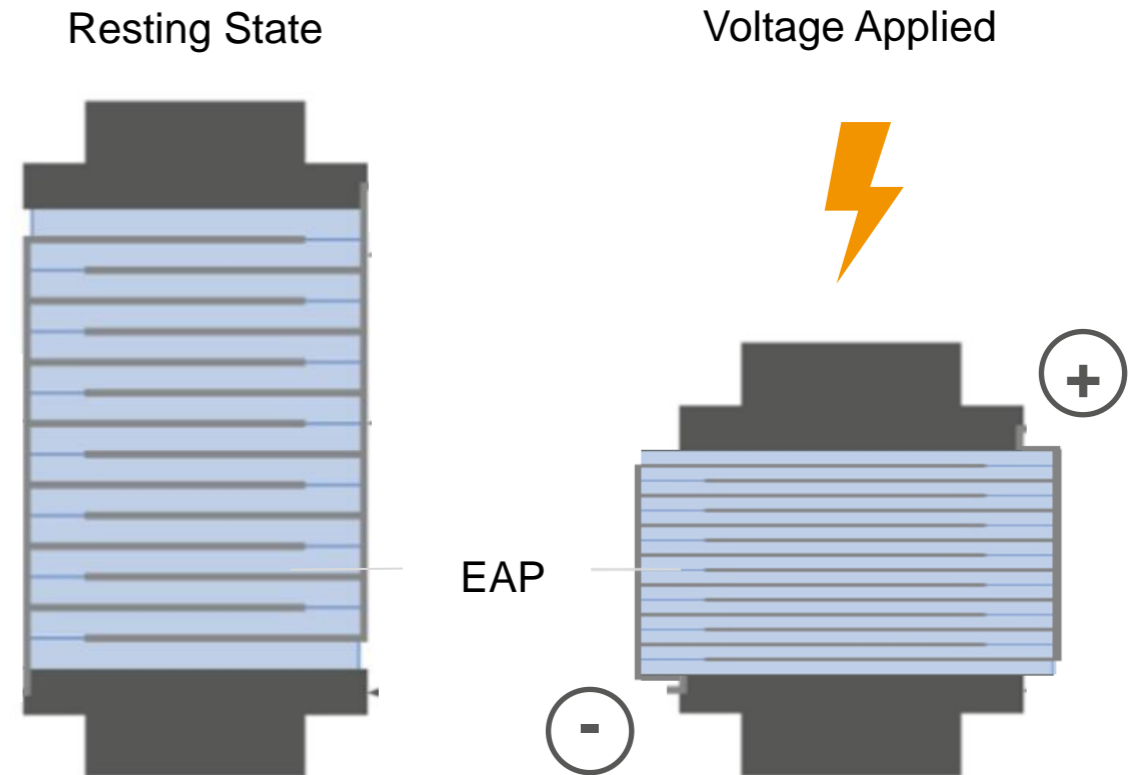
Silicone-based EAPs¹
with unlimited charge &
recovery cycles

40-60%

weight reduction vs.
comparable solenoid
actuator

€40bn

actuators market²
with 8.6% CAGR



1) EAP = Electro-Active-Polymer

Source: European Commission: Energy Efficiency in the context of the European Green Deal

2) Source: MarketsandMarkets „Actuators Market by Actuation, Type, Application, Vertical, and Region – Global Forecast to 2024“, 2019

WACKER SILICONES

Full Portfolio Provider with Focus on Specialties

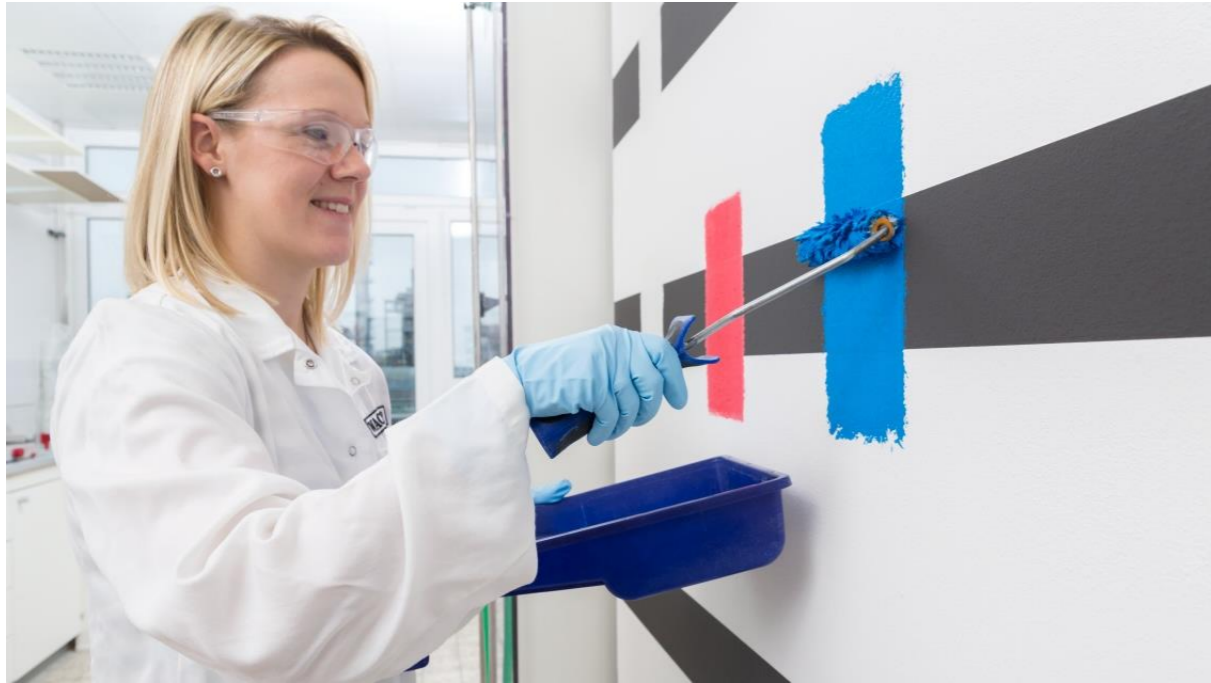
Strategic Focus and Roadmap

Value Creation	<ul style="list-style-type: none">▶ Focus on downstream projects to support our customers' specialty applications▶ Lower capital intensity with higher return on capital
Innovation	<ul style="list-style-type: none">▶ Extend our global competence network and grow local markets▶ Preferred innovation partner of our customers
Operational Excellence	<ul style="list-style-type: none">▶ Benchmark costs with continuous improvements





CREATING TOMORROW'S SOLUTIONS

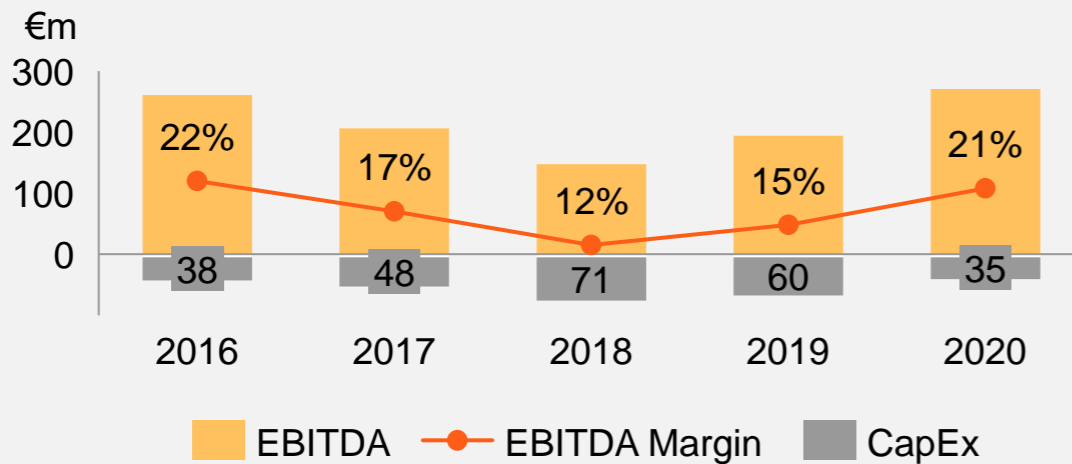


WACKER – POLYMERS

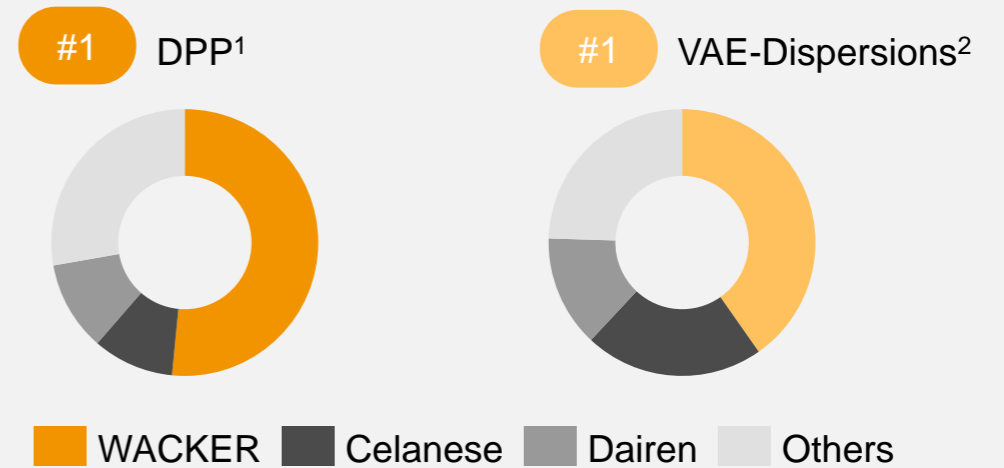
WACKER POLYMERS

At a Glance

Leading Market Positions and Attractive Earnings



Market Position



Drivers for POLYMERS

Growth

- ▶ Intact growth drivers in key markets and broad scope of applications
- ▶ Diverse market & customer base
- ▶ Growth partner of our customers

Customer Focus

- ▶ Global presence with tandem production sites (DPP + VAE) and 16 technical centers
- ▶ Innovation and in-depth formulating expertise

Sustainability

- ▶ Enable CO₂ savings with smart construction
- ▶ Renewable raw materials solutions

1) DPP = Dispersible Polymer Powder 2) VAE = Vinyl-Acetate-Ethylene based polymer dispersions incl. feed for DPP

WACKER POLYMERS

Tandem Sites and Tech Centers Enhance Global Reach

Serving Customers in All Key Markets



Tandem =	VAE disp.	+	DPP	# of tech centers	Sales CAGR 2010-2020
Global		+		16	+5%
Americas	✓		✓	5	
Asia	✓		✓	7	
EMEA	✓		✓	4	

Addressing Individual Regional Market Requirements

Emerging

- ▶ Higher building standards
- ▶ Technology transformation
- ▶ Growing incomes
- ▶ Urbanization

Developing

- ▶ Material savings & labor productivity
- ▶ Increasing quality awareness
- ▶ Local technical support
- ▶ Value chain education

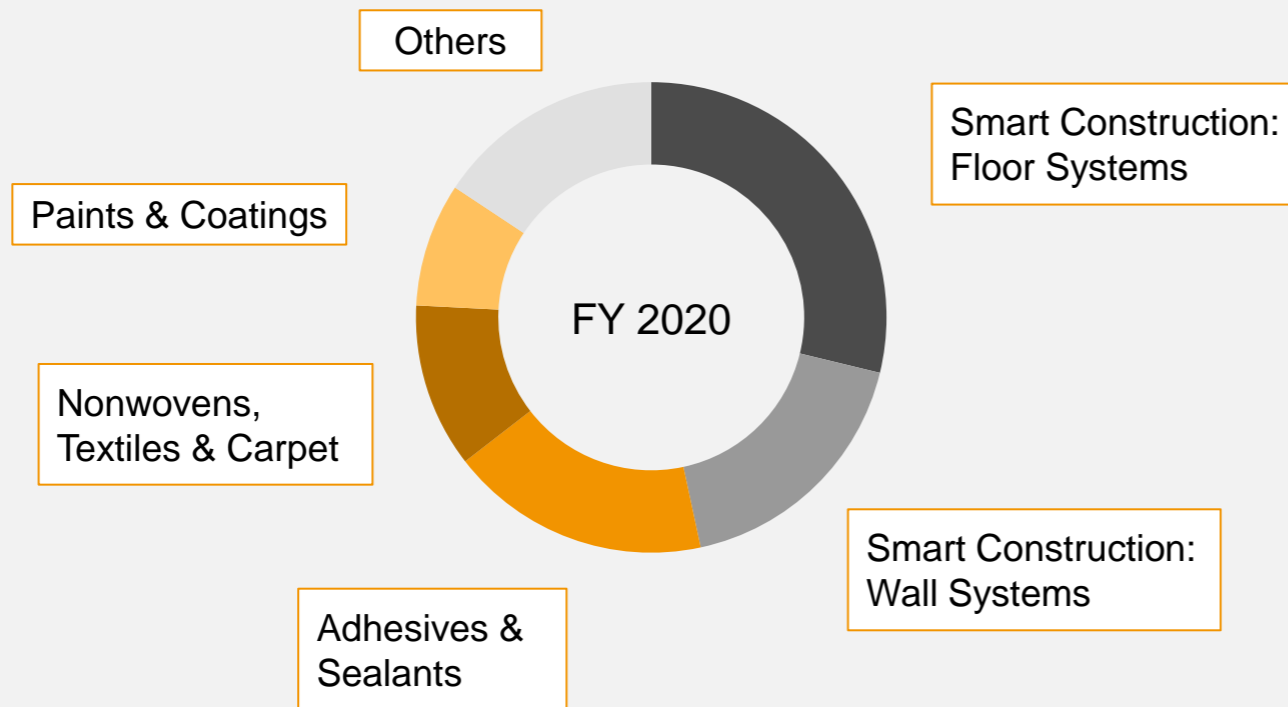
Developed

- ▶ Renovation
- ▶ Technical product requirements
- ▶ Value based replacement
- ▶ Sustainable products

WACKER POLYMERS

Intact Fundamental Market Drivers Offer Growth Potential

Polymer Binders in Everyday Life



Market Drivers



- ▶ DPP ↔ Smart and sustainable construction, urbanization and renovation

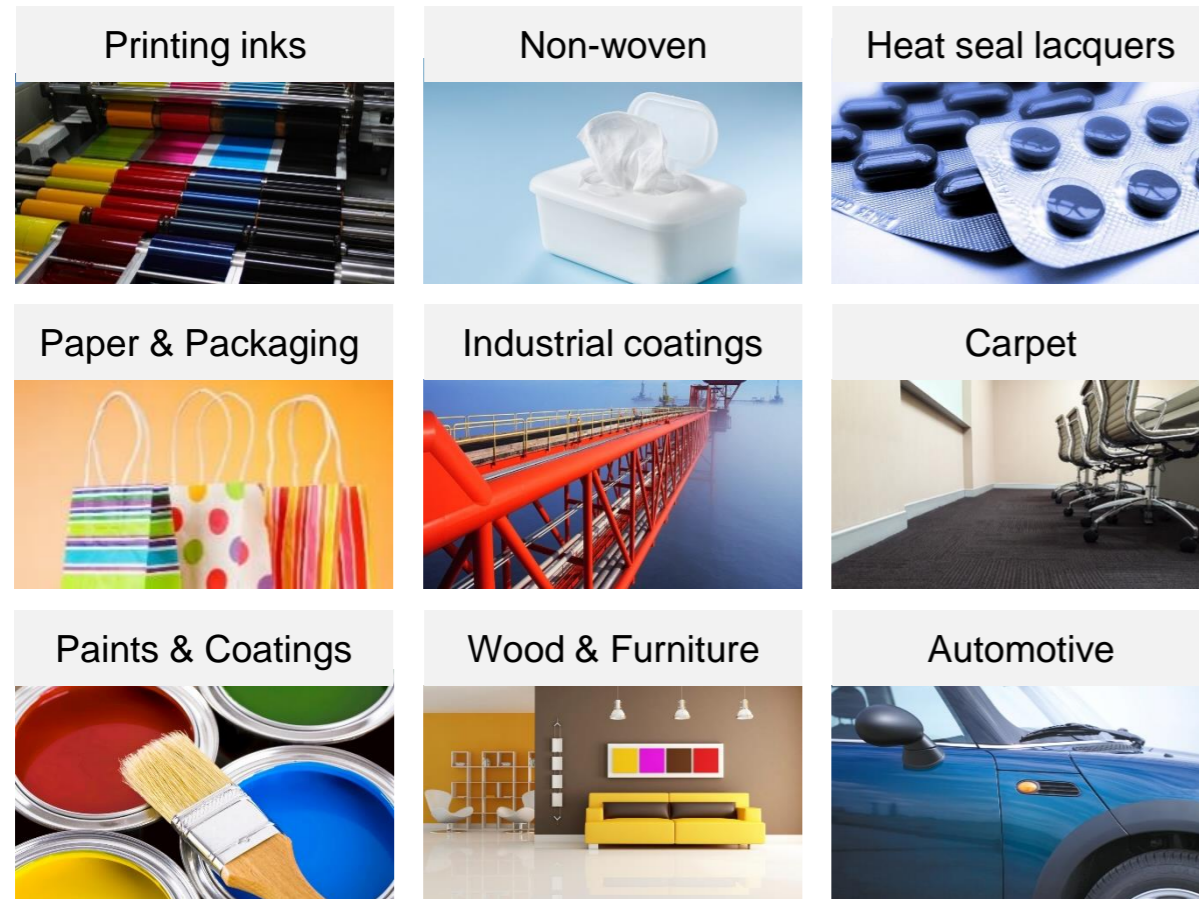


- ▶ Dispersions ↔ Growth based on performance benefits and higher incomes

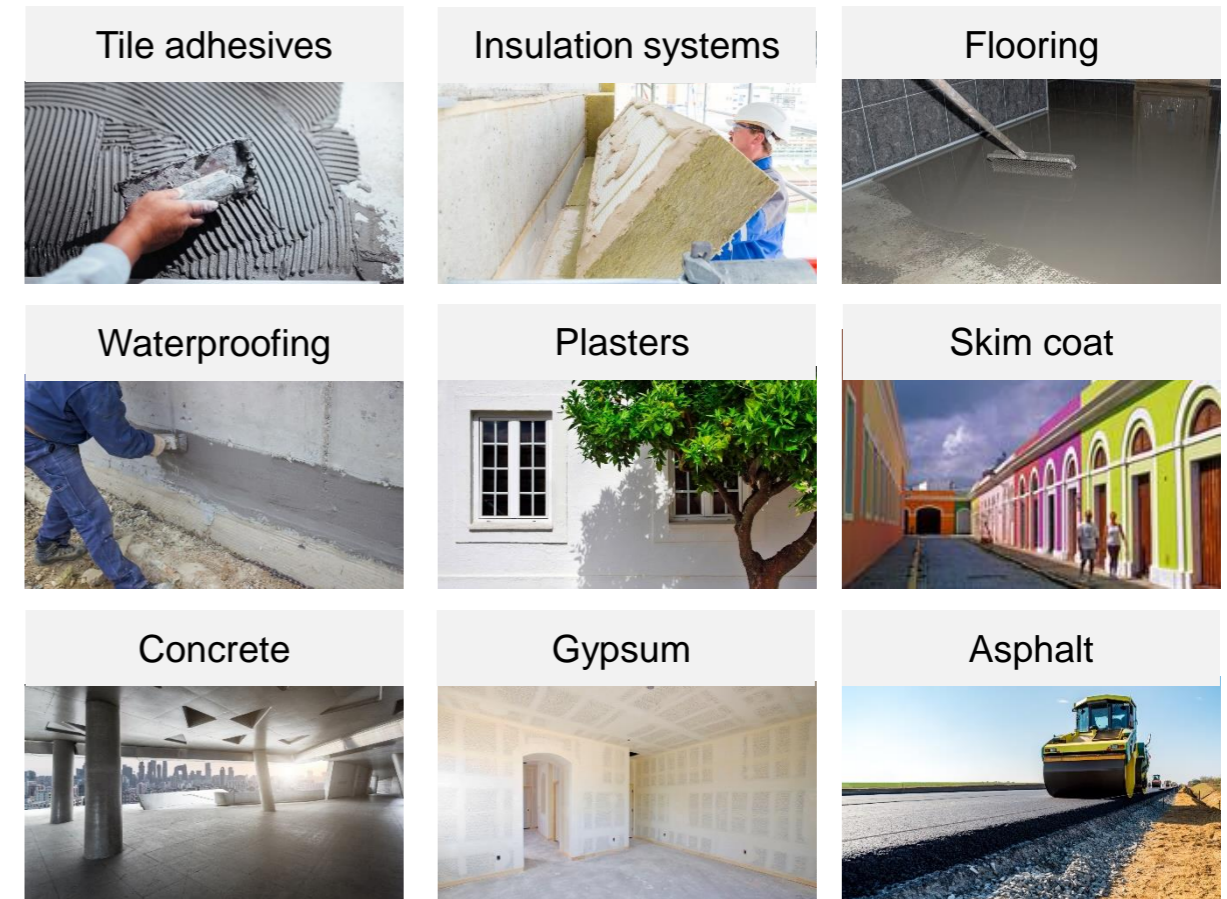
WACKER POLYMERS

Excellent Performance in a Wide Variety of Applications

Consumer & Industrial Polymers






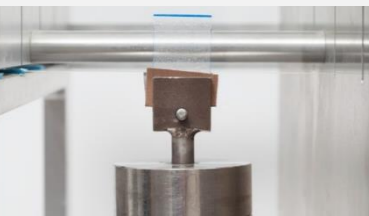
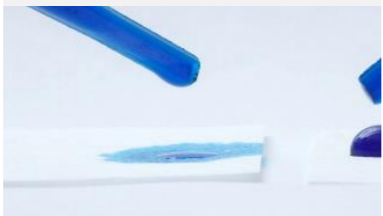



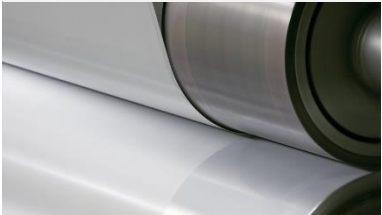
Construction Polymers












WACKER POLYMERS

VAE Binders with a Wide Range of Performance Attributes

Features for Consumer & Industrial Applications

Gloss 	Water repellent 	Color fastness 
Strength 	Absorbency 	Hand feel variety 
Durability 	Adhesion 	Processability 

Features for Construction Applications

Adhesion 	Flexibility 	Leveling/Flow 
Water repellent 	Thixotropic 	Surface quality 
Durability 	Workability 	Mechanical Strength 

WACKER POLYMERS

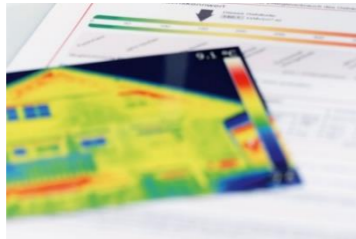
DPP Technology Provides Answers to Market Requirements in Construction

Growth Drivers

Urbanization



Energy efficiency



Productivity



Architectural trends

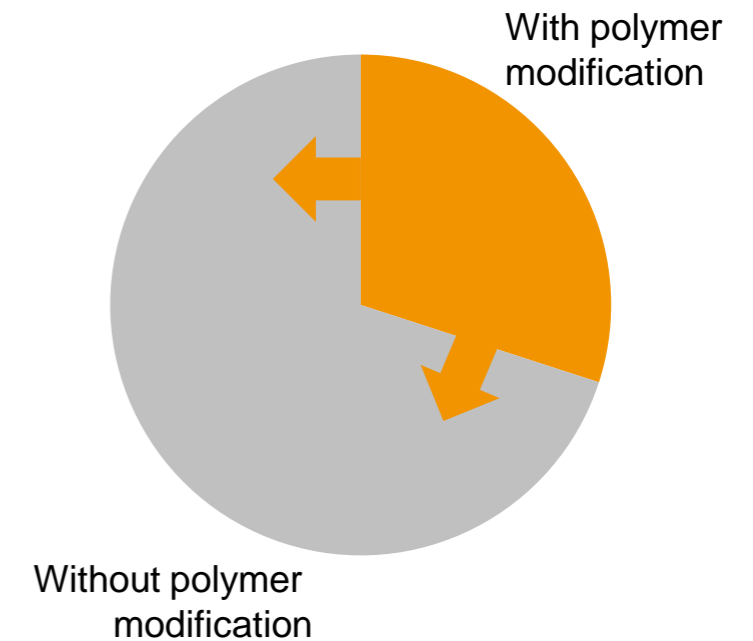


Performance Benefits

- ▶ Good adhesion
- ▶ Flexibility
- ▶ Open time
- ▶ Material savings
- ▶ CO₂ savings

Growth Potential

Global Dry Mortar Market



Source: WACKER estimates

WACKER POLYMERS

EU Green Deal: a New Catalyst for Growth in Energy Efficient Buildings

Good Adhesion and Flexibility Enable ETICS' Success

~70%

of ETICS* used
in renovation

~25%

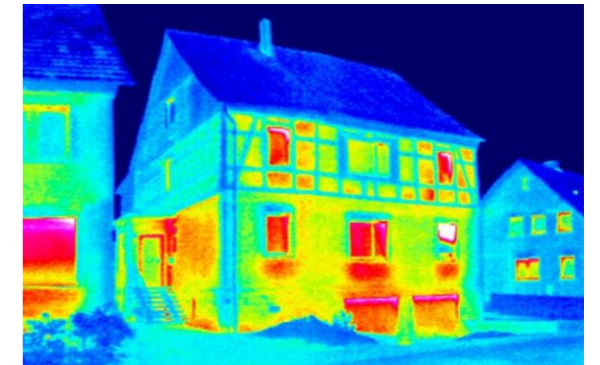
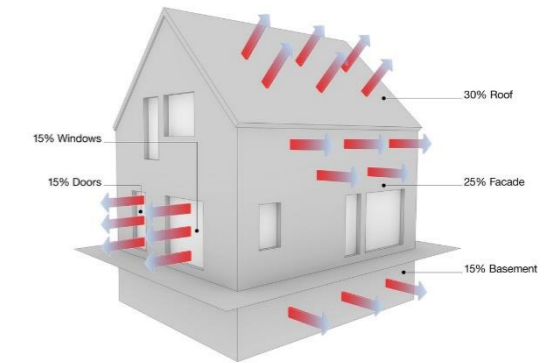
energy loss of a heated
building through facade

~90%

of today's buildings
will still be in use in 2050

35 million

inefficient buildings in the
EU to be renovated until
2030



*ETICS = External thermal insulation composite systems; Source: European Commission: A Renovation Wave for Europe

WACKER POLYMERS

Resource Efficient Solutions with a Low CO₂ Footprint are Required in all Regions

Transformation to Thin Bed CTA¹ Enables Material and CO₂ Savings & Higher Productivity

60%

less sand and cement used in thin bed vs. thick bed application of CTA

~12 million mt

CO₂ equivalent avoided per year by using thin-bed CTA compared to thick-bed²

Local solutions

Enable high quality CTA formulations despite varying cement qualities

>-50%

Reduced time for tile applicator from Ø 30 min/m² down to Ø 15 min/m²



1)CTA = Ceramic Tile Adhesive 2) using the amount produced by WACKER in 2017

WACKER POLYMERS

Substitution Drives VAE Growth in Consumer & Industrial Applications

Growth Drivers

Higher Incomes



Environmental Awareness



Productivity



Resource Efficiency

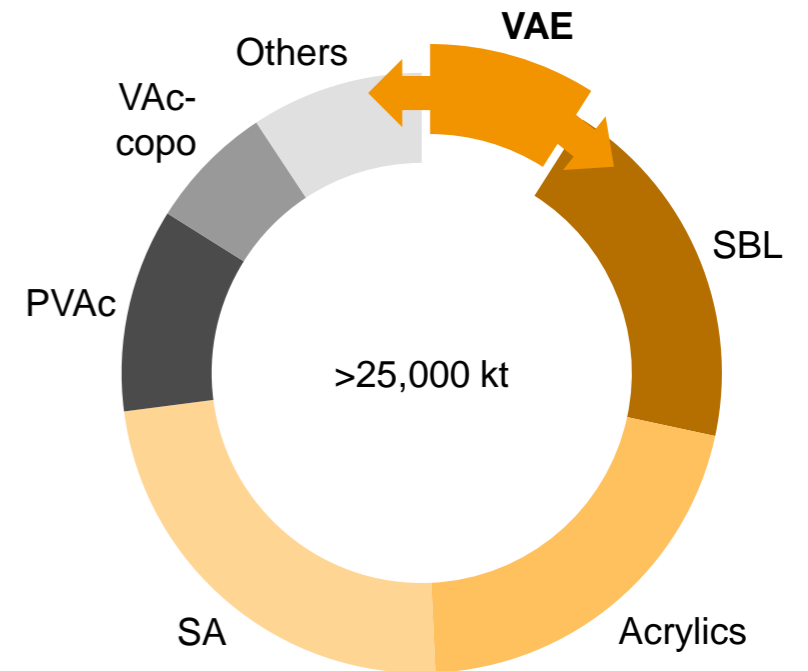


Performance Benefits

- ▶ Adhesion-cohesion balance
- ▶ Excellent machinability
- ▶ Low VOC emissions and low odor
- ▶ Low flammability
- ▶ Access to renewable raw material base

Growth Potential

Synthetic Polymer Latex Market*



SA = Styrene Acrylics, VAc-copo = Vinyl Acetate Co-Polymers, PVAc = Polyvinyl Acetate, SBL = Styrene Butadiene Latex/
 *Source: Kline 2020 / incl. Feed

WACKER POLYMERS

VAE Dispersions with Performance Advantages

Adhesives



- ▶ Balance Cohesion / Adhesion
 - ▶ Machinability
- vs. C3 Chemistry**

Carpet



- ▶ Very Low Odor / Very Low Emission
 - ▶ Low Flammability
- vs. C4 Chemistry**

Non-Woven



- ▶ Adhesion to cellulose fibers
 - ▶ Absorbency (Hydrophilic)
- vs. C3 Chemistry**

Paints



- ▶ Excellent Scrub Resistance
 - ▶ Very Low Odor / Very Low VOC
- vs. C3 Chemistry**

WACKER POLYMERS

New Solutions Are Developed to Meet Changing Market Requirements

VINNAPAS[®], PRIMIS[®] and NEXIVA[®] – Solutions for Paints and Coatings Applications

Ultra Low VOC

water borne paints based on VINNAPAS[®] products with VOC content <1g/L

Easy-to-Clean

PRIMIS[®] as co-binder improves scrub resistance of paints

Biocide-Free

dry binder solution based on NEXIVA[®] dispersible polymer powders

Positive Outlook

of major architectural paint producers



WACKER POLYMERS

Sustainable Binder Solutions

Strategic Focus and Roadmap

Customer Focus	<ul style="list-style-type: none">▶ Global presence with production and technical centers▶ Continuously expanding production capacity to support customer's growth
Substitution by Innovation	<ul style="list-style-type: none">▶ Value based substitution▶ Transformation towards higher building standards
Sustainability	<ul style="list-style-type: none">▶ New product releases based on renewable raw materials▶ CO₂ savings with smart construction demonstrated





CREATING TOMORROW'S SOLUTIONS

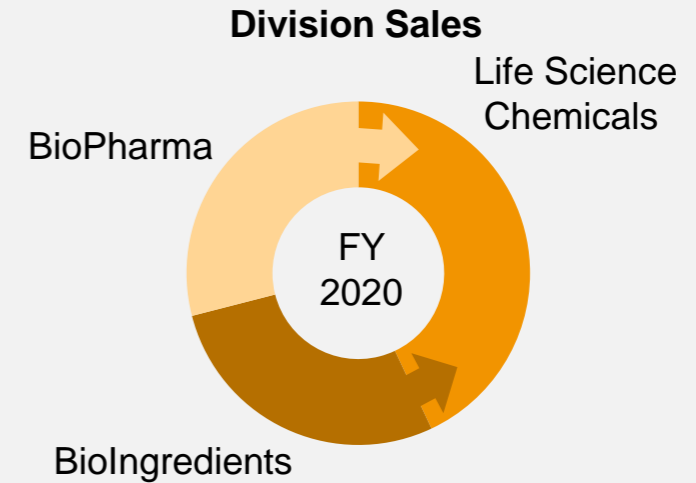
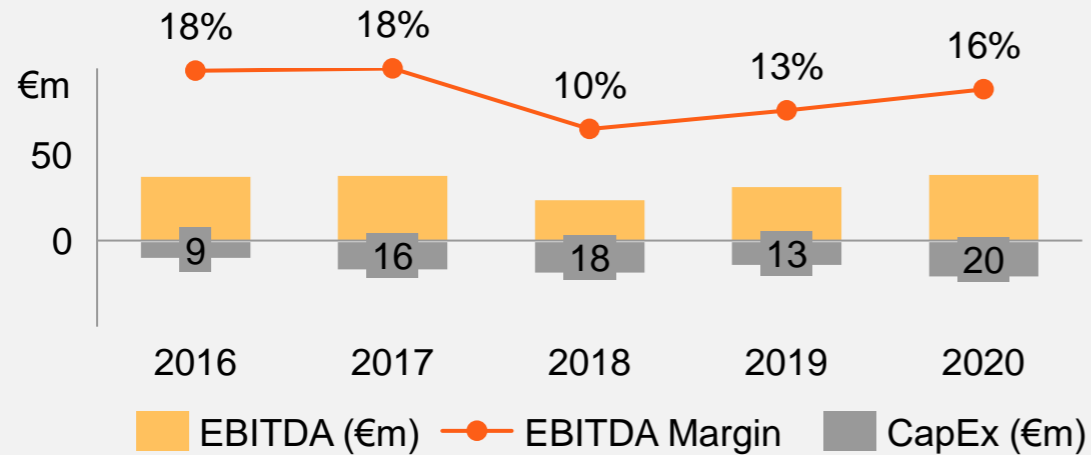


WACKER – BIOSOLUTIONS

WACKER BIOSOLUTIONS

At a Glance

Accelerated Growth in BioPharma & BioIngredients



Leveraging Biotechnologies for Growth; Focus on Efficiency & Cash in Life Science Chemicals

BioPharma

- ▶ GMP contract manufacturing of biologics, vaccines, live microbials, mRNA, pDNA
- ▶ Efficient & cost saving microbial technologies

BioIngredients

- ▶ Nutraceuticals, Cysteine, Cyclodextrins
- ▶ Fermentation technologies with high purity & free of animal products

Life Science Chemicals

- ▶ Food-grade polyvinyl acetate for gum base
- ▶ Advanced Intermediates: Acetylacetone, organosilanes & fine chemicals

WACKER BIOSOLUTIONS: BioPharma

WACKER is a Leading Microbial CDMO

Cutting-Edge Technologies with a Proven Track Record in a Fast-Growing Market

Fast-Growing Market

Outsourcing on the Rise



Secretion Technology



Refolding Technology

Strong Track Record

Cutting-Edge Technologies



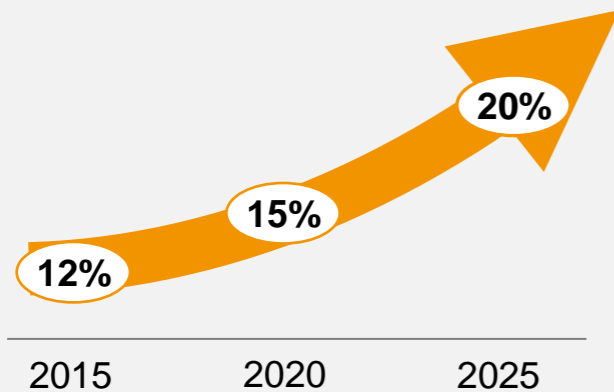
Live Microbial Products



mRNA and pDNA

WACKER BIOSOLUTIONS: BioPharma Drivers for CDMO Business

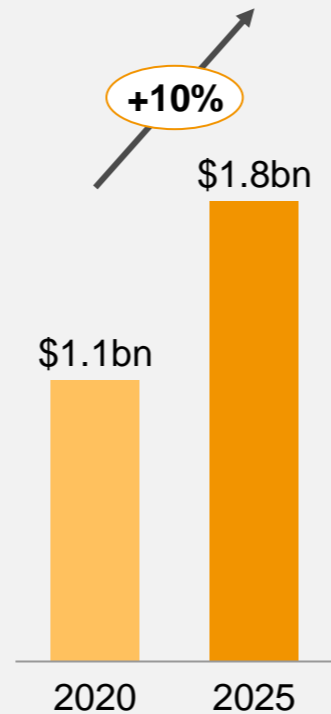
Higher Outsourcing Rate¹ Drives Demand for CDMOs



Outsourcing is a tool for Big Pharma and Biotech alike to:

- ▶ Leverage advanced production technologies with high expertise
- ▶ Reduced risk & operational expenses

Microbial CDMO Market²

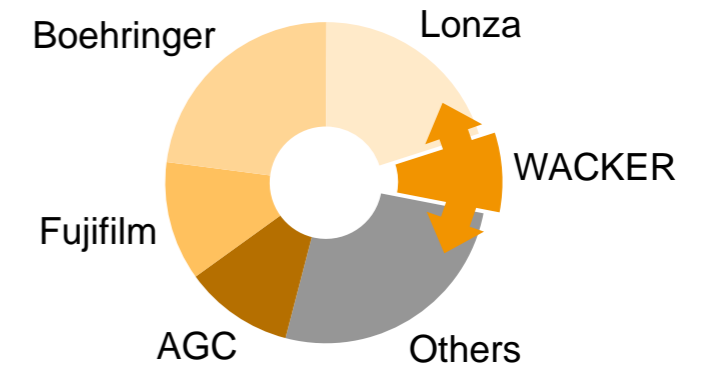


23%

**WCH BioPharma:
Trailing 5 Year
Sales CAGR**

- ▶ WACKER is committed to meet the industry's growing needs

#5 in a Fragmented Market



- ▶ Committed to grow faster than the market by capitalizing on organic & inorganic opportunities
- ▶ Leverage our innovative technology, flexibility and global set-up

Source: 1) Frost & Sullivan 2) Biopharmaceutical Contract Manufacturing 2020

WACKER BIOSOLUTIONS: BioPharma

Full-Service CDMO of Biologics with Cutting-Edge Technologies

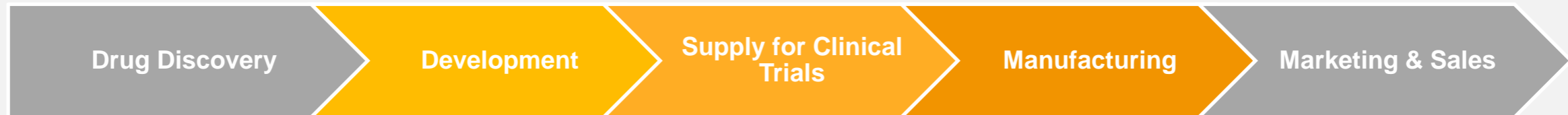
Speed, Flexibility and Innovation in the Development & Manufacture of Biopharmaceuticals

WACKER

Discovery

Development & Manufacturing

Distribution



Supporting Customers with Leading Microbial Tech, Global Set-Up & Flexible Scale Production

Development

- ▶ Cutting-edge patented technologies
- ▶ Flexible and integrated solutions

Manufacturing

- ▶ Flexible scale production supporting Virtual Biotech to Big Pharma
- ▶ Supply from clinical to commercial
- ▶ Low COGS & high yields

Track Record

- ▶ >1,100 GMP batches released
- ▶ >200 projects successfully completed

WACKER BIOSOLUTIONS: BioPharma

Leading Technologies for the Production of Biopharmaceuticals

ESETEC®

- ▶ Unique manufacturing technology, with exceptionally high quality & flexibility
- ▶ No cell disruption needed, high yields & lower COGS



LIBATEC®

- ▶ Live microorganisms with therapeutic or preventive effects
- ▶ Development of scalable & fully closed mono-septic production processes



FOLDTEC®

- ▶ Manufacturing without any antibiotics and phage-free plasmid maintenance system
- ▶ Reduced COGS with efficient refolding



mRNA and pDNA manufacturing platforms

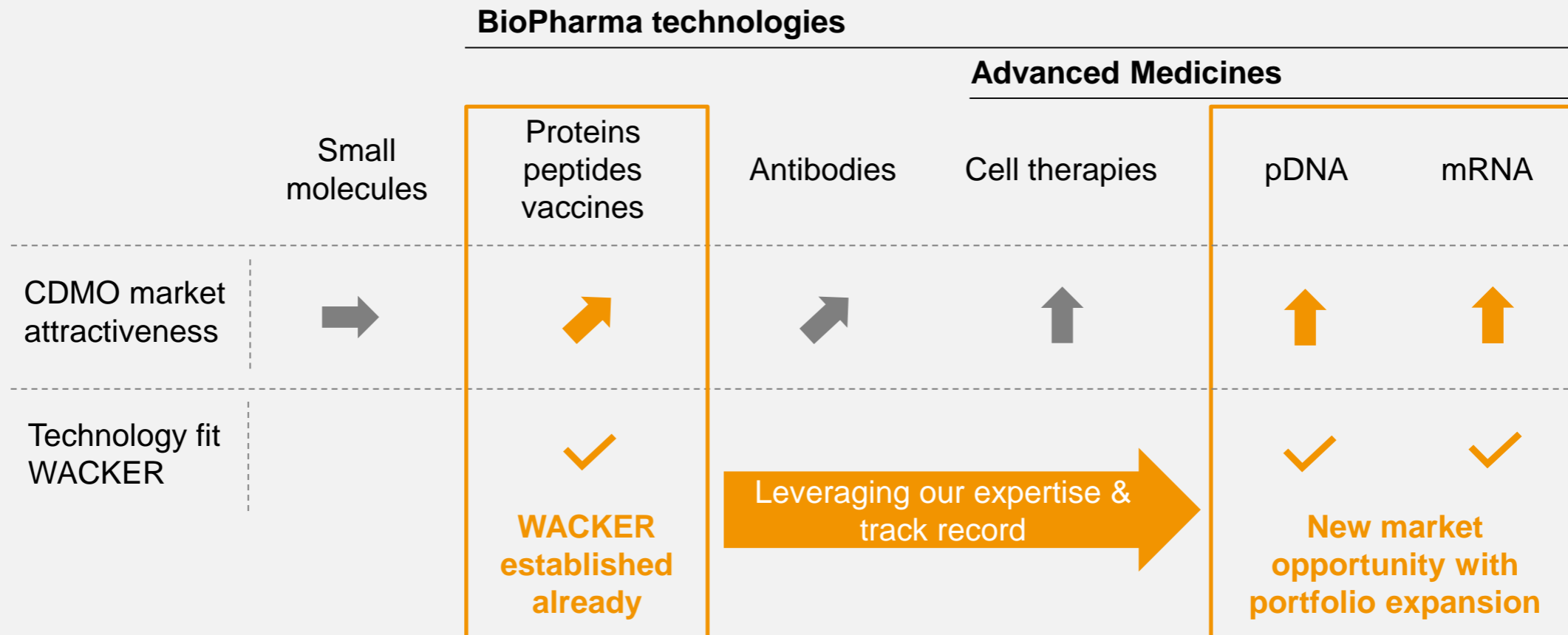
- ▶ mRNA - brand new production lines, ready to meet growing demand
- ▶ Proprietary continuous lysis platform for large-scale manufacturing of pDNA



WACKER BIOSOLUTIONS: BioPharma

Establish WACKER as a Leading mRNA & pDNA CDMO

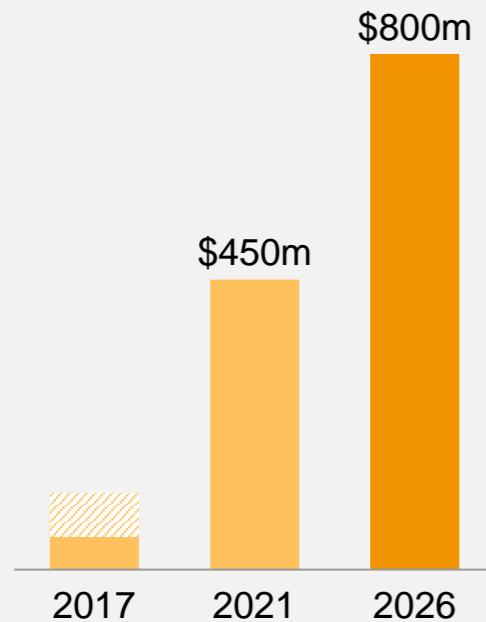
Portfolio Expansion into Advanced Medicines Creates New Growth Opportunities



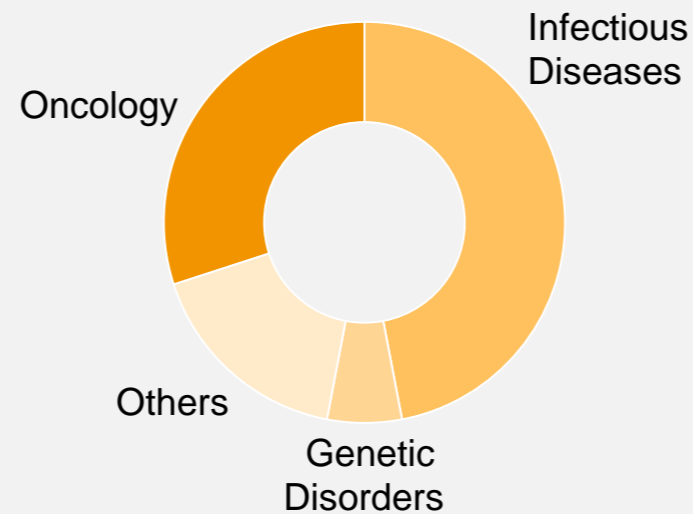
WACKER BIOSOLUTIONS: BioPharma

mRNA/pDNA Technologies Enable Advanced Therapies for Multiple Indications

mRNA CDMO Market¹ & Areas Researched²

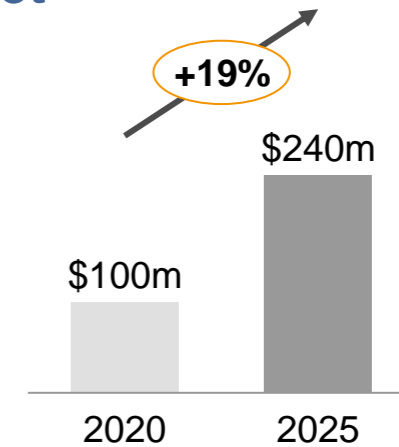


- ▶ COVID-19 vaccines are just the first application, other therapeutics being researched



- ▶ mRNA for many applications
- ▶ 80+ vaccines & 70+ therapeutics in development

Fast Growing pDNA CDMO Market³



- ▶ Recent acquisition provides technology & large scale full GMP manufacturing of pDNA in the US
- ▶ pDNA - raw material for mRNA and for viral vector production

Source: 1) imarc Study 2020 & WACKER estimates 2) Roots mRNA Study 2020 3) Global Viral Vectors and Plasmid DNA Manufacturing Market Research Report

WACKER BIOSOLUTIONS: BioPharma

Creating a Leading Player with Strategic Acquisitions & Follow-On Investments

Global Set-Up with Cutting-Edge Technologies

2005	2008	2010	2014	2017	2018-21	2021
Jena: <i>ProThera</i> acquisition	Jena: New lab & warehouse	Jena: Extension of production	Halle: <i>Scil Proteins</i> acquisition & extension	Halle: Construction & modification	Amsterdam: <i>SynCo</i> acquisition & investment in mRNA	San Diego: Acquisition of <i>Genopis</i>

 <p>Jena</p> <ul style="list-style-type: none"> ▶ 350 L line ▶ Rec. proteins ▶ Cell banking ▶ EMA approved 	 <p>Halle</p> <ul style="list-style-type: none"> ▶ 1,500 L line ▶ Rec. proteins ▶ EMA & FDA approved 	 <p>Amsterdam</p> <ul style="list-style-type: none"> ▶ 250 SUB¹ & 1,500 L line ▶ Live microbials, mRNA, proteins, vaccines ▶ EMA & FDA approved 	 <p>San Diego</p> <ul style="list-style-type: none"> ▶ 500 L line ▶ pDNA ▶ QC/QA for pDNA on site ▶ Small scale SUB ▶ GMP approved
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1) SUB = Single Use Bioreactor

WACKER BIOSOLUTIONS: BioIngredients

BioIngredients and Nutraceuticals to Meet Growing Consumer Trends

Fermentation-Based Solutions for a Wide Range of Applications

Healthy Living Trends

Renewable Raw Materials



Antioxidants



Anti-inflammatory

Fermentation Technologies

Broad Range of Applications



Higher Bioavailability



Optimizing Taste

WACKER BIOSOLUTIONS: BioIngredients

WACKER is a Leading Supplier of L-Cysteine from Renewable Raw Materials

Broad Range of Applications



- ▶ Flavors: savory flavors
- ▶ Food: dough softening
- ▶ Supplement: infant nutrition
- ▶ Personal care: hair treatment & perms
- ▶ Pharma: cough medicine, protein refolding & cell culture media

Sustainable Process



- ▶ Fermentation process based on renewable raw materials
- ▶ 96% less HCl consumption¹ than traditional process
- ▶ Highest purity

Free of Animal Products



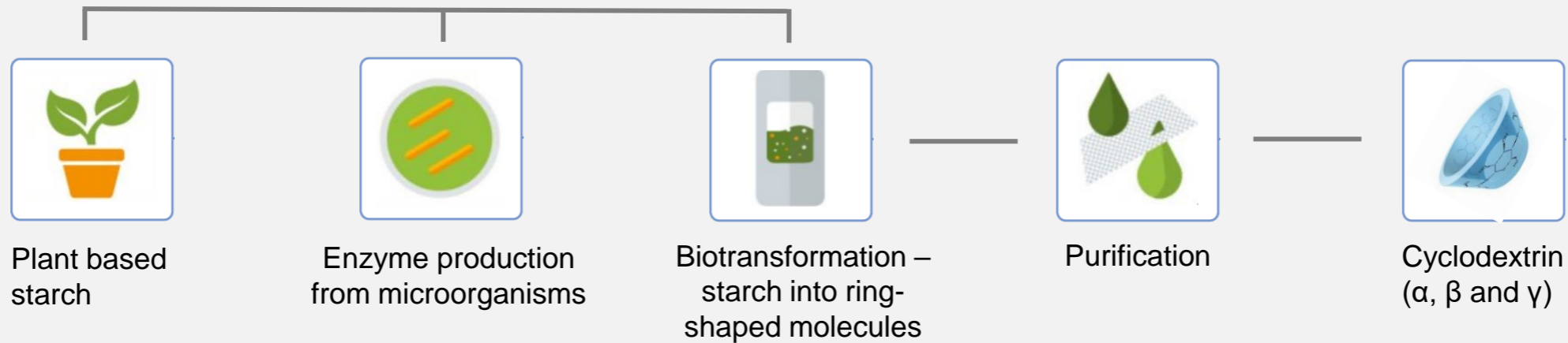
- ▶ Vegetarian & vegan
- ▶ Kosher & halal
- ▶ No allergen labeling required
- ▶ Non-GMO

1) HCl = Hydrochloric acid; Source: WACKER Estimate

WACKER BIOSOLUTIONS: BioIngredients

WACKER is a Leading Supplier of Cyclodextrins Across Many Applications

Versatile Molecules from Renewable Raw Materials



Addressing Consumer Trends by Providing Innovative Solutions

Cyclodextrin Capabilities

- ▶ World scale production set-up
- ▶ Sole producer of three types of cyclodextrins: 6 glucose units (α), 7 glucose units (β) or 8 glucose units (γ)

Benefits & Effects

- ▶ Stabilization: whipping and emulsifying
- ▶ Solubilization: improved bioavailability
- ▶ Controlled release: protect and carry
- ▶ Masking: taste masking




Applications

- ▶ Food, dietary supplements
- ▶ Pharma, excipients
- ▶ Personal care, pet care
- ▶ Household and industry

WACKER BIOSOLUTIONS: BioIngredients

Megatrends Driving Activities for Portfolio Expansion & Innovation

Expanding BioIngredients Portfolio Through Innovation & Emerging Applications

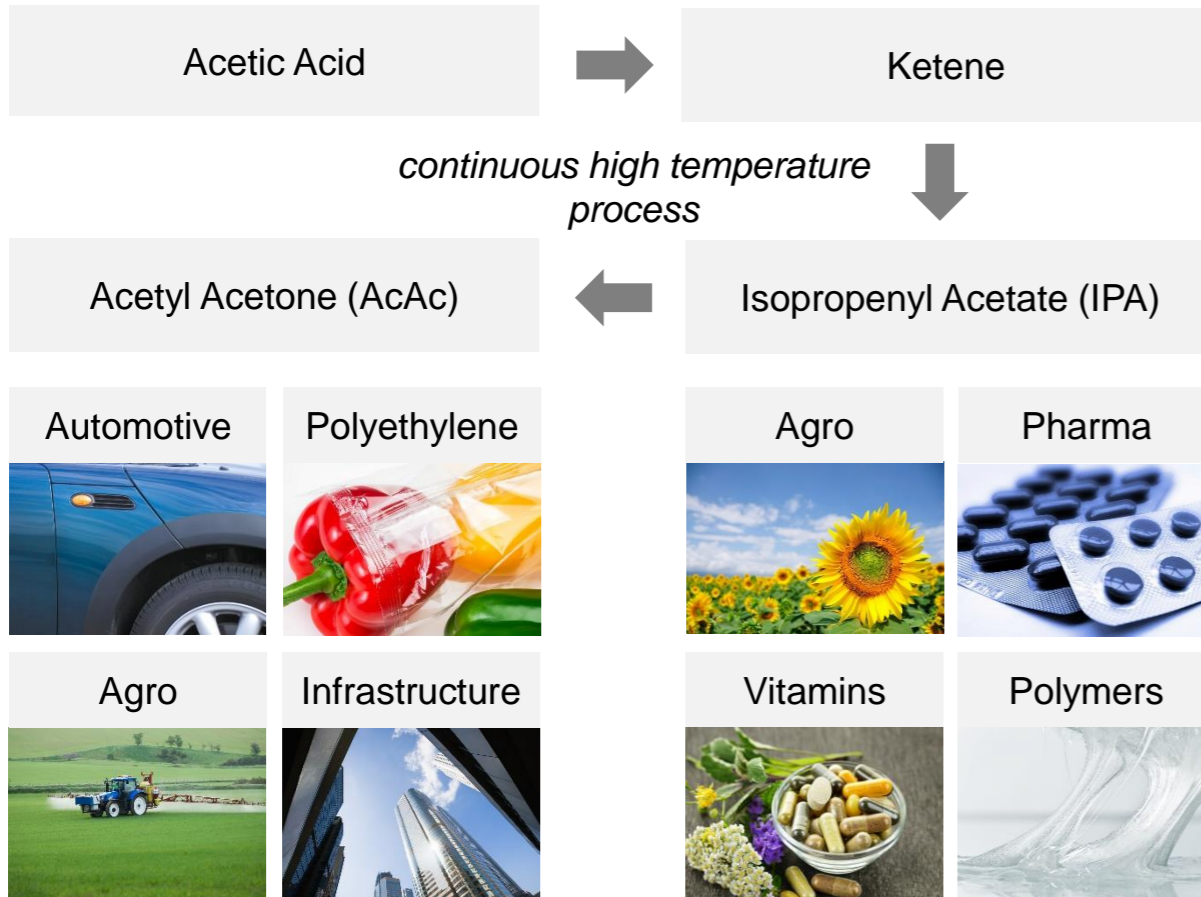
	End Markets	Market ¹	Trends & WACKER Solutions
	Nutraceuticals	7% p.a. ~€500bn	<ul style="list-style-type: none"> ▶ Healthy living & heart health trend ▶ LDL-cholesterol reduction, enhanced muscle recovery
	Functional food & Ingredients	6% p.a. ~€80bn	<ul style="list-style-type: none"> ▶ Vegan & white label trend ▶ Meat analogues, flavor masking & natural ingredients
	Dietary supplements	8% p.a. ~€130bn	<ul style="list-style-type: none"> ▶ Aging population trend ▶ Increase bioavailability & improve dispersibility

Sources: 1) Market growth and market size: Statista & WACKER Estimates

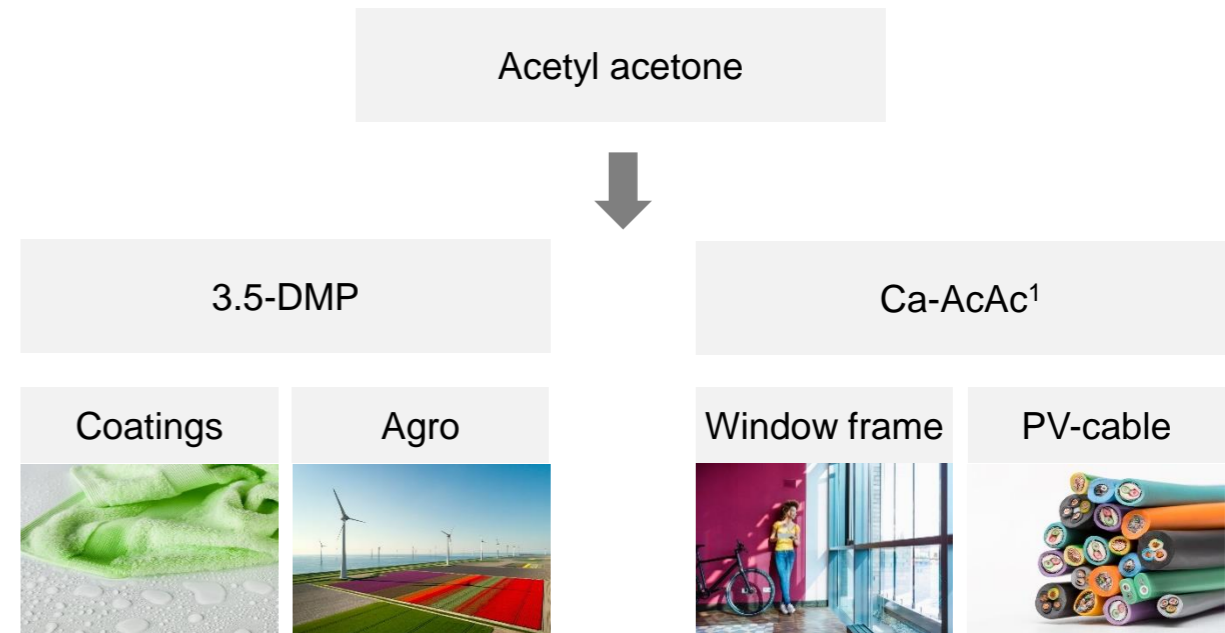
WACKER BIOSOLUTIONS: Life Science Chemicals

Profitable Business with Our Ketene Products

Ketene Products



Acetyl Acetone Downstream



- ▶ Other Metal-AcAc salts for e.g., rubber curing (Co), print applications (Ti), PVC stabilization (Zn)

WACKER BIOSOLUTIONS

Leveraging Technologies for Biotechnology-Based Growth

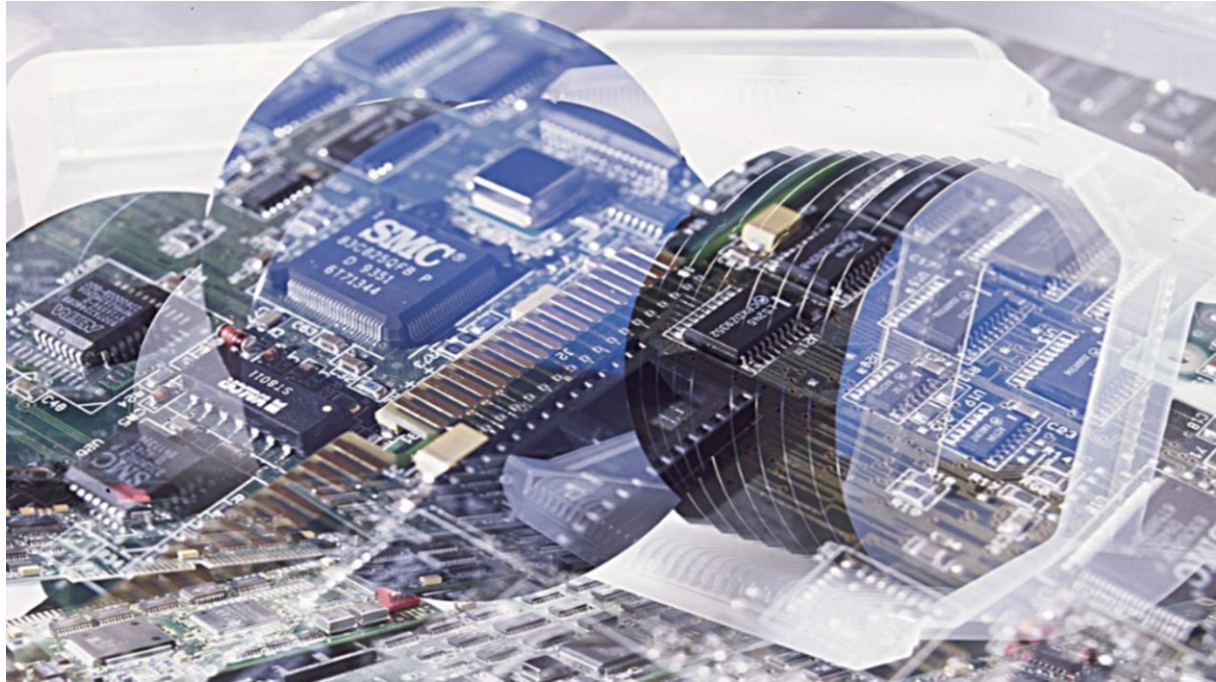
Strategic Focus and Roadmap

Unique Technology Platforms	<ul style="list-style-type: none">▶ Cutting-edge technologies & strong scientific background▶ Microbial technologies with exceptionally high quality, flexibility & low COGS
Customer Focus	<ul style="list-style-type: none">▶ Strong global track record: pre-clinical to commercial manufacturing in BioPharma▶ Leveraging our know-how, experience & assets to service customer
Commitment to Growth	<ul style="list-style-type: none">▶ Continuous investments in innovation, growth and M&A▶ New Target: €1bn Sales in BIOSOLUTIONS with >25% EBITDA by 2030



WACKER

CREATING TOMORROW'S SOLUTIONS

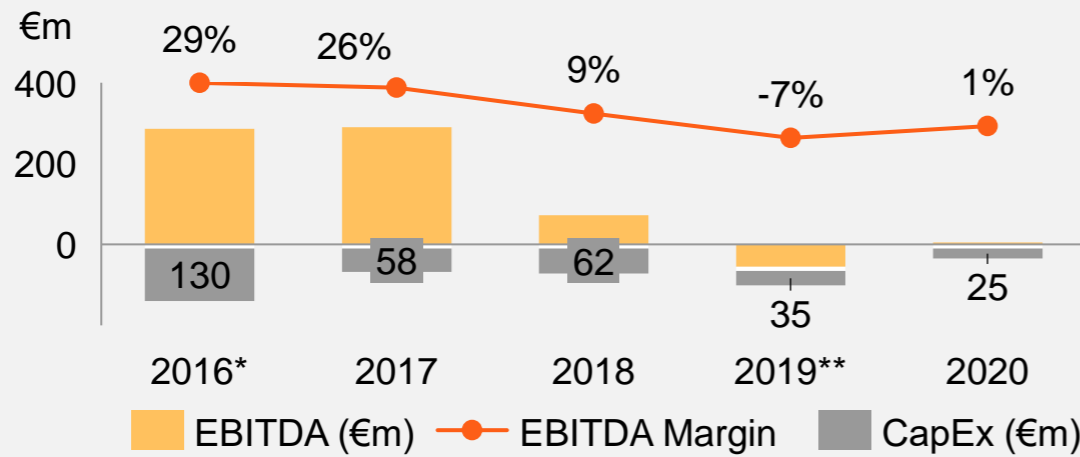


WACKER – POLYSILICON

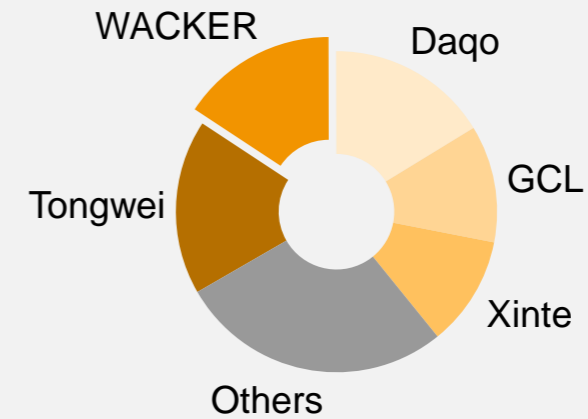
WACKER POLYSILICON

At a Glance

Leading Positions in Semiconductor and High-Performance Solar



Market Position



Drivers for POLYSILICON

Mix Shift Towards Semi

- ▶ Leader in quality, quantity and cost
- ▶ Benchmark in process stability
- ▶ Supporting market growth from plants in Europe and US

High-Performance Solar

- ▶ Strong demand for high-efficiency Solar applications
- ▶ Solar is lowest cost and most scalable form of energy production

Cost Roadmap

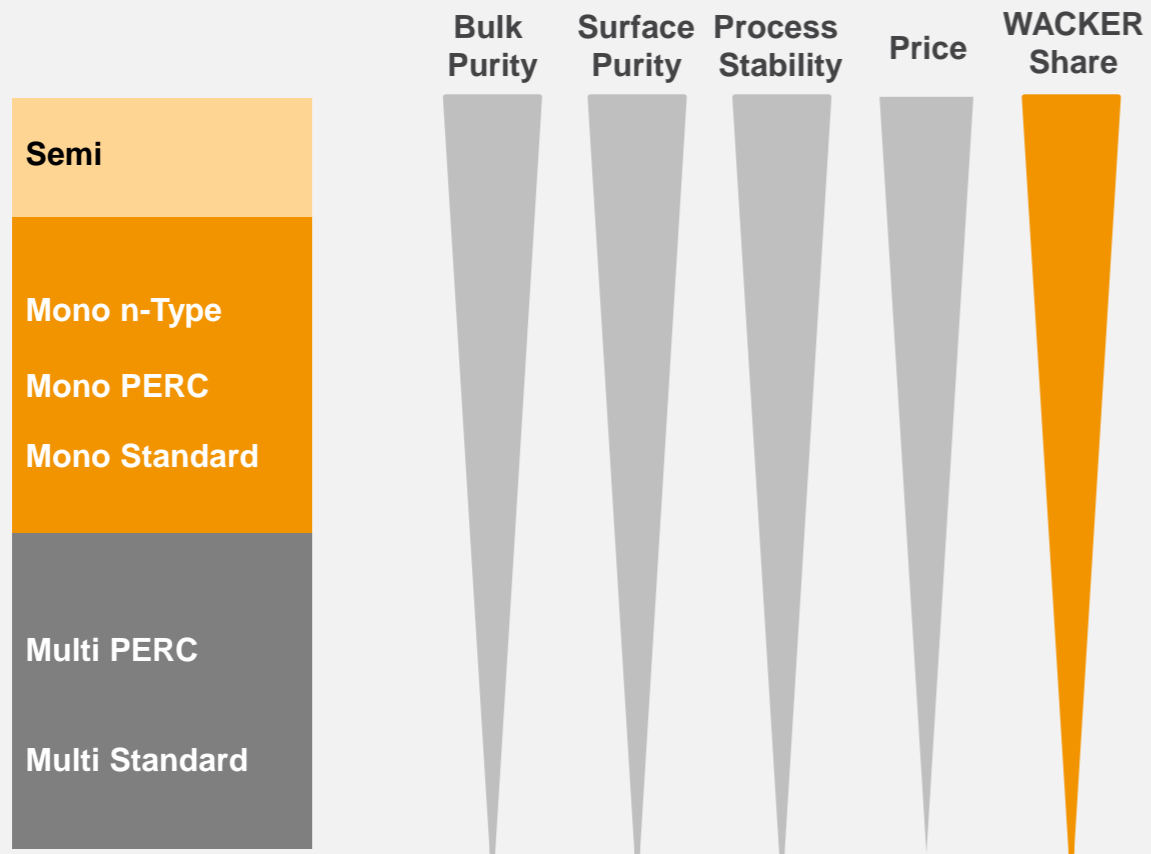
- ▶ Reducing energy usage
- ▶ Optimizing resource efficiency
- ▶ Improving labor productivity

*Operating EBITDA Margin **EBITDA excl. insurance compensation of €112.5m from 2017 incident in Charleston

WACKER POLYSILICON

Benchmark Quality in Semiconductor and High-Efficiency Solar

Polysilicon Market Segmentation



Source: WACKER





Various Chip Sizes for Optimized Crucible Filling and Recharging



WACKER POLYSILICON

Nearly Half of all Computer Microchips Contain WACKER Polysilicon

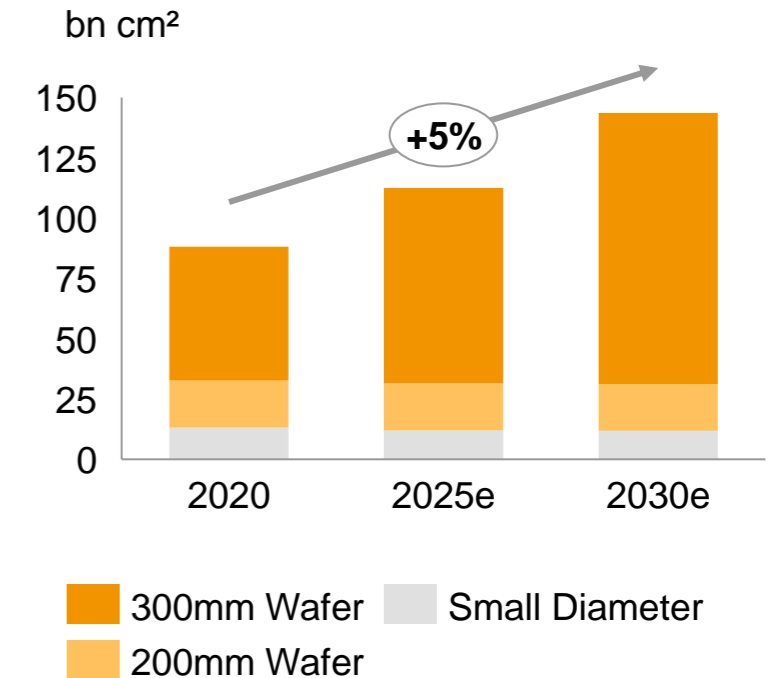
Semiconductor Applications

Mobility	Digitalization
	
Connectivity	Automatization
	

Clear #1 in Semiconductors

- ▶ WACKER polysilicon required for growing semi segments
- ▶ Clear leader in quality, quantity and cost
- ▶ Only producer offering the full portfolio from clean handled to FZ
- ▶ Highly dedicated to semi-conductor customers

Growth Driven by Demanding 300mm wafers

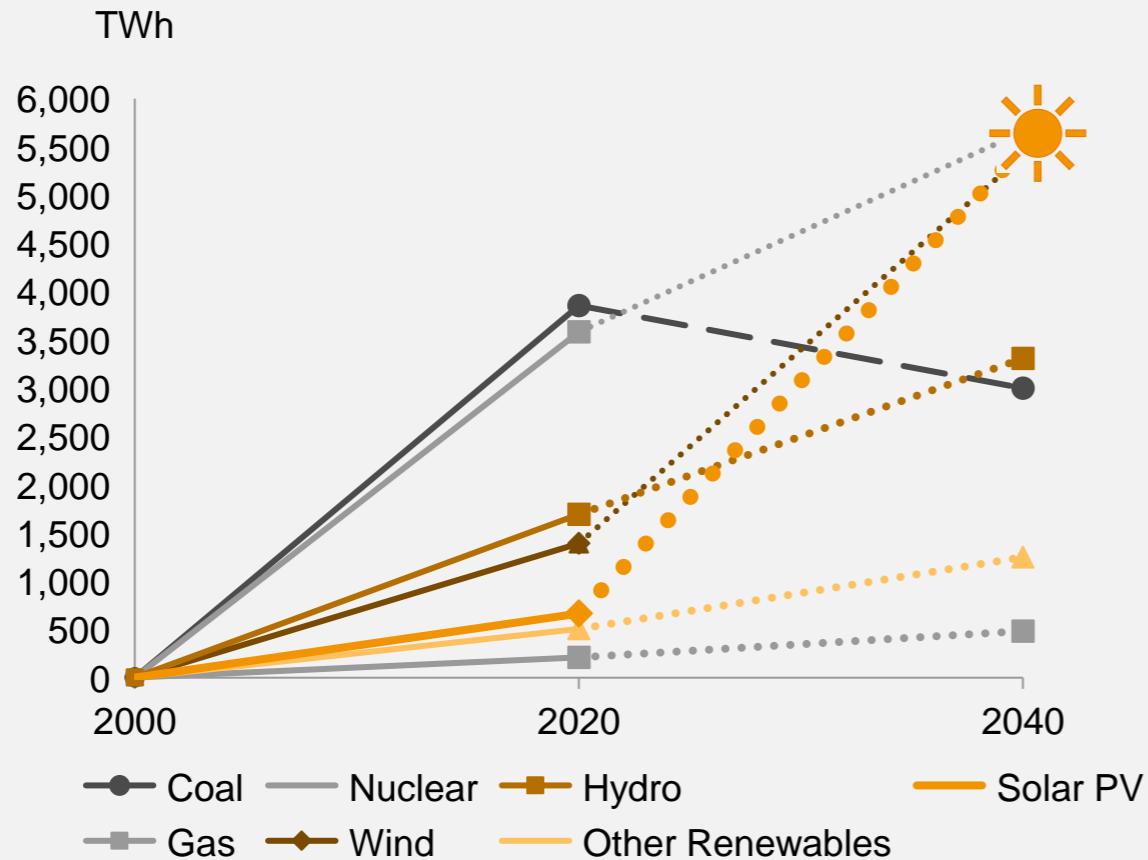


Source: WACKER estimates

WACKER POLYSILICON

Low Cost CO₂-free Power with Polysilicon for Photovoltaics

Change in Global Electricity Generation 2000-2040



Market Drivers

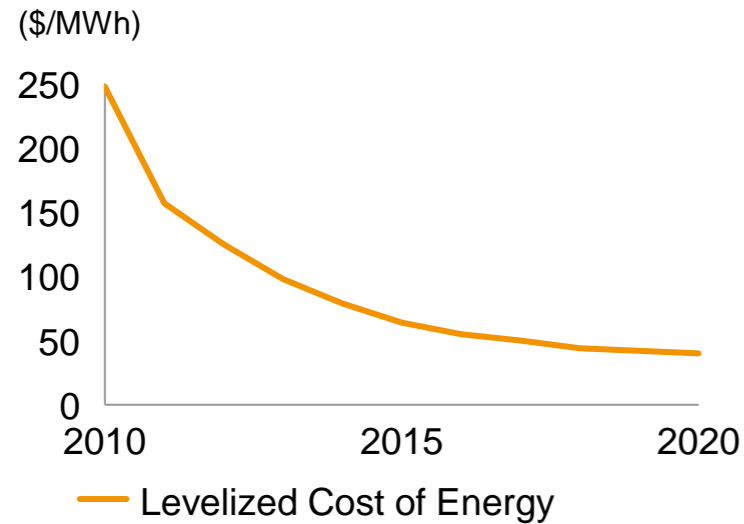
- ▶ PV is the fastest growing source of new power generation globally
- ▶ Market shifts from subsidy driven to competitive pricing
- ▶ WACKER polysilicon
 - ▶ enables highest efficiency PV systems with benchmark LCOE
 - ▶ is a sustainable key component with very low CO₂-Footprint for PV applications

Source: IEA Energy Outlook 2020, Stated Policies Scenario

WACKER POLYSILICON

Highest Quality Polysilicon Required For High Performance PV Solar

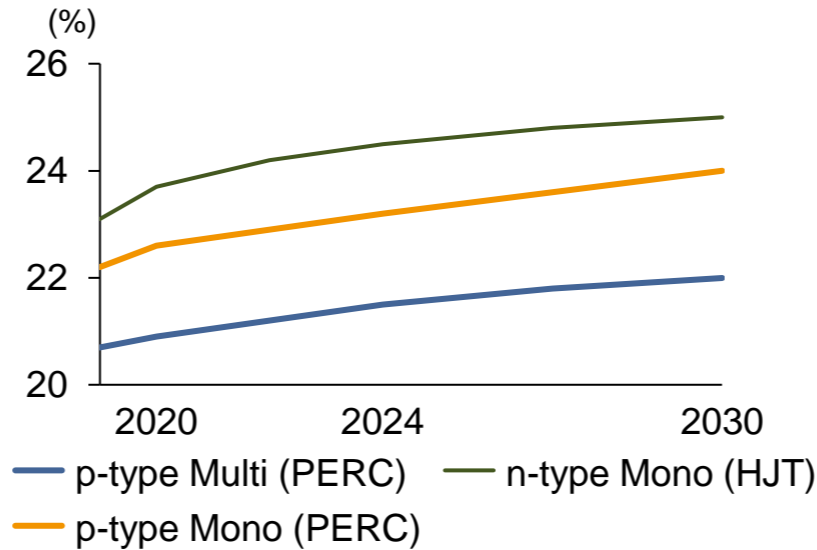
Solar PV LCOE



- ▶ Solar is lowest cost and most scalable form of energy production
- ▶ Market shifts from subsidy driven to competitive pricing

Source: LCOE Analysis, v.13, Lazard

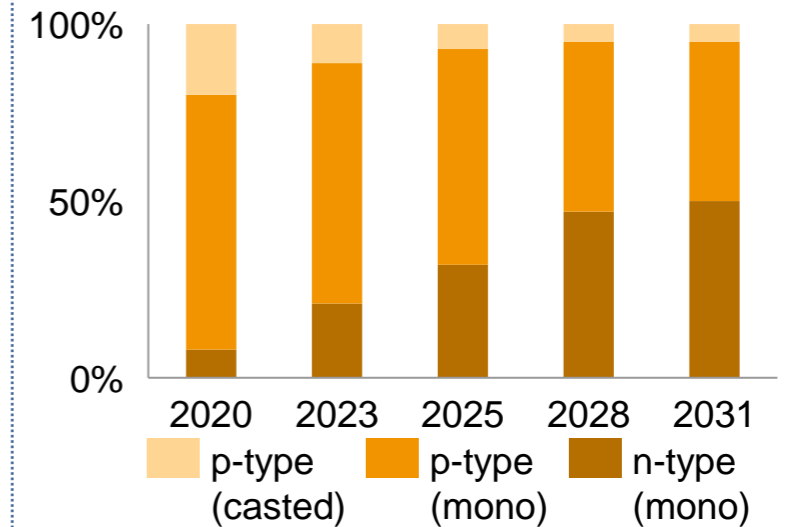
Cell Efficiencies



- ▶ Improvements (e.g. passivating layer) allow increases of efficiencies in all technologies
- ▶ New technologies (mono n-type HJT) show highest efficiency potential

*HJT = Heterojunction technology; Source: ITRPV Roadmap, 12th edition, 2021

Market Share

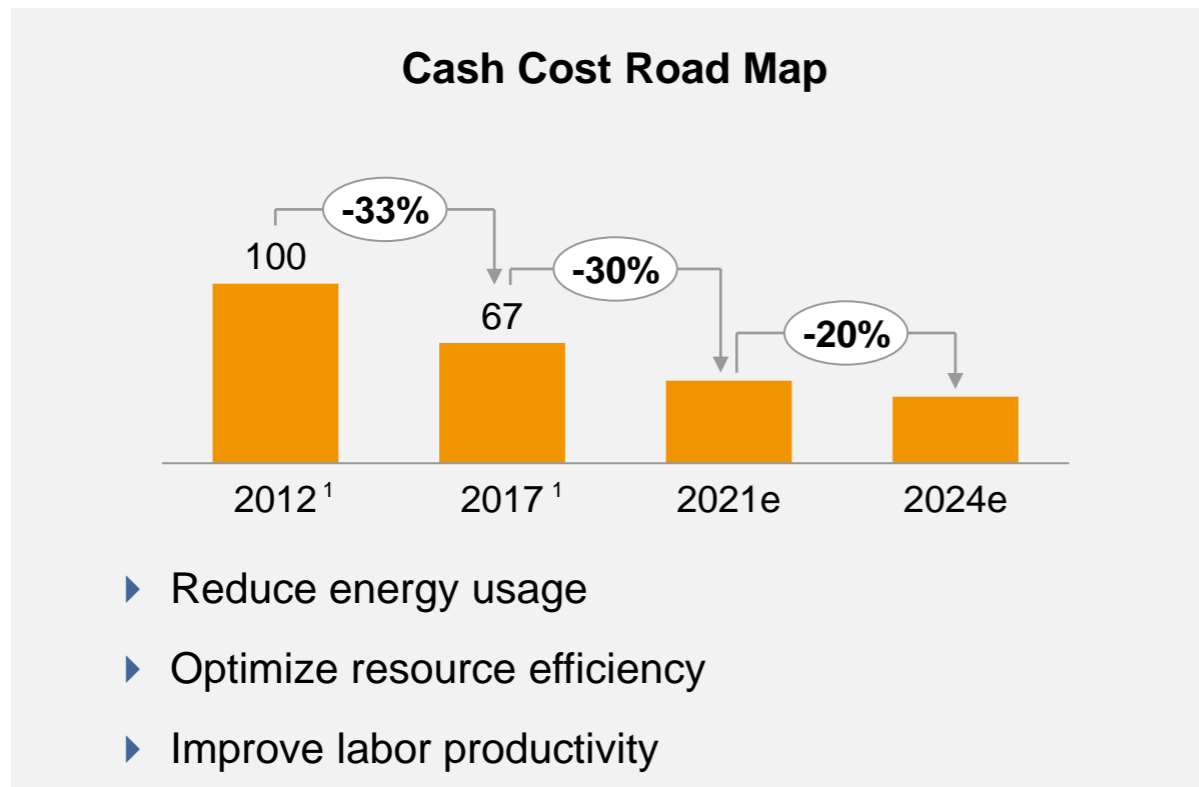


- ▶ Shift to highest efficiency modules accelerates
- ▶ WACKER material is a key enabler to our customer's processes

WACKER POLYSILICON

Aggressive Cost Reductions at All Sites

Sustainable Production & Continuously Improving CO₂-Footprint



Source: WACKER 1) without Tennessee

WACKER POLYSILICON

Targeting High Performance Products at Low Costs

Strategic Focus and Roadmap

Operational Excellence	<ul style="list-style-type: none">▶ Continuous cost reductions at all sites▶ Sustainable production with low CO₂ footprint
Serving High-End Markets	<ul style="list-style-type: none">▶ Focus on semiconductors and high performance solar▶ Cost and quality leader in high quality polysilicon
Fully Invested	<ul style="list-style-type: none">▶ Leveraging our assets▶ Semiconductor grade polysilicon in Europe and US





CREATING TOMORROW'S SOLUTIONS

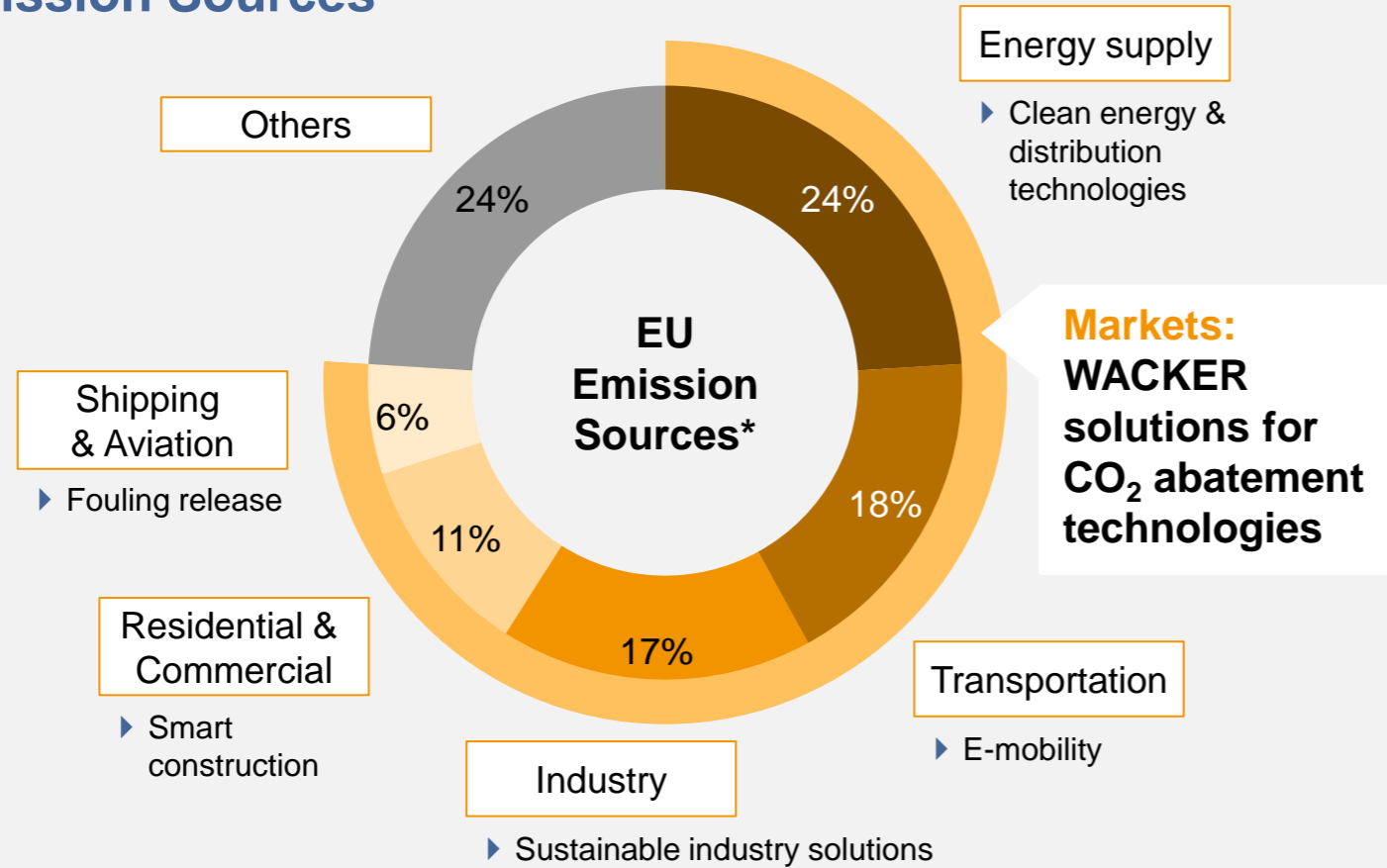


WACKER – SUSTAINABILITY

WACKER SUSTAINABILITY

Global Climate Targets Act as a Catalyst for CO₂ Reduction Technologies

WACKER Technologies Help Abate CO₂ From Primary Emission Sources



Global Policy Update

- ▶ China Net Zero by 2060
 - ▶ 2,500 GW PV solar & 2,400 GW wind needed**
- ▶ EU Climate Neutral 2050
 - ▶ Double renovation rates
- ▶ US Net Zero by 2050, 50% reduction by 2030
- ▶ Japan Net Zero by 2050

* Eurostat 2017 **China 2050-Fully Developed Rich Zero-Carbon Economy

WACKER SUSTAINABILITY

Group Target: Focus Strongly on Sustainability

Our Comprehensive 3-Tiered Approach to Sustainability



Value **UP**

Enable our customers to provide more sustainable solutions



Footprint **DOWN**

Create efficient operations & use resources responsibly



Collaboration **BEYOND**

Strive for a more sustainable value chain

Actively Supporting Global ESG Initiatives and Receiving Highest Recognition

Voluntary Global Initiatives

- ▶ UN Global Compact
- ▶ Responsible Care
- ▶ Together for Sustainability

Carbon Transparency

- ▶ CDP “B” in Climate Change and “B” in Water Security in 2020

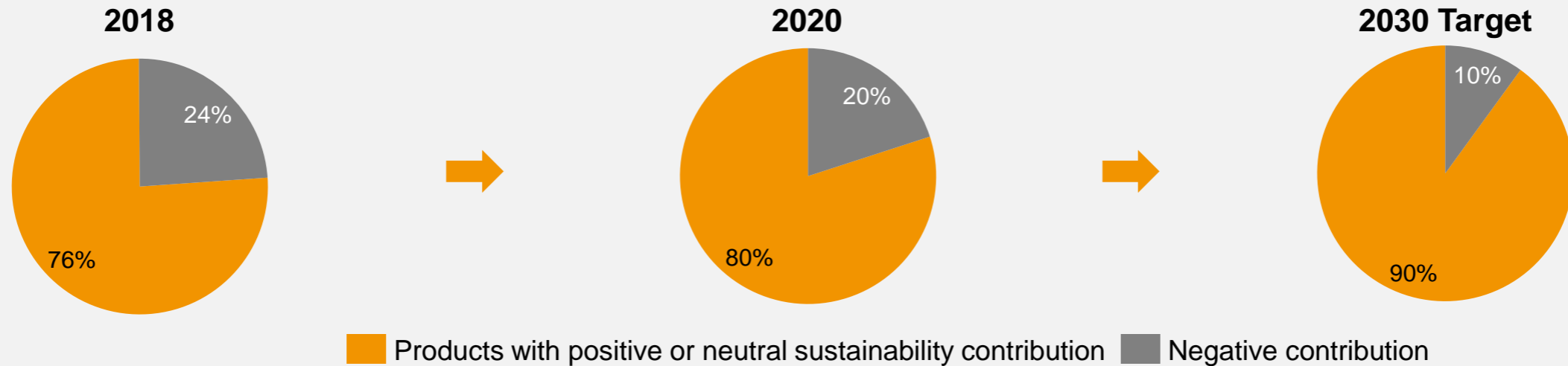
ESG

- ▶ Oekom “B- Prime” 2021
- ▶ Ecovadis “Platinum” 2020
- ▶ MSCI “BB” Rating 2020

WACKER SUSTAINABILITY

Systematically Improving Sustainability of Product Portfolio

Target: 90% of Products with Positive or Neutral Sustainability* in 2030



Pioneering Innovative Sustainable Chemical Products, Polysilicon Best-in-Class

SILICONES

- ▶ Insulation & Sealing
- ▶ E-mobility (gap filler)
- ▶ Advanced processing aids
- ▶ BELSIL® eco – silicones produced with bio-methanol

POLYMERS

- ▶ Enabling substitution of energy intensive materials (cement)
- ▶ VINNAPAS® Eco polymers with bio-AcOH
- ▶ NEXIVA® for powdered paint formulations without biocides

POLYSILICON

- ▶ Enabling highest efficiency PV systems
- ▶ Hyperpure polysilicon for semiconductors

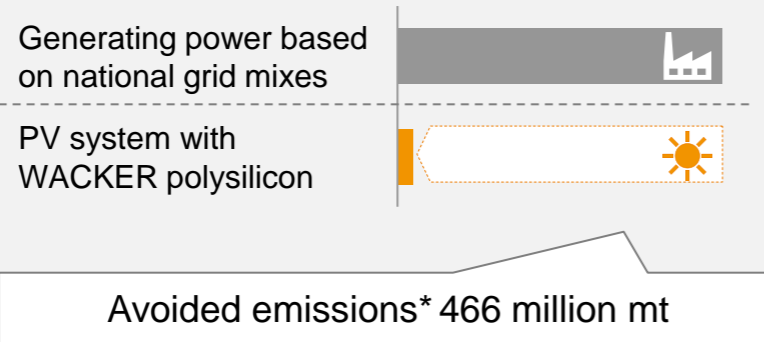
*Portfolio-assessment (WACKER Sustainable Solutions) using PARC-model (One Product in one Application in one Region in Combination)

WACKER SUSTAINABILITY

Enabling Leading CO₂ Abatement Technologies

Polysilicon for Photovoltaics (PV)

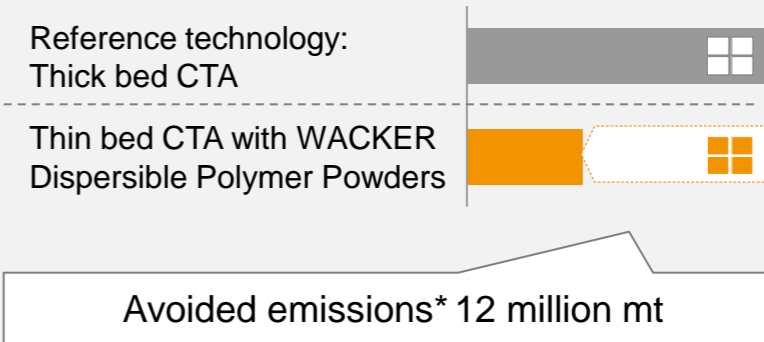
Avoiding CO₂ with PV Systems



- ▶ WACKER polysilicon is a key enabler of highest efficiency PV solar systems
- ▶ Significant CO₂ emissions avoided by harnessing the sun's energy compared to burning fossil fuels
- ▶ Amount of energy required to produce PV system with a 30-year lifetime is generated in the 1st year of production

DPP for CTA-Applications

Avoiding CO₂ with Thin Bed Mortars



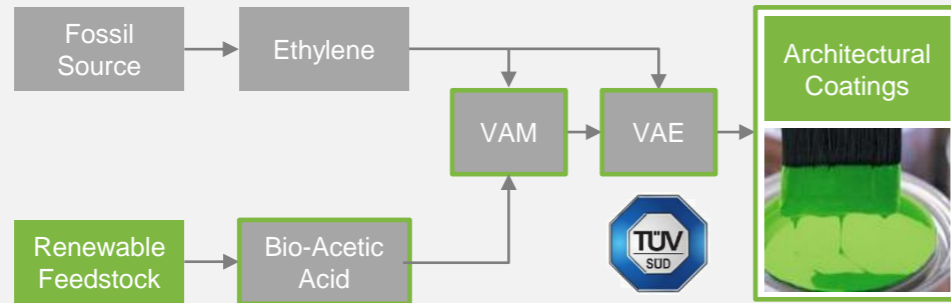
- ▶ VINNAPAS® DPP enables thin bed mortars for Ceramic Tile Adhesives (CTA)
- ▶ >60% less sand & cement is needed with thin bed CTA
- ▶ With the thin bed CTA, CO₂ emissions of up to 80% are avoided

*using the amount produced by WACKER in 2017

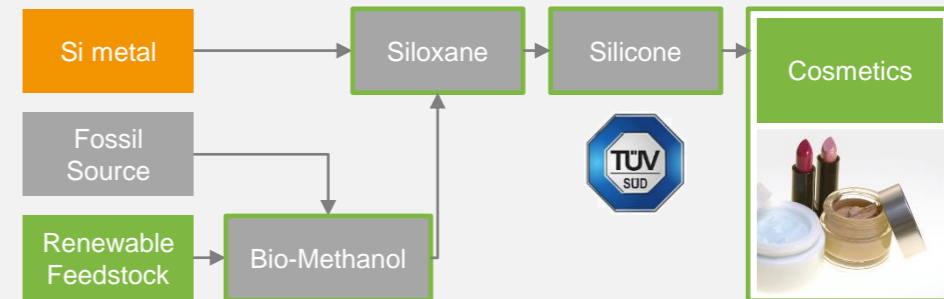
WACKER SUSTAINABILITY

Coatings and Cosmetics Based on Renewable Raws

Polymers with Bio-Acetic Acid



Silicones with Bio-Methanol



VINNAPAS® Eco

- ▶ Performance identical to non-biomass based
- ▶ No reformulation necessary
- ▶ Bio-acetic acid feedstock: cellulose, no competition to food
- ▶ Renewable content available at 60% and 100% based on solids

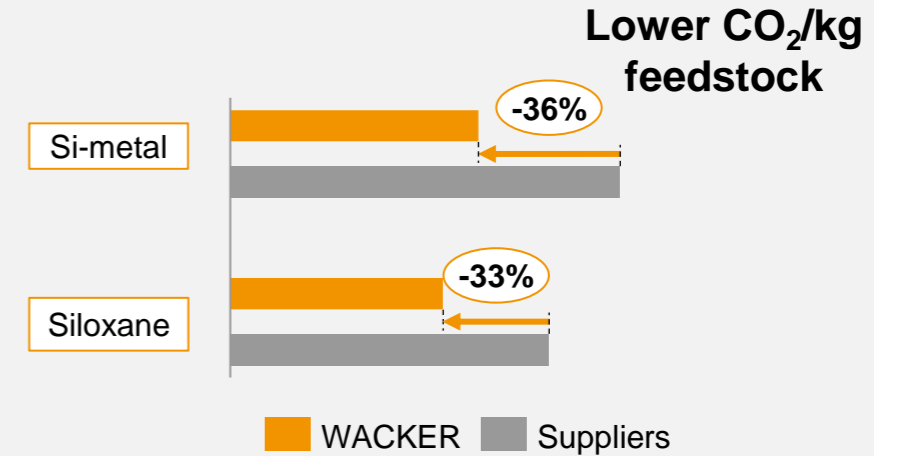
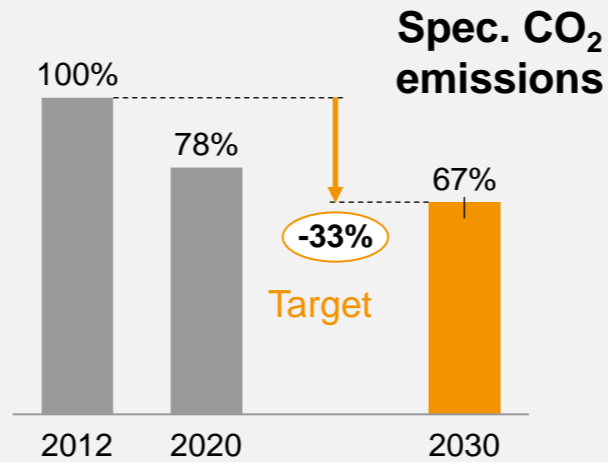
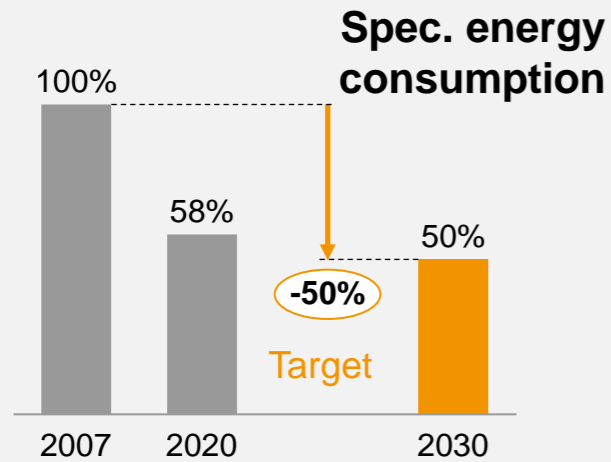
BELSIL® Eco

- ▶ Same properties as fossil-based products
- ▶ Drop-in-solution for customers
- ▶ Bio-methanol feedstock: grass, straw, sugar beets
- ▶ 100% fossil free cosmetic products

WACKER SUSTAINABILITY

Reducing Emissions and Improving Process Efficiency

WACKER Upstream with Benchmark Cost and Sustainability



Continuous Improvement in Efficiency and Emissions

Track Record

- ▶ WOS* 1.0-3.0 – Specific targets & Six Sigma
- ▶ POLYSILICON: Benchmark quality and significantly lower CO₂/kg than competitors

Current Measures

- ▶ WOS 4.0 – Cost road maps and Digitalization
- ▶ Process stability and optimization
- ▶ Energy efficiency

Future Measures

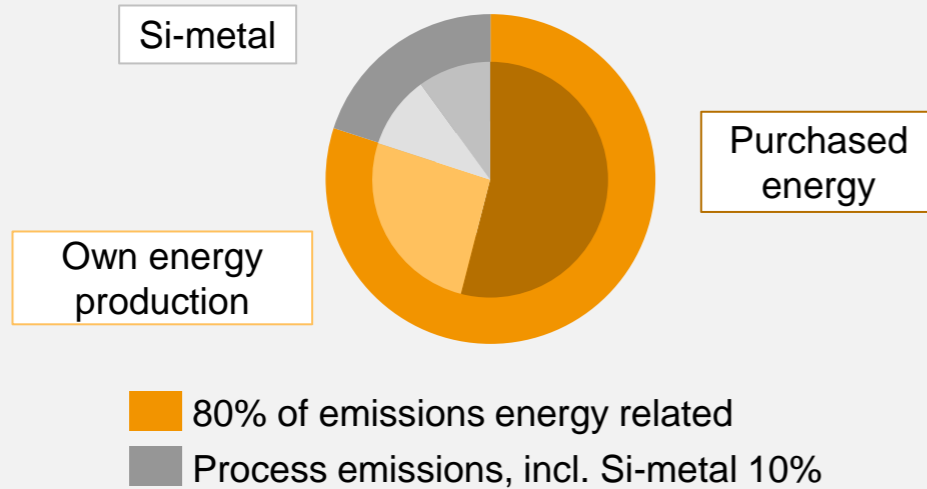
- ▶ Carbon capture
- ▶ Low-emission Si-metal
- ▶ Fossil-free steam generation
- ▶ H₂ economy: Power-to-Chemicals

*WOS = WACKER Operating System

WACKER SUSTAINABILITY

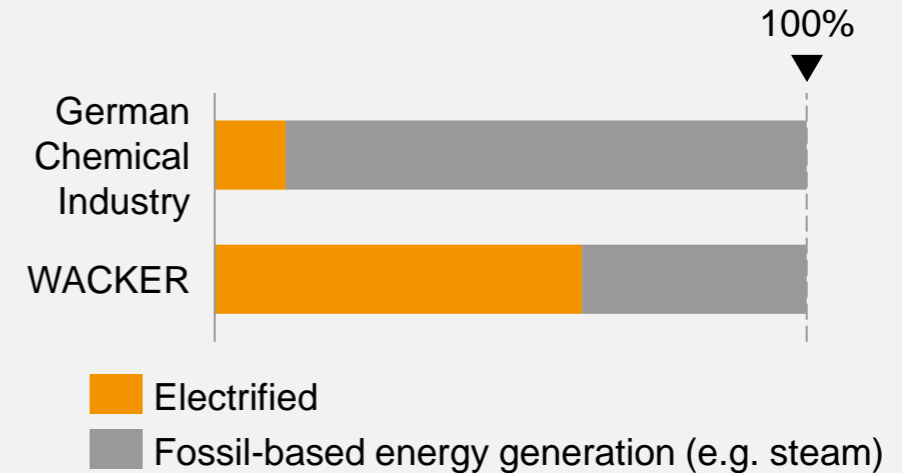
High Electrification Enables the Path to Carbon Neutrality

CO₂ Footprint Scope I+II



- ▶ Scope I emissions (ETS) of ~1m tons p.a. rise primarily from CHP¹ and process emissions
- ▶ Own energy production with about 20% less CO₂ emissions than overall German grid mix
- ▶ Scope II emissions are set to decrease as the energy transition in Germany continues

Very High Level of Electrification



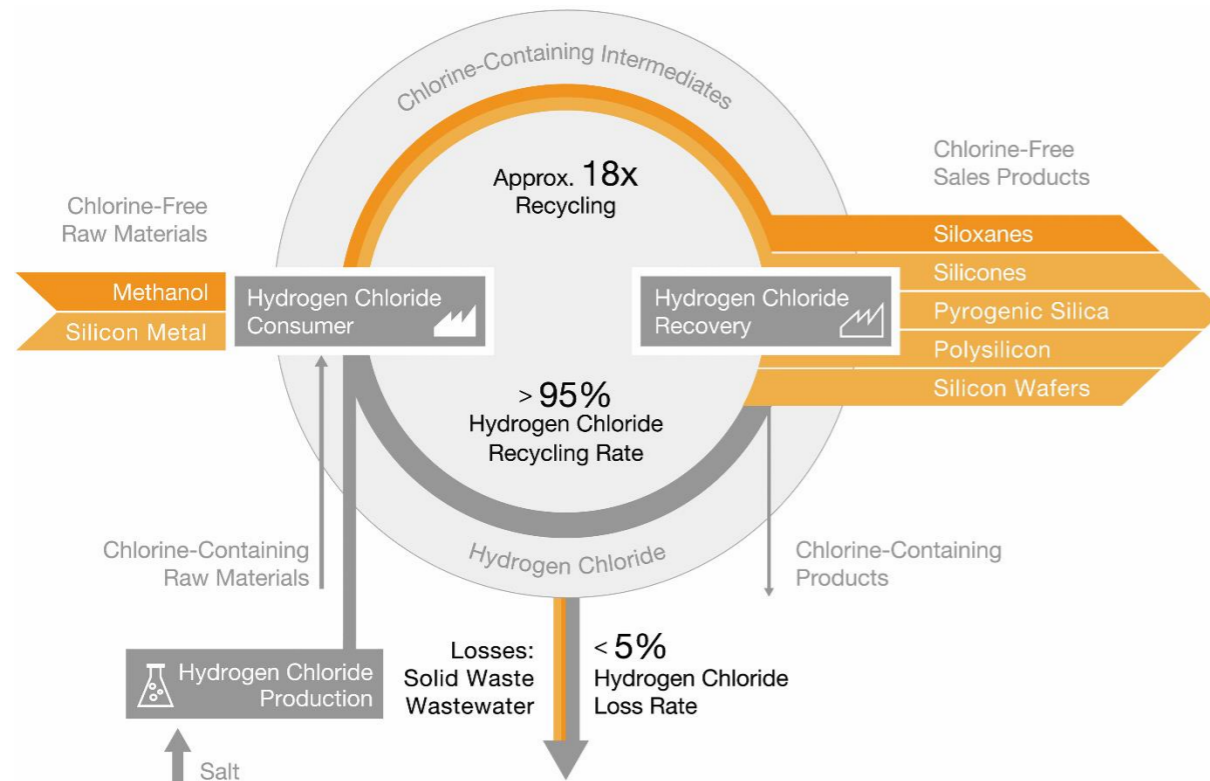
- ▶ WACKER is in an outstanding position to become one of the first chemical companies in Germany to achieve carbon-neutral production
- ▶ Fossil-free steam generation technically possible

1) CHP = Combined Heat and Power Plants

WACKER SUSTAINABILITY

Integrated Production Helps Avoid CO₂ Emissions

Hydrogen Chloride System



Very High Recycling Rates

- ▶ Integrated production at Burghausen prevents about 1 million metric tons of CO₂eq¹ emissions annually

Closed Loops Reduce Waste

- ▶ Byproducts and waste heat are fed back into production via highly complex material and energy loops



¹⁾ CO₂eq=CO₂ equivalent

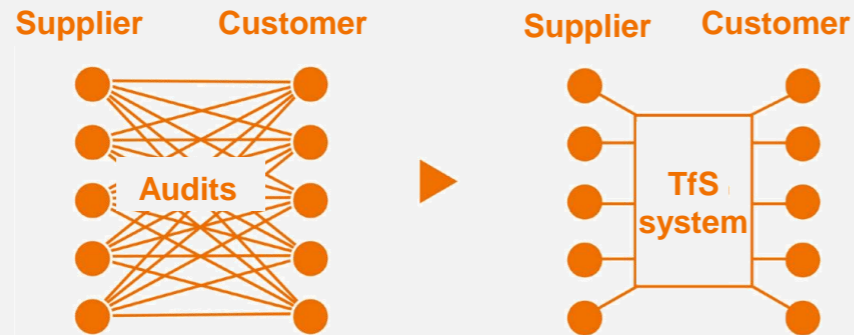
WACKER SUSTAINABILITY

Striving for a More Sustainable Value Chain

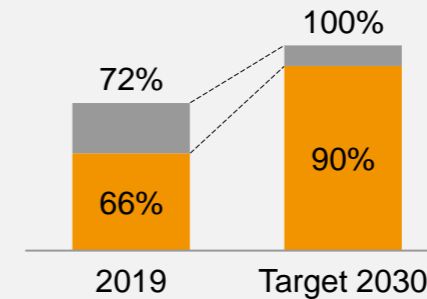


90% of Key Suppliers Will Have Positive Sustainability by 2030

**TfS System:
One Audit is an Audit for All**



Key Supplier Assessments



■ % of suppliers with positive sustainability contribution

WACKER is a Leader in Sustainable Procurement

TfS

- ▶ Together for Sustainability, a standardized, global program
- ▶ Supplier evaluations shared between members
- ▶ 14,000 suppliers audited

WACKER

- ▶ Target: 90% of key suppliers with positive sustainability contribution by 2030

Ecovadis

- ▶ Platinum: WACKER ranked top 1% of companies in the basic chemicals sector in 2020

WACKER SUSTAINABILITY

Extending Our Sustainability Aspirations Beyond 2030

Our Vision for 2050

Value Up	<ul style="list-style-type: none">▶ Sustainable solutions▶ 100% of products with neutral or positive sustainability contribution
Footprint Down	<ul style="list-style-type: none">▶ WACKER is the industry benchmark▶ Continued improvements to CO₂ neutrality
Collaboration Beyond	<ul style="list-style-type: none">▶ 100% of suppliers with positive sustainability contribution





CREATING TOMORROW'S SOLUTIONS



WACKER – FINANCIALS

WACKER FINANCIALS

Group Key Figures

In €m / %	2020	2019	2018	2017
Sales	4,692	4,928	4,979	4,924
EBITDA	666	783	930	1,014
EBITDA margin	14.2%	15.9%	18.7%	20.6%
EBIT	263	-536	390	424
EBIT margin	5.6%	-10.9%	7.8%	8.6%
Net income for the period	202	-630	260	885
- From continuing operations	202	-630	260	250
- From discontinued operations	-	-	-	635
Net cash flow	698	184	86	358
Return on capital employed	5.6%	-11.3%	5.9%	7.5%
EPS in €	3.81	-12.94	4.95	17.45
Dividend per share	2.00	0.50	2.50	4.50
Dividend yield	2.9%	0.7%	2.1%	4.0%

WACKER FINANCIALS

Segment Key Figures

In €m / %	2020			2019			2018			2017		
	SALES	EBITDA	EBITDA MARGIN	SALES	EBITDA	EBITDA MARGIN	SALES	EBITDA	EBITDA MARGIN	SALES	EBITDA	EBITDA MARGIN
Chemicals	3,789	696	18.4%	4,011	704	17.5%	4,009	788	19.7%	3,651	688	18.8%
SILICONES	2,244	388	17.3%	2,453	479	19.5%	2,500	617	24.7%	2,200	445	20.2%
POLYMERS	1,299	271	20.8%	1,315	194	14.8%	1,282	148	11.5%	1,245	206	16.5%
BIOSOLUTIONS	246	38	15.5%	243	31	12.8%	227	24	10.4%	206	38	18.2%
POLYSILICON	792	5	0.6%	780	57 ²	7.3%	824	72	8.8%	1,124	290	25.8%
Others	128	-35	-27.6%	158	22	14.2%	171	71	41.4%	169	33	19.3%
Consolidation	-17	1	-3.0%	-21	0	-1.4%	-24	-1	-	-20	3	-
WACKER Group	4,692	666¹	14.2%	4,928	783²	15.9%	4,979	930	18.7%	4,924	1,014	20.6%

¹⁾ incl. "Shape the future" restructuring provision of ~€50m ²⁾ incl. insurance compensation of €112.5m from 2017 incident in Charleston

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The logo for Wacker, consisting of the word "WACKER" in a bold, black, sans-serif font, enclosed within a black rectangular border.

WACKER

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