



**WACKER**

CREATING TOMORROW'S SOLUTIONS

**WACKER CHEMIE AG**

**Transforming Growth – Improving Returns on Lower Capex**

Warburg Highlights 2016, Hamburg, June 30th, 2016

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# WACKER CHEMIE AG

## Our Business Portfolio – A Foundation for Growth

### WACKER BIOSOLUTIONS

- ▶ High potential for future development

16%

\*

### WACKER SILICONES

- ▶ No. 2 with global footprint
- ▶ Leading positions in key growth segments

14%

### WACKER POLYMERS

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

19%

**WACKER:**  
**FY 2015**  
**Sales €5.3bn**  
**EBITDA Margin**  
**20%**

### Siltronic

- ▶ Technology leader, ranking as no. 3
- ▶ Balanced base of customers
- ▶ Minority position floated (WAF300; WAF)

13%

### WACKER POLYSILICON

- ▶ No. 2
- ▶ Cost and quality leader
- ▶ Enabling industry growth

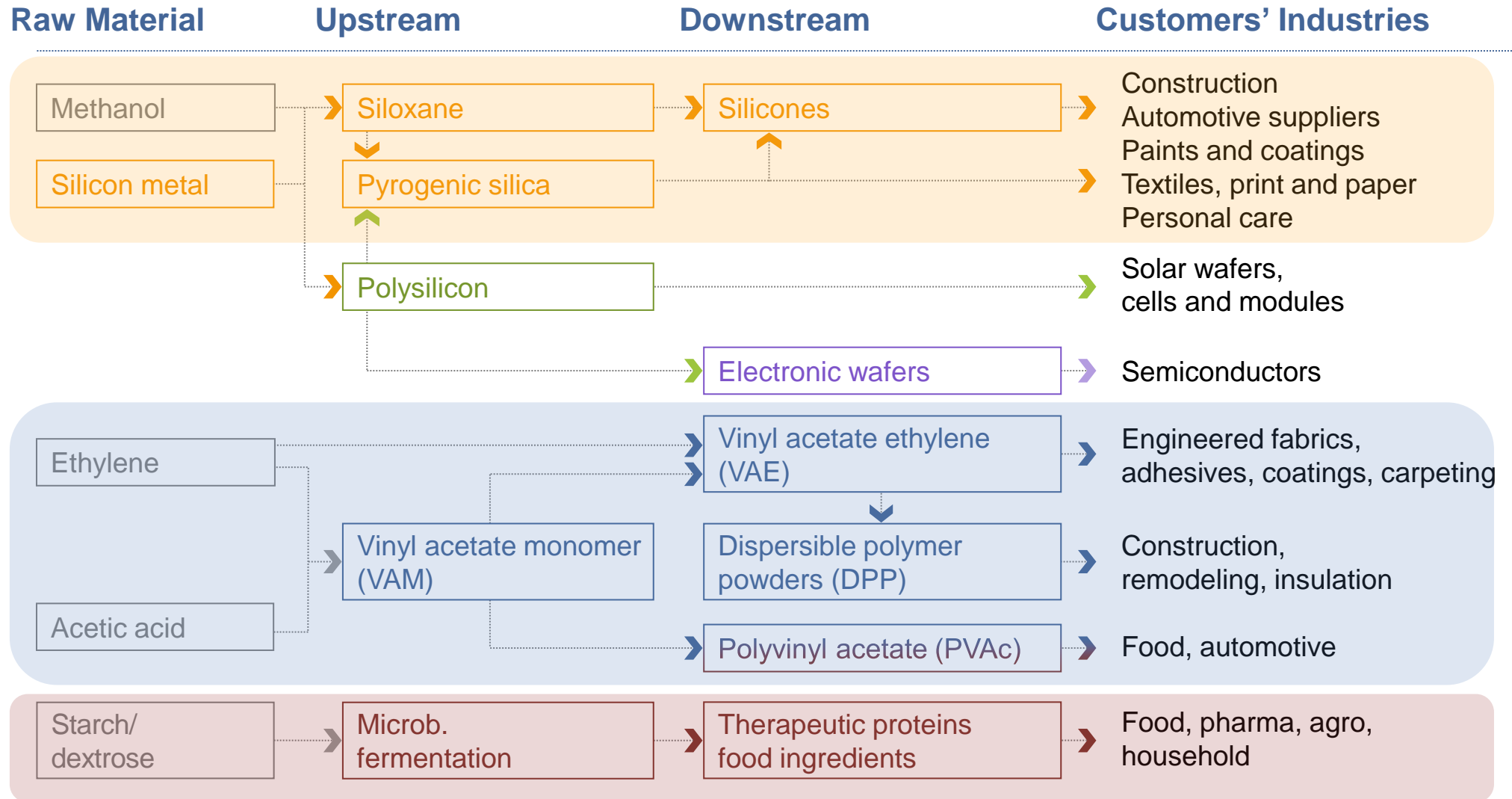
38%  
(33%\*\*)

\*Sales FY 2015, Others

\*\* EBITDA Margin adjusted by non-operational effects

# WACKER CHEMIE AG

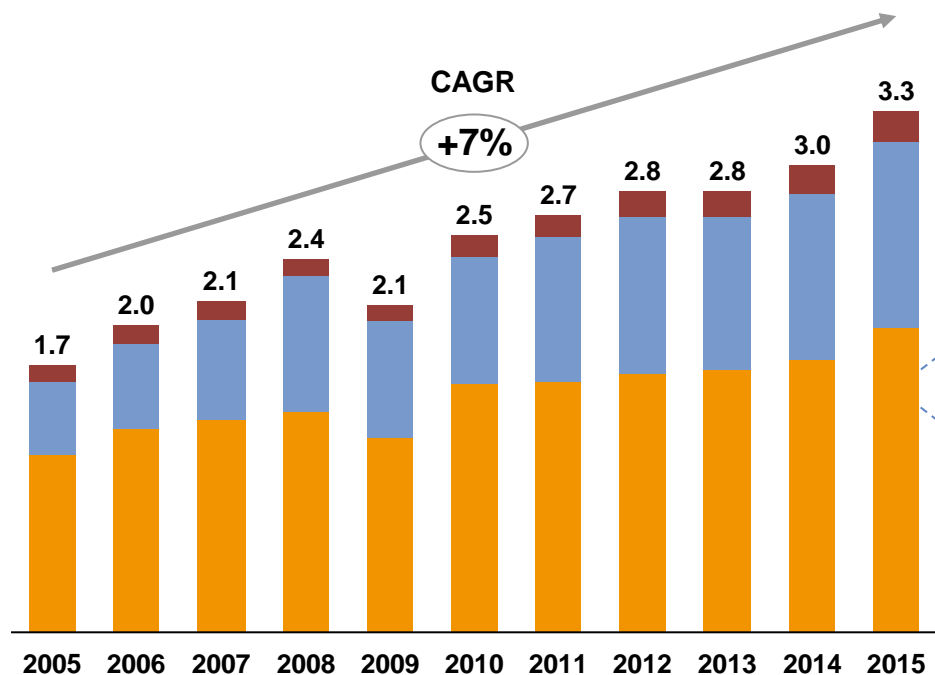
## Highly-Integrated Operations Based on Five Key Raw Materials



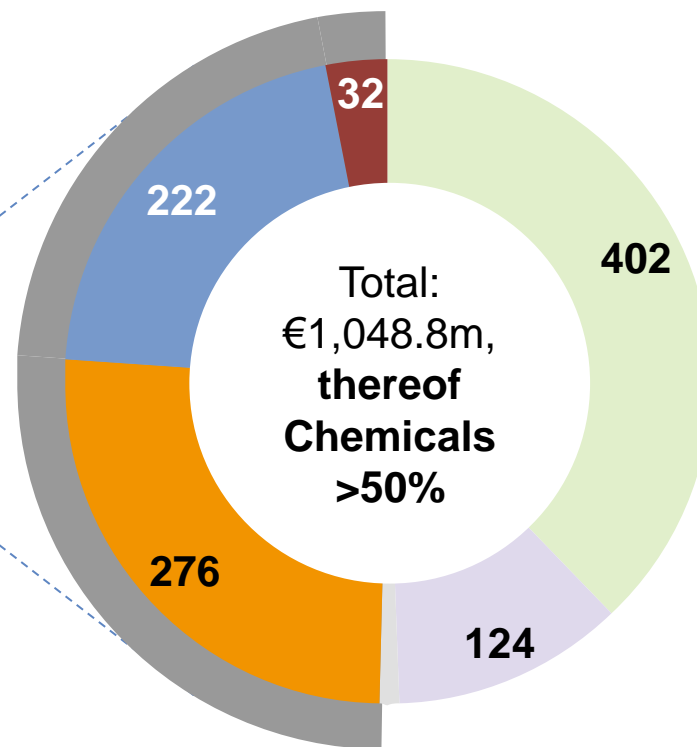
# Chemicals

## Strong Growth and Contribution to EBITDA

Sales Chemical Divisions (€bn)



EBITDA 2015 (€m)



CHEMICALS

**WACKER BIOSOLUTIONS**

Siltronic

**WACKER SILICONES**

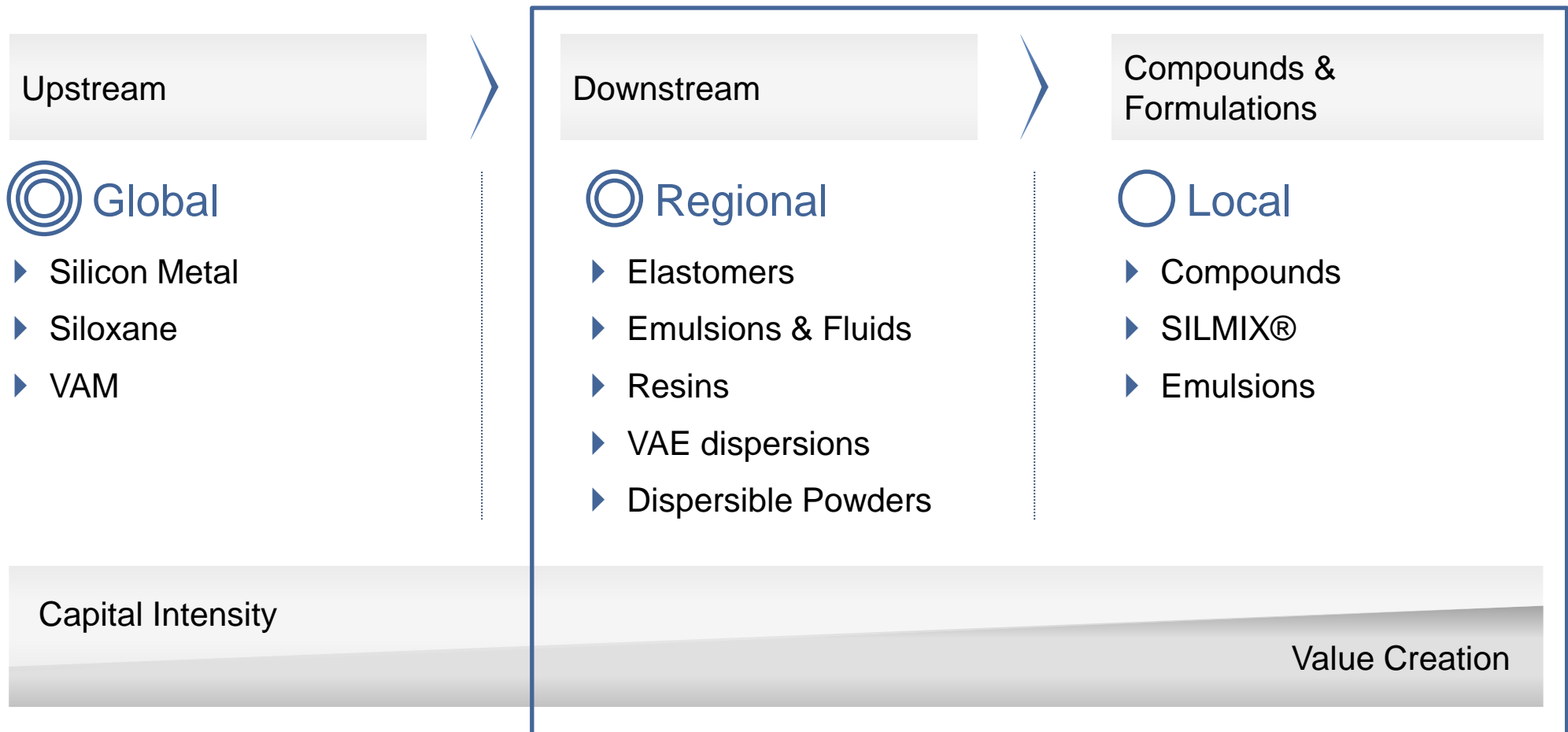
WACKER POLYSILICON

**WACKER POLYMERS**

Others

# Chemicals

## Reduce Capital Intensity – Leverage Existing Upstream Capacities



# Chemicals

## Leveraging A Global Market Presence with Local Access

### Technical Center & WACKER ACADEMY



22 Technical Centers worldwide to service customers and develop products & applications



13 WACKER ACADEMY sites provide training and product know-how tailored to our customers' needs.

### Market Penetration in all Emerging Regions



**China**  
Local products and services



**Korea**  
Focus on products for the electronic market



**India**  
Focus on textile applications



**Brazil**  
Expanding Technical Center presence, local products and services



**South East Asia**  
Mobile technical center

Sales

TC

Academy

Plant

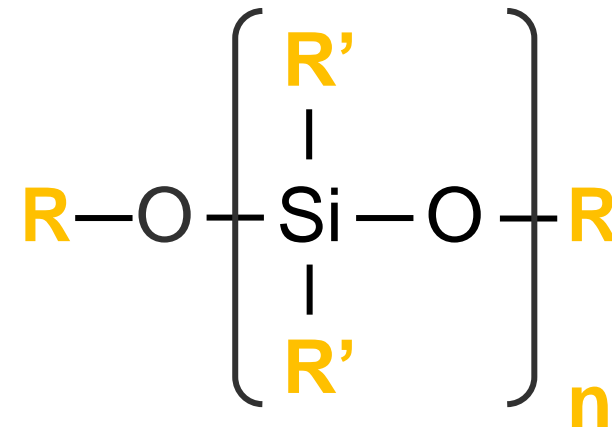
# SILICONES

## Silicones are the Chameleon within Plastics

### The most significant benefits are:

- ▶ Excellent chemical resistance
- ▶ Thermal stability ~200° C and above
- ▶ Physiological compatibility
- ▶ Stable properties over wide T-range
- ▶ Versatile to modifications
  - ▶ From linear to branched network structures
  - ▶ Different chain lengths **n**
  - ▶ Different substituents **R**
  - ▶ Ability to incorporate different fillers

## Silicones



### Siloxane-Polymer<sup>1</sup>

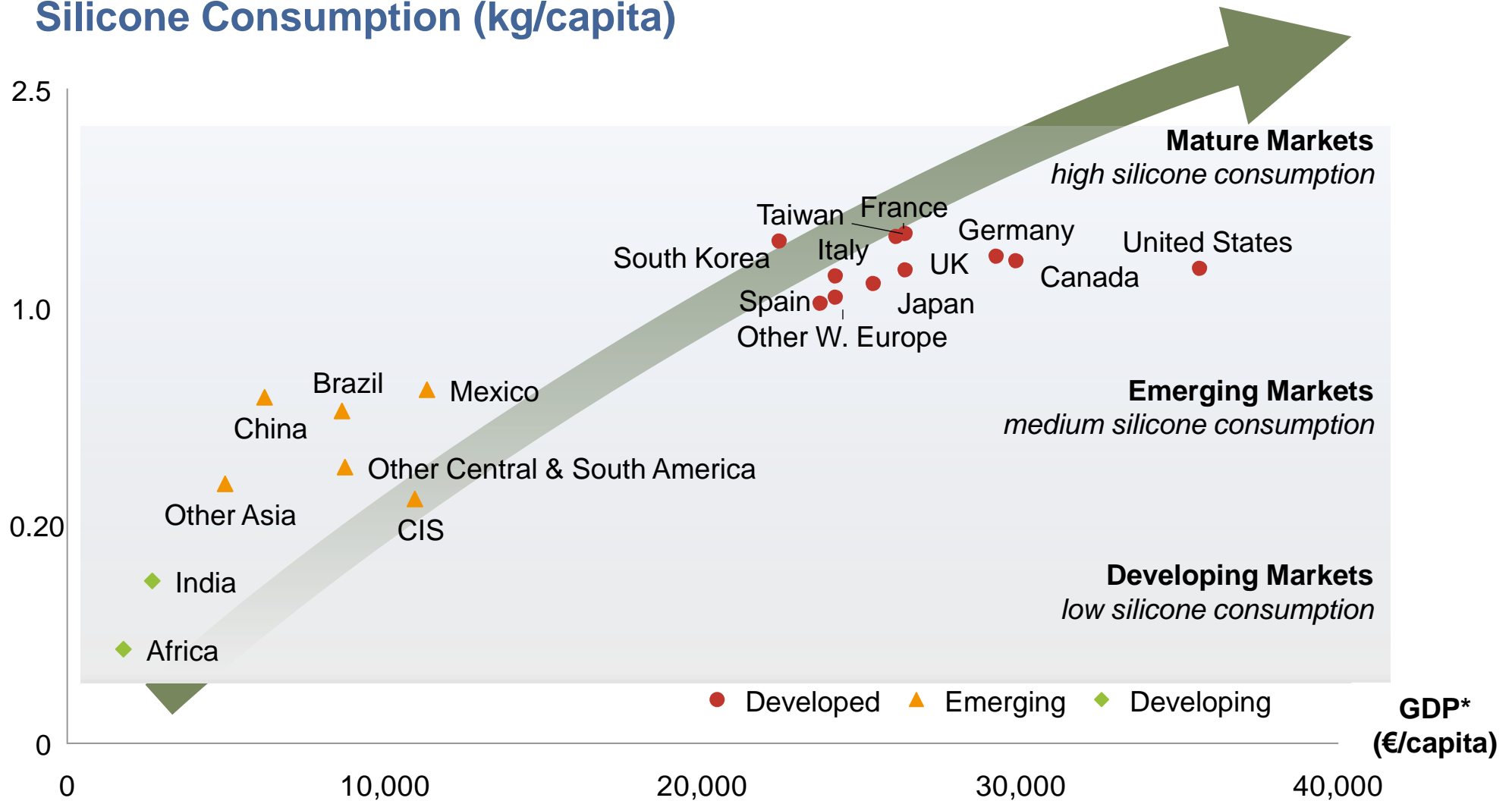
<sup>1</sup>PDMS (Polydimethylsiloxane) with R' = CH<sub>3</sub> (Methyl)



# SILICONES

## Silicone Consumption – Emerging Markets Catching Up

### Silicone Consumption (kg/capita)



Source: WACKER estimate / \*GDP = Gross domestic product

# SILICONES

## Increasing Demand for Silicones in All Markets

### Mobility



- ▶ Airbag coating
- ▶ Vibration control
- ▶ Turbo charger hoses
- ▶ Automotive lighting
- ▶ Protection of electronic control units (e.g. ABS<sup>1</sup>, ESP<sup>2</sup>, ACC<sup>3</sup>)

### Digitization



- ▶ Optical bonding
- ▶ LED Backlighting
- ▶ Sealing
- ▶ Electromechanical shielding
- ▶ Thermal management

### Medical



- ▶ Medical parts, e.g. Catheters
- ▶ Baby care
- ▶ Wound dressings
- ▶ Orthopedics
- ▶ Prosthetics

<sup>1</sup>Antilock Braking System

<sup>2</sup>Electronic Stability Program

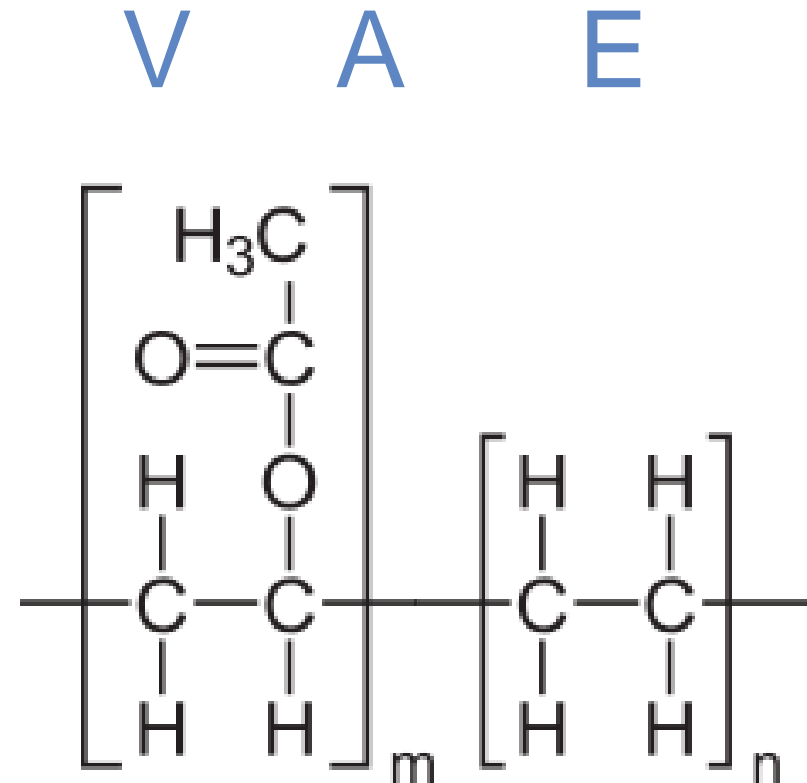
<sup>3</sup>Adaptive Cruise Control

# POLYMERS

## Versatile Applications with Ecologically Sound Performance

### The most significant benefits are:

- ▶ Perfect adhesion and cohesion
- ▶ Ethylene as internal plasticizer
- ▶ Produced without added Formaldehyde or APEOs\*
- ▶ Waterborne



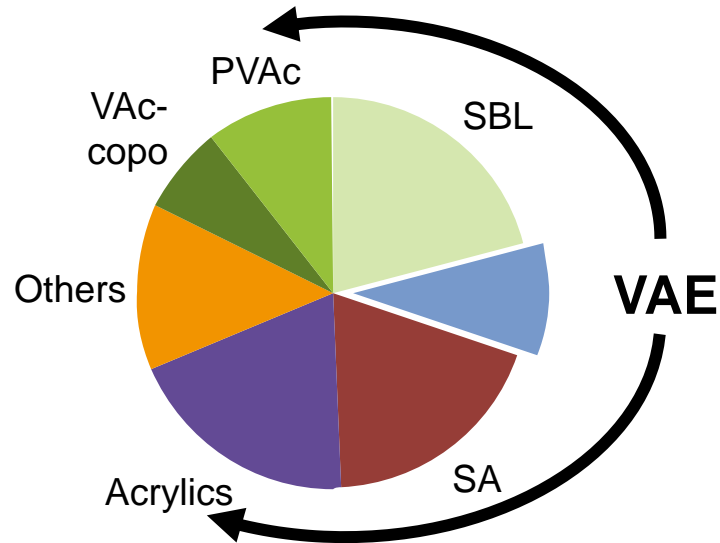
VINNAPAS®

\*alkyl phenol ethoxylates

# POLYMERS

## Growth of VAE Dispersions above Alternative Systems

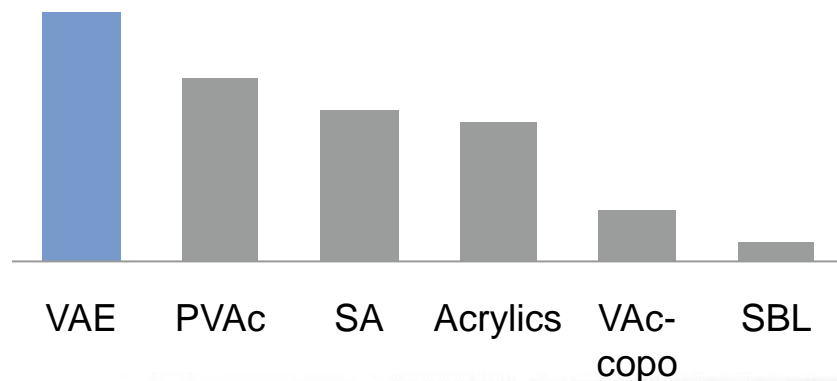
### Synthetic Polymer Latex Market Volume



### Key advantages

- ▶ Less combustible
- ▶ Broad range of heat resistance
- ▶ Easy applicability & workability
- ▶ Flexibility
- ▶ Reliability, clean machinability
- ▶ No plasticizers or additional solvents
- ▶ Low VOC and low odor

### Growth Rates 2009 -2014\*

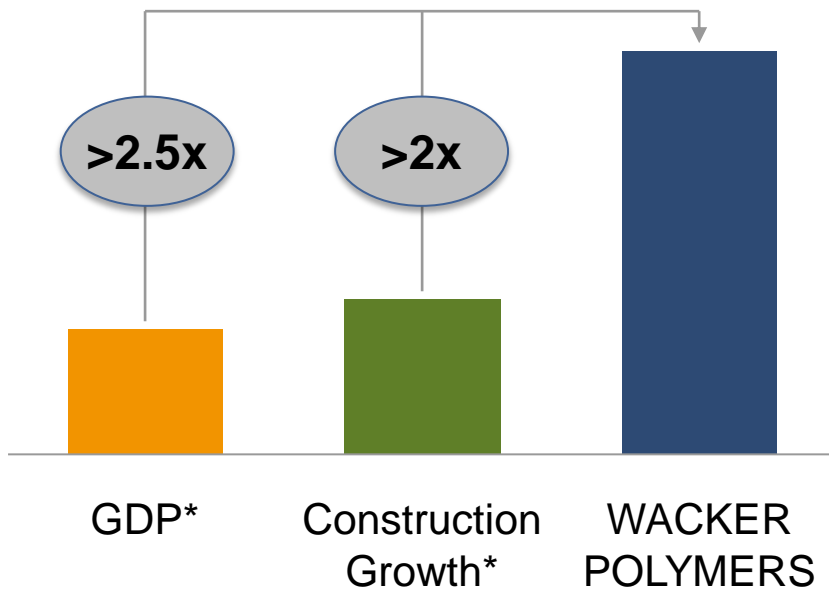


\*Source: Kline Studies 2015

# POLYMERS

## Growth of Dispersible Polymer Powder with a Multiple of GDP

### Average Annual Growth Rate 2010 -2015



### Powder Growth in All Markets

#### Mature Markets

- ▶ Trend towards bigger and thinner tiles
- ▶ WACKER with strong technical support and customized solutions

#### Emerging Markets

- ▶ Increasing quality standards and labor cost
- ▶ High efficiency through application speed and material savings

▶ High Percentage of Growth in Powder Achieved by Substitution

# POLYMERS

## Creating Value Add Through Market Specific Developments



### Skimcoat Applications in India

VINNAPAS® 5010 N / 8034 H as hydrophobic binder for white cement based putty and skimcoat

### Innovation & Transformation

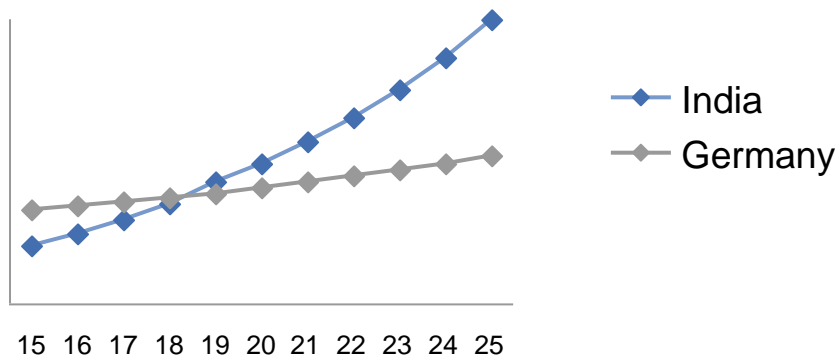
White cement based skim coating

- ▶ Provides a base layer for paints with potential to grow to the size of the overall skimcoat market
- ▶ Replaces acrylate-based systems with excellent covering properties at an optimal cost

### Growth

- ▶ Skimcoat quickly became our core business in India
- ▶ Expect India to outgrow German market for dispersion powders already in 2019

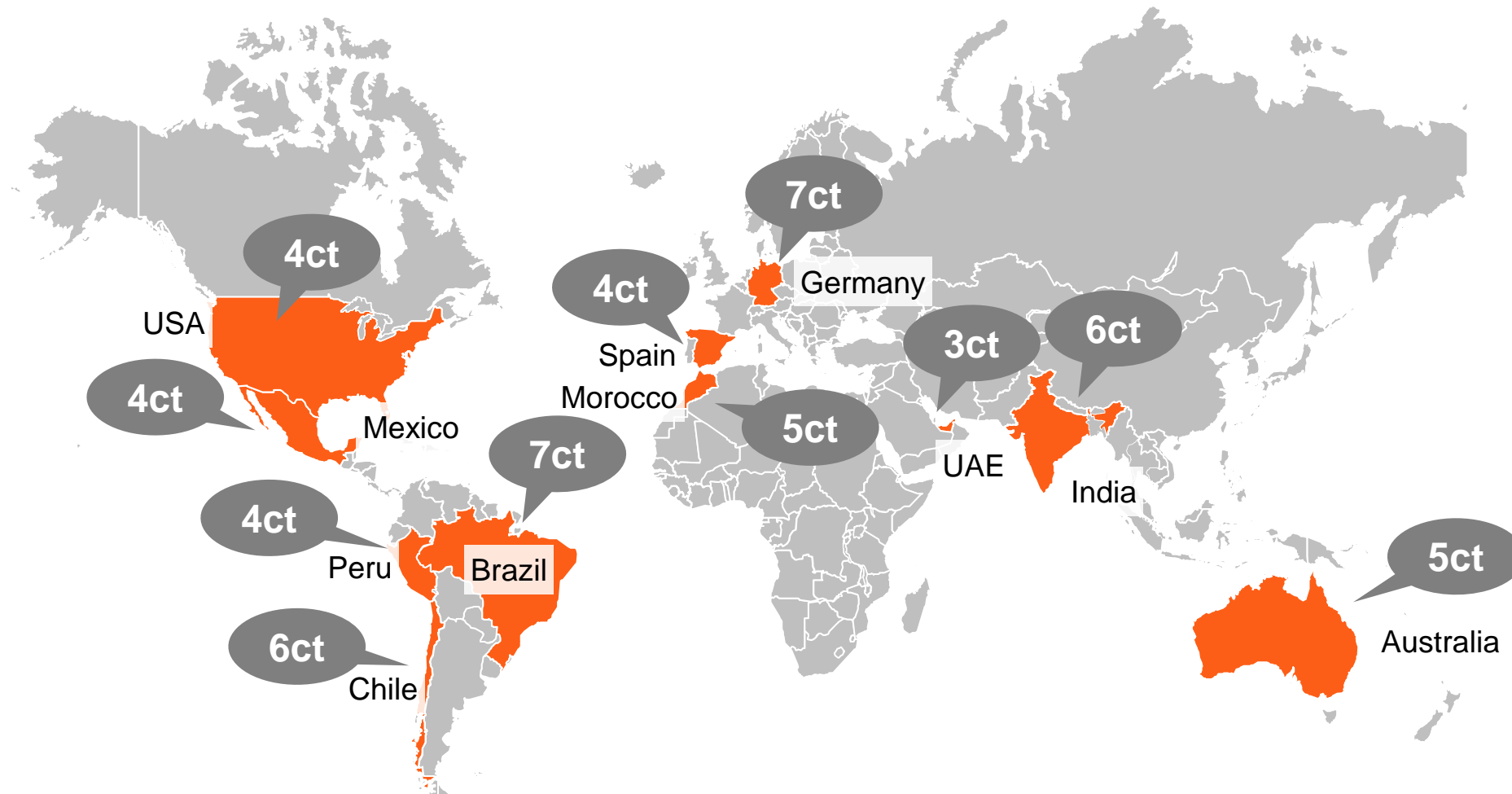
### Dispersion powder (in kt) 2015-2025



# POLYSILICON

## Decreasing Prices Open Up New Markets

### Benchmark PV Power Rates in €/KWh



Source: See News Renewables, Industry Announcements

# POLYSILICON

## Strong Market Growth Expected to Continue

Country	2012	2013	2014	2015	2016e
France	1.1	0.6	0.9	0.9	0.9 - 1.1
Germany	7.6	3.3	1.9	1.5	1.3 - 1.5
Italy	3.6	1.1	0.6	0.3	0.4 - 0.5
Europe other	4.9	5.8	4.0	5.9	5.0 - 5.5
<b>Europe total</b>	<b>17.2</b>	<b>10.8</b>	<b>7.4</b>	<b>8.6</b>	<b>7.6 - 8.6</b>
Australia	1.0	0.9	1.0	0.9	0.9 - 1.1
China	4.8	12.9	13.2*	12.5*	16.0 - 18.0
India	0.9	1.0	1.0	2.1	4.5 - 6.0
Japan	2.5	6.8	9.3	9.8	8.5 - 9.5
USA	3.3	4.8	6.2	7.3	11.0 - 14.0
Rest of World	2.1	2.8	6.0	10.8	11.0 - 13.0
<b>Total</b>	<b>32 GW</b>	<b>40 GW</b>	<b>44 GW</b>	<b>~52 GW</b>	<b>~60 - 70 GW</b>

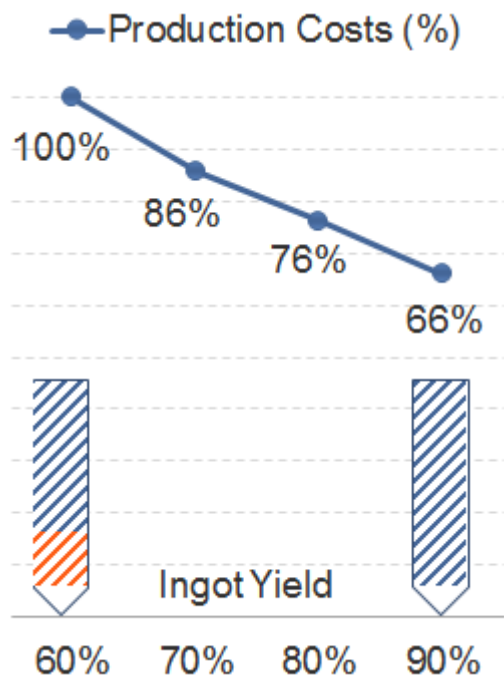
Sources: SPE, IHS, Industry announcements, WACKER est., \*2.6 GW allocated from 2015 to 2014 (installed and not connected in 2014)



# POLYSILICON

## High Quality Polysilicon Allows Cost Reduction in the Value Chain

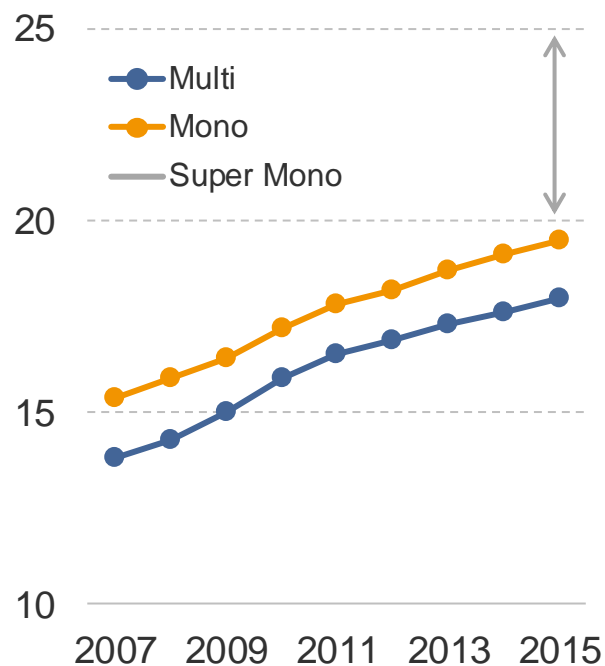
### Usable Ingot Length (%)



Higher quality

- ▶ Longer usable length
- ▶ Lower cost per wafer

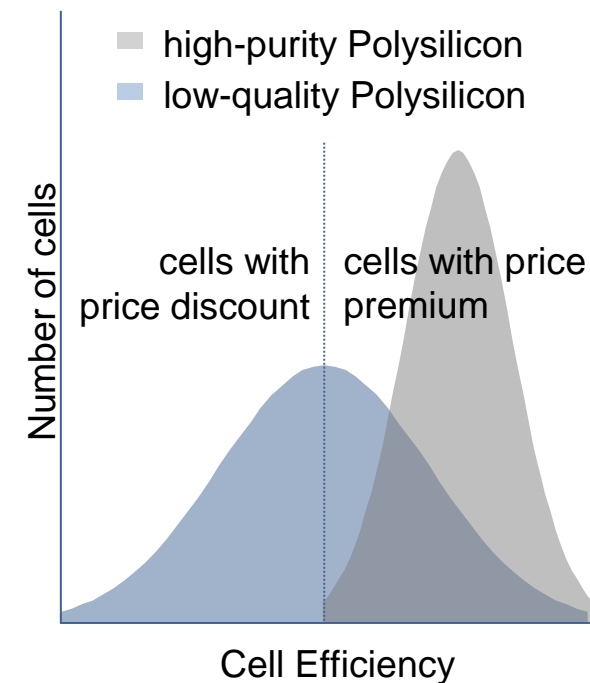
### Solar Cell Efficiencies (%)



Higher quality supports greater efficiencies

- ▶ Lower cost per wafer

### Cell Efficiency Distribution



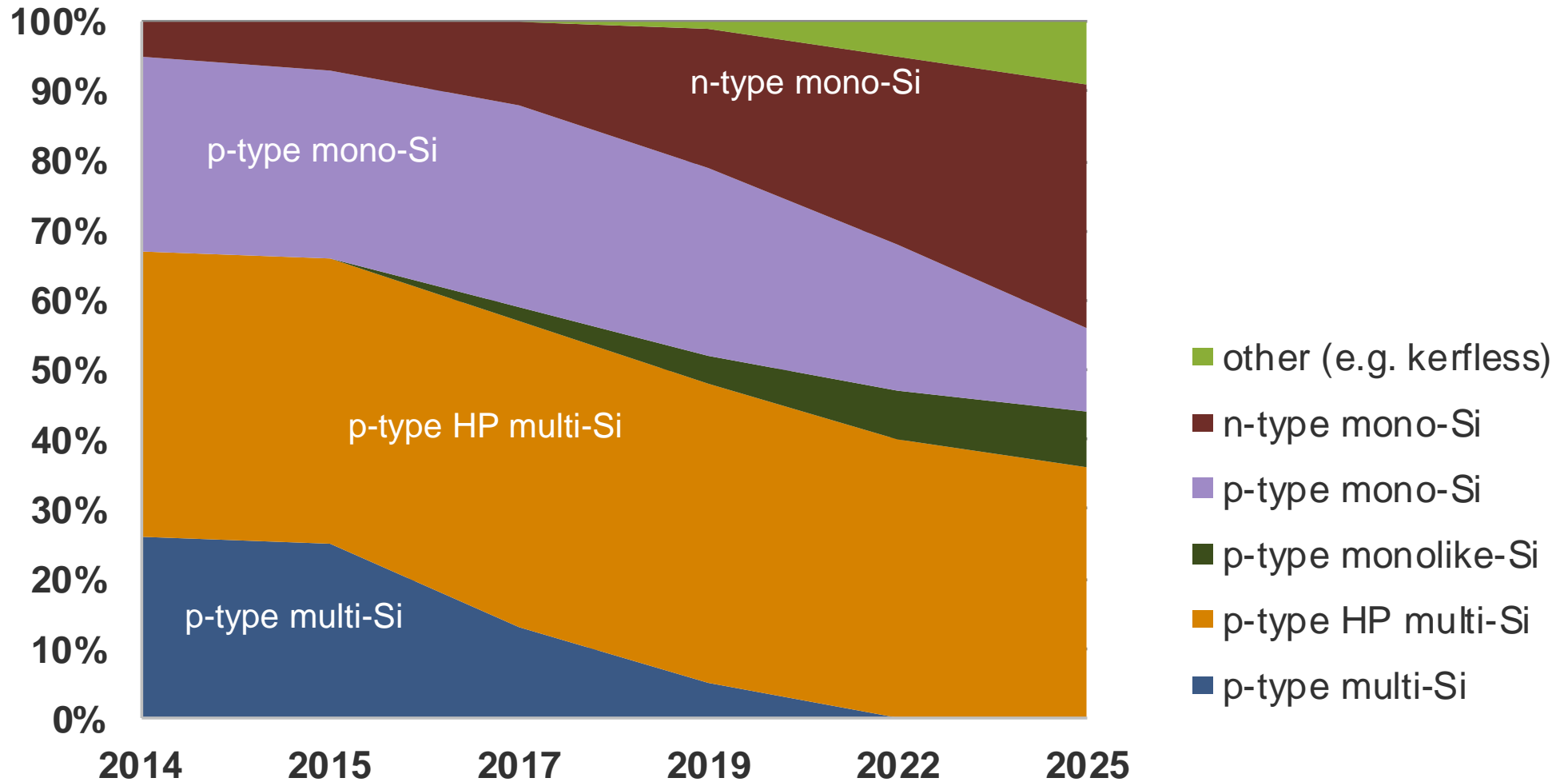
Narrow distribution and higher mean

- ▶ Lower cost per wafer

Source: WACKER estimates

# POLYSILICON

## High Quality Polysilicon Required for High Cell Efficiency Trend



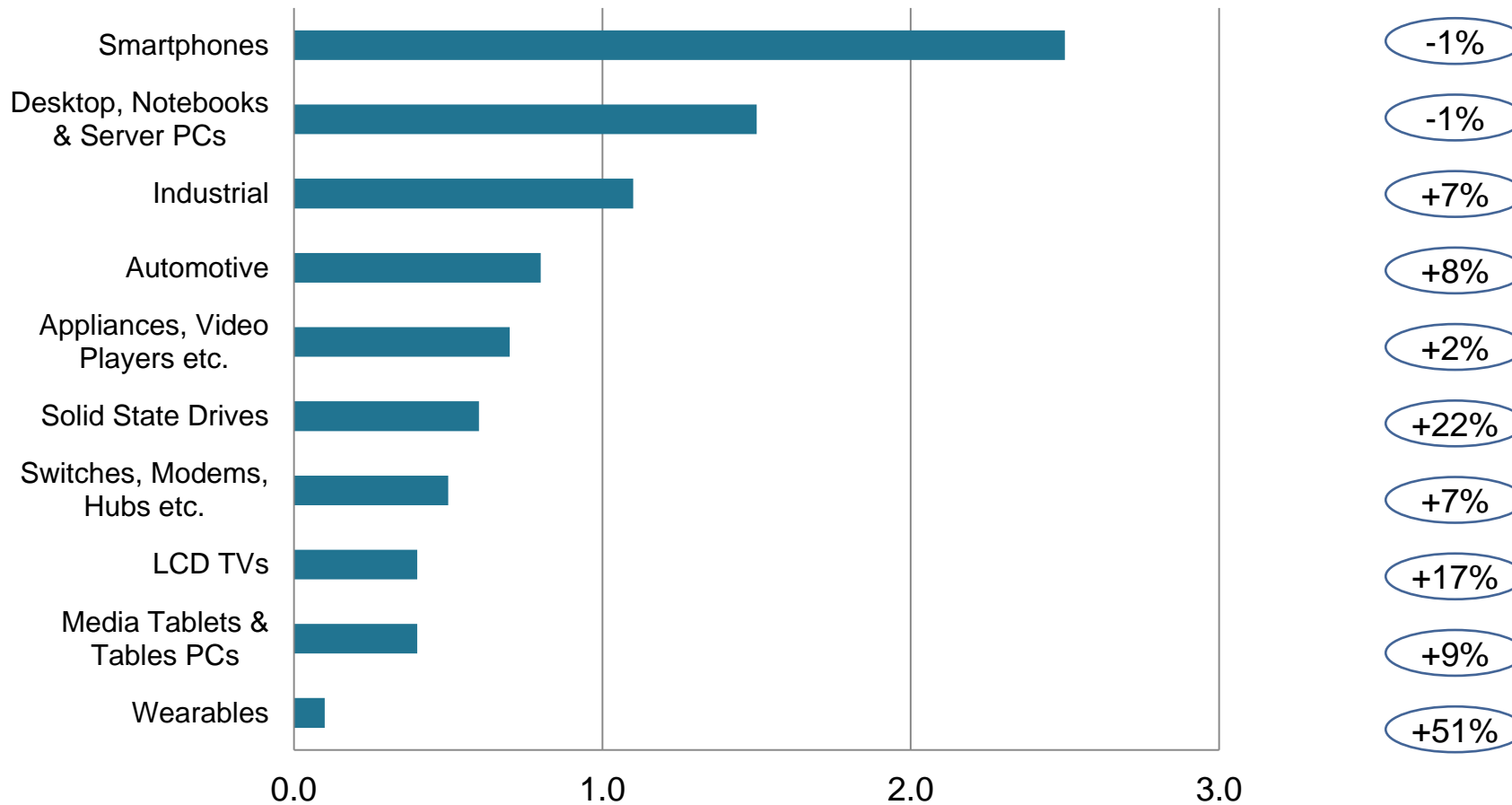
Source: ITRPV = International Technology Roadmap for PV Initiative of Semi, [www.itrpv.net](http://www.itrpv.net)  
HP = High Performance

# Siltronic

## Main Drivers are SSDs, Industrial Sector and Automotive

Wafer demand for key applications 2015, in bn in<sup>2</sup>

Estimated growth 2015/16, in %

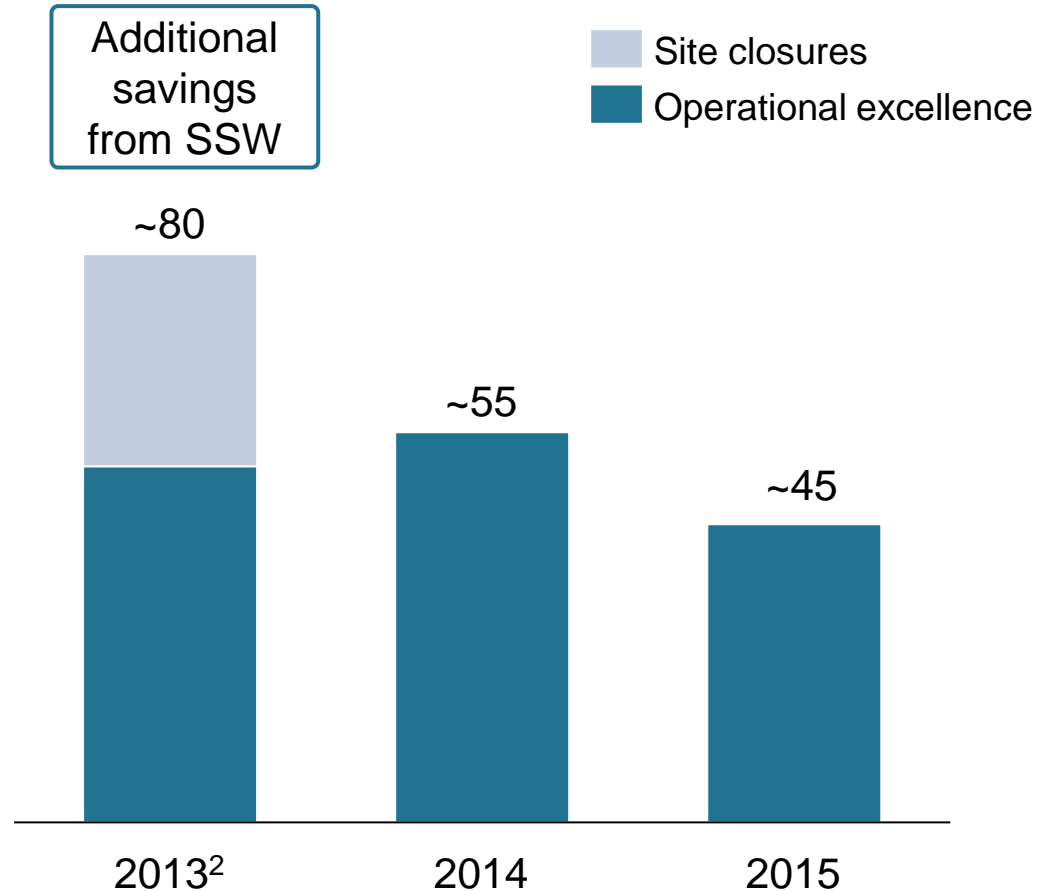


Source: IHS Technology, Semiconductor Silicon Demand Forecast Tool (Q1'16 Update)

# Siltronic

## Continued Successful Track Record of Cost Reduction

Cost reduction, in EUR mn<sup>1</sup>



Additional Savings Levers:

- ▶ Cost reduction roadmap defined for 2016 and beyond
- ▶ Investing in automation in Germany
- ▶ up to 500 employees to be transferred to WACKER between 2014 and 2019 (~200 already transferred)
- ▶ Investing in new pullers to improve yields and capabilities
- ▶ Poly cost optimization ongoing
- ▶ Further productivity increases through various initiatives

<sup>1</sup> Based on the prior year cost basis to current year volumes and adjustments to certain current year costs to reflect prior year contractual and economic parameters (e.g. prior year unit labor cost).

<sup>2</sup> excluding SSW (Samsung Silicon Wafer Pte. Ltd., Singapur)

# Transforming Growth: From Asset Growth to Cash Generation

## Ratio of Capital Spending vs. Depreciation

capex between 1.3 and 2.2x depreciation		capex < depreciation		capex >< depreciation	
2005	2012	2013	2017	2018	2022

### Create

2005 – 2012

Focus on capital intensive growth:

- ▶ Eight additional sites globally
- ▶ Increased capacities 7x in Polysilicon, 3x in VAE dispersions, 2x Siloxane, 6x 300 mm wafer

The customer dimension:

- ▶ Global presence and market penetration with technical centers and global sales structures

### Leverage

2013 – 2017

Focus on profitability and cash:

- ▶ Execute cost roadmaps
- ▶ Leverage global asset base
- ▶ Focus on quality growth, growing specialty sales
- ▶ Invest below depreciation

### Expand

2018 – 2022

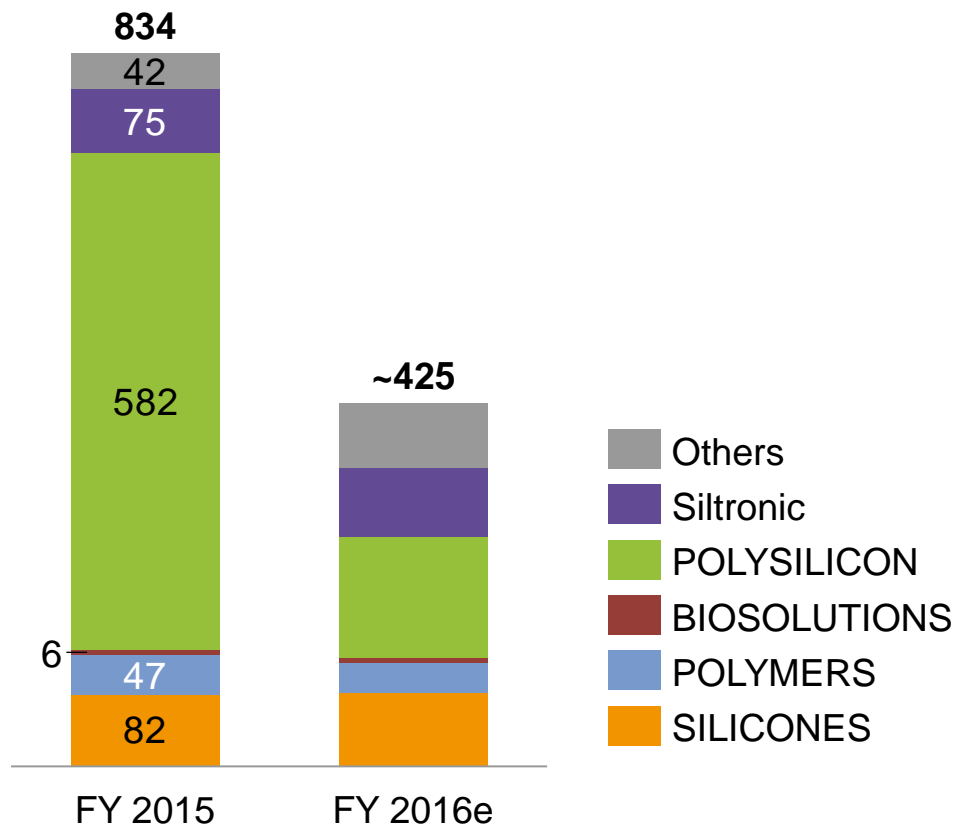
Focus on selective expansion of production network:

- ▶ Selective growth projects
- ▶ Exploring further Verbund and debottlenecking opportunities

# CapEx Profile

## Down From €834m to €425m, Below Depreciation For Next Years

### Capital Budget 2015 and 2016e (€m)



### Projects 2015

- ▶ New POLYSILICON production site in Charleston, Tennessee, USA
- ▶ New plant for vinyl acetate-ethylene (VAE) copolymer dispersions (+85kt), Calvert City, USA
- ▶ New dryer for dispersible polymer powders (+50kt), Burghausen
- ▶ Expansion of production of functional silicone fluids, Burghausen

### Projects 2016

- ▶ Completion of new POLYSILICON production site in Charleston, Tennessee, USA
- ▶ Add cyclodextrin capacity, Eddyville, USA
- ▶ HTV silicone compounds, Burghausen
- ▶ Crystal-growing facilities, Freiberg

# Guidance Update FY 2016

## Growing Confidence as Solar Markets Improve

	2015	Outlook 2016
Sales (€m)	5,296.2	Slight increase
EBITDA (€m)	1,048.8*	<b>Expecting FY 5-10% higher excl. special income</b>
EBITDA margin (%)	19.8	Somewhat lower
Group net income (€m)	241.8	Below 2014
Net cash flow (€m)	22.5	Significantly positive
CapEx (€m)	834.0	About 425
Net financial debt (€m)	1,074.0	Slightly below prior-year level
Depreciation (€m)	575.1	About 720
ROCE (%)	8.1	Substantially lower
Tax Rate (%)	40.5	About 40%

\*) EBITDA excl- special effects 2015: €911m



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Questions & Answers



# WACKER: Issuer, Contact and Additional Information

## Issuer and Contact

- ▶ WACKER CHEMIE AG  
Hanns-Seidel-Platz 4  
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- ▶ Investor Relations contacts

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## Financial Calendar

07/28/16 – Q2 Results 2016  
10/11/16 – Capital Market Day  
10/27/16 – Q3 Results 2016

## Additional Information

ISIN:	DE000WCH8881
WKN:	WCH888
Deutsche Börse:	WCH
Ticker Bloomberg:	CHM/WCH:GR
Ticker Reuters:	CHE/WCHG.DE
Listing:	Frankfurt Stock Exchange Prime Standard

