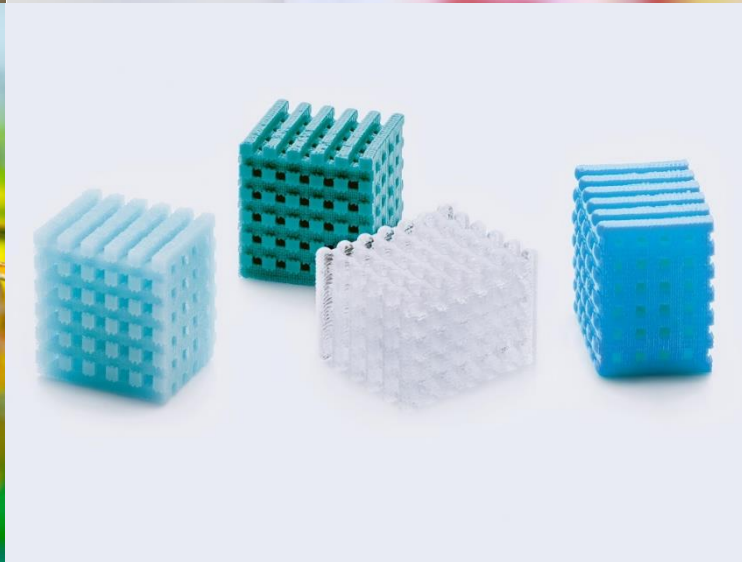


**WACKER**



CREATING TOMORROW'S SOLUTIONS



## 2017 Capital Market Day – Wacker Chemie AG Managing for Growth and Cash

London, October 4, 2017

Rudolf Staudigl (CEO), Christian Hartel, Auguste Willems,  
Tobias Ohler (CFO)

# Welcome to WACKER's 9th Capital Market Day 2017

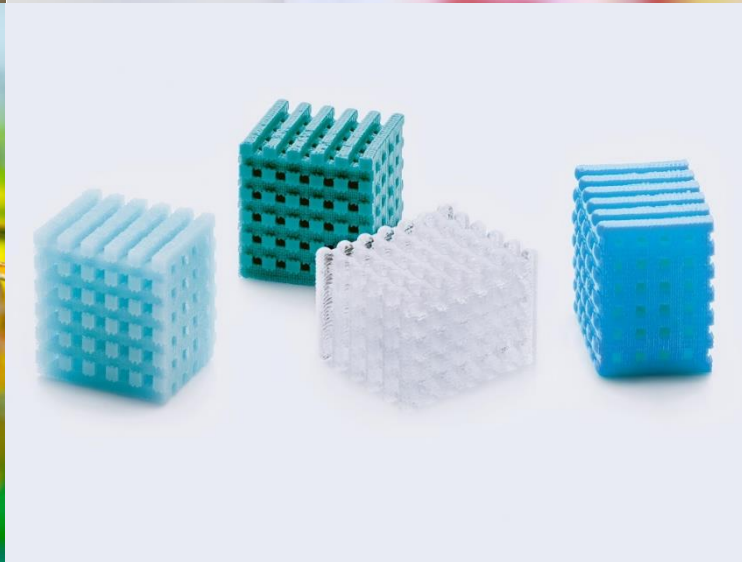
<b>Agenda</b>	<b>Wednesday, October 4, 2017</b>	<b>Exec. Board Member</b>
13:00	Strategy, POLYSILICON	Rudolf Staudigl (CEO)
13:45	POLYMERS	Christian Hartel
<i>14:30</i>	<i>Coffee Break</i>	
15:00	SILICONES, BIOSOLUTIONS	Auguste Willems
15:45	Financial Performance	Tobias Ohler (CFO)
16:30	Summary	Rudolf Staudigl (CEO)



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## 2017 Capital Market Day – Wacker Chemie AG Managing for Growth and Cash

Strategy, POLYSILICON  
Rudolf Staudigl (CEO)

# Targets for the Next Years Confirmed – Growth and Cash

---

- 1 Extend Leverage Phase
- 2 Continue to Grow Above Chemical Production
- 3 Focus on Sustainability
- 4 Sustain Attractive Margins Throughout the Cycle
- 5 Generate Cash

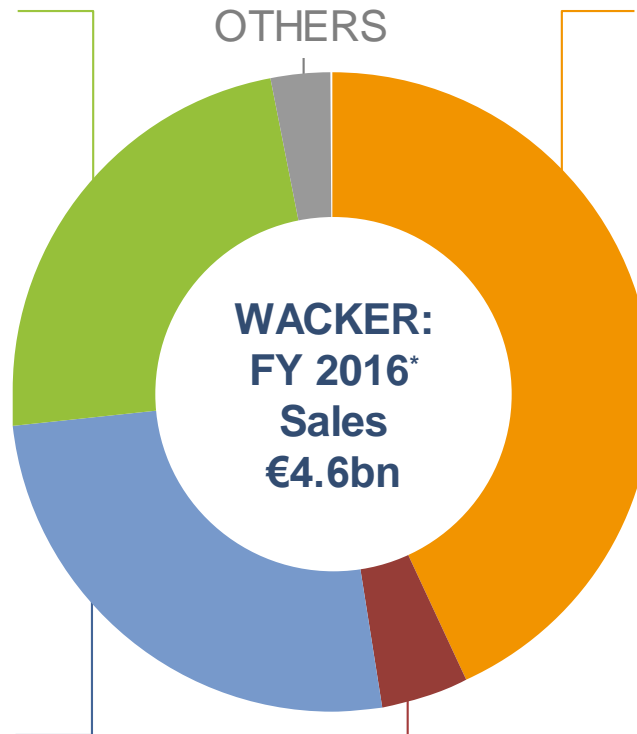
# Our Business Portfolio – Shaped for Future Growth

## WACKER POLYSILICON

- ▶ Merchant market leader
- ▶ Cost and quality leader
- ▶ Enabling industry growth

## WACKER POLYMERS

- ▶ No. 1 in VAE dispersions
- ▶ No. 1 in dispersible polymer powders
- ▶ Global footprint



## WACKER SILICONES

- ▶ No. 2 with global footprint
- ▶ Leading positions in key growth segments
- ▶ Combining cost leadership with specialty orientation

## WACKER BIOSOLUTIONS

- ▶ High potential for future development

\*External Sales in %, adjusted according to IFRS 5

# Global Asset Base in Place – A Foundation for Growth

## WACKER – Largest Production Sites



# Capital Market Day 2017 – Topics Covered

**1** Extend Leverage Phase

**2** Continue to Grow Above Chemical Production

**3** Focus on Sustainability

**4** Sustain Attractive Margins Through Economic Cycle

**5** Generate Cash



**POLYSILICON**

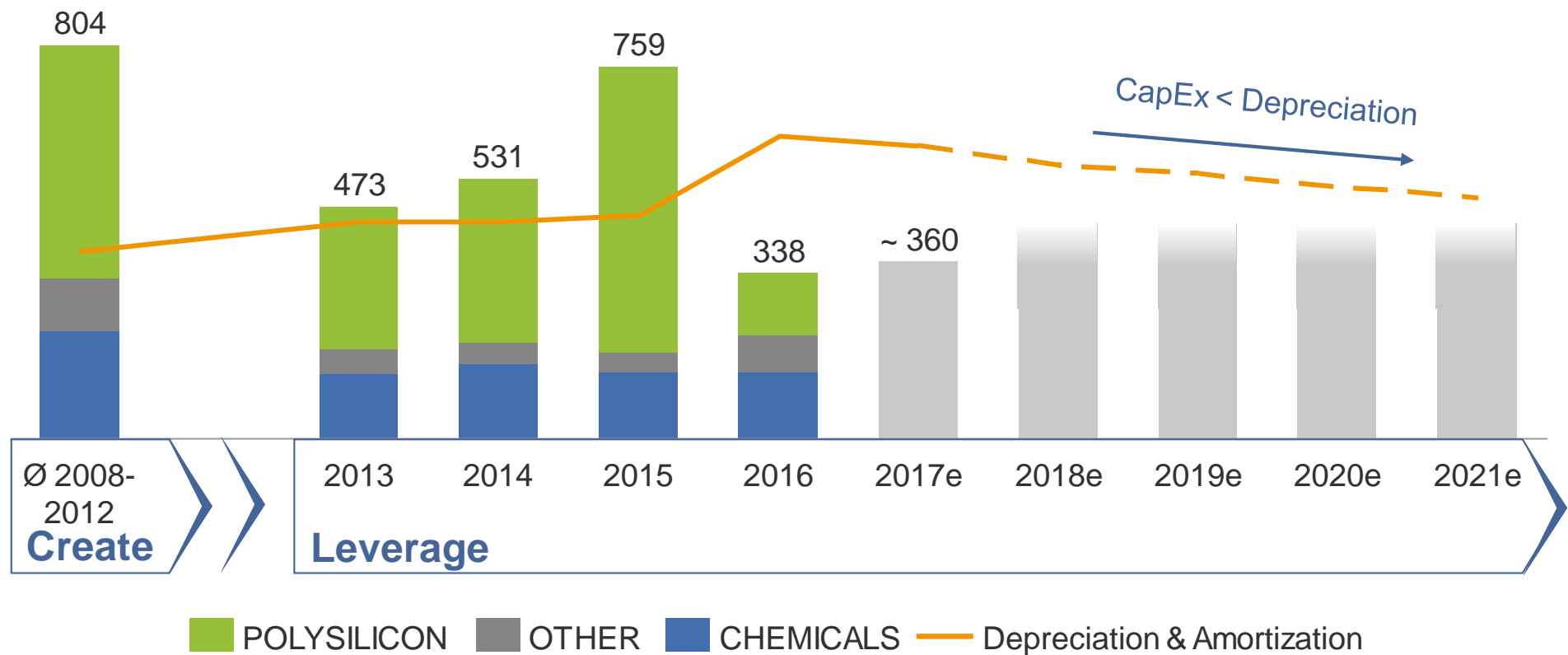


**INNOVATION**



# Overall CapEx Significantly Below Depreciation

## CapEx vs. Depreciation Expense WACKER Group w/o Siltronic (€m)

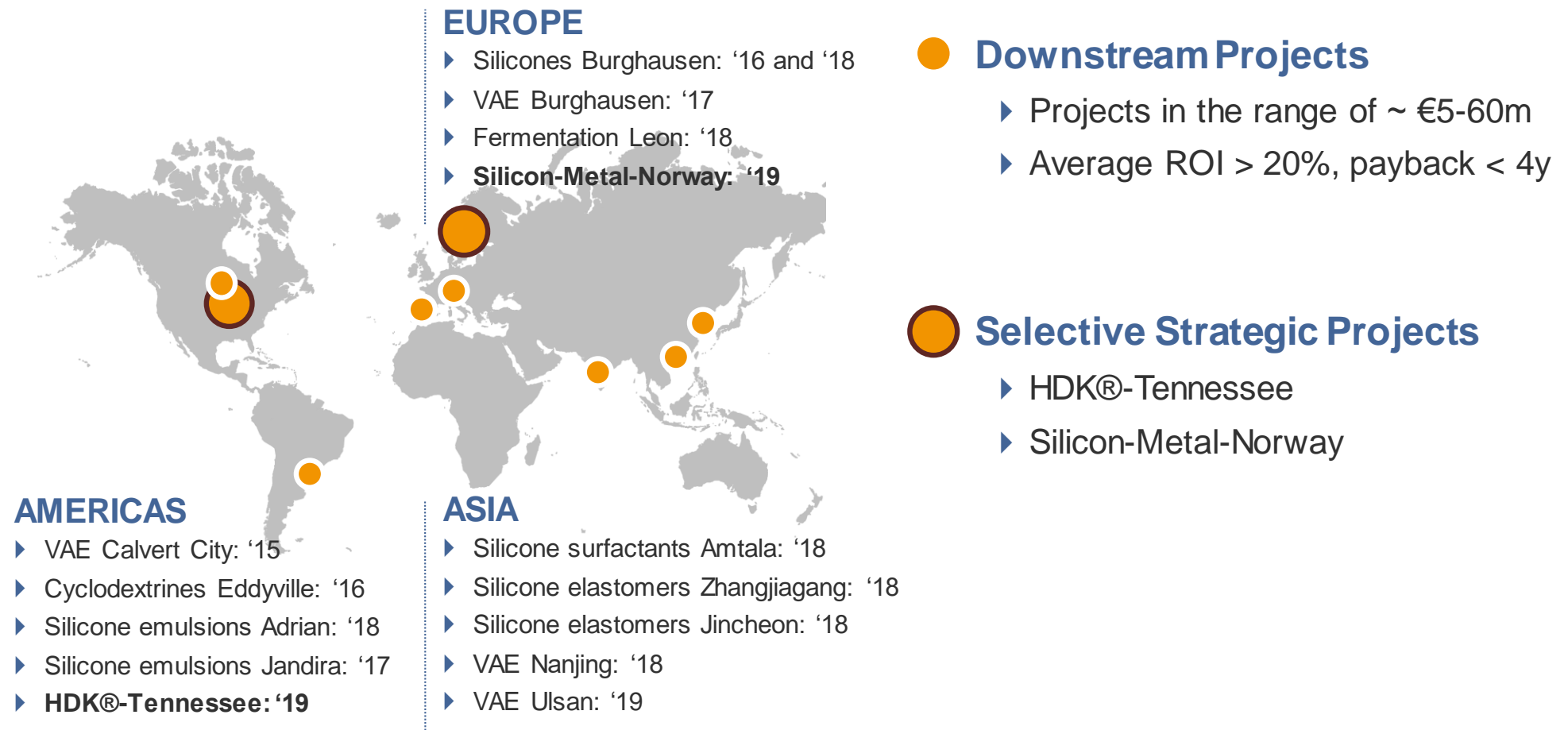


▶ Investment focus on CHEMICALS



# Chemical Growth with a Strong Downstream CapEx-Pipeline

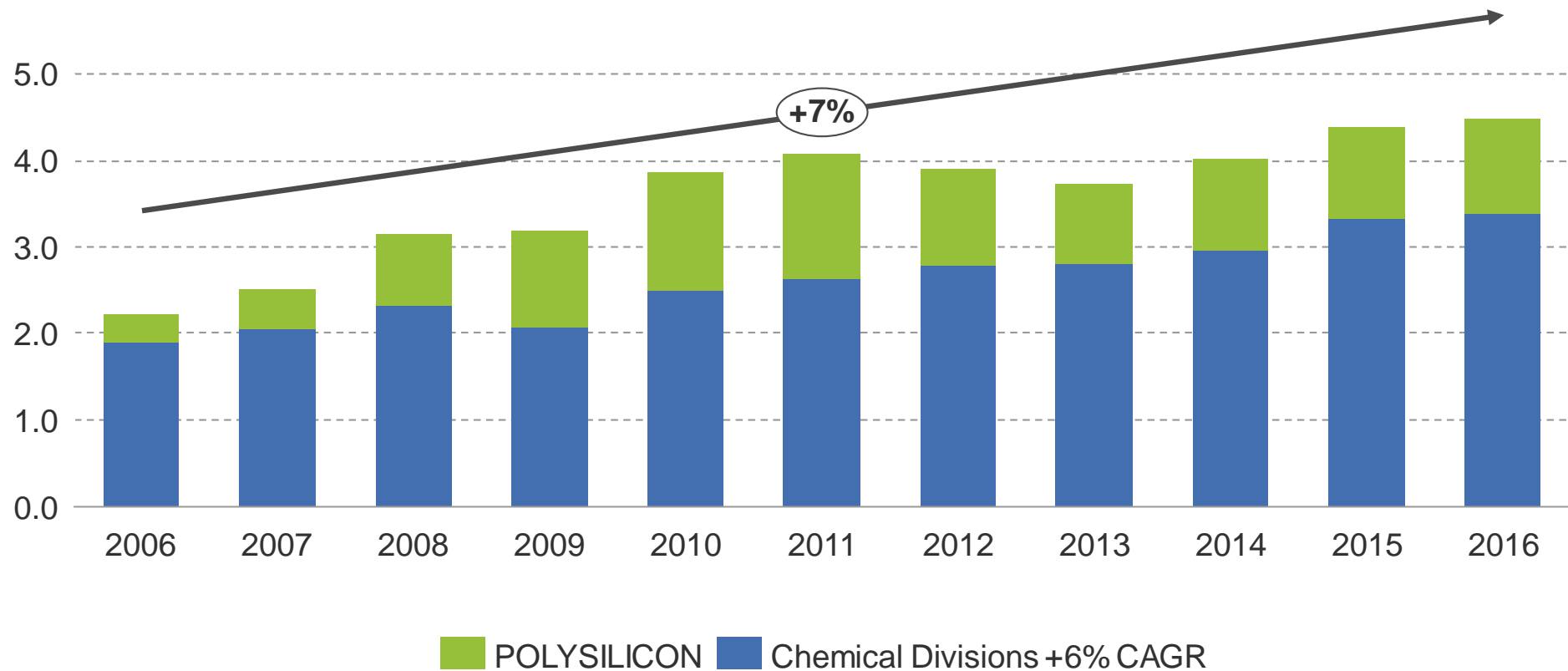
## CapEx Landscape – Exemplary projects and GFO\* dates



\*GFO = Good for Order

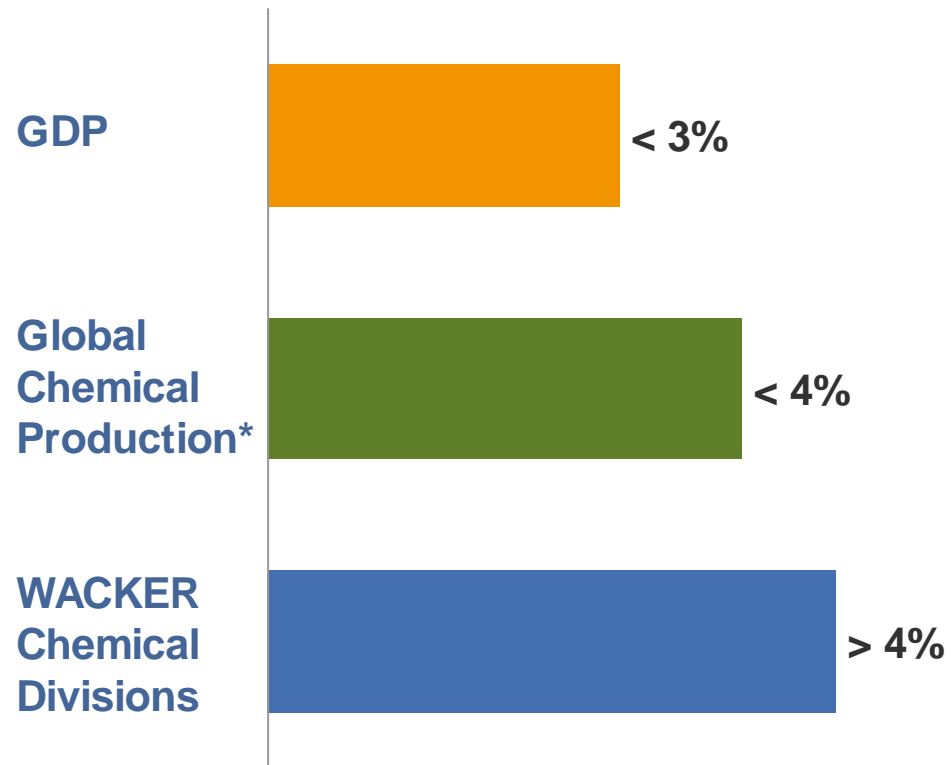
# WACKER Historically with Solid Growth Driven by Chemicals

## Sales CHEMICALS and POLYSILICON (€bn)

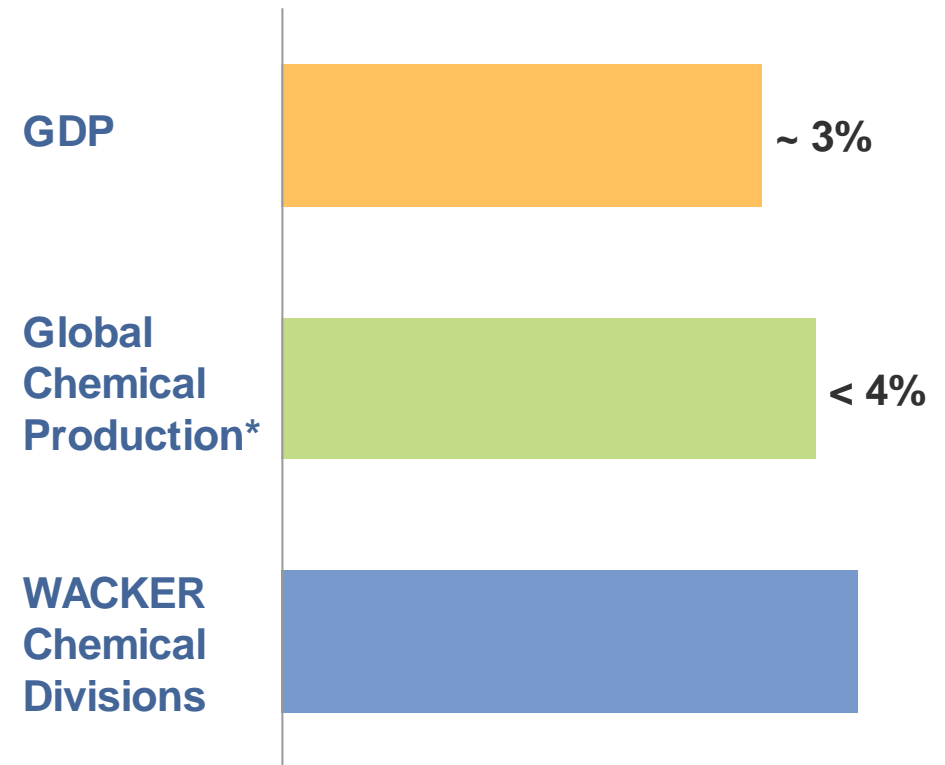


# In Line with Goal Continue to Grow Above Chemical Production

## CAGR 2011-2016



## Forecast CAGR 2016-2021



\*without Pharma; Sources: IMF, CEFIC, VCI, American Chemistry Council, Chemdata International

# WACKER POLYSILICON

## Generate Cash Flow from Strong Assets

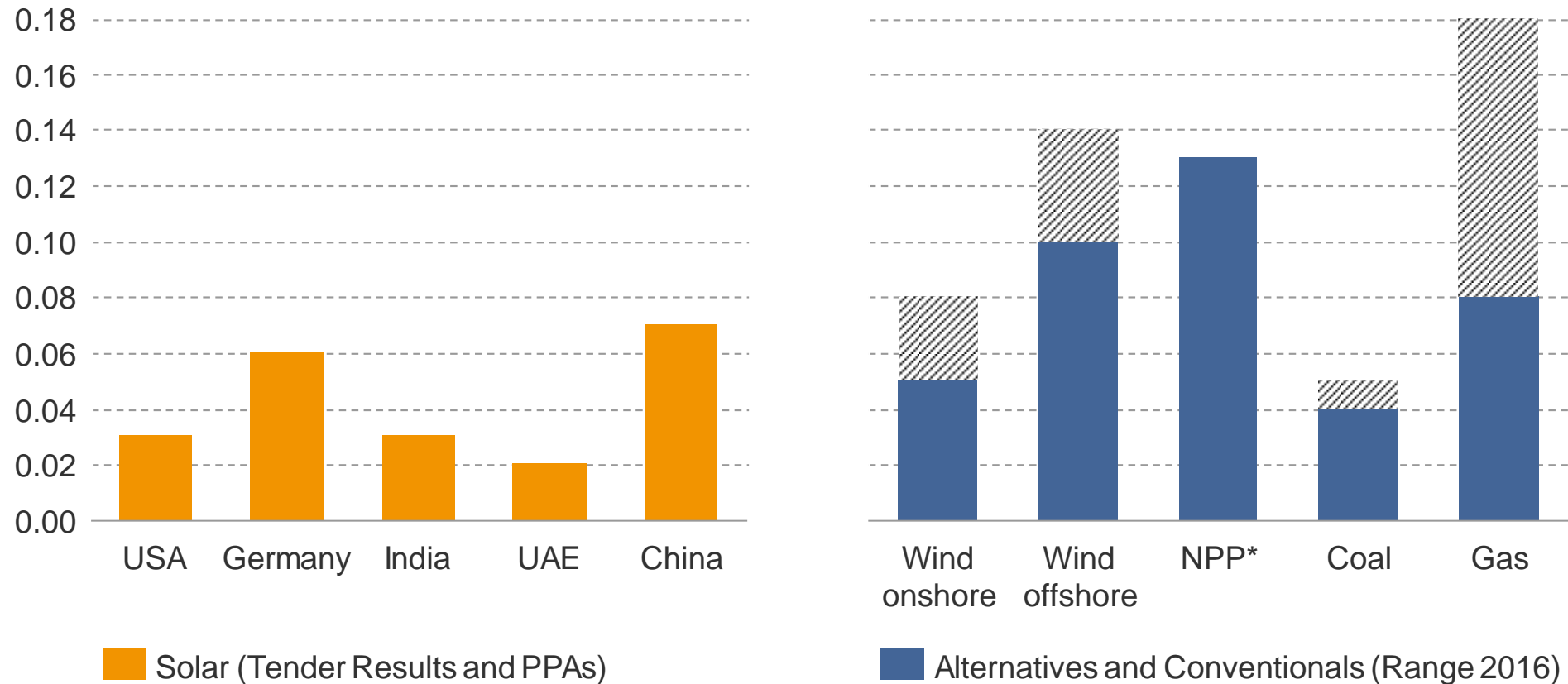
**Focus on cost  
and quality**



**Leveraging our  
assets**

# Competitive PV Power Rates in Sunny Regions Fuel Growth

## Power Rates (€/kWh)

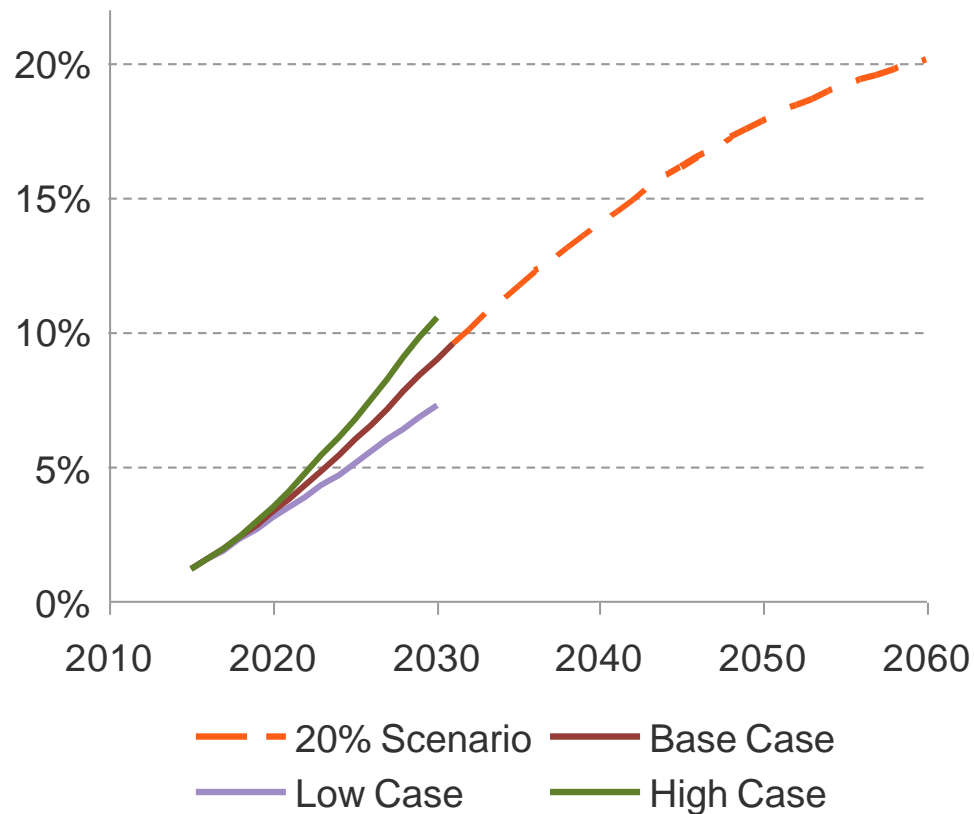


\*Nuclear Power Plant Hinkley Point C UK; Source: SeeNews Renewables, Industry Announcements



# PV Could Cover at Least 20% of Global Electricity Demand

## PV Share of Electricity Demand



## Growth Drivers

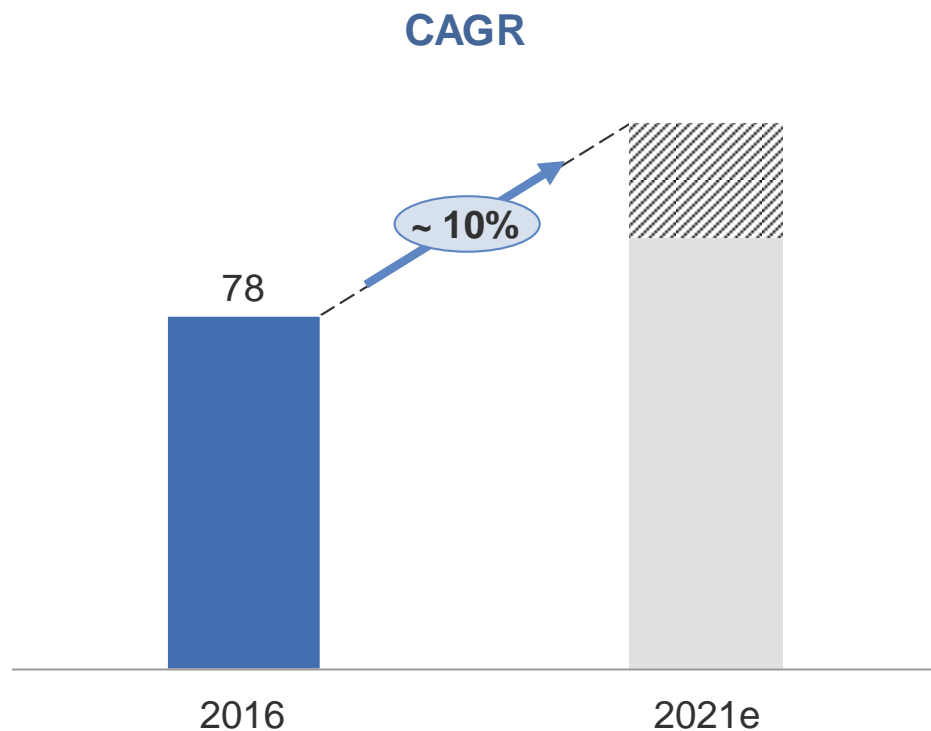
- ▶ Competitive costs and further potential
- ▶ All relevant market segments addressable
- ▶ Abundant raw material supply (e.g. silicon)
- ▶ Easy to implement
- ▶ Declining costs of electricity storage

▶ **Solar is by far the largest energy source available**

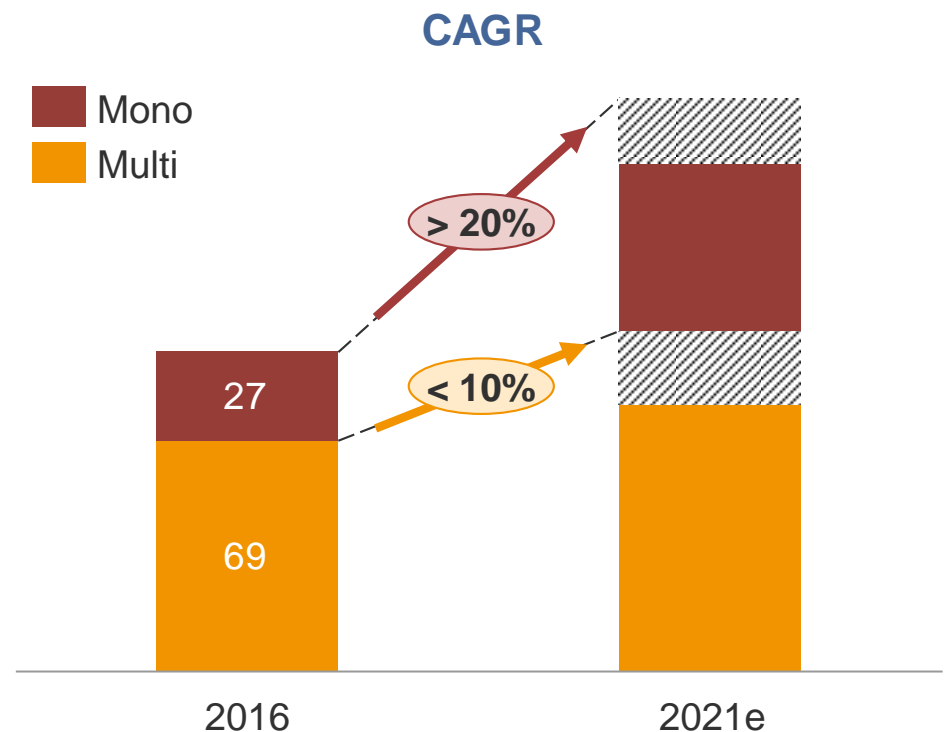
Source: IEA, BNEF, Market Studies, WACKER Estimate

# Mono-Based PV is Growing Faster than Multi-Based PV

## Estimated PV End Market Growth (GW)



## Estimated Development of Solar Wafer Production Capacities (GW)



▶ ~ 2% higher absolute efficiency for mono cells drives growth

Source: WACKER Estimate

# WACKER is the Long Time Leader in Quality and Technology

## Technical Benchmarks for Most Important Impurities

	Dopants	Carbon	Iron
WACKER	Green	Green	Green
Tier 1	Green	Green	Green
Tier 1	Yellow	Orange	Green
Tier 1	Yellow	Green	Green
Tier 2	Yellow	Green	Green
Tier 2	Yellow	Green	Green
Tier 2	Orange	Green	Green
Tier 2	Yellow	Green	Green
Tier 2	Orange	Orange	Orange
Tier 2	Orange	Green	Green
Tier 2	Yellow	Green	Green
Tier 2	Orange	Orange	Light Orange
Tier 2 (FBR)	Orange	Orange	Orange

### WACKER POLYSILICON

- ▶ Technology: industry leader
- ▶ Quality: industry leader
- ▶ Fast learning curve
- ▶ Strongest assets
- ▶ Reliable

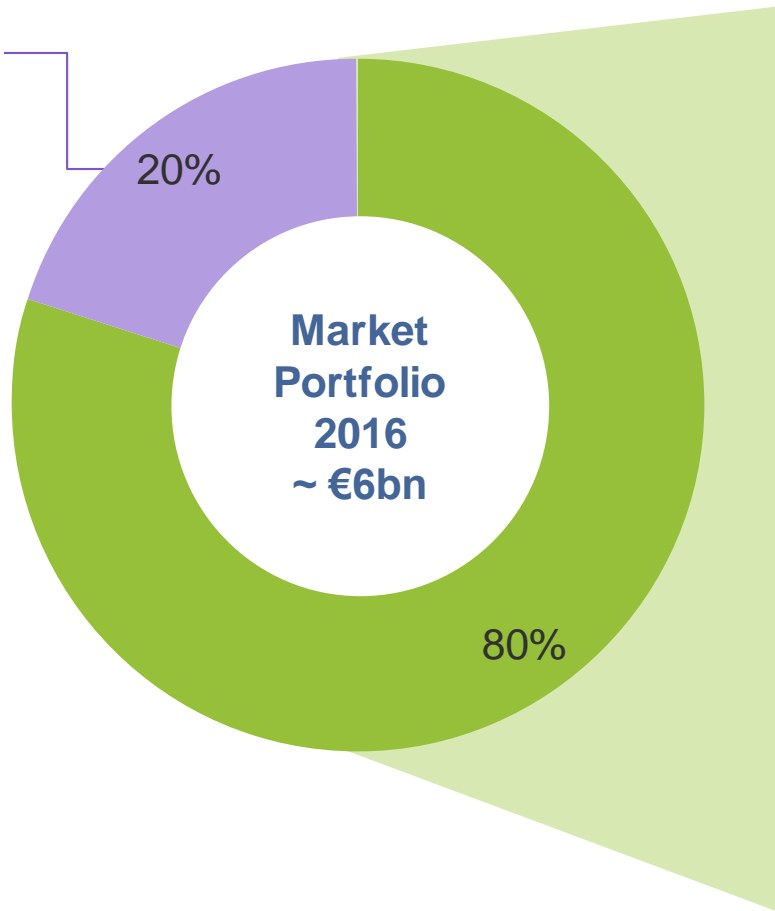
	Dopants	Carbon	Iron
Green	< 20 ppt	< 20 ppba	< 500 ppt
Yellow	< 300 ppt	< 50 ppba	< 5,000 ppt
Orange	> 300 ppt	> 50 ppba	> 5,000 ppt

Source: WACKER Estimate 2017

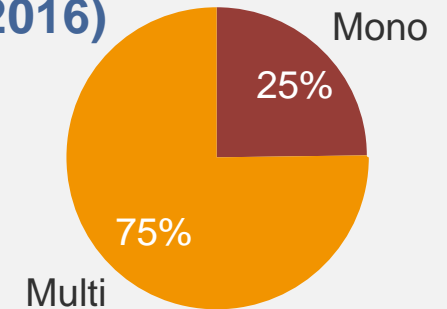
# WACKER Quality Reflected in Overproportional Mono Share

## Polysilicon Market Structure by Application Segment

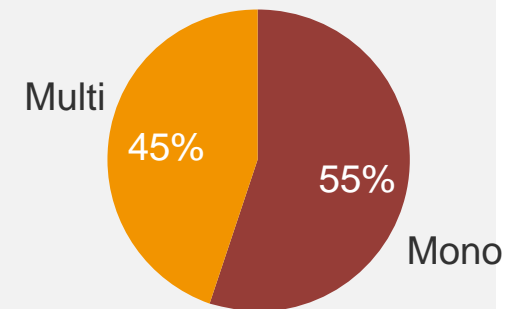
### Semiconductor



### Solar Market Split (2016)



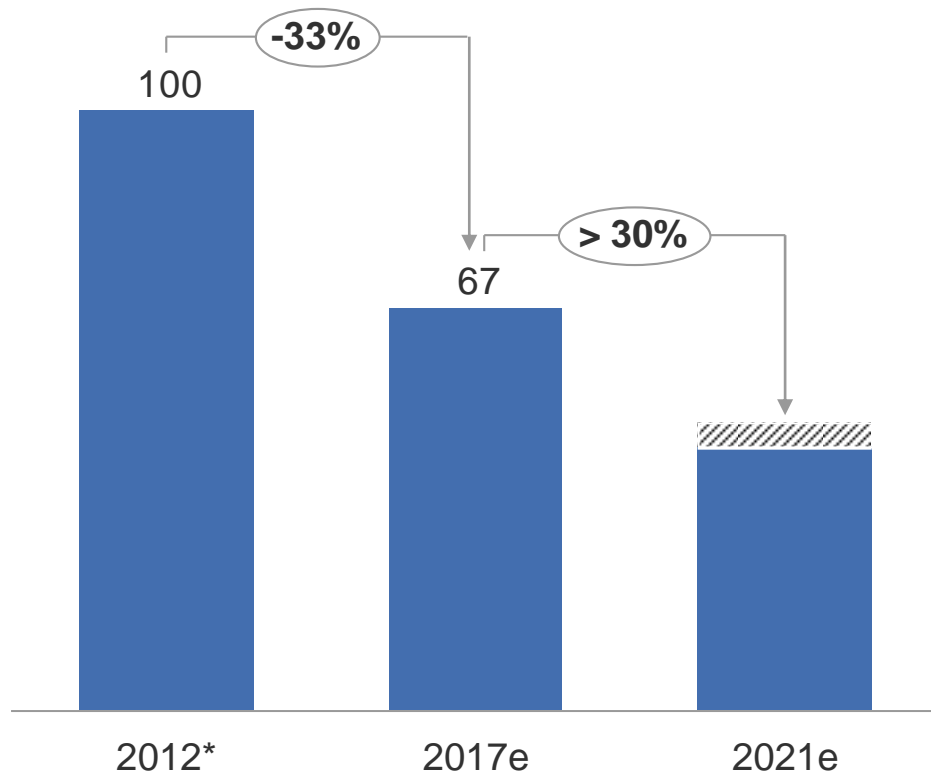
### WACKER Split (2016)



Source: WACKER Estimate; Semiconductor: Gartner

# Continued Cost Leadership in High Quality Polysilicon

## Cash Cost (Index = 100)



## Aggressive Cost Reduction Targets

- ▶ Continuous cost reduction at all sites
- ▶ Reducing energy consumption
- ▶ Optimizing raw materials mix and resource efficiency
- ▶ Improving labor productivity
- ▶ Higher volumes by process optimization

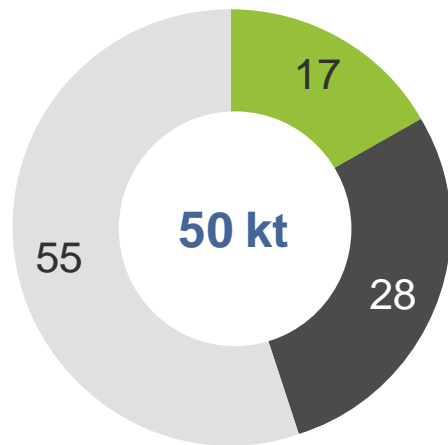
\*without Tennessee



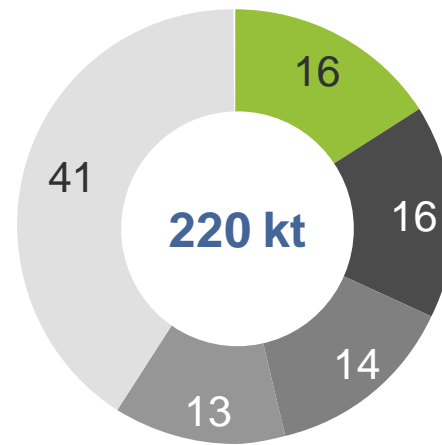
# WACKER – A Long Term Market Leader in a Dynamic Landscape

## Market Share in %

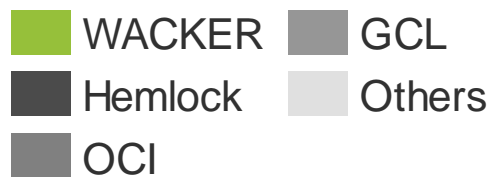
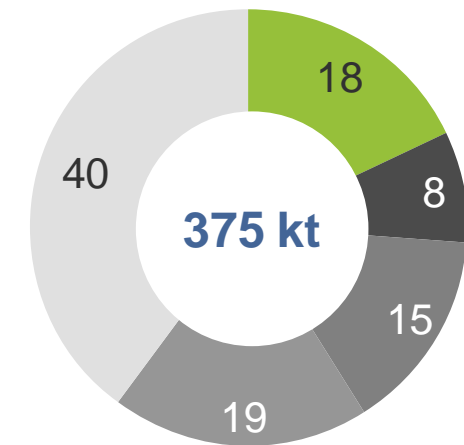
2006



2011



2016



Source: Industry announcements; WACKER Estimate

# WACKER POLYSILICON

## Generate Cash Flow from Strong Assets

**Focus on cost  
and quality**



**Leveraging our  
assets**

# INNOVATION

## Innovation is Key to WACKER's Business Strategy

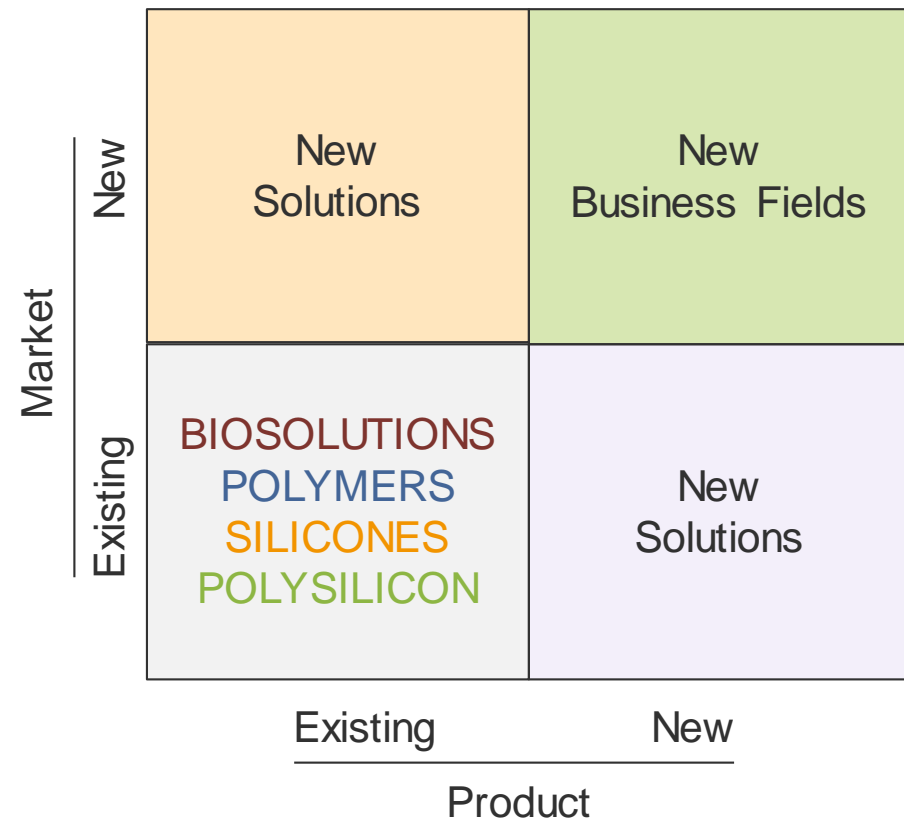
### Key Facts

- ▶ 3.2% of sales on R&D (2016)
- ▶ WACKER holds around 4,100 active patents and about 1,800 pending patent applications
- ▶ Annually, the Group has applied for 90-100 inventions over the last 5 years



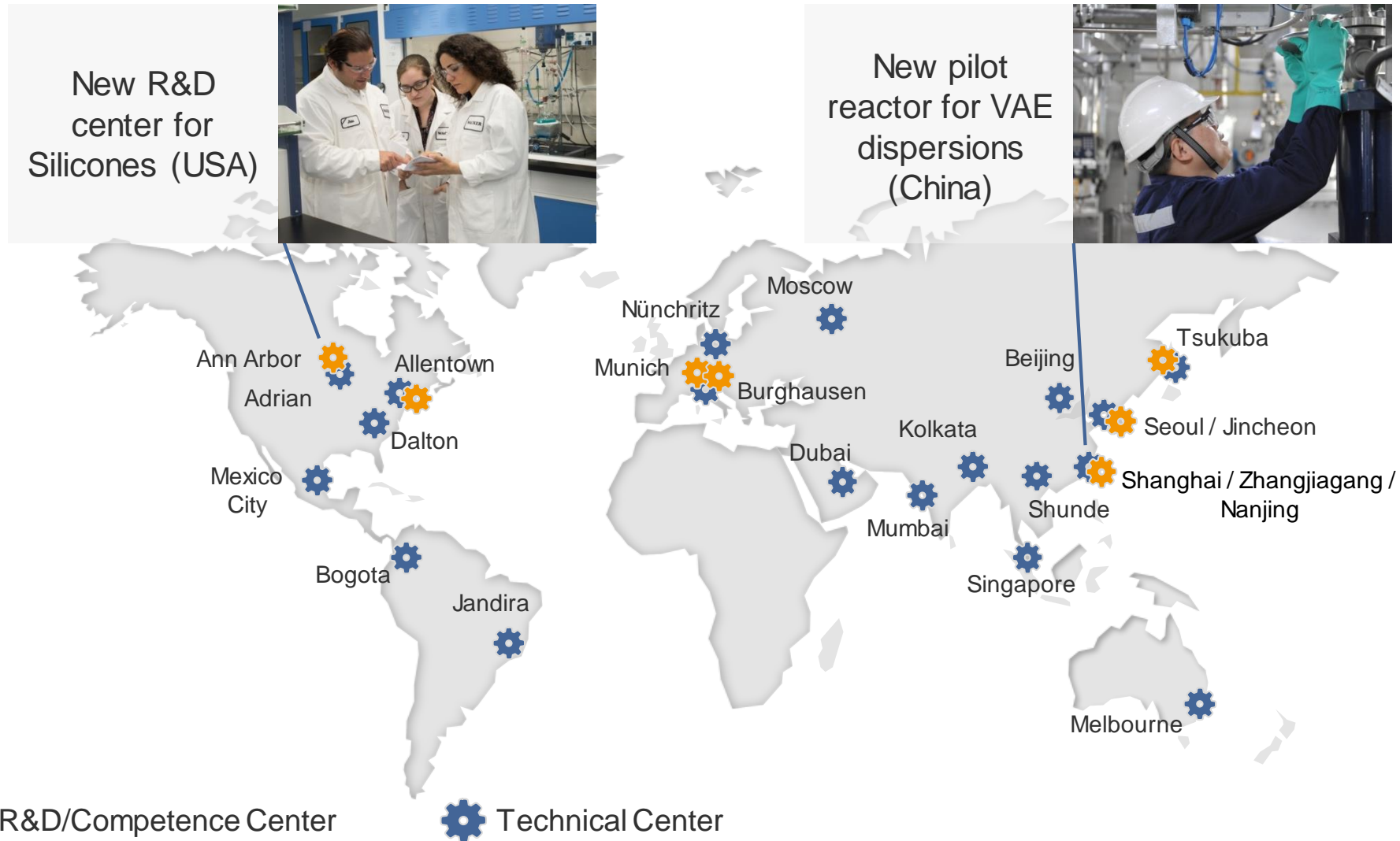
WACKER Consortium, Munich

### Our Systematic Approach



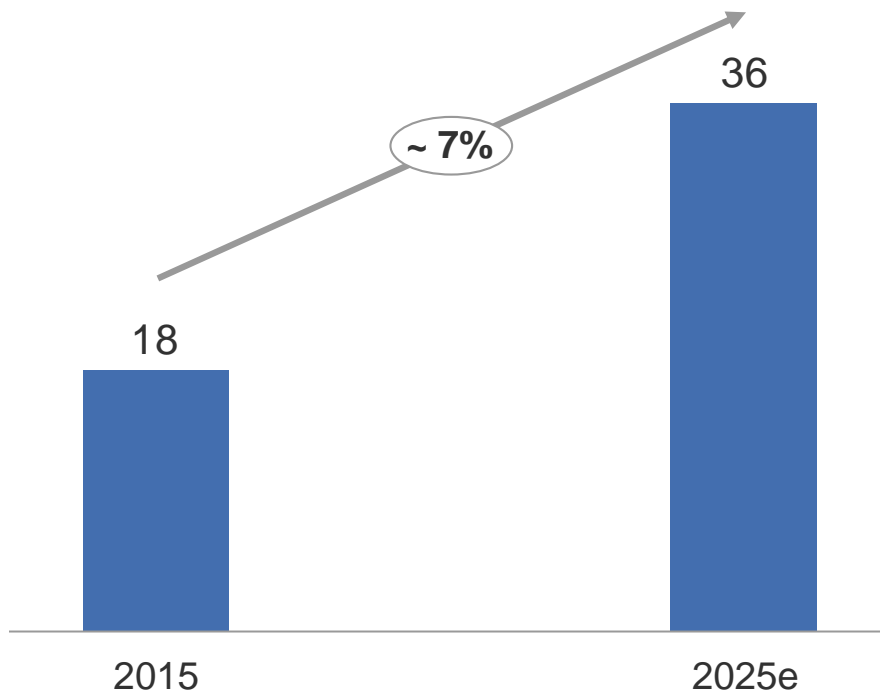
# INNOVATION

## Worldwide Capabilities for Innovation – Close to our Customers



## WACKER: Unique Silicon Know How for Future Growth Fields

### LIB\* Cell Market (\$bn)



### Silicon-Based Active Materials for LIB Anodes

- ▶ Anode materials account for ~ 7% of cell costs
- ▶ Products for diverse fields of applications in advanced development status
- ▶ Tests at leading cell manufacturers promising
- ▶ Market entrance scheduled for 2018/2019

▶ **Significant increase in energy density demonstrated in commercial cell format**

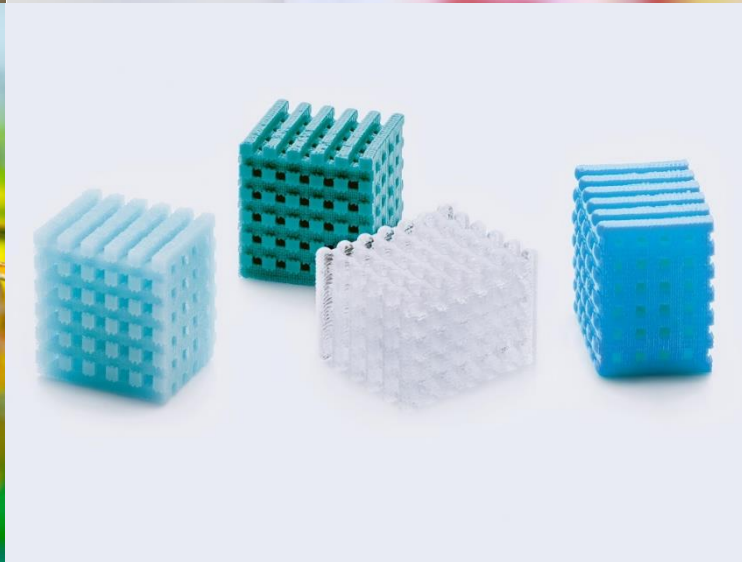
\*LIB = Lithium-Ion Battery; Source: Avicenne Energy: The Rechargeable Battery Market and Main Trends 2015/2016-2025, 2016/2017



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## 2017 Capital Market Day – Wacker Chemie AG Managing for Growth and Cash

POLYMERS

Christian Hartel, Member of the Executive Board

# Capital Market Day 2017 – Topics Covered

**1** Extend Leverage Phase

**2** Continue to Grow Above  
Chemical Production

**3** Focus on Sustainability

**4** Sustain Attractive Margins  
Through Economic Cycle

**5** Generate Cash



**Customer Focus**



**Operational  
Excellence**



**POLYMERS**

# CUSTOMER FOCUS

## Close to our Customers with Strong Technical Support

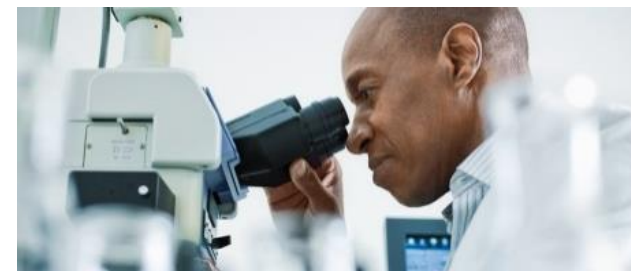
### Our commitment

- ▶ WACKER products and solutions are our customer's first choice

### Value proposition

- ▶ We offer customized solutions to create added value for our customers

### 22 Technical Centers



# CUSTOMER FOCUS

## WACKER ACADEMY – A Global Network for our Customers



### WACKER ACADEMY

- ▶ Customer & Distributor teach-in
- ▶ Mix between theory and practice
- ▶ Meeting room plus lab
- ▶ Direct customer interaction





# CUSTOMER FOCUS

## Strong Focus on our Customers' Needs – Around the Globe

New R&D center for Silicones

Supplier award from Mölnlycke Health Care

Fresenius Medical Care and Wacker Biotech produce antibody fragment with FOLDTEC®

Opening of International Training Center for Silicones in Japan

Unilever sustainable living plan award for Home Care in India

Sales Offices in Philippines and Myanmar

Co-branding with STC Silicones for localized products

Expansion of Singapore Technical Center for Food Applications

New Technical Center in Indonesia for Construction and Adhesives

# OPERATIONAL EXCELLENCE

## WACKER Operating System (WOS) with Focus on Productivity

### Continuous Improvements

#### Ambitious Goals

- ▶ Reduction of specific operating costs

#### Projects

- ▶ Clearly defined responsibilities and projects

#### Tools

- ▶ Use of state of the art tools

#### Employees

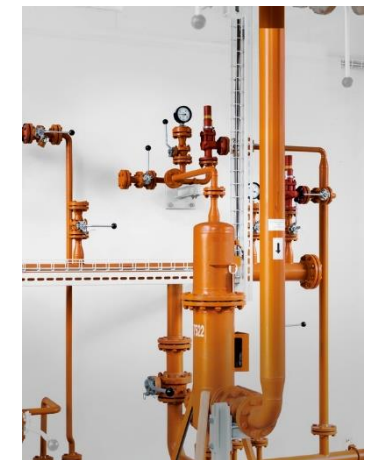
- ▶ Strong employee participation

### WACKER Operating System



**100 production facilities  
within WACKER globally**

**900 employees trained**

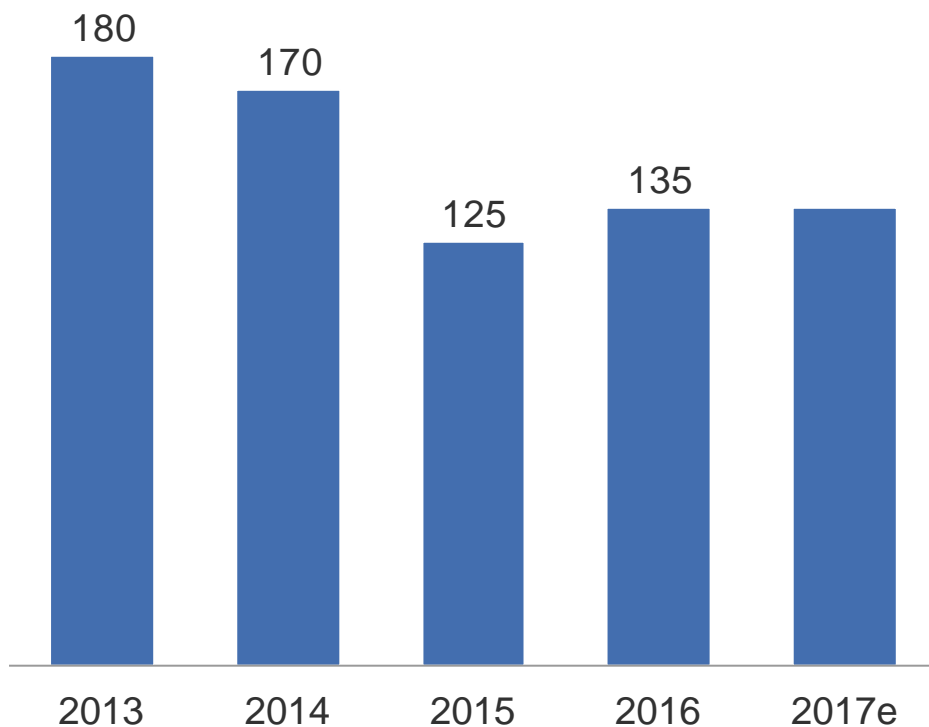


**500 measures and  
projects per year**

# OPERATIONAL EXCELLENCE

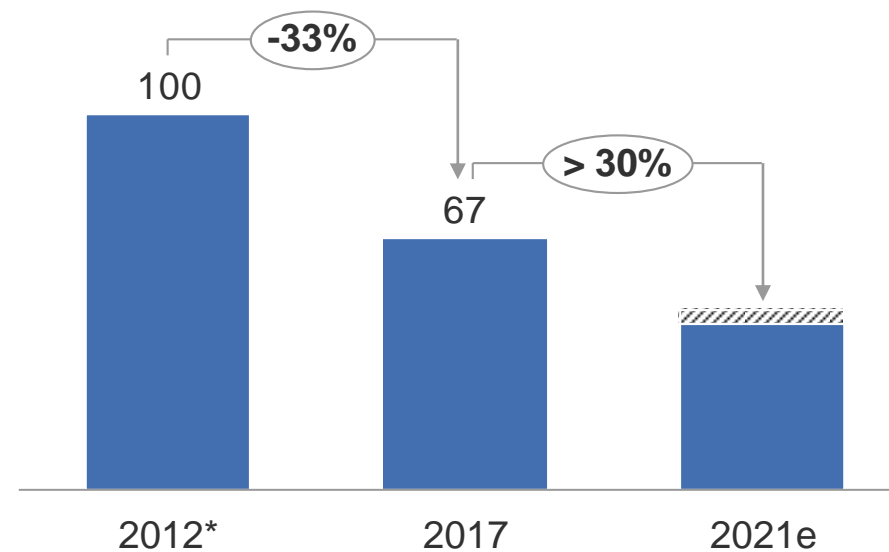
## WOS with Proven Track Record and Ambitious Goals

### Impact WACKER Operating System (€m)



### Cost Roadmap Example: Polysilicon Cash Cost

(Index = 100)

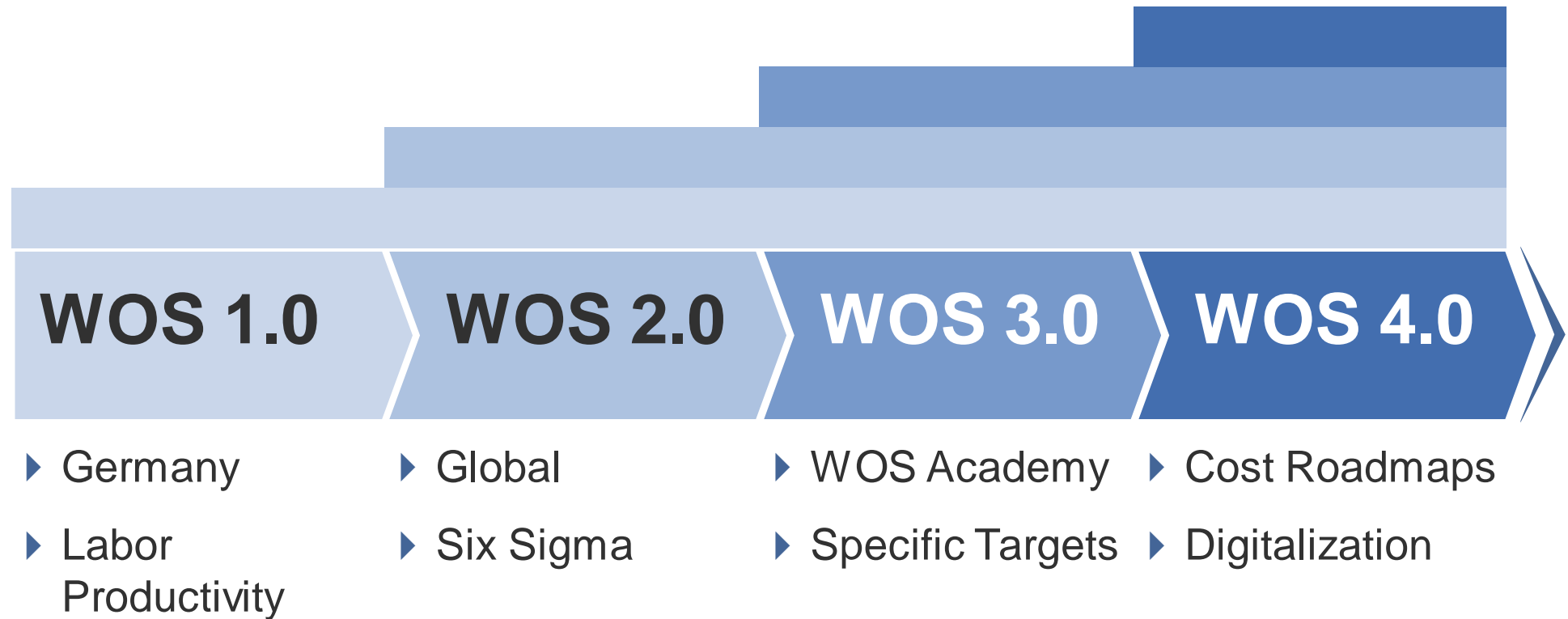


\*without Tennessee



# OPERATIONAL EXCELLENCE

## Evolution of WACKER Operating System



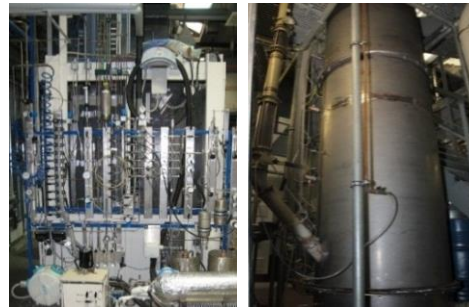
▶ A systematic approach, continuously extending the scope of activities

# OPERATIONAL EXCELLENCE

## Process Development with Essential Contribution

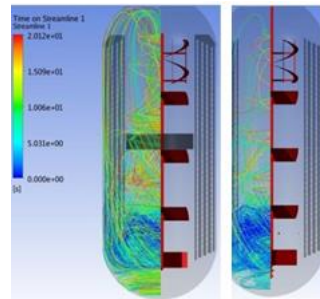
### Pilot plant

Develop scale up rules and improve technologies



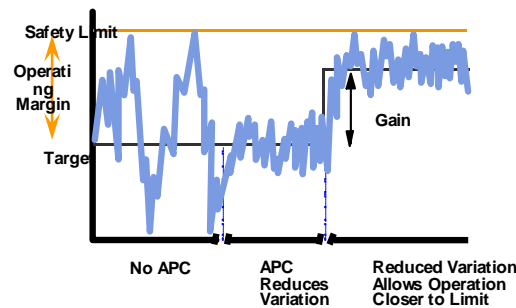
### CFD\*

Optimized design of processes and equipment



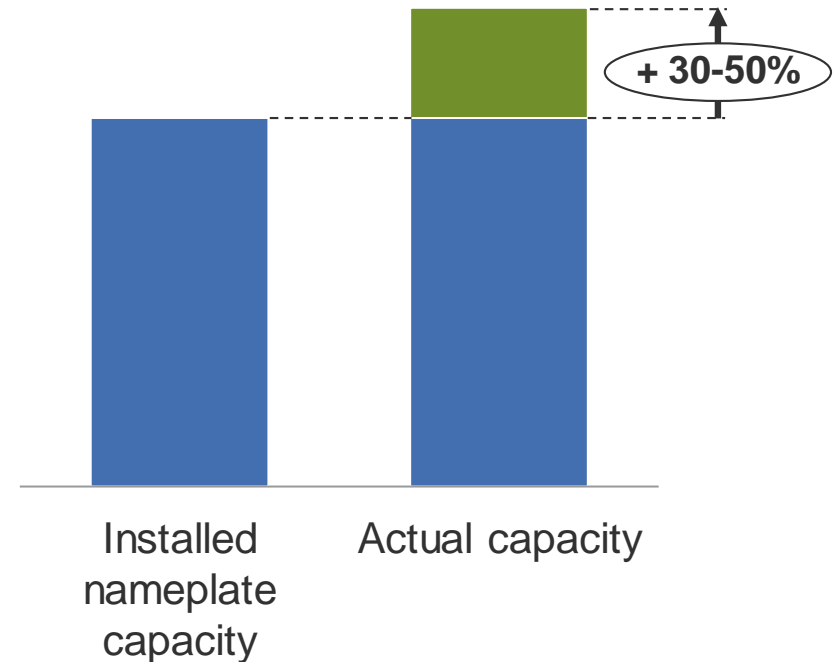
### APC\*

Pushing the plant to optimum, avoid dynamic losses



### Asset optimization Production capacities

#### Optimization & Debottlenecking



\*CFD = Computational Fluid Dynamics; APC = Advanced Process Control

# WACKER POLYMERS

## Growth with Customer Focus, Substitution and Innovation

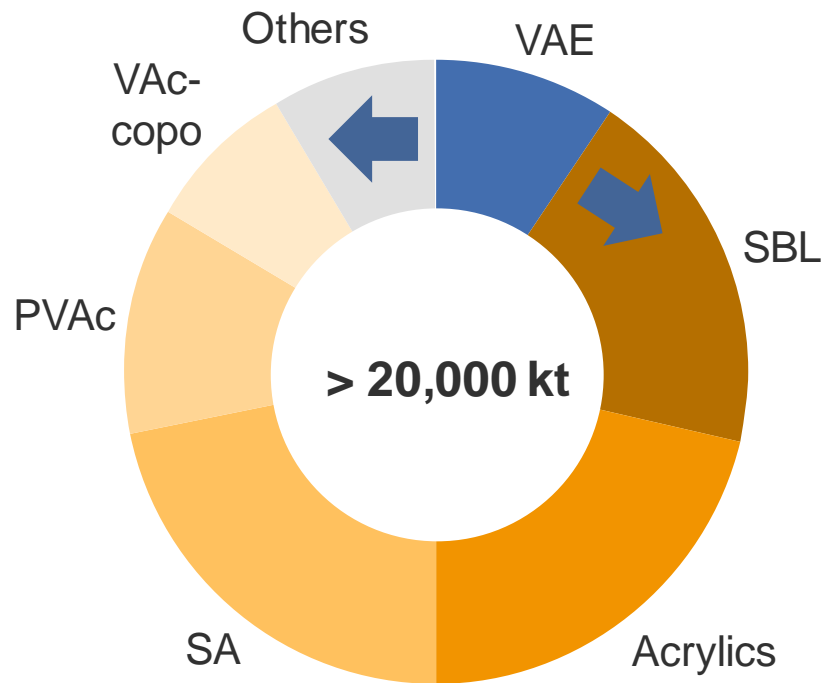
**Push  
transformation  
in construction  
towards higher  
building  
standards**



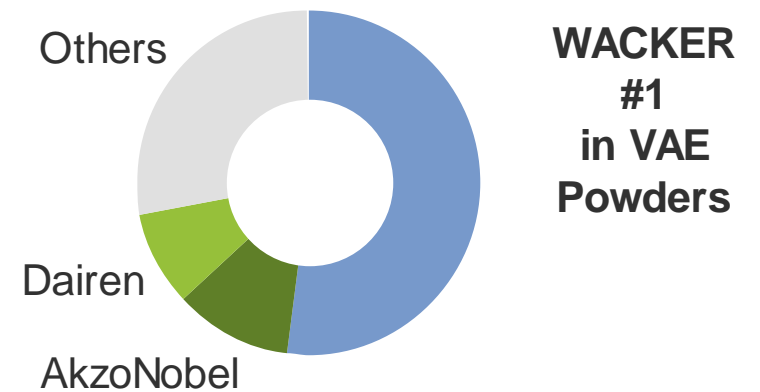
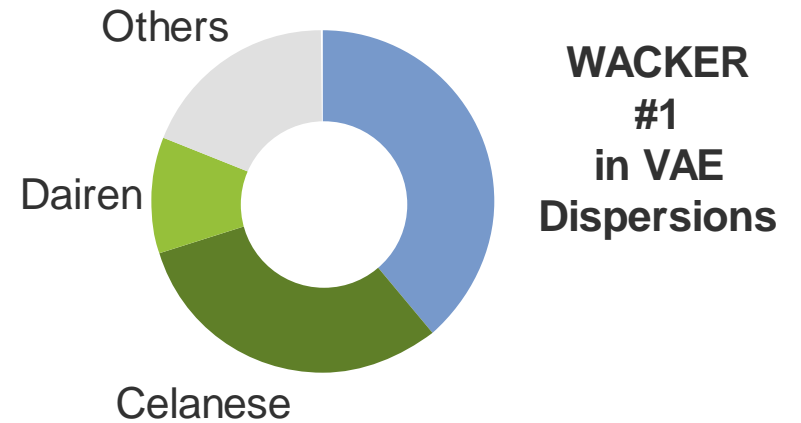
**Replacement  
of non-VAE  
technologies  
based on value  
offering**

# WACKER is the Market Leader in VAE Dispersions and Powders

## Global Synthetic Polymer Latex Market 2016

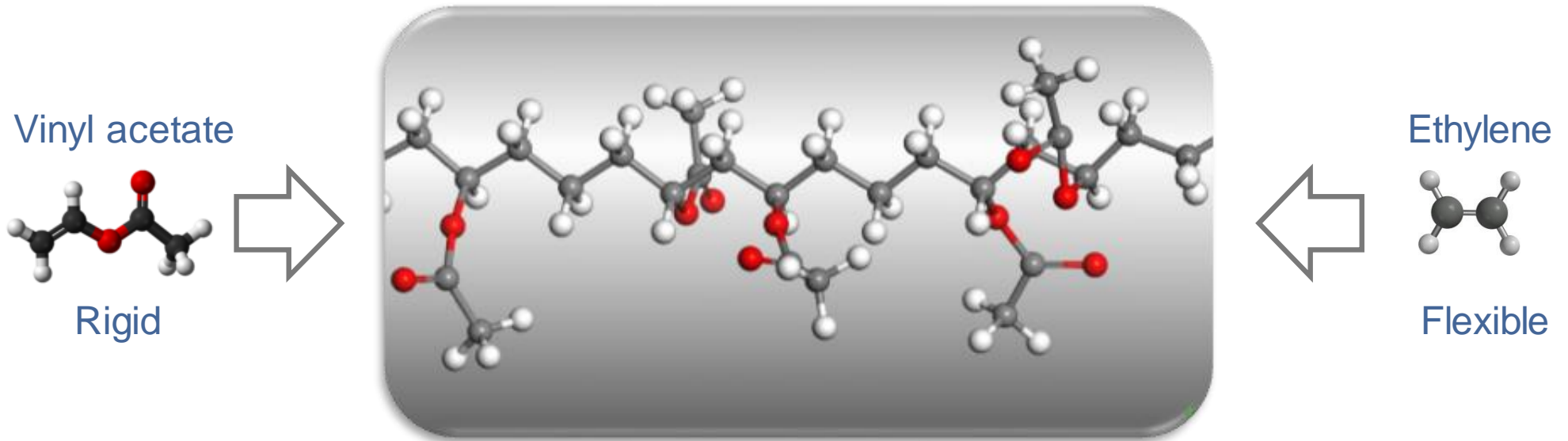


## Global VAE Market 2016



SA = Styrene Acrylics, VAc-copo = Vinyl Acetate Co-Polymers, PVAc = Polyvinyl Acetate, SBL = Styrene Butadiene Latex

# VAE – Tailor Made Products Copolymerized of VAM and Ethylene



## Properties due to Vinyl Acetate units

- ▶ Polar
- ▶ Hard feel
- ▶ Rigid
- ▶ Strength

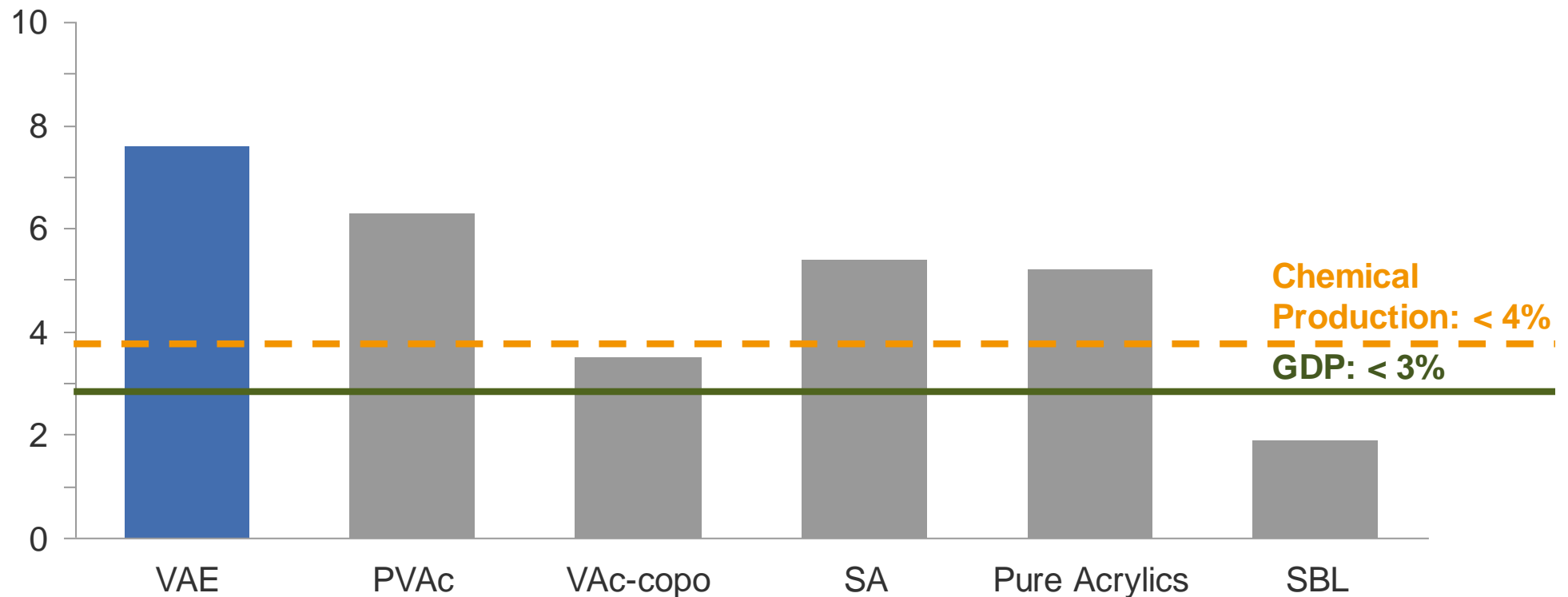
## Properties due to Ethylene units

- ▶ Nonpolar, hydrophobic
- ▶ Soft feel
- ▶ High flexibility
- ▶ High chemical resistance

# VAE Outgrew Other Polymers in Latex Market in the Last Years

## Synthetic Polymer Latex Market\* Volume Growth 2011-2016

CAGR in %



PVAc = Polyvinyl Acetate, VAc-copo = Vinyl Acetate Co-Polymers, SA = Styrene Acrylics, SBL = Styrene Butadiene Latex  
\*Source: Kline 2017

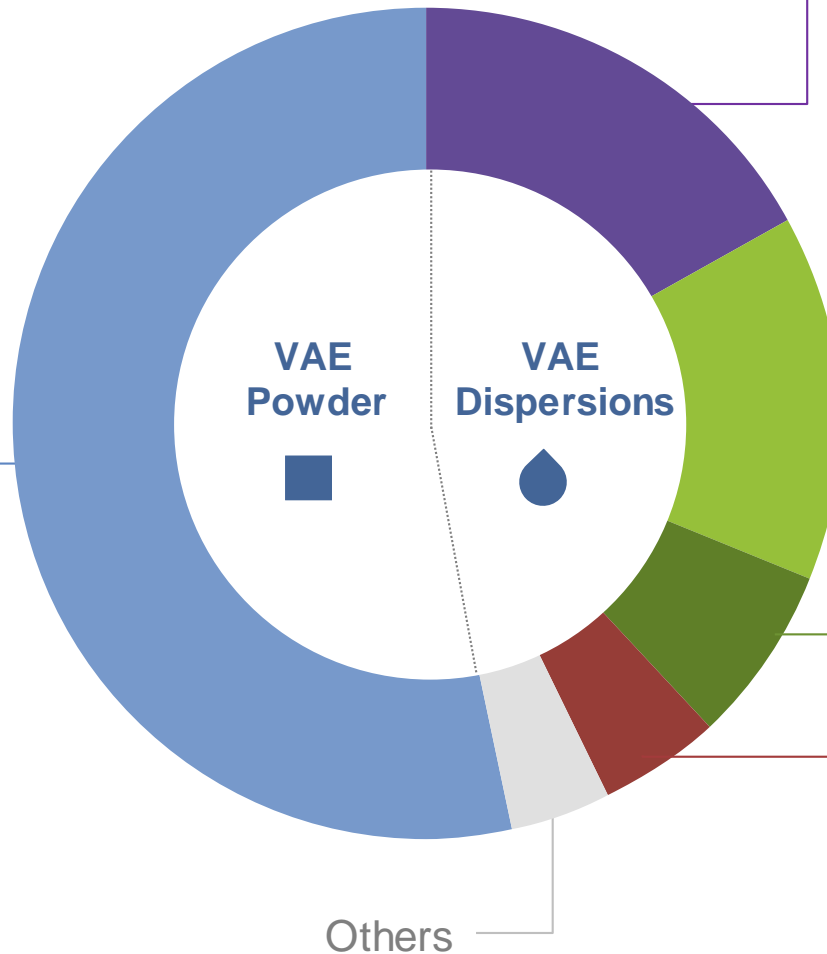
# Core Applications Outperforming Each Market Segment

## Market Structure by Application

### Construction



- ▶ Ceramic Tile Adhesive
- ▶ Thermal Insulation
- ▶ Flooring
- ▶ Wall plasters



### Adhesives



### Coatings & Paints



### Nonwovens & Textiles



### Carpet



Source: WACKER Estimate



# Success Story Based on Combination of Dispersions and Powders

## POLYMERS with “Tandem Approach”- #1 in Dispersions and Powders Market

### World Class Setup



VAE Dispersions Market

VAE Powders Market

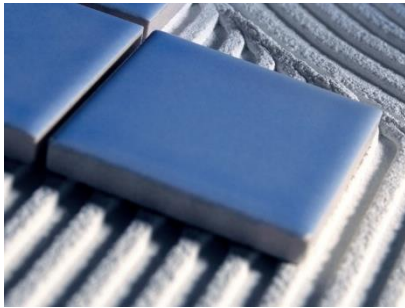
### Market Leader



▶ Tandem approach and market position enable quick loading

# VAE Powders with Many Advantages

## Ceramic Tile Adhesives



- ▶ High Bonding Strength
- ▶ Allows longer open time
- ▶ Fast tile setting

## Thermal Insulation



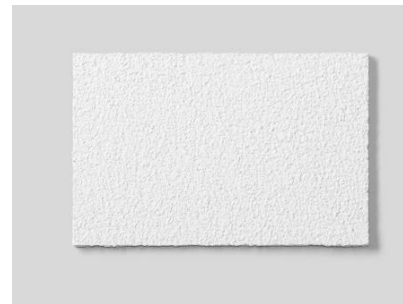
- ▶ Enhance the adhesive and reinforcing mortars
- ▶ Ensures flexibility
- ▶ Optimal shelf life and durability

## Flooring



- ▶ Adhesion to all substrates
- ▶ Good flexibility
- ▶ Harden without cracking

## Wall Plasters

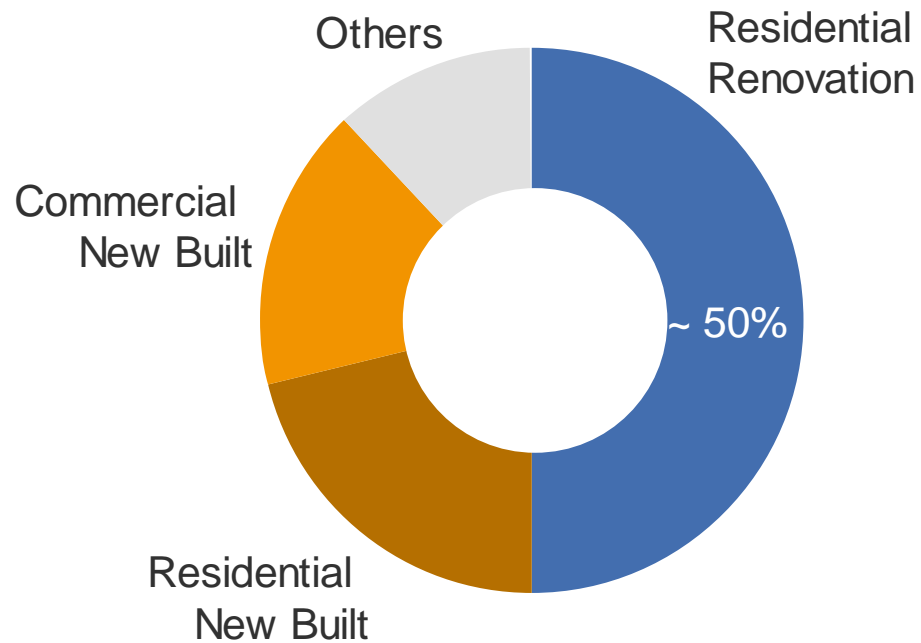


- ▶ Improved manual and machine processing
- ▶ Increase flexibility
- ▶ Smooth, crack-free surfaces

# Growth in VAE Powders in Mature and Emerging Markets

## Enabler in Mature Markets

### Global Ceramic Tiles Market

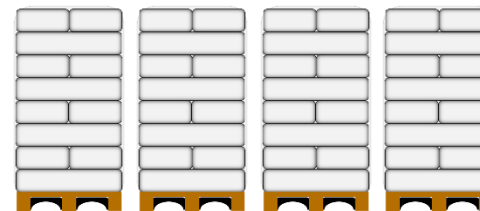


► Mature markets trending towards higher quality

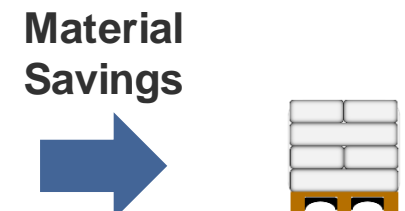
## Enabler in Emerging Regions



### Thick bed CTA\*



### Thin bed CTA



Material Savings



Labor Productivity



\*CTA = Ceramic Tile Adhesives; Source: Transparency, WACKER Estimate

# VAE Outperforms Alternative Polymer Latex Systems

## Adhesives



- ▶ Broad adhesion
- ▶ Bonding to a wide range of different substrates
- ▶ Fast setting and wet tack

## Paints



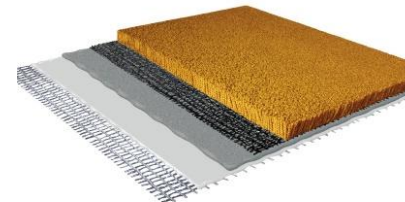
- ▶ No plasticizers needed
- ▶ Formulation of low odor paints
- ▶ Excellent scrub resistance & good hiding characteristics

## Nonwoven



- ▶ Softness
- ▶ Low odor
- ▶ Wet strength

## Carpet



- ▶ Good compatibility with PVC, bitumen, etc.
- ▶ Low odor and emissions
- ▶ Low flammability

# Continuously Expanding Footprint – Close to our Customers

## Latest Capacity Expansions

**2015**  
VAE dispersions  
+ 85 kt  
USA



Calvert City

**2015**  
Polymer powder  
+ 50 kt  
Germany



Cologne

Burghausen

**2015**  
Special mono-  
mers + 3.8 kt  
Germany



**2017**  
VAE dispersions  
+ 60 kt  
Germany



Nanjing

Ulsan

**2013**  
VAE dispersions  
+ 40 kt  
South Korea



**2013**  
VAE dispersions  
+ 60 kt  
China



**2014**  
Polymer powder  
+ 30 kt  
China



**2019**  
VAE dispersions  
+ >90 kt  
South Korea



**2019**  
Polymer powder  
+ 80 kt  
South Korea



► Production sites are located strategically close to raw materials



# WACKER POLYMERS

## Growth with Customer Focus, Substitution and Innovation

**Push  
transformation  
in construction  
towards higher  
building  
standards**

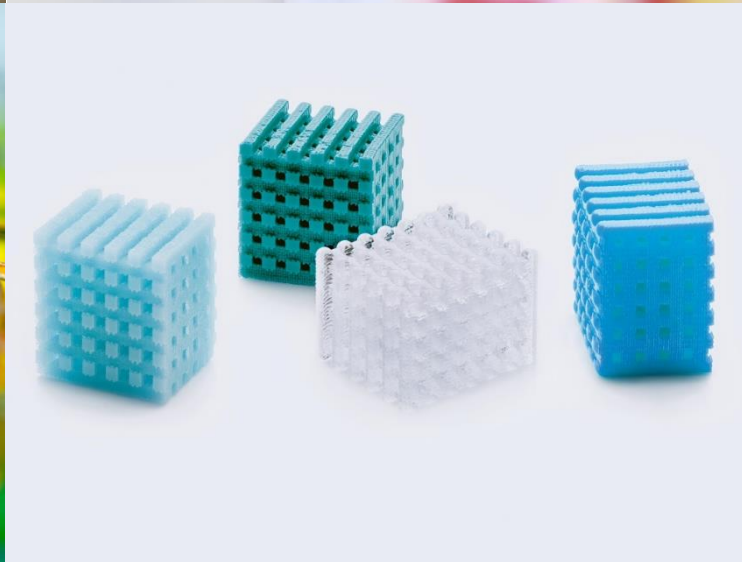


**Replacement  
of non-VAE  
technologies  
based on value  
offering**

**WACKER**



CREATING TOMORROW'S SOLUTIONS



## 2017 Capital Market Day – Wacker Chemie AG Managing for Growth and Cash

SILICONES, BIOSOLUTIONS

Auguste Willems, Member of the Executive Board



# Capital Market Day 2017 – Topics Covered

**1** Extend Leverage Phase

**2** Continue to Grow Above Chemical Production

**3** Focus on Sustainability

**4** Sustain Attractive Margins Through Economic Cycle

**5** Generate Cash



**SILICONES**



**BIOSOLUTIONS**



**SUSTAINABILITY**

# WACKER SILICONES

## Key Trends and World Class Efficiency Drive Growth

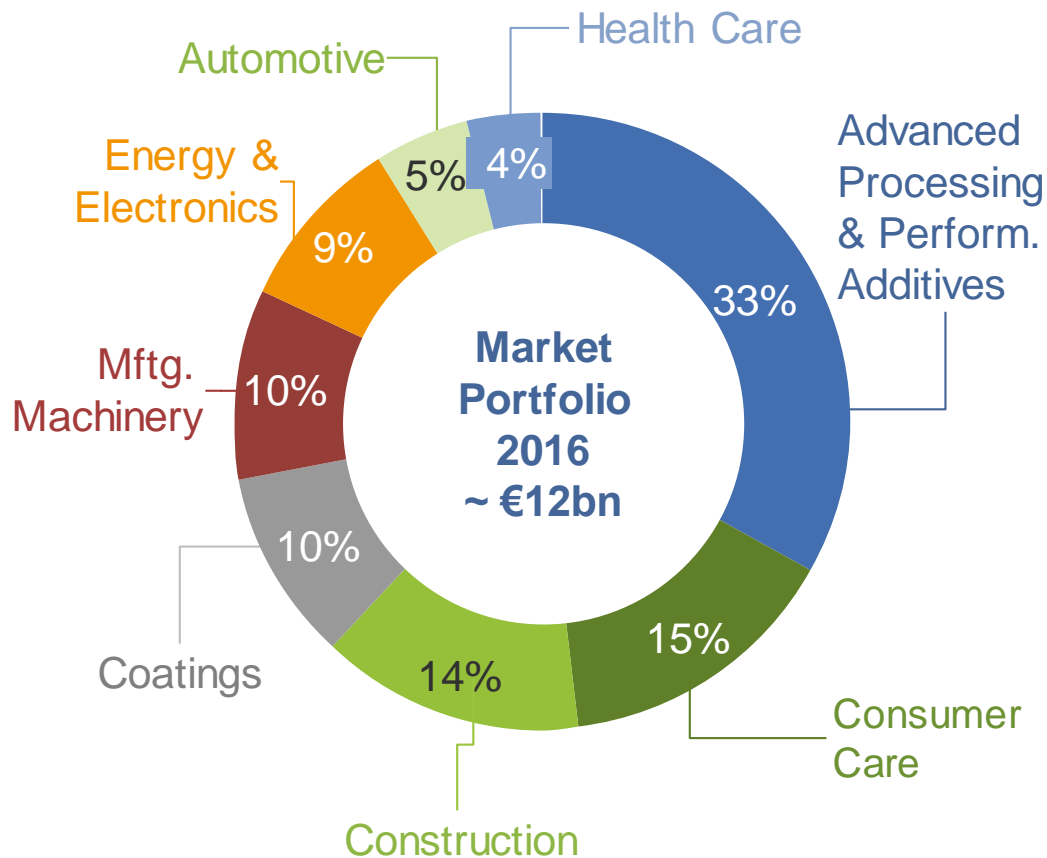
**Full portfolio  
provider with  
benchmark  
costs**



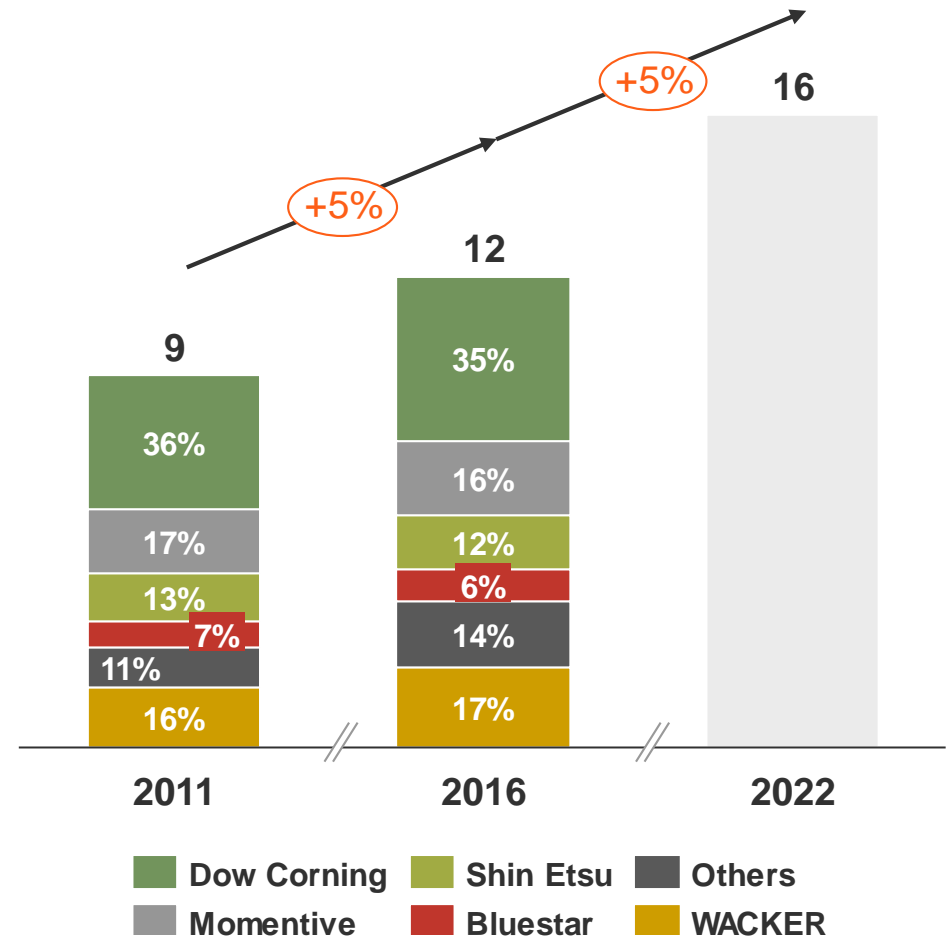
**Growth with  
focus on  
specialties**

# Diversified Across Industries, Customers and Applications

## Market Structure by Application



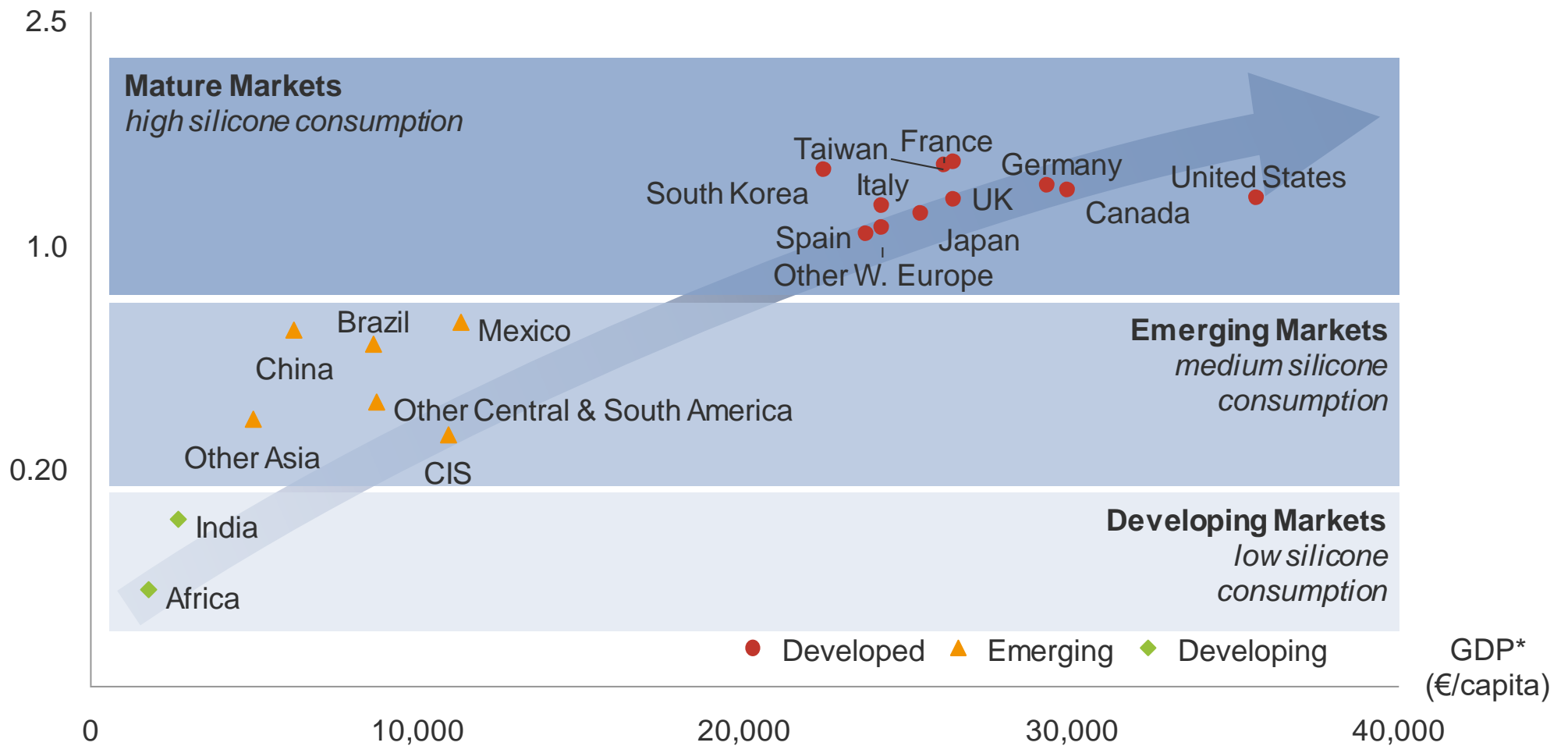
## Market Volume/Shares (€bn, %)



Source: Freedonia 2017, Annual Reports, WACKER Estimate

# Global Population Will Catch Up with Their Silicone Consumption

## Silicone Consumption (kg/capita)



\*GDP = Gross domestic product; Source: WACKER Estimate

# Key Trends Drive SILICONES' Growth



**E-Mobility and Renewable Energy**



**Communication**



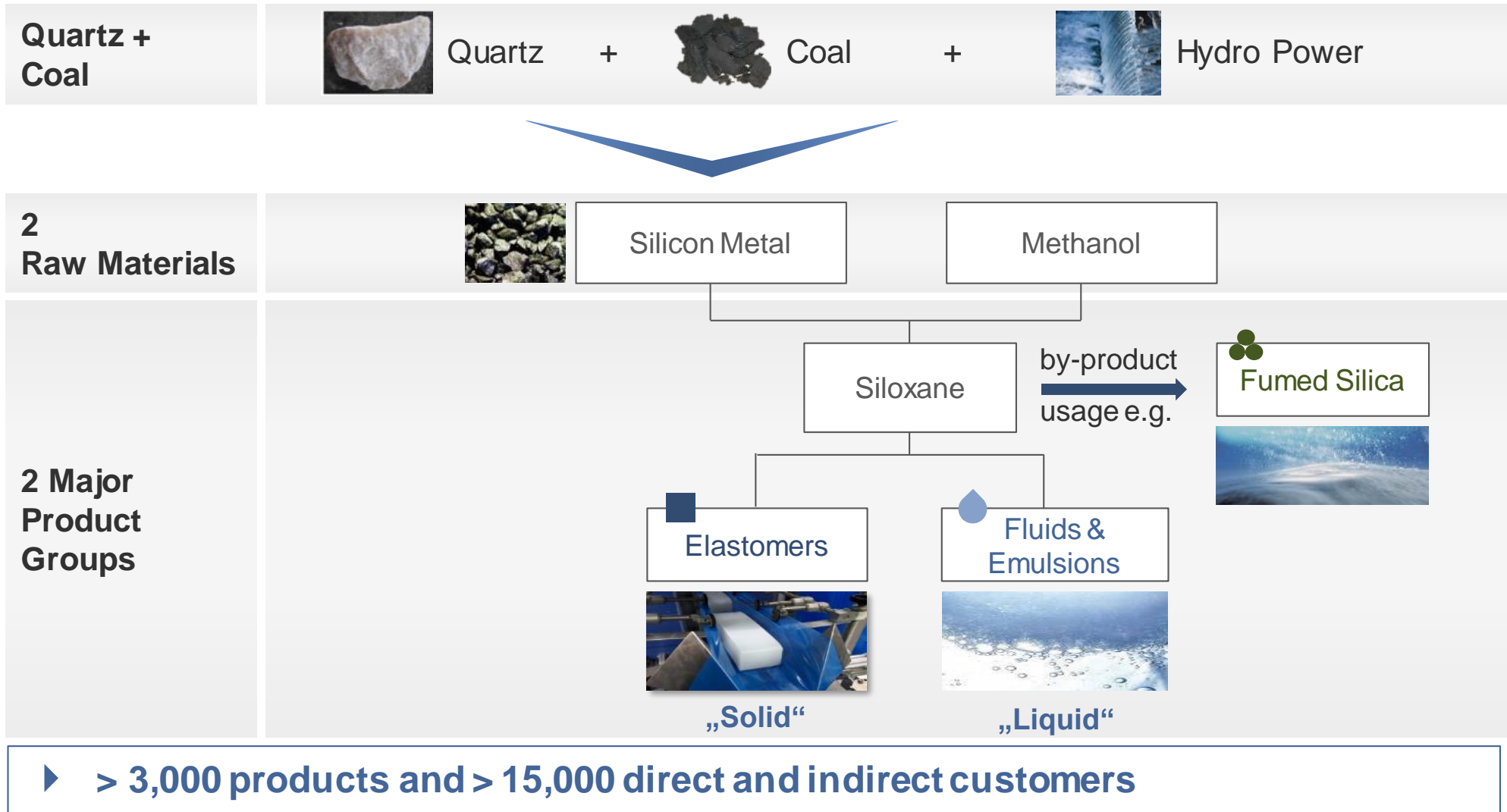
**Urbanization**



**Standard of Living**

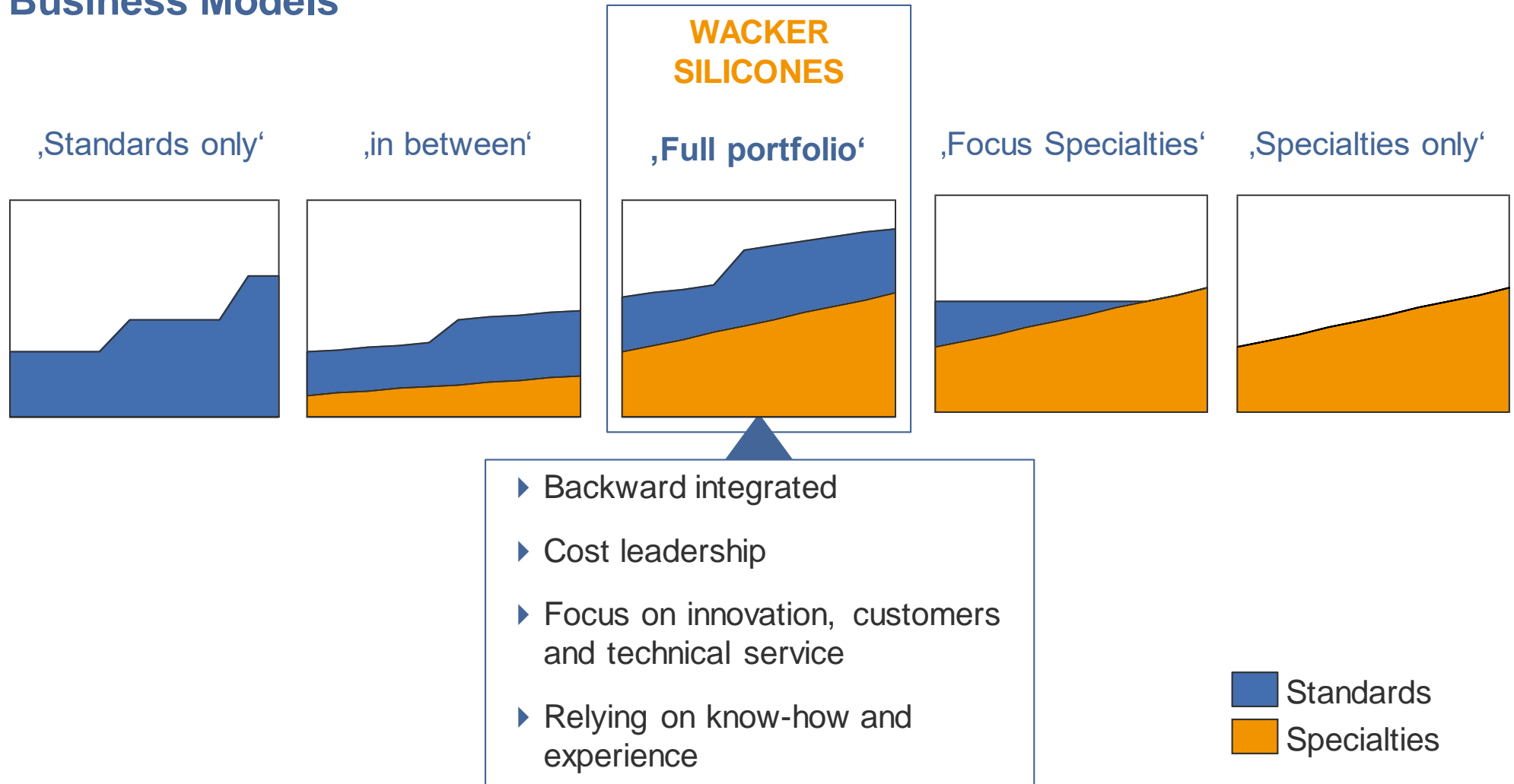


# From Silicon Metal to Multiple Markets



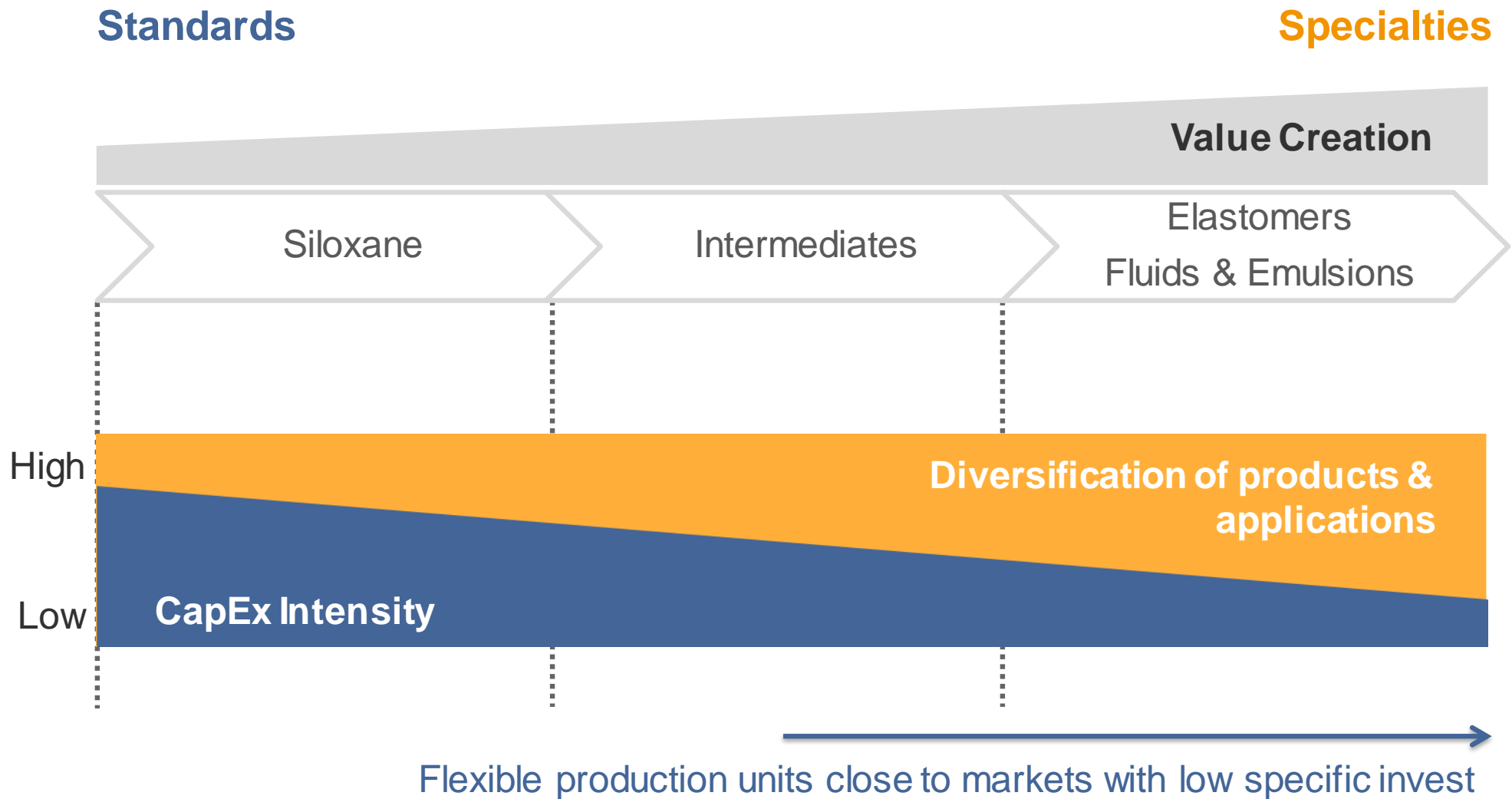
# WACKER's Strategy: Full Portfolio Provider with Global Footprint

## Business Models





# Focus on Less Capital Intensive Specialties



# Hightech Segments and Specialty Focus Follow Key Trends

## „Liquid“



Hair Care



Cosmetics

Comfort



Paints



Concrete

Urbanization



Encapsulation



Solar power

Renewable Energy

## „Solid“

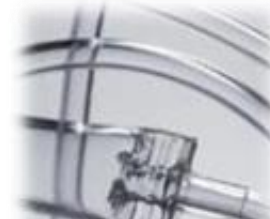


Battery



E-Motor

E-Mobility



Medical Care



Wound Care

Aging Population



Electronics

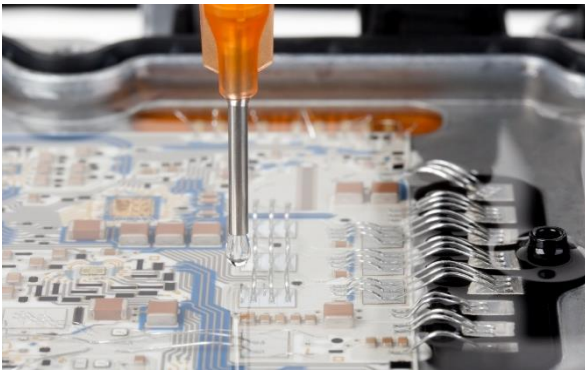


Sensors

Communication

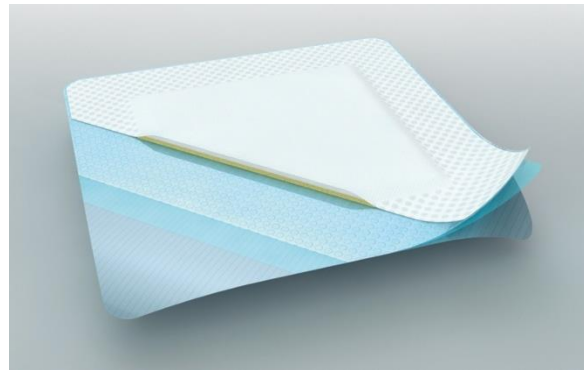
# Specialties Meet Increasing Performance Requirements

## Automotive



- ▶ Automated processes
- ▶ Encapsulating extremely sensitive electronic devices
- ▶ Protection from extreme temperature fluctuations or strong vibrations

## Wound Care



- ▶ Advanced wound care and scar treatment
- ▶ Meeting highest medical standards
- ▶ Gentle adhesion
- ▶ Pain free removal

## Hair Care

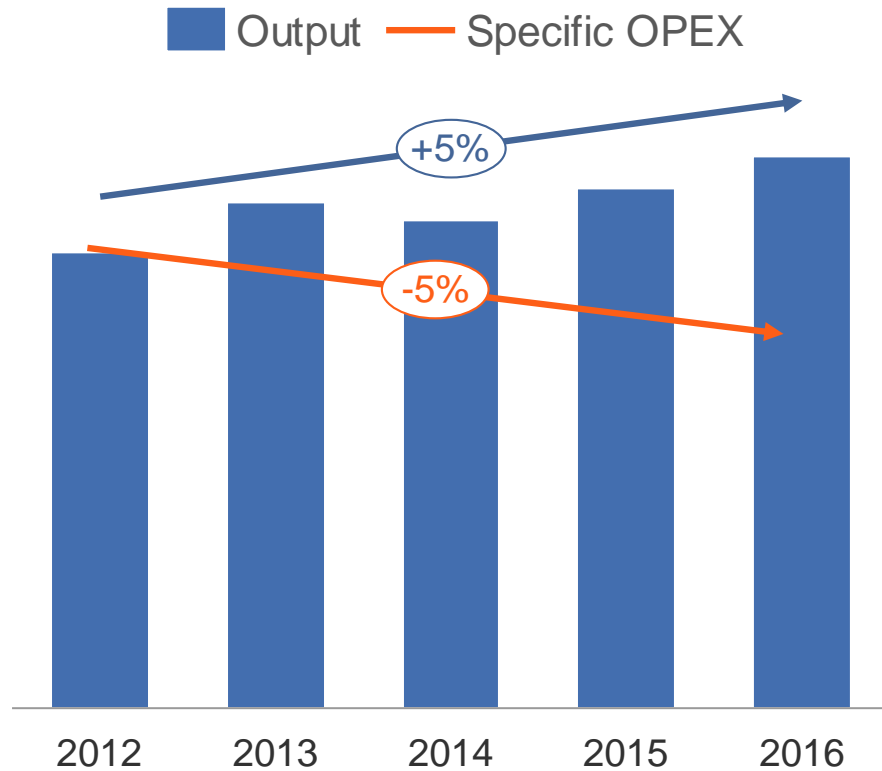


- ▶ Premium touch & feel
- ▶ Durability of effects
- ▶ Ease of formulation
- ▶ Shine
- ▶ Dry and/or wet combing

# Operational Excellence is Key

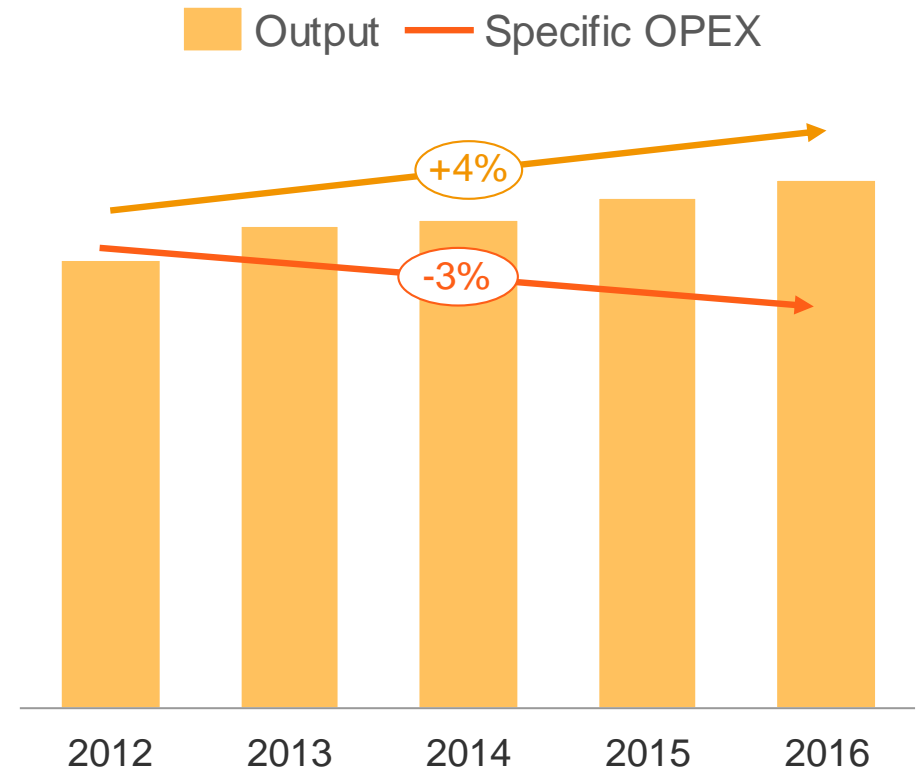
## Siloxane

Index 2012 = 100%



## Fumed Silica

Index 2012 = 100%



# WACKER SILICONES

## Key Trends and World Class Efficiency Drive Growth

**Full portfolio  
provider with  
benchmark  
costs**



**Growth with  
focus on  
specialties**



# WACKER BIOSOLUTIONS

## Well Positioned for Further Growth

**Focus on  
development of  
biotechnology  
businesses**



**Leveraging our  
know-how,  
experience and  
assets**



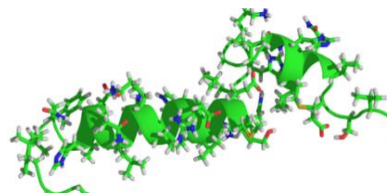
# Focus on Innovation and Growth

## Microbials

- ▶ Proprietary technology with key benefits in productivity and purification
- ▶ Largest dedicated microbial CMO\* in Europe
- ▶ Globally active

ESETEC®

FOLDTEC®



## Metabolic Engineering

- ▶ Market leader in the cysteine food market
- ▶ Compliant with all major food and pharmaceutical standards
- ▶ Vegetarian production process by fermentation with *E.Coli*



## Cyclodextrins

- ▶ Enables unique product properties:
  - ▶ Protect and Carry
  - ▶ Remove, Diminish
  - ▶ Delayed Release

CAVACURMIN®

CAVASOL®

CAVAMAX®



## Gumbase

- ▶ #1 supplier of resins to the global chewing gum industry
- ▶ Novel technology opens new opportunities for flavors and ingredients

VINNAPAS®

candy gum®

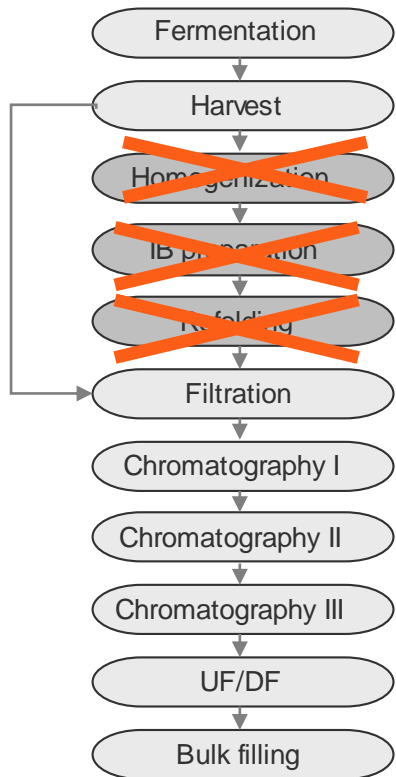
CAPIVA®



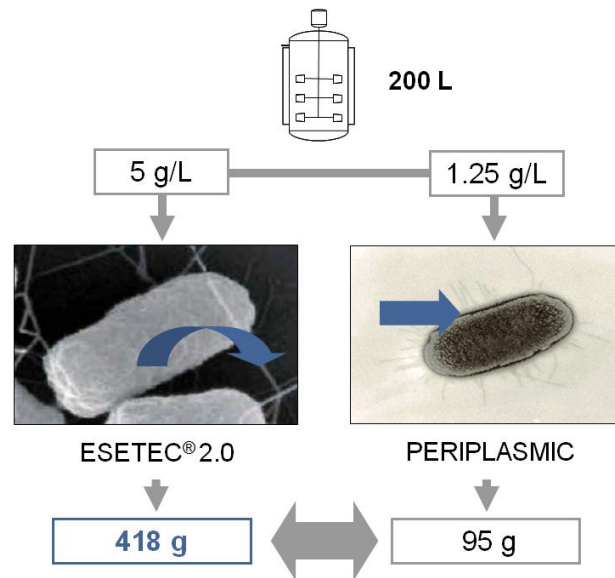
\*CMO = Contract Manufacturing Organization

# Time and Cost-Efficient Manufacturing of Biopharmaceuticals

## ESETEC® (*E.coli* secretion technology)

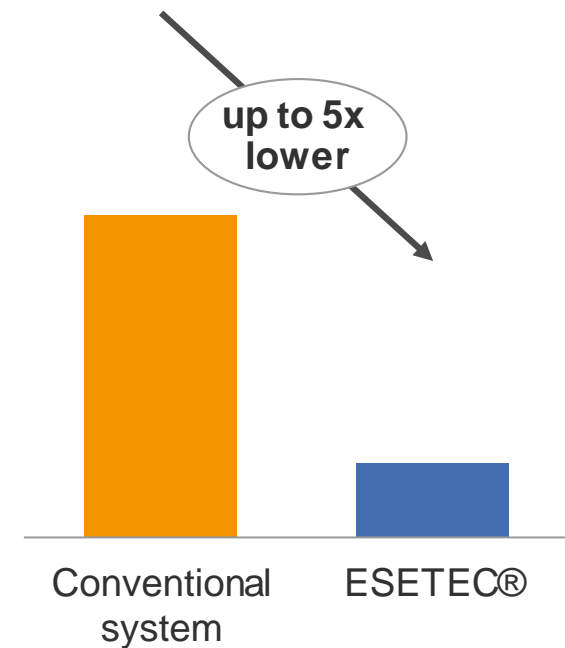


- ▶ ESETEC® reduces the number of process steps



**Example:  
Antibody Fragments**

- ▶ ESETEC® significantly increases yields



- ▶ ESETEC® reduces production costs

# We Established a Fast Growing Biopharmaceuticals Business

## Established by R&D and Acquisitions

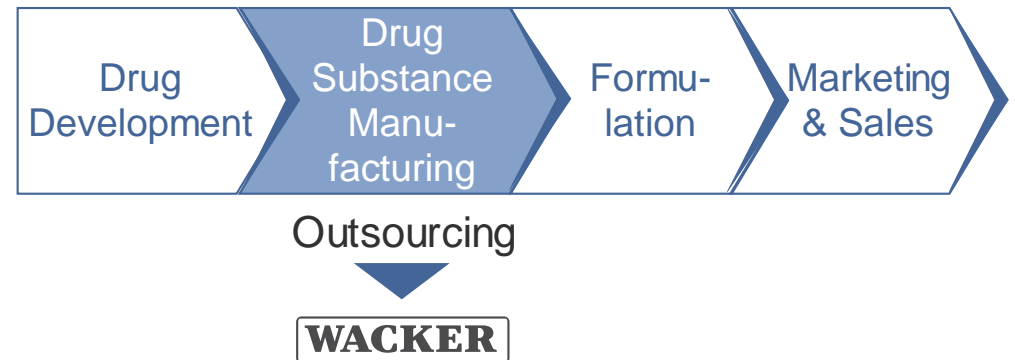


▶ 2005: Prothera GmbH Jena

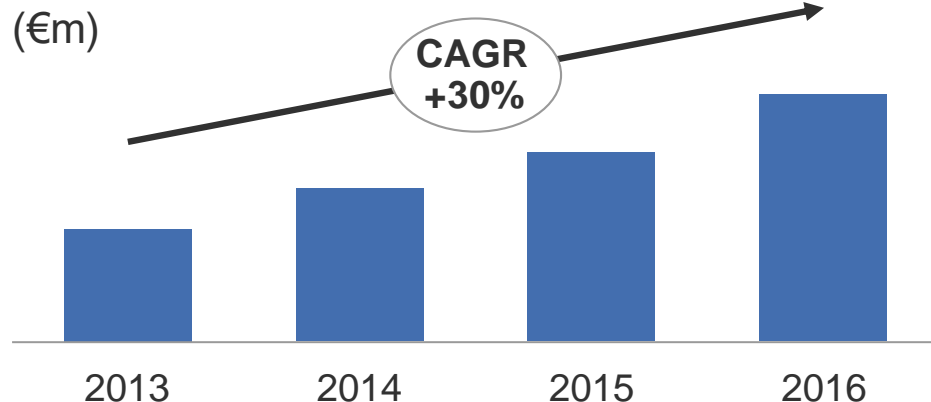


▶ 2014: Scil Proteins Production Halle

## Business Model



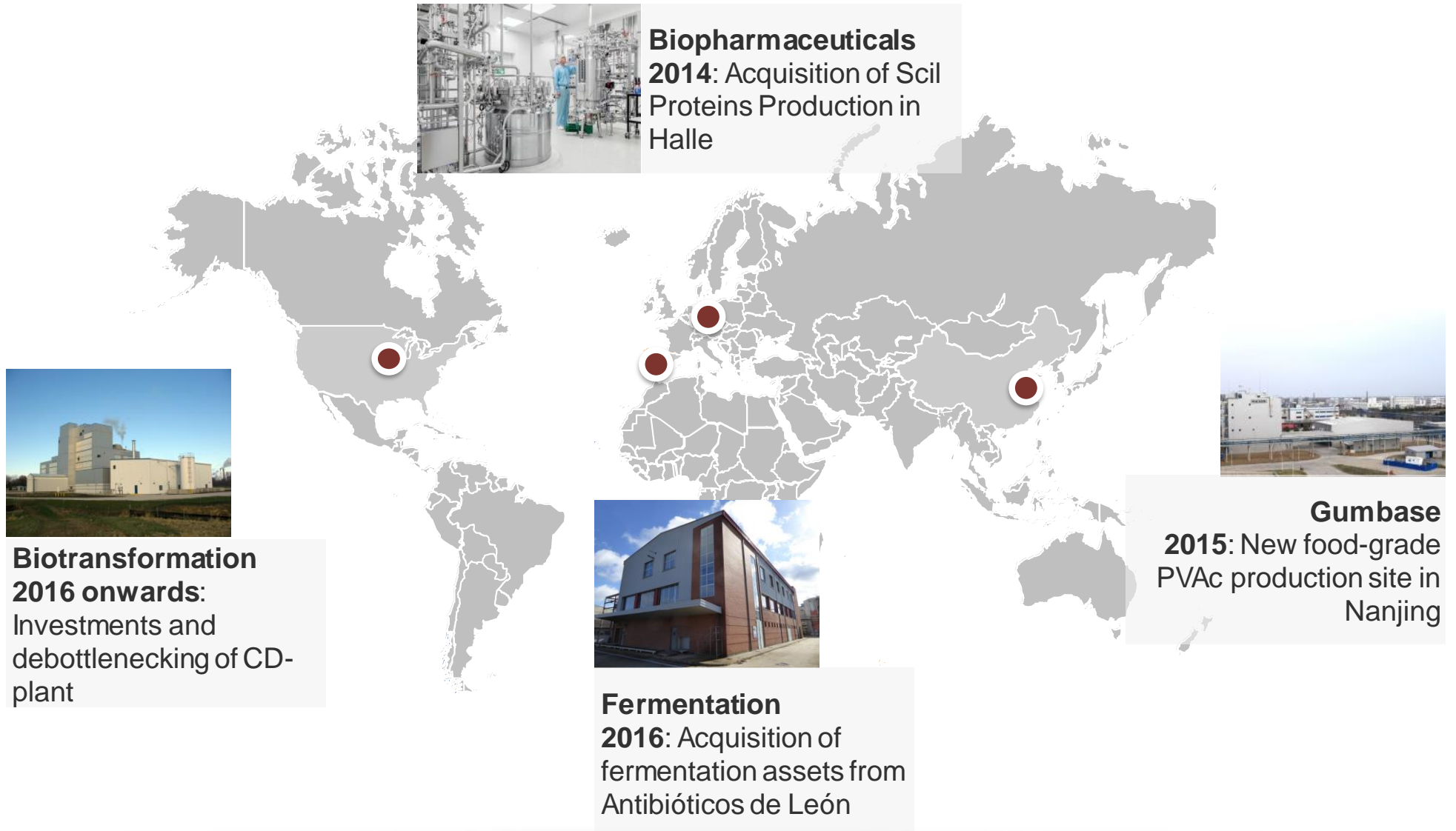
## Double Digit Sales Growth Continues



## Outlook

- ▶ WACKER is the largest dedicated microbial contract manufacturer in Europe
- ▶ Target to strengthen position as #5 microbial contract manufacturer globally
- ▶ Well positioned for further growth with more than 20% CAGR possible

# Continuous Investments Ensure Further Growth



# WACKER BIOSOLUTIONS

## Well Positioned for Further Growth

**Focus on  
development of  
biotechnology  
businesses**



**Leveraging our  
know-how,  
experience and  
assets**



# SUSTAINABILITY

## Comprehensive Sustainability Strategy



- ▶ Sustainable sourcing
- ▶ Safe and stable operations
- ▶ Experienced and reliable
- ▶ Integrated cycles – recycling

▶ **Sustainable production is a core element at WACKER**



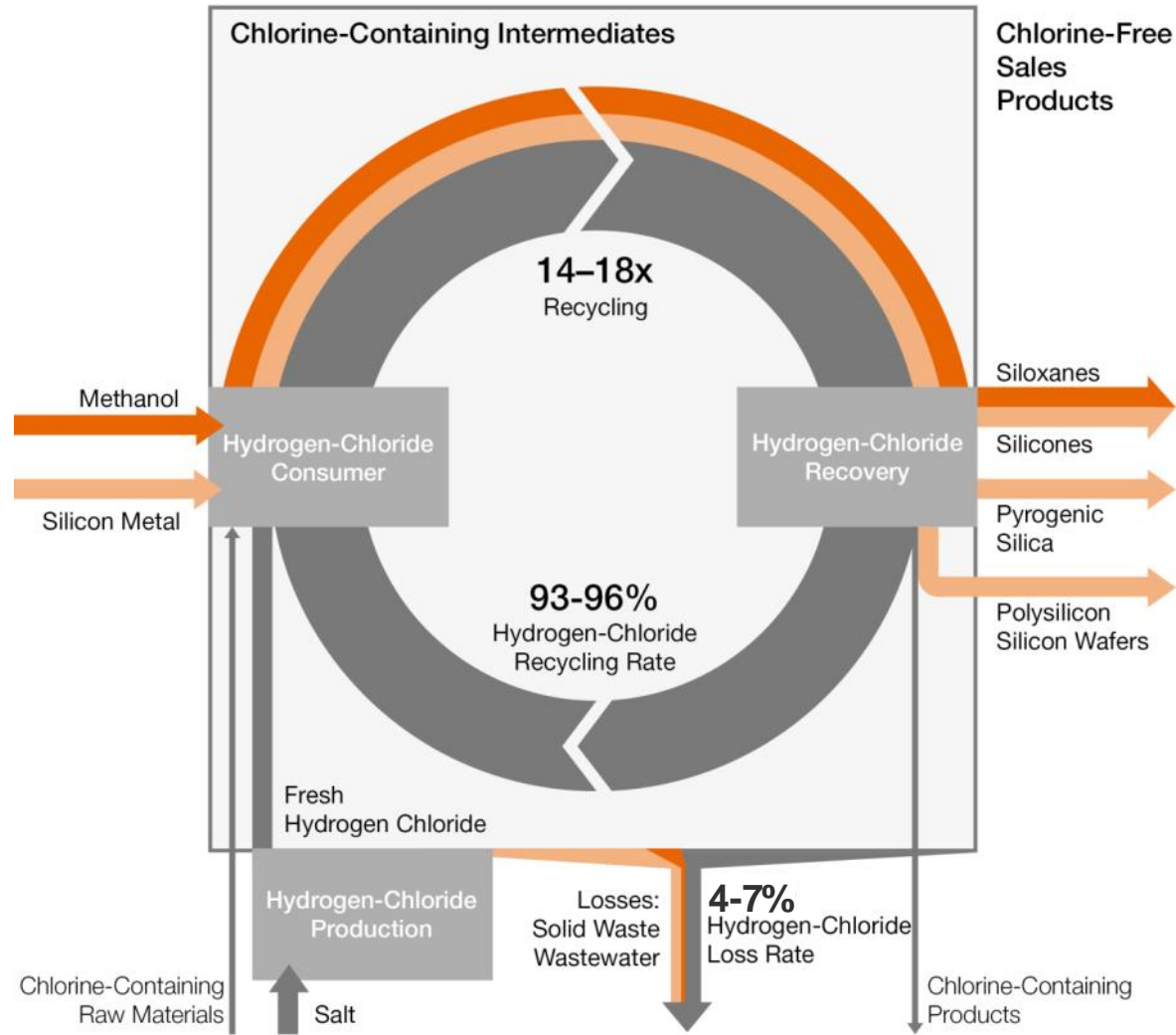
- ▶ Product stewardship
- ▶ Adding value to our customers
- ▶ Enable our customers to have a more sustainable product

▶ **Sustainability focus in product portfolio and innovation**



# SUSTAINABILITY

## Integrated Production Reduces CO<sub>2</sub>-Footprint by 15-35%



Source: WACKER Estimate

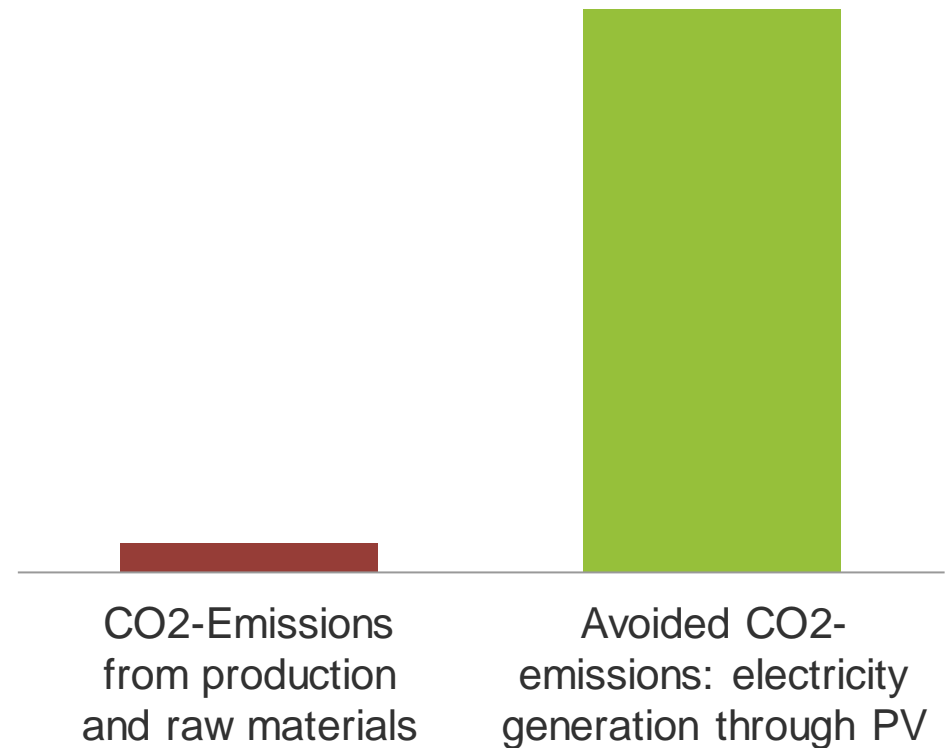
## WACKER Generates Value for Customers and Society

### Polysilicon for Photovoltaics (PV)



- ▶ PV prevents coal-based electricity generation

1:20



Source: WACKER Estimate

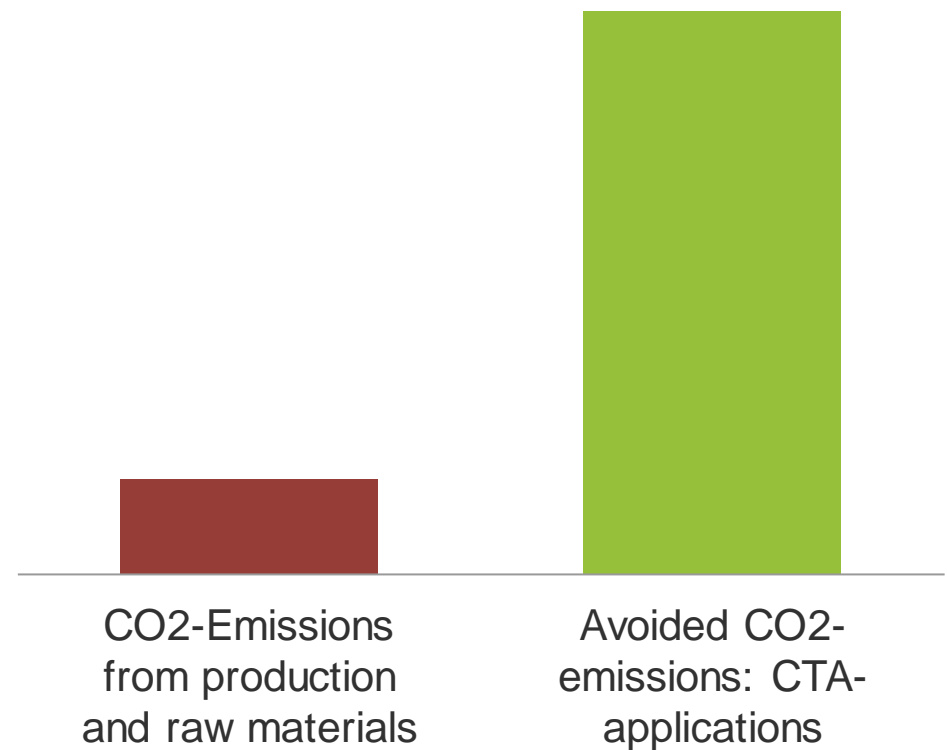
## WACKER Products Reduce Material Intensity and CO<sub>2</sub> Emissions

### DPP\* for Thin-Bed CTA-Applications



- ▶ Thin-bed ceramic tile adhesives (CTA) application reduces cement usage versus conventional thick-bed

1:6



\*DPP = Dispersible Polymer Powder; Source: WACKER Estimate

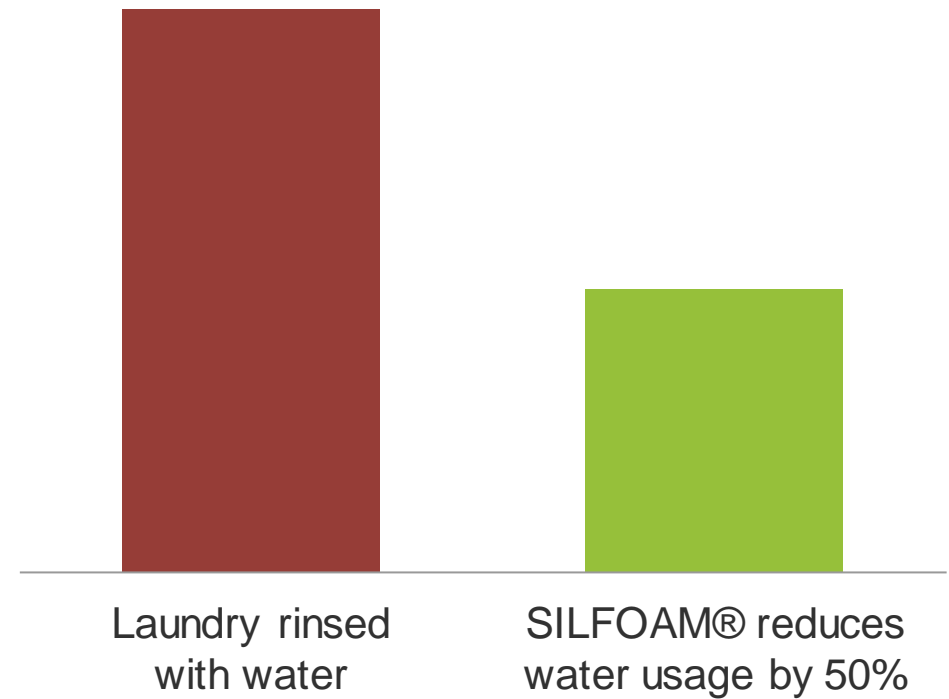
## WACKER Products Enable Sustainable Applications

### Antifoam Agents for Hand Wash



- ▶ Antifoam agents reduce water consumption in handwashed laundry, saving 20 liters of water per rinse

2:1



Source: WACKER Estimate

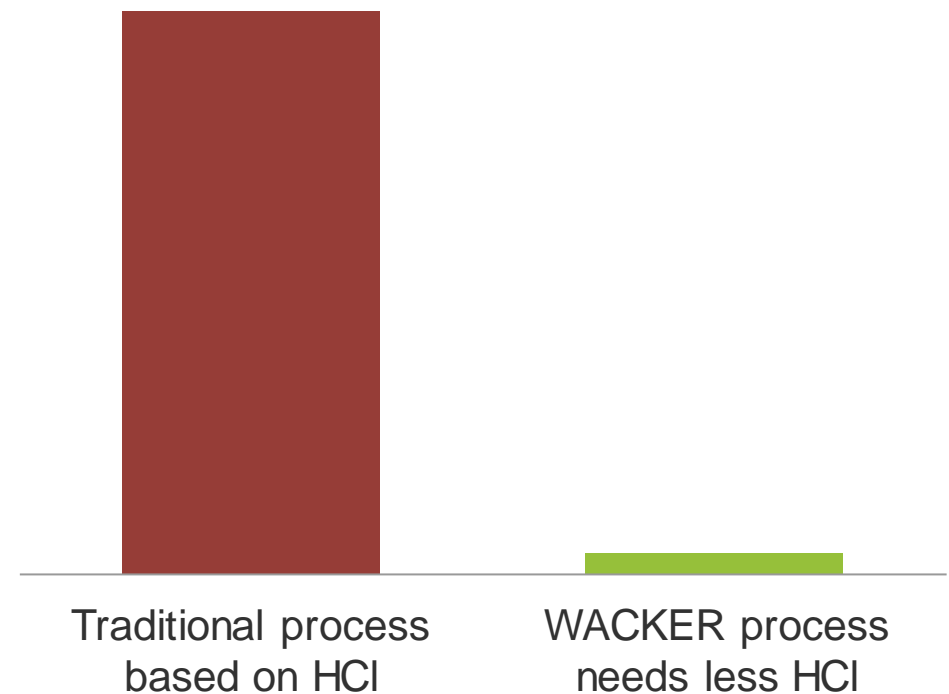
## WACKER Products Enable Resource Saving Processes

### Sustainable Cysteine Production



- ▶ WACKER's process consumes less kg of hydrochloric acid (HCl) compared to the traditional process (cysteine derived from feathers or hair)

27:1



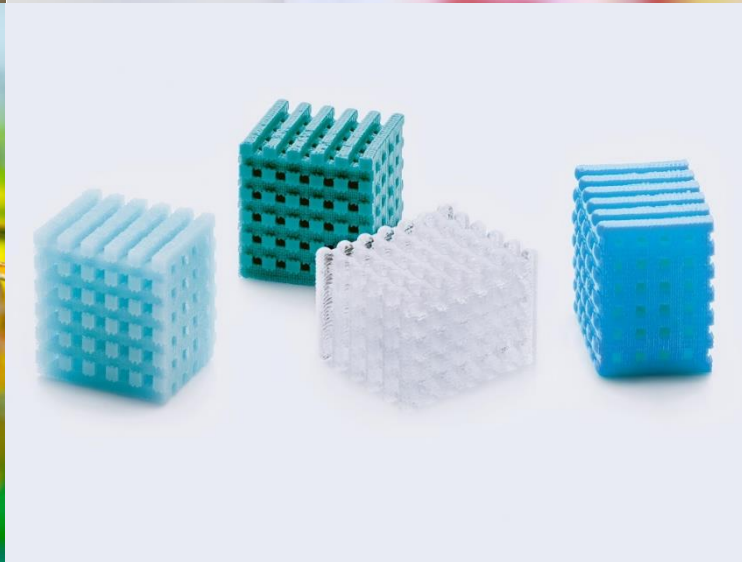
Source: WACKER Estimate



**WACKER**



CREATING TOMORROW'S SOLUTIONS



## 2017 Capital Market Day – Wacker Chemie AG Managing for Growth and Cash

Financial Performance  
Tobias Ohler (CFO)



# Capital Market Day 2017 – Topics Covered

**1** Extend Leverage Phase

**2** Continue to Grow Above Chemical Production

**3** Focus on Sustainability

**4** Sustain Attractive Margins Through Economic Cycle

**5** Generate Cash



**Selected Financial Drivers**



**Margin Development**



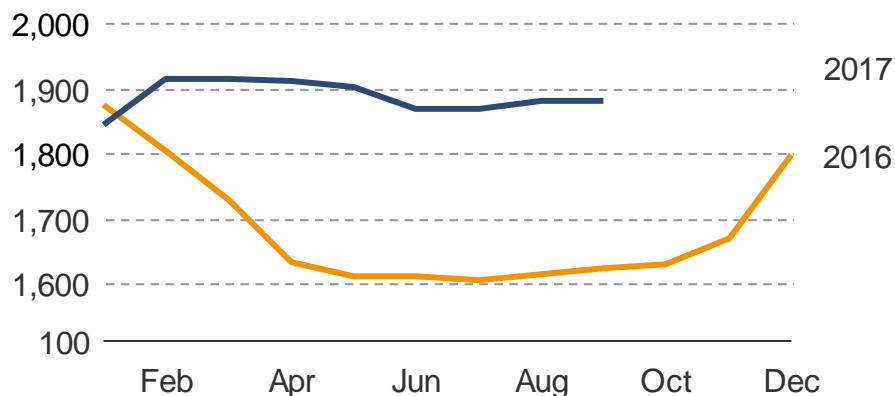
**Capital Structure**



**Dividend Policy**

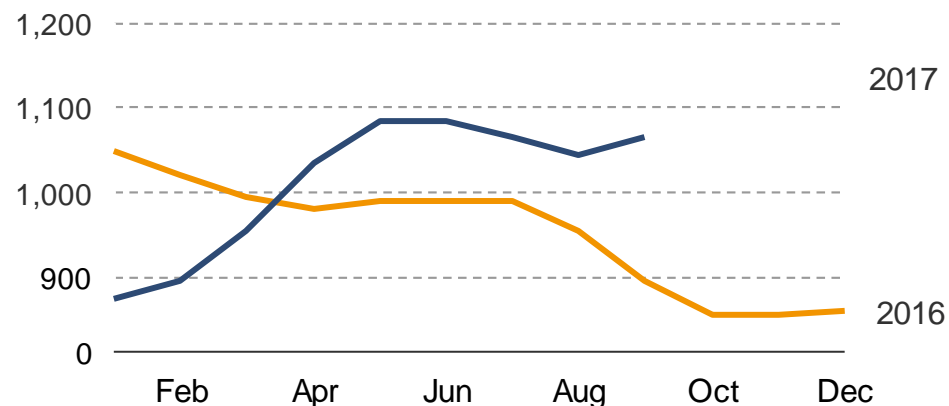
# Raw Material Prices 2017 Substantially Above Previous Year

## Si-Metal (€/MT)



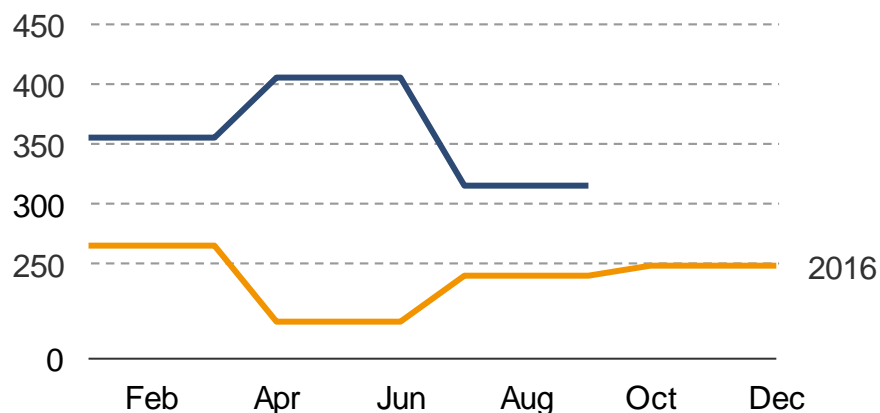
Source: CRU, Si-Metal Spot FD Europe

## VAM (€/MT)



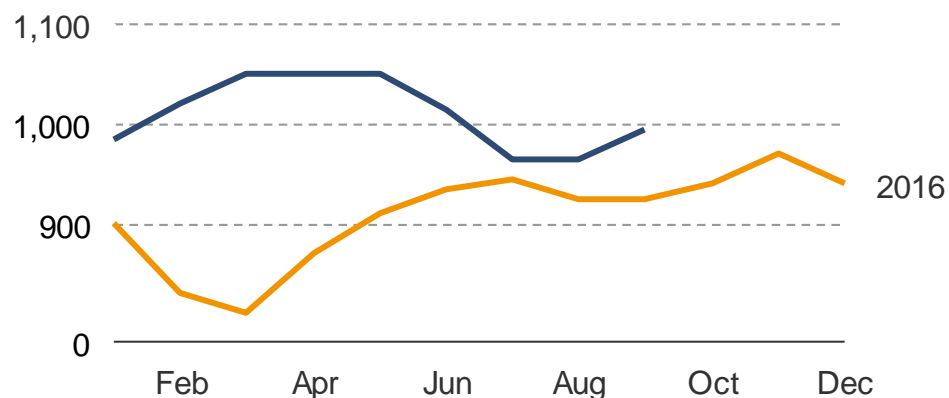
Source: ICIS, VAM Contract FD NWE

## Methanol (€/MT)



Source: IHS, MeOH Contract, FOB RDM

## Ethylene (€/MT)



Source: ICIS, EN Contract FD NWE

# Regional Dynamics Impact Raw Material Pricing

## Market Characteristics

		Share of Total Raw Material Cost*
<b>Si-Metal</b>	<ul style="list-style-type: none"> <li>▶ Global market, restricted by duties in EU and US</li> <li>▶ Regional price differences caused by duties, Chinese VAT and transportation cost</li> </ul>	~ 20%
<b>Methanol</b>	<ul style="list-style-type: none"> <li>▶ Global market</li> <li>▶ Regional price differences caused by duties and logistic cost</li> </ul>	~ 5%
<b>VAM</b>	<ul style="list-style-type: none"> <li>▶ Global market</li> <li>▶ Regional price differences caused by duties and logistic cost</li> </ul>	~ 20%
<b>Ethylene</b>	<ul style="list-style-type: none"> <li>▶ Regional procurement markets</li> <li>▶ Pricing defined by Naphtha price development and regional dynamics</li> </ul>	~ 10%

\*Chemicals, 2016

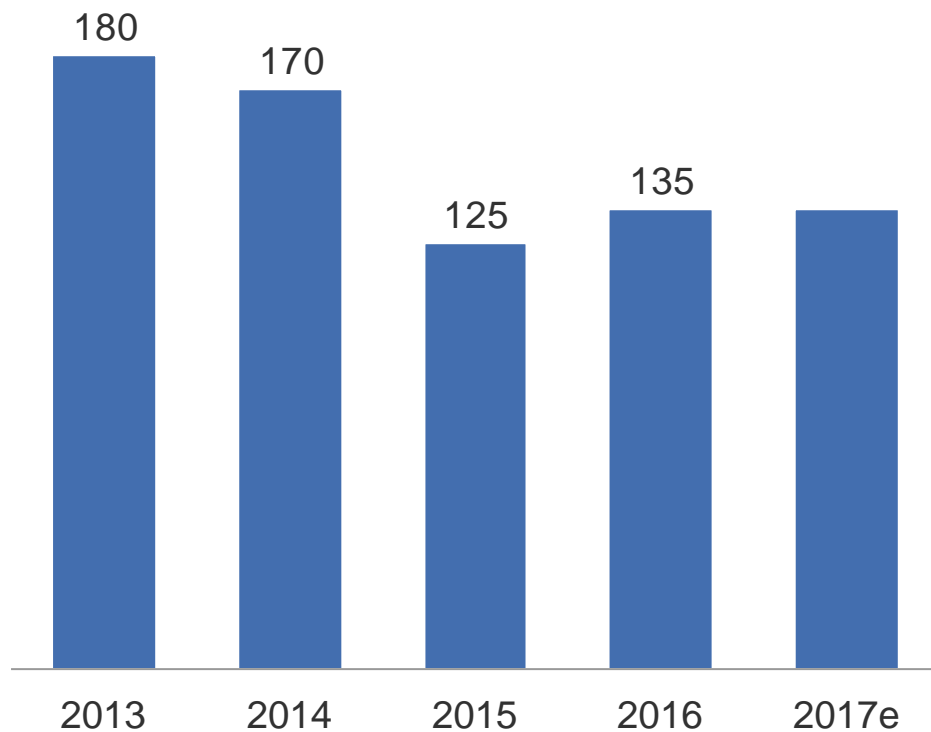
# Value Add as the Dominant Pricing Model

## Pricing Models – Chemical Divisions

	Formula	Commodity	Value Add
	<b>POLYMERS</b>	<b>SILICONES</b>	<b>SILICONES</b> <b>POLYMERS</b>
<b>Price Adjustments</b>	Regularly/Ongoing	Regularly following supply and demand	Adjustment of annual contracts
<b>Product type</b>	High volume products	High raw material content, less value added	Design driven by customer specification
<b>Pricing mechanism</b>	Cost Plus	Supply and demand	Value add

# Proven Track Record – 2017 Again Significant Cost Savings

## Impact WACKER Operating System (€m)

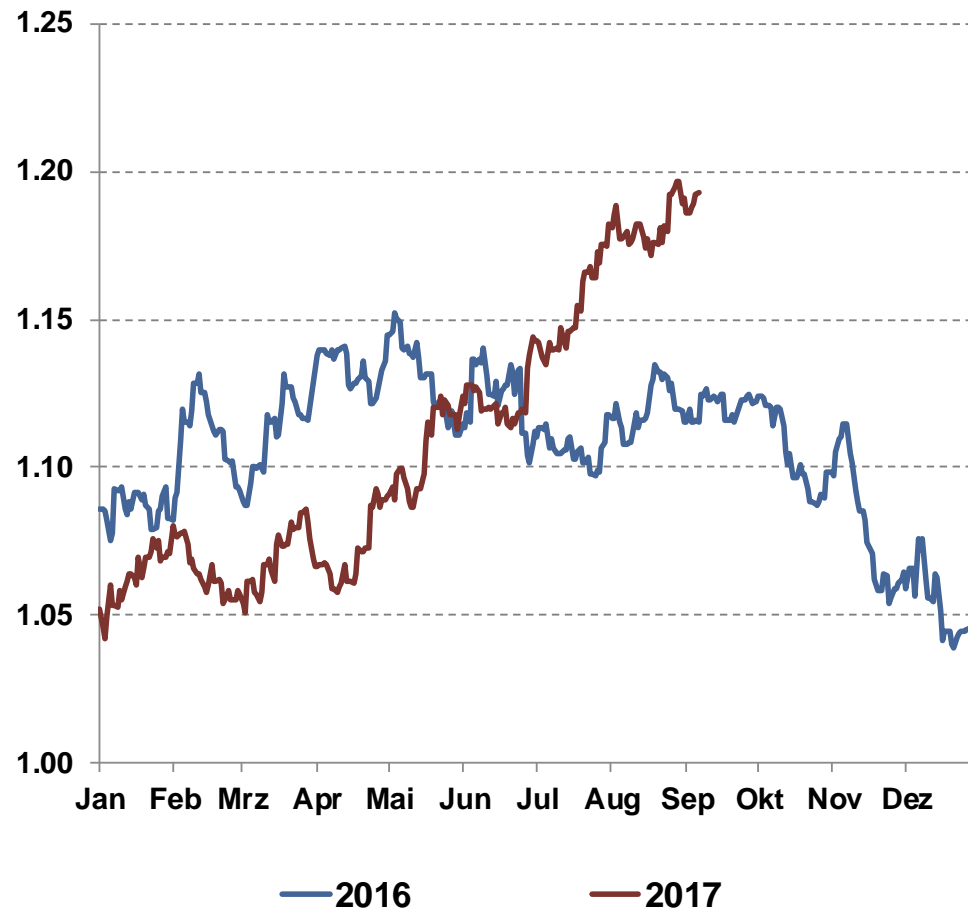


## Cost Saving Levers

- ▶ Savings from cost roadmaps and efficiency programs (WACKER Operating System – WOS)
- ▶ Effects from growth in sales volumes included
- ▶ Cost savings required to offset general cost inflation

# USD Sensitivity Less Than €5m EBITDA per Cent Before Hedging

## US-\$/€ Development



## FX Sensitivity

- ▶ Impact of 1 cent change in annual average exchange rate US-\$/€:
  - ▶ < €15m in Sales
  - ▶ < €5m in EBITDA (unhedged)\*
- ▶ Ongoing growth of sales denominated in USD

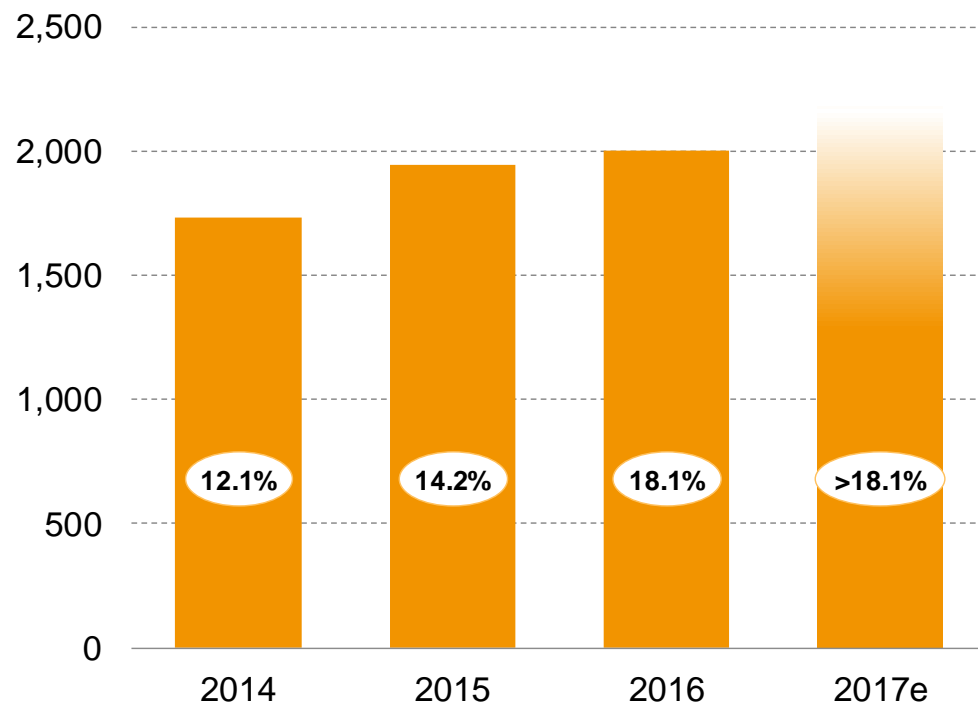
\*hedging policy: 50% of net exposure



# WACKER SILICONES

## EBITDA Margin 2017 Substantially Above Target

### Sales (€m), EBITDA Margin (%)



EBITDA Margin Target: > 16%

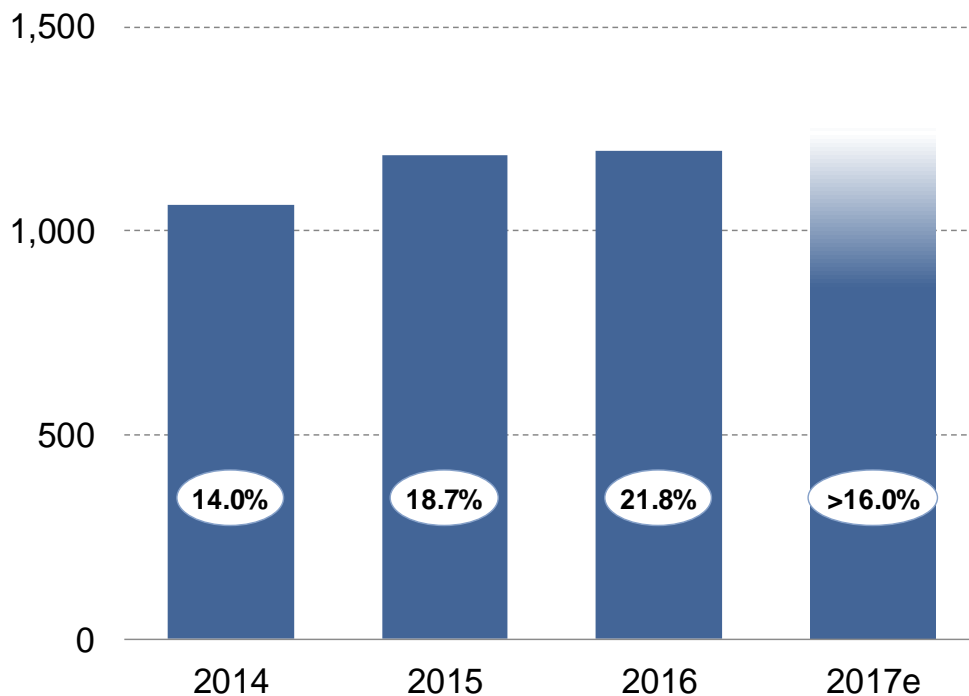
### Margin Development

- ▶ Robust growth, strong demand
- ▶ Globally tight supplies
- ▶ Good product mix and cost performance
- ▶ **2017e:**
  - ▶ Sales with high-single-digit growth
  - ▶ EBITDA margin above 2016 (18.1%)

# WACKER POLYMERS

## Margin Above Target Despite Headwinds from Raw Materials

### Sales (€m), EBITDA Margin (%)



EBITDA Margin Target: > 16%

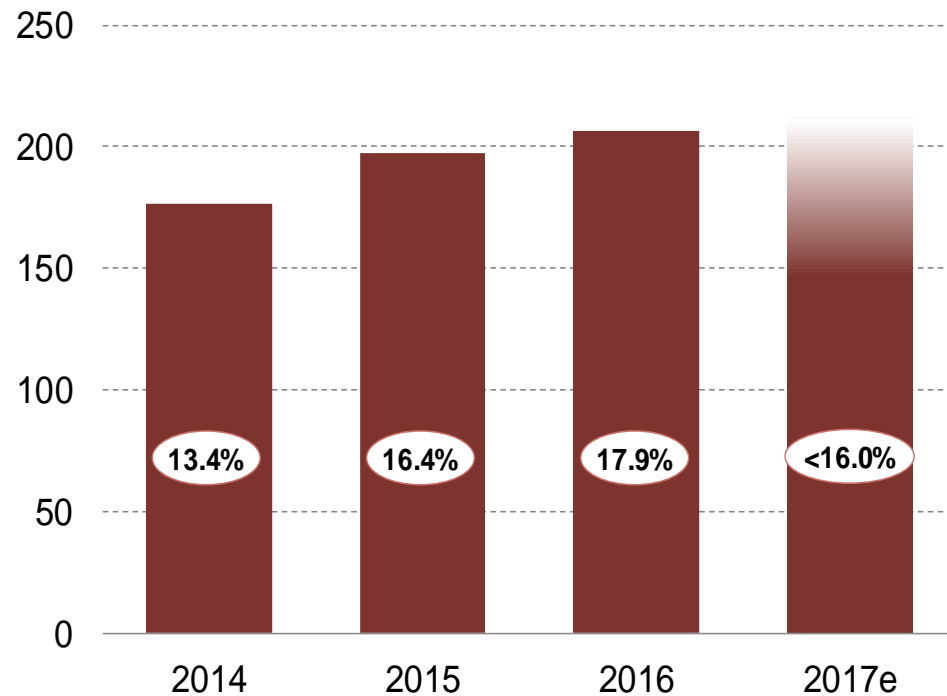
### Margin Development

- ▶ Strong volumes
- ▶ Significant headwinds from raw material inflation, partly offset by price increases
- ▶ **2017e:**
  - ▶ Sales with mid-single-digit % growth
  - ▶ EBITDA margin above target (16%)

# WACKER BIOSOLUTIONS

## Margin Slightly Below Target due to León Integration

### Sales (€m), EBITDA Margin (%)



EBITDA Margin Target: > 16%

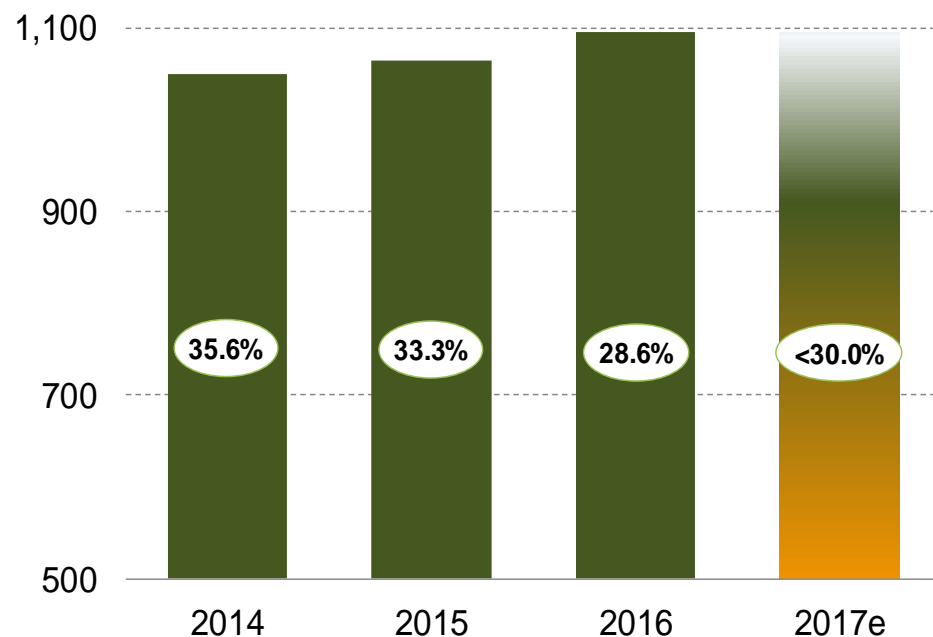
### Margin Development

- ▶ H1/2017 with solid performance
- ▶ H2/2017 with integration cost from acquisition in Spain
- ▶ **2017e:**
  - ▶ Low-single-digit % sales growth
  - ▶ EBITDA at around €30m
  - ▶ EBITDA margin slightly below target due to integration León

# WACKER POLYSILICON

## Ongoing Cost Reduction Supports Margin

### Sales (€m), EBITDA Margin\* (%)



EBITDA Margin Target: > 30%

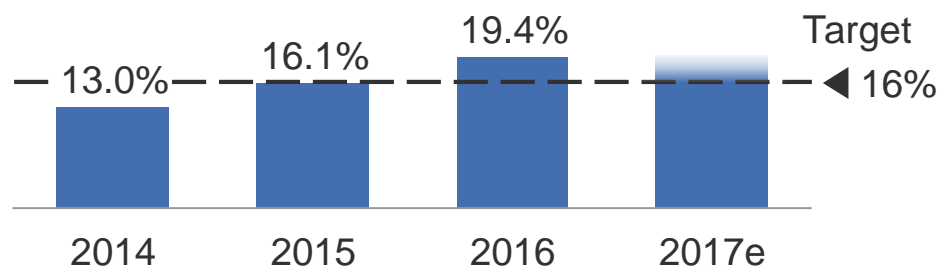
### Margin Development

- ▶ Global PV market growth continues, demand increase for high performance solar wafers (mono applications)
- ▶ ASP below previous year
- ▶ **2017e:**
  - ▶ Sales at prior-year level
  - ▶ EBITDA excl. special income somewhat above 2016
  - ▶ Focus on cost reduction efforts to bring EBITDA margin back to target

\*Operating Margin: (EBITDA - Special Income - Pre Operational Costs - Ramp Costs) / Sales

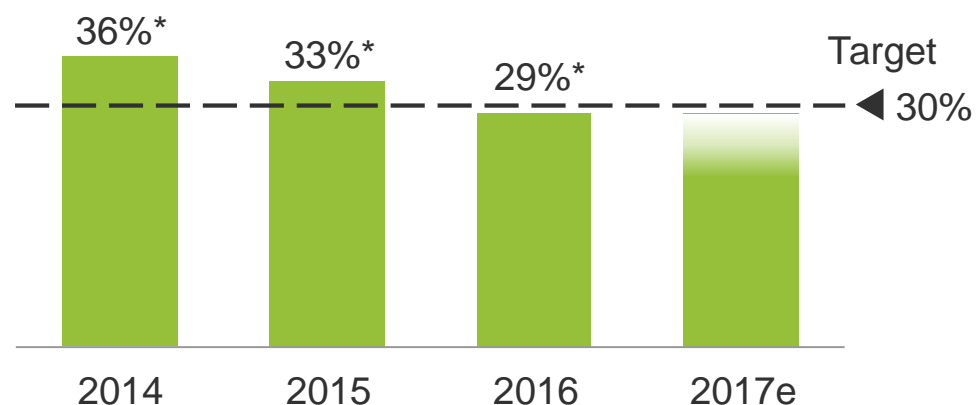
# Strong Margins Confirm '2016 CMD' Target Setting

## Chemicals – EBITDA Margin (%)



- ▶ Internal drivers
  - ▶ Product mix – Specialties
  - ▶ Cost reduction – WOS
- ▶ External drivers
  - ▶ Supply and Demand
  - ▶ Short term impact from raw material prices

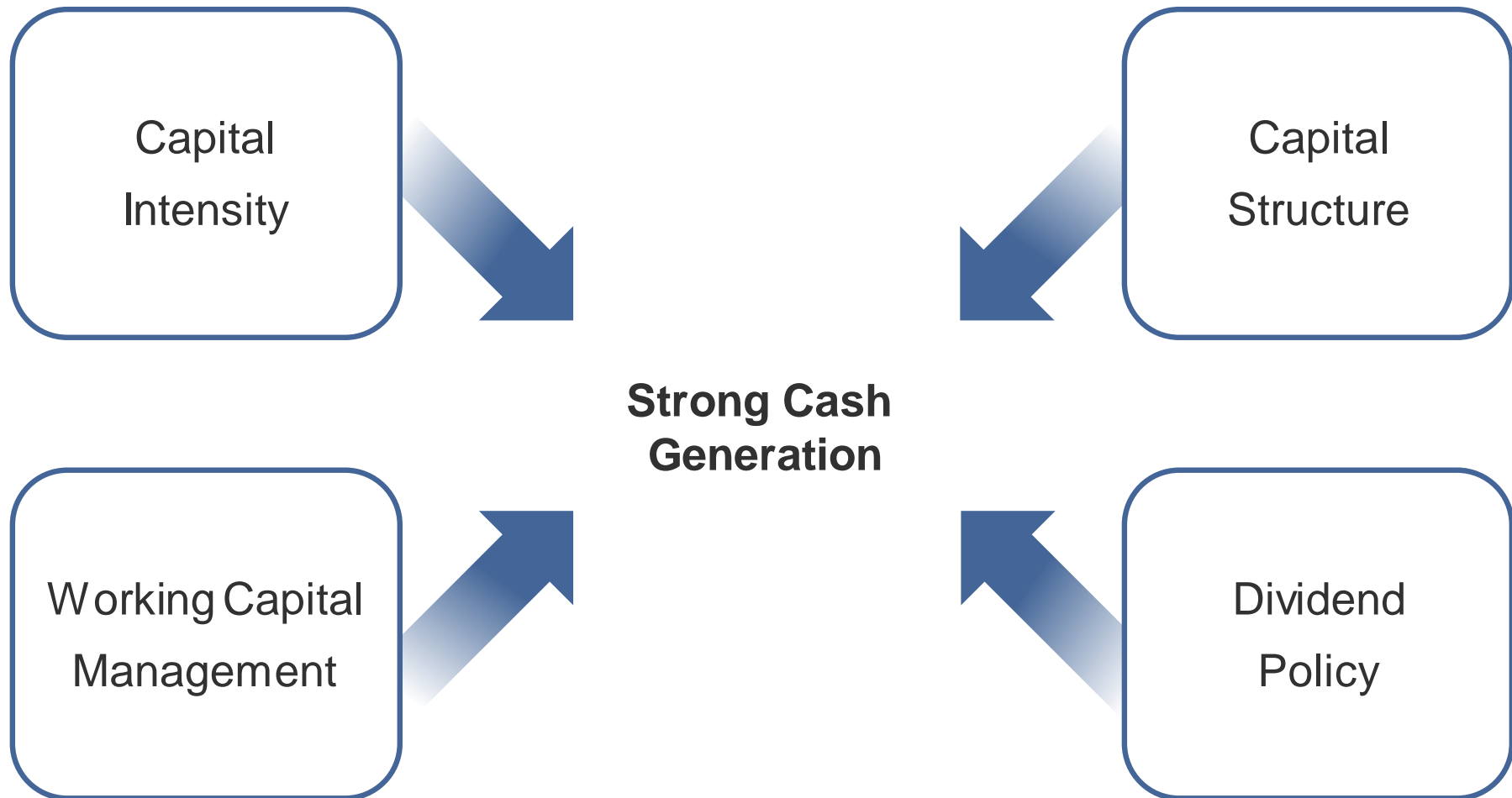
## POLYSILICON – EBITDA Margin (%)



- ▶ Internal drivers
  - ▶ Cost reduction (Productivity, Technical developments)
- ▶ External drivers
  - ▶ Supply and Demand
  - ▶ Regulatory changes

\*Operating Margin:  $(\text{EBITDA} - \text{Special Income} - \text{Pre Operational Costs} - \text{Ramp Costs}) / \text{Sales}$

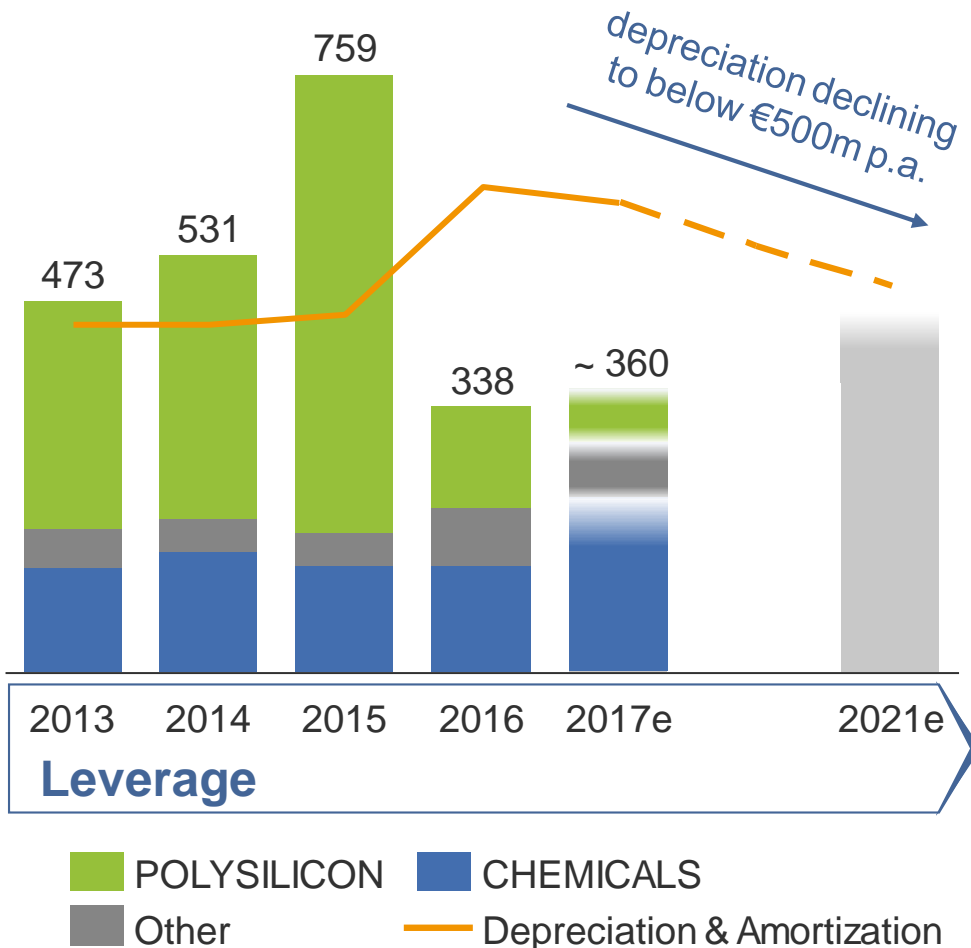
# Target: Generate Cash





# CapEx 2017 at ~ €360m – Substantially Below Depreciation

## CapEx vs. Depreciation\* (€m)



## Leverage Phase

- ▶ Focus on Downstream Chemicals
- ▶ Major Projects
  - ▶ Fumed Silica Tennessee
  - ▶ Si-metal Holla

\*excl. Siltronic

# M&A Activities Becoming More Frequent

## M&A Transactions 2010-2017

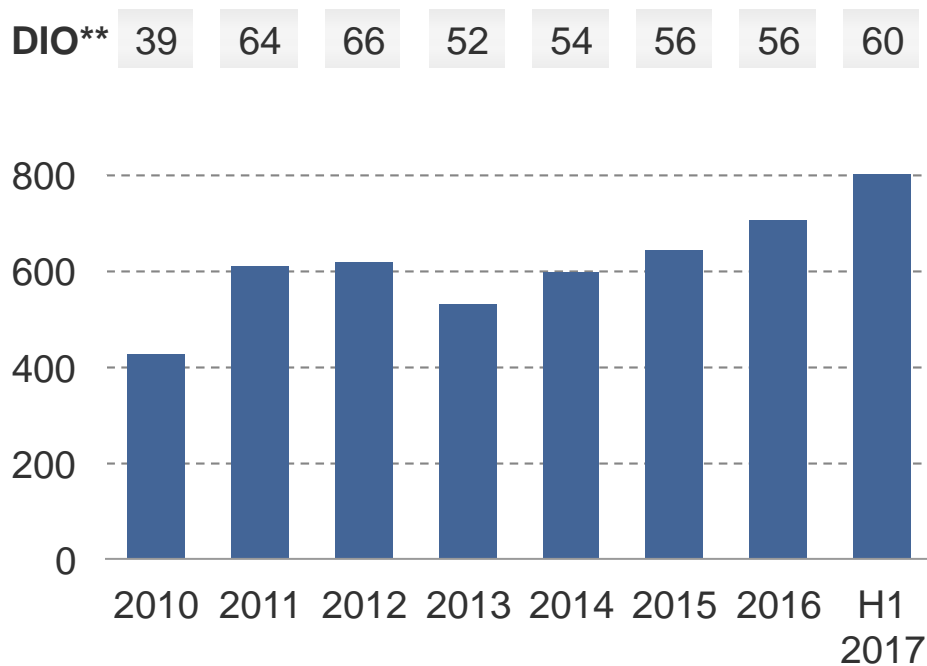
2016	Antibióticos de León (Spain), Fermentation plant
2014	SCIL Proteins Production (Germany), Biopharmaceuticals
2010	Silicon-metal production facility (Norway), from FESIL Group

## M&A Transaction Criteria

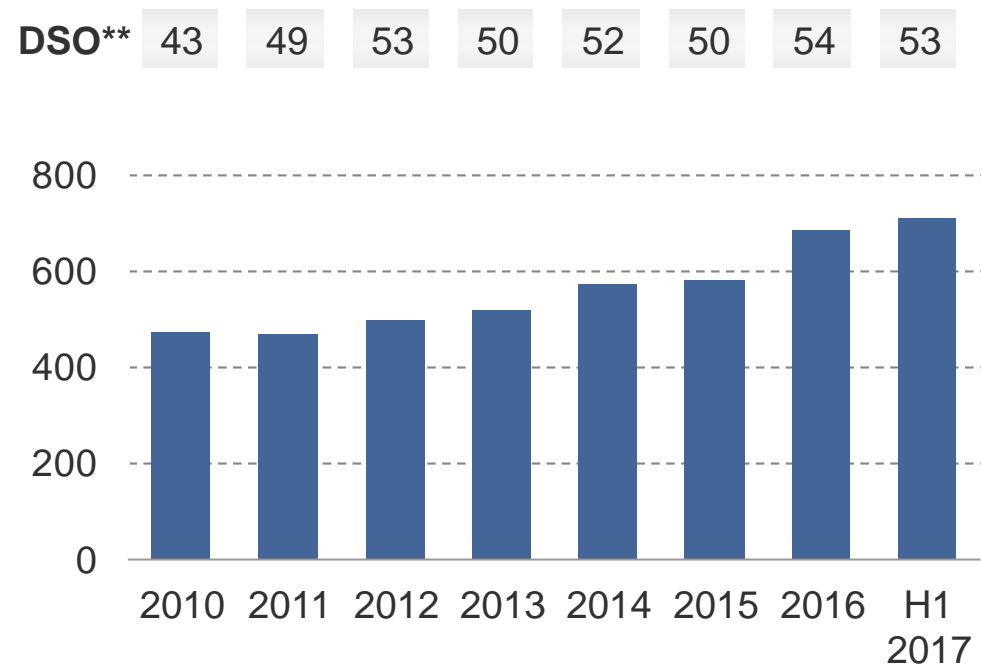
- ▶ Strategic fit
  - ▶ New Technology
  - ▶ Diversify product portfolio
  - ▶ Strengthen Market position
  - ▶ Extend value chain
- ▶ Financial discipline (Value creation)
- ▶ Cultural fit

# H1/17 Inventory Build Poly – Strict Working Capital Management

## Inventories\* (€m)



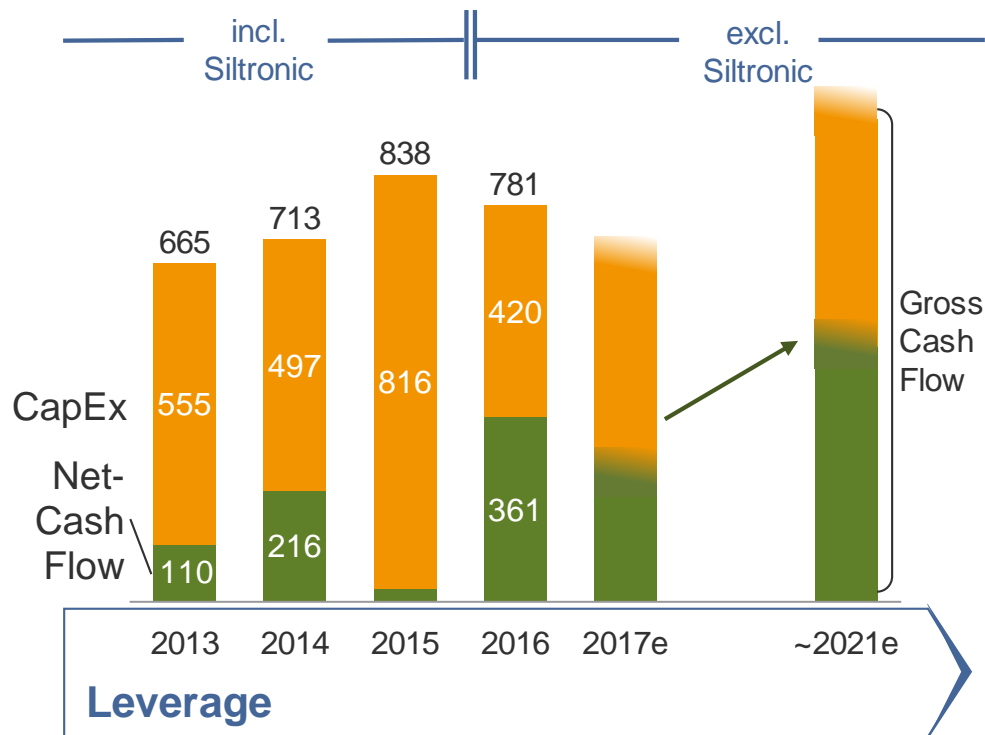
## Trade Receivables\* (€m)



\*excl. Siltronic; \*\*DIO = Days of Inventory Outstanding, DSO = Days of Sales Outstanding

# Substantially Positive Net Cash Flow in 2017

## Gross-Cash Flow\* (€m)



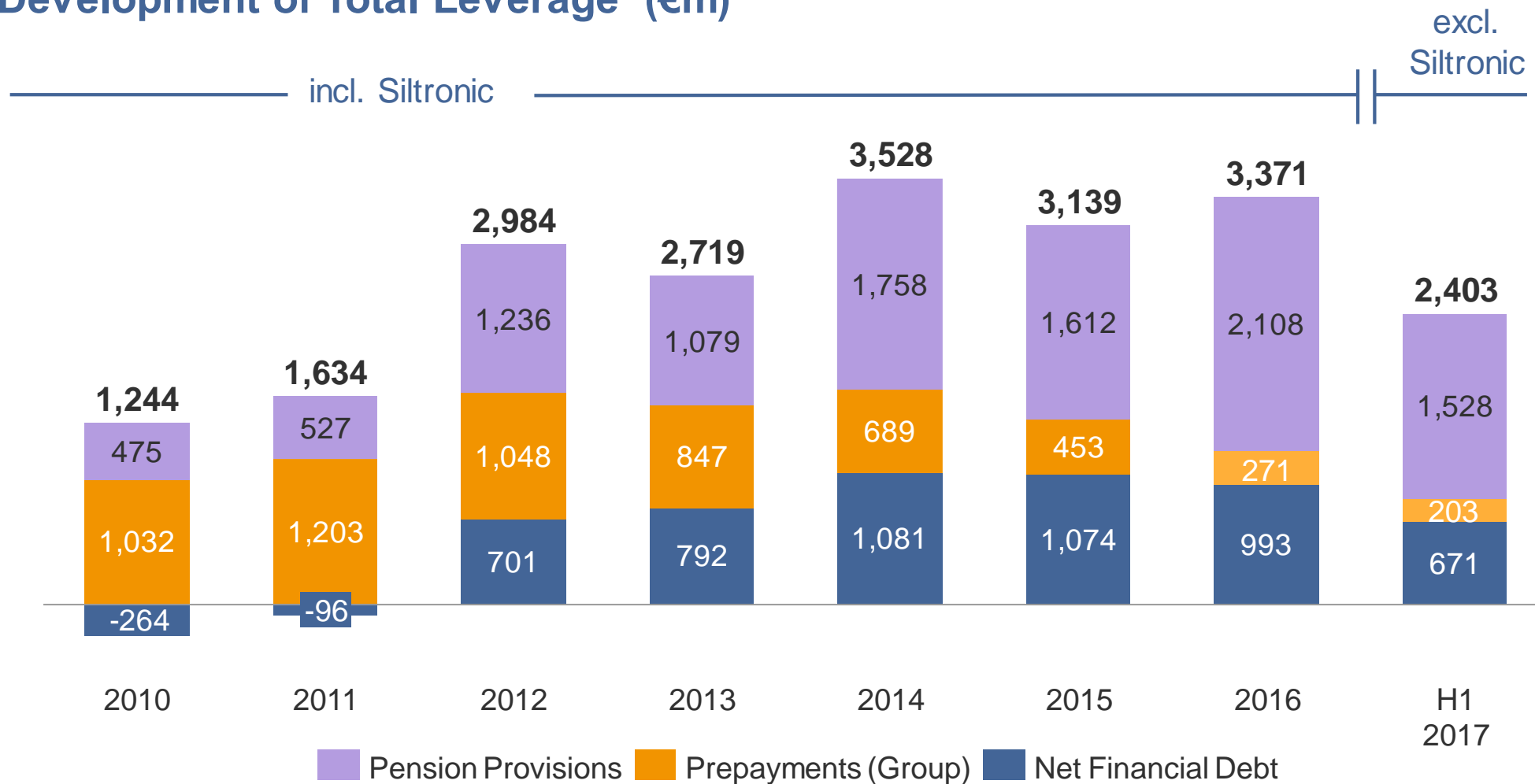
## Development 2017

- ▶ Gross Cash Flow 2017 with some impact from inventories
- ▶ CapEx level in line with 'Leverage' phase
- ▶ Net cash flow expected to be clearly positive, but substantially below last year (€361m excl. Siltronic)

\*Prepayments not considered

# Deconsolidation and Operational Performance Reduce Leverage

## Development of Total Leverage\* (€m)



\*Total Leverage = Net Financial Debt + Prepayments + Pension Provisions

# High Flexibility – €1.5bn in Liquidity and Undrawn Facilities

## Measures in 2016 and 2017

- ▶ 2016:
  - ▶ Bilateral US loans 5x \$50m = \$250m
  - ▶ EIB (Europäische Investitionsbank) loan €200m, based on R&D projects
  - ▶ Early refinancing of €400m Syndicated Loan (Backup facility)
  - ▶ Extension of €200m Syndicated Loan (Backup facility), until 2021
- ▶ 2017 YTD
  - ▶ Repayment of Schuldschein €150m

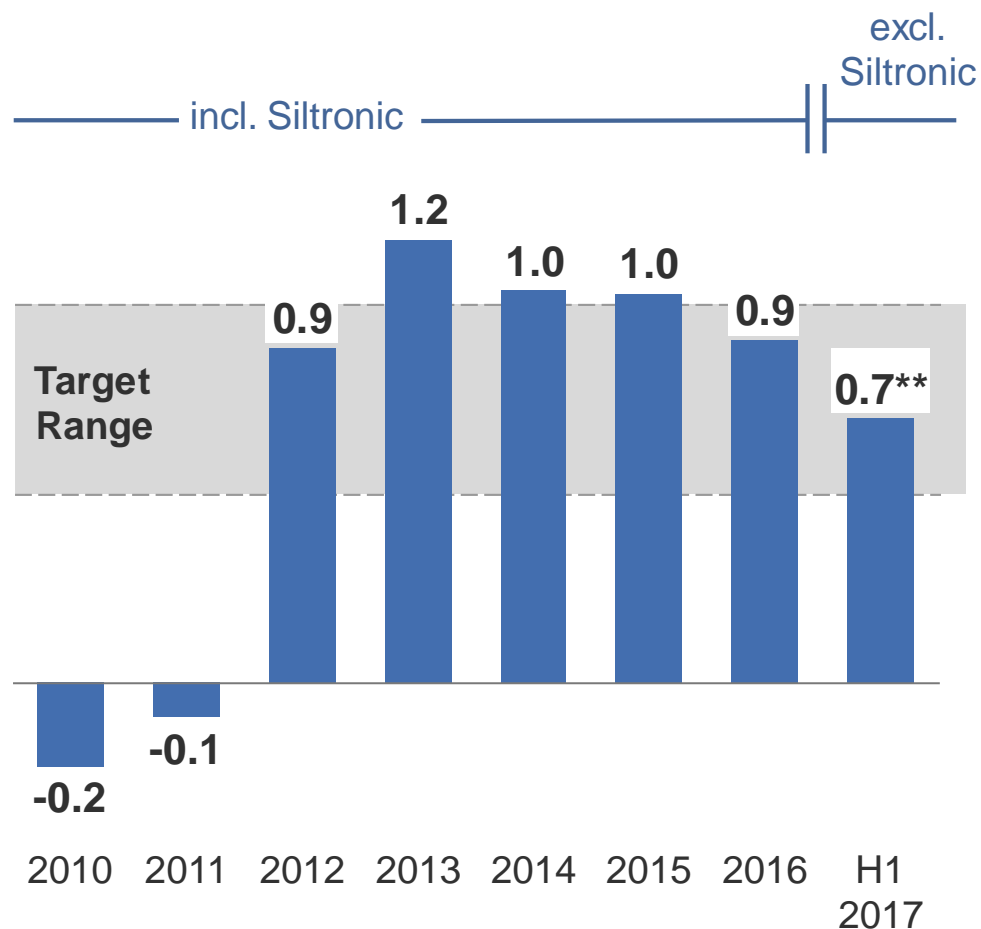
## Status as of June 30, 2017

- ▶ Liquidity: €691m
- ▶ Drawn Facilities: €1,362m
- ▶ Undrawn Facilities: €829m



# Target Net Debt Further Specified: Range 0.5 - 1x EBITDA

## Net Financial Debt\* / EBITDA



## Leverage Target Range

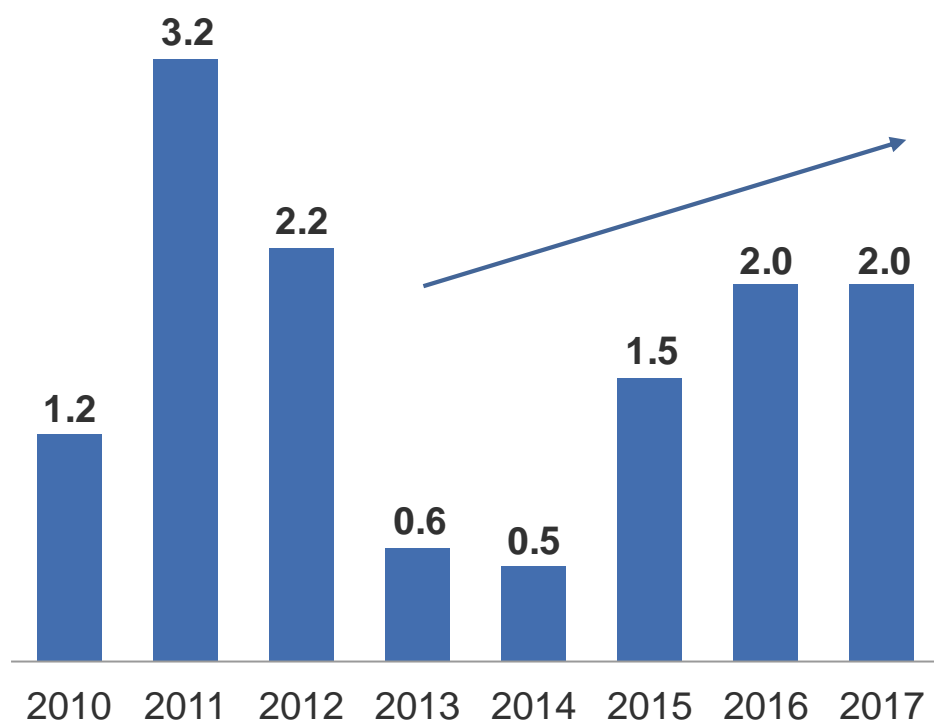
- ▶ Leverage target range set at 0.5 - 1x EBITDA
- ▶ Net Financial Debt H1 2017 at €671m
- ▶ Based on EBITDA consensus of €934m Net Financial Debt within target range
- ▶ If actual is outside target range, we will strive to bring leverage back into corridor over time

\*Net Financial Debt = Sum of cash and cash equivalents, noncurrent and current securities, and noncurrent and current financial liabilities

\*\*Based on EBITDA consensus July 27, 2017 (€934m)

# Dividend Target: 50% Net Income, Temporary Deviations Possible

## Dividend per share\* (€)



## Dividend policy

- ▶ Dividend target:  
50% payout of net income from continuing operations
- ▶ Temporary deviations possible, in particular, to reflect new target range of 0.5 - 1x EBITDA
- ▶ Boundary conditions:
  - ▶ Overall business conditions
  - ▶ Financial status
  - ▶ Approval of AGM

\*Payout for previous year

# PROFIT AND LOSS STATEMENT

## Declining Depreciation, Strict Cost Control and Lower Tax Rate

### H1 2017 (€m)

€m	H1 2017
Sales	2,437
Cost of goods sold	-1,985
<b>Gross profit from sales</b>	<b>452</b>
<i>Gross profit margin (in %)</i>	<i>19%</i>
Selling expenses	-144
Research and development expenses	-81
General administrative expenses	-75
Other operating income	45
Other operating expenses	-29
<b>Operating result</b>	<b>168</b>
Equity result	7
<b>EBIT</b>	<b>175</b>
Interest result	-17
Other financial result	-33
<b>Income before taxes</b>	<b>125</b>
Income taxes	-34
<b>Income from continuing operations</b>	<b>92</b>
<b>Income from discontinued operations</b>	<b>635</b>
<b>Net Income for the period</b>	<b>726</b>
<b>EBIT</b>	<b>175</b>
Depreciation/amortization	308
<b>EBITDA</b>	<b>483</b>

### Targeted Development until 2021:

- ▶ Gross profit margin:
  - ▶ Influenced by product mix, F/X and raw material prices
  - ▶ Target corridor of 17% - 22%
- ▶ R&D ratio > 3% to support specialty strategy
- ▶ Strict cost control:  
SG&A target at 7% of sales
- ▶ Equity result includes share of Siltronic's net income and depreciation on purchase price allocation
- ▶ Tax rate from 2017 on at statutory level (30% or below)

# BALANCE SHEET

## Maintaining Financial Stability and Efficient Capital Structure

### Target Structure

Drivers	Non-current assets	Equity	Drivers
<ul style="list-style-type: none"> <li>▶ CapEx below depreciation</li> <li>▶ Depreciation declining</li> </ul>		Financial debt incl. prepayments	<ul style="list-style-type: none"> <li>▶ Equity ratio partly fluctuating with provisions for pensions (historical level ~ 40%)</li> <li>▶ Dividend policy: 50% of Net Income</li> <li>▶ Prepayments at insignificant level</li> <li>▶ Target: Net financial debt 0.5 - 1x EBITDA</li> </ul>
<ul style="list-style-type: none"> <li>▶ DIO: ~ 60 - 70 days and</li> <li>▶ DSO: ~ 50 days despite increasing globalization</li> </ul>	Working capital	Pension provisions	<ul style="list-style-type: none"> <li>▶ Fluctuating with discount rate</li> </ul>
<ul style="list-style-type: none"> <li>▶ Minimum level for operations</li> </ul>	Liquidity	Liabilities / other accruals	

# GUIDANCE

## Update FY 2017 – Confirmed Outlook in EBITDA

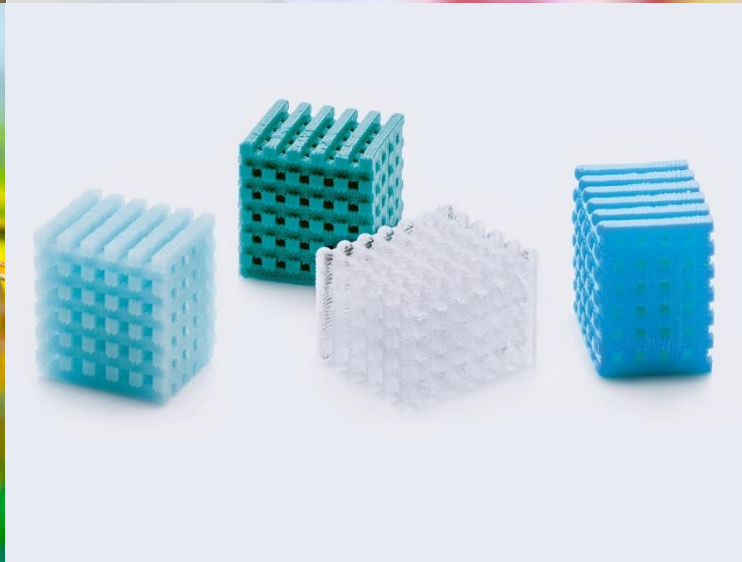
	2016*	Outlook 2017
Sales (€m)	4,634	Mid-single-digit % increase
EBITDA excl. special income (€m)	935	<b>Between 900 and 935</b>
EBITDA margin (%)	20.6	Somewhat lower than last year
Net cash flow (€m)	361	Substantially lower than last year
CapEx (€m)	338	Around 360
Net financial debt (€m)	993	Substantially lower than last year
Depreciation (€m)	618	Around 600
ROCE (%)	5.6	Slightly below last year's level
Tax Rate (continuing operations) (%)	30.9	<b>Below 30%</b>

\*Adjusted according to IFRS 5

**WACKER**



CREATING TOMORROW'S SOLUTIONS



## 2017 Capital Market Day – Wacker Chemie AG Managing for Growth and Cash

London, October 4, 2017

Rudolf Staudigl (CEO), Christian Hartel, Auguste Willems,  
Tobias Ohler (CFO)