



“Inside, to get it right” Business Line Silica

Morgan Stanley Cannonball Run 2015

Andreas Fischer
Head of BL Silica
Essen, 25 June, 2015



EVONIK
INDUSTRIES

Resource Efficiency

Segment structure



Resource Efficiency

Sales: €4,040 m

Adj. EBITDA / margin: €836 m / 20.7%



Sales by Business Line

Catalysts

Coating Additives

Silanes

Coating & Adhesive Resins

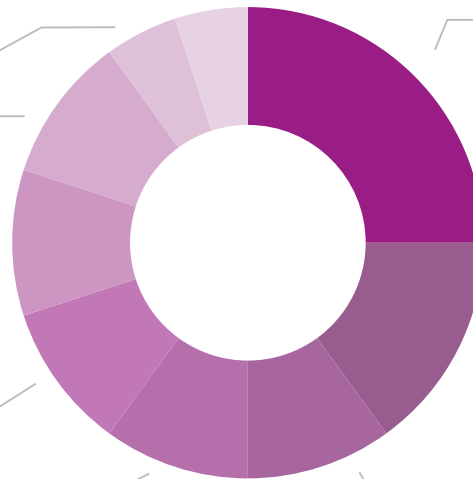
High Performance Polymers

Active Oxygens

Silica

Oil Additives

Crosslinkers



Data as of Fiscal Year End 2014

June 25, 2015 | Morgan Stanley Cannonball Run | Silica

Silica

Tailored product properties for environmentally friendly and energy efficient solutions



High silica content leads to low rolling resistance and excellent traction in tires



Silica improve properties of adhesives, giving greater stability to large rotor blades



Silica make modern tablet and capsule manufacturing processes more efficient



Silica improve free flow in solid and anti-settling in liquid agrochemical formulations

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Business at a glance

Leading silica supplier with full coverage



Top
#1

Supplier for
fumed and precipitated
silica

20

Production sites with
global coverage

282

R&D and Applied
Technology experts

32

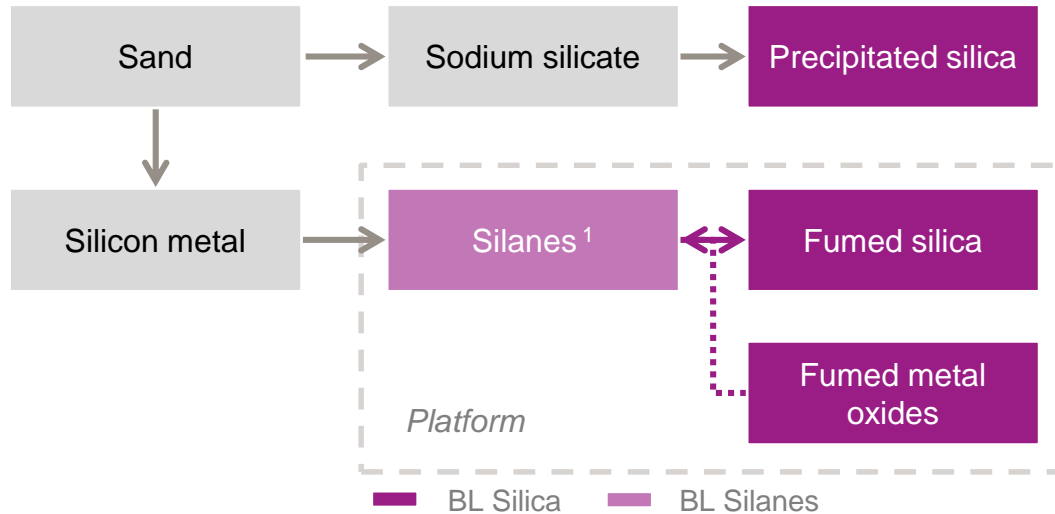
Industries served by
industry experts

>100

Products to solve
customer challenges

Product portfolio capabilities

From sand to a broad range of tailor-made silica solutions



Particle design: Same weight of 25 g, different volumes of silica products



— Sand — Precip. Silica — Fumed silica

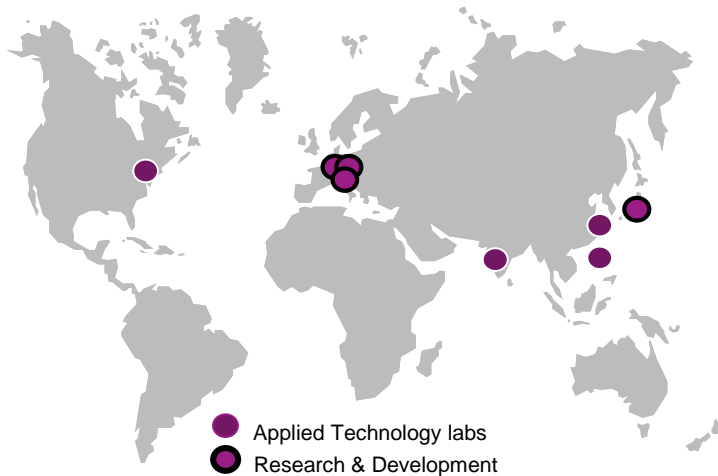
Characteristics

- Synthetic amorphous silica (SAS) with high surface and low density
- Particle size and structure, as well as surface characteristics the main differences between the two technologies – further optimization via particle design possible
- Available in powder form, as granules or dispersions

¹ Chloro-, Organo- & Rubber-Silanes

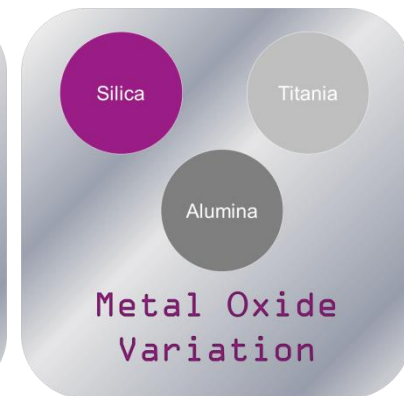
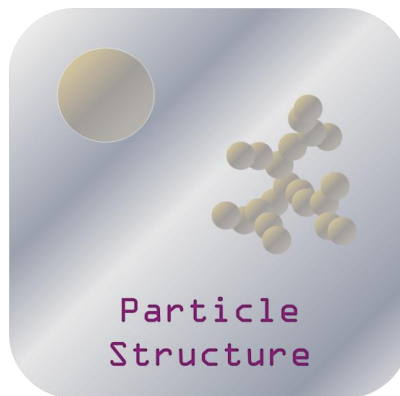
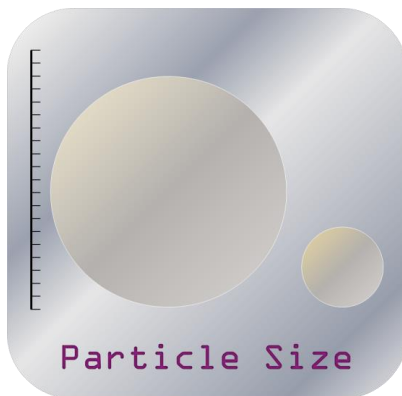
Technological capabilities

Outstanding expertise in designing inorganic particles and surface properties



- Unique product portfolio of larger volume products as well as customized solutions
- Broad commercialized technology base
- Long-standing in-house cooperation within Resource Efficiency segment
- Worldwide setup of Research and Applied Technology Centers

Market differentiation based on outstanding technological competences to design tailor-made particles and product properties



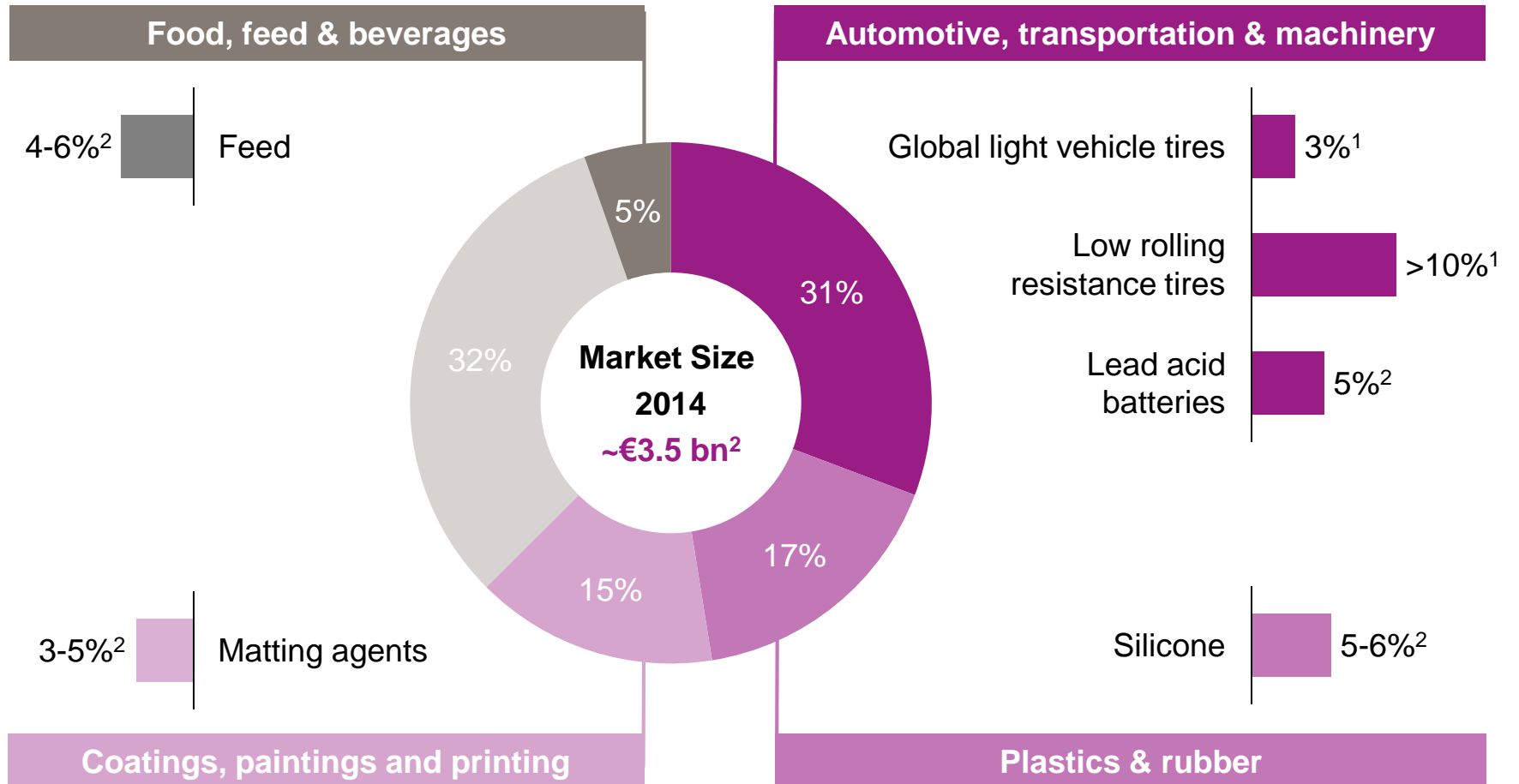
Market focus

Well-balanced end market split with exposure to attractive growth markets



Sales split by end market (2014) and expected market growth (2014 – 2019)³

% p.a.



Applications and functionalities

Broad application spectrum in diversified end markets



Applications	Functionality examples	
Tire and MRG ¹	<ul style="list-style-type: none">• Reduced rolling resistance of “Green Tires”• Increased tensile strength and hardness of e.g. belts	A close-up photograph of a tire tread, showing the grooves and sipes designed for traction.
Silicones and Adhesives	<ul style="list-style-type: none">• Tear resistance in silicones• Flow control of bonding pastes in windmill production	A photograph of several wind turbines standing in a field under a clear sky.
Coatings	<ul style="list-style-type: none">• Matting agent of choice for waterborne coatings• Rheology control additive in automotive coatings• White extender for paints	A close-up photograph of a car's front end, showing the headlight and bumper area.
Health care and Home care	<ul style="list-style-type: none">• Tableting aid and carrier for drugs• UV-filter for suncreams• Thickening agent for toothpaste	A photograph of several different types of pills and capsules, including white tablets, yellow capsules, and a purple capsule.
Agriculture, Food and Feed	<ul style="list-style-type: none">• Anti-settling in liquid agrochemicals• Carrier for liquid ingredients (e.g. vitamins)• Anti-caking during food processing	A photograph of a pair of hands holding a small amount of green, uncooked grains or seeds.

¹ Mechanical rubber goods

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Key success factors

Tailor-made solutions based on deep understanding of customers' needs



Broad product & industry portfolio

- Precipitated silica and fumed metal oxides
- Broad variety of specialties
- Options to customize



- Unbiased advising
- Cross-selling potential
- Innovation leader



Strong customer intimacy

- Future winner concept and industry teams
- Strong brands
- (Technical) service orientation



- Long-term relationships with key customers
- Communication and support on par level

Global production network

- Production platforms in all major regions
- High quality standards
- Global coordination and cross-regional support



- Preferred partner for global businesses
- Supply security
- Customer proximity



Spotlight food and feed

Broad portfolio enables to act as advisor for the best customer solution



Industry needs



- Silica as free flow aid in food and feed processing
- Customer specific formulations

Evonik offering

- Fumed and precipitated silica products manufactured under food additive regulations (HACCP)¹
- Industry experts and applied technology team promotes both products in parallel
- Customer gets an objective advise on the optimal solution for his requirements

The Evonik Industries logo, featuring a stylized 'e' inside a circle followed by the word 'EVONIK' in a bold, sans-serif font, with 'INDUSTRIES' in a smaller font below it.

SIPERNAT® and AEROSIL®
in the Food Industry

Industry Information 2129

A woman in a white lab coat is shown in a kitchen setting, holding a spoon and a small container, likely demonstrating the use of silica products in food processing. The background shows a window with greenery outside.

SIPERNAT® AEROSIL®

Evonik. Power to create.

¹ Hazard analysis and critical control points

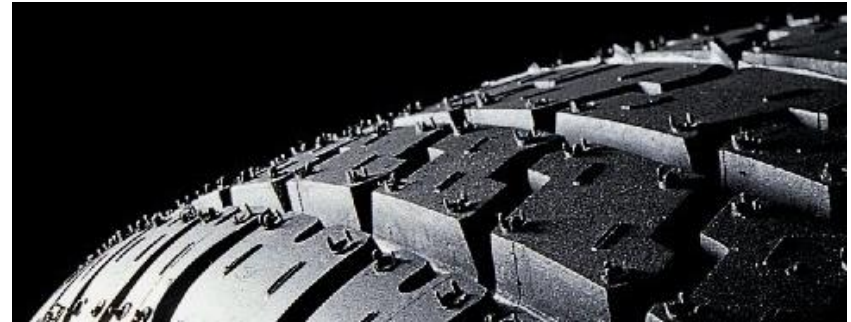
Spotlight tire industry

Customer intimacy has to be re-earned day per day



Industry needs

- Just-in-time deliveries and full supply security
- Consistent quality with growing requirements
- Easy-to-disperse products for fast processing
- Local supply with global quality also in emerging growth markets



Evonik offering

- Strategic alignment on top management level
- Global key account managers as internal voice of the customer
- Customer and market driven innovation projects incl. joint innovation projects
- Handling and applied technology experts to solve process challenges
- Global quality standards and production network to support regional expansion

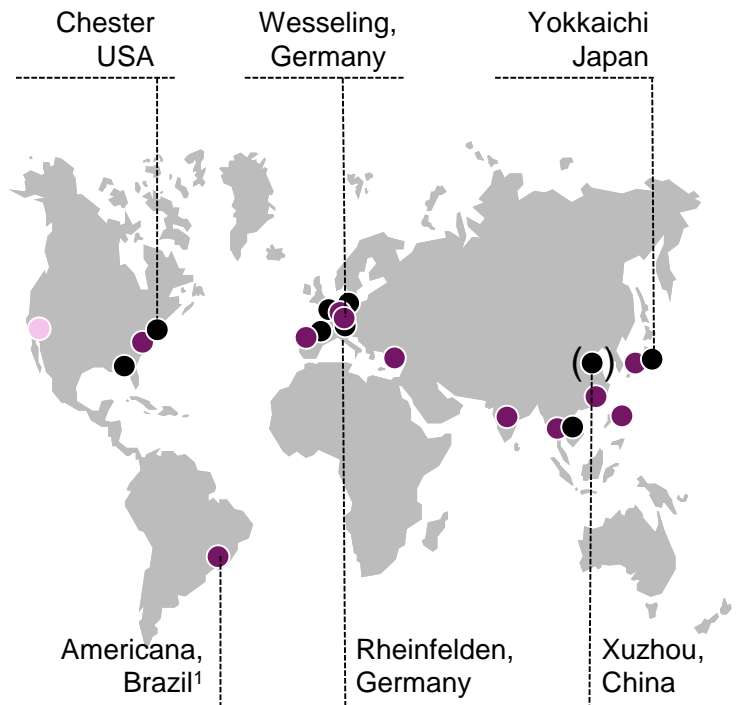
Global production network

Global production platform combined with regional customer proximity



20 silica plants globally

- Evonik precipitated silica plants
- Evonik fumed silica plants
- Evonik colloidal silica plants
- () Planned



- **Global production network** with presence in all major silica markets
- Combination of
 - World scale production plants to realize economies of scale
 - Medium-sized plants close to customers
 - Flexible setup for further expansion steps
- **Global marketing & sales organization** with ~180 employees and presence in 96 countries
- **Superior process technology** due to integrated silica-silane production platform

¹ Under construction

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Targeted investment strategy

Flexible and stepwise approach
for expansion of global silica platform



Selective investment approach depending on the situation in the respective markets

1

Diluting fixed costs by
stepwise **expansion**
of existing sites



Example:
Chester, USA

2

Tapping strong growth markets
by **new production facilities**



Examples:
Americana, Brazil
N.N., South East of USA

3

Partnering with strong local
players to achieve beneficial
cost position



Example:
Xuzhou, China

Regular review of investment decisions according to market developments

1 Stepwise expansion of existing sites

Example: Chester (USA)

- **Existing Evonik site** since 1984
- Stepwise expansions tripled capacity until today
- **Broad production platform**, ranging from larger volume rubber grades to high end matting agents



Chester, Pa., September 9, 2014



Latest example:

- Additional 20,000 mt capacity for precipitated silica on-stream in Q3 2014
- Strengthens presence in NAFTA market

2 New production facilities

Example: Americana (Brazil)

- First production plant for **highly dispersible (HD) silica** in South America
- Tapping **Latin American growth markets** by new production facility currently mainly served by imports
- **Attractive specialty segments** in South America's food, feed, and agricultural industries
- **Tire labelling in Brazil** from 2016 onwards as additional growth driver
- Investment: mid-double-digit million € range
- Plant scheduled to go on stream in 2016



2 New production facilities

Example: South East of the United States



- New Site with focus on the rubber and especially the **growing tire industry**.
- Located in the South East of the United States, in **close proximity to major American tire production** sites.
- Basic engineering started, completion scheduled for late 2017
- Investment volume: **upper double-digit million €** range.



Johannes Ohmer, management member of the Resource Efficiency Segment: "We are going to continue expanding our precipitated silica capacities — a global program that we started five years ago. The resource efficiency megatrend fuels the demand for our products. **Interest in energy-saving tires is continuously growing in North America.** That's why we are planning to build the plant close to our customers—the large tire manufacturers."

3 Partnering with strong local players

Example: Xuzhou (China)

- New site for **fumed silica** and **ultrapure silicon tetrachloride** in China
- **Attractive cost position** via fence-to-fence partnership with leading silicon producer (CGL)
- **>20,000 mt total capacity** to be built in Xuzhou
- LOI Evonik-CGL signed in July 2014
- Commissioning scheduled for 2016
- Basic engineering has started

Main applications



Ultra-pure silicon tetrachloride:

Fiber optics needed
to expand China's
broadband networks
(optic fiber cable)



Fumed silica:

Silicone industry,
adhesives & sealants,
gel batteries (E-bikes)

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Silica well-positioned to write the story of tomorrow



- Leading silica producer with superior portfolio of larger volume products and specialties
- Outstanding particle design competence as technical differentiator
- Well-balanced end market split in attractive growth markets
- High customer intimacy and innovation partnerships with industry leaders
- Flexible and stepwise approach for expansion of unrivaled global silica platform





EVONIK
INDUSTRIES

“Invented to improve”
Business Line Silica

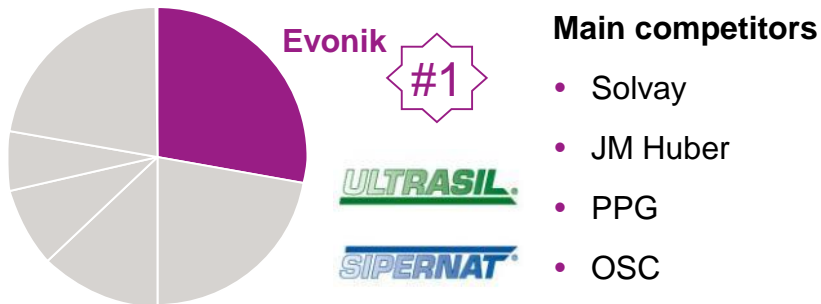
Backup

Facts & figures

Largest producer of amorphous silica with more than 70 years experience

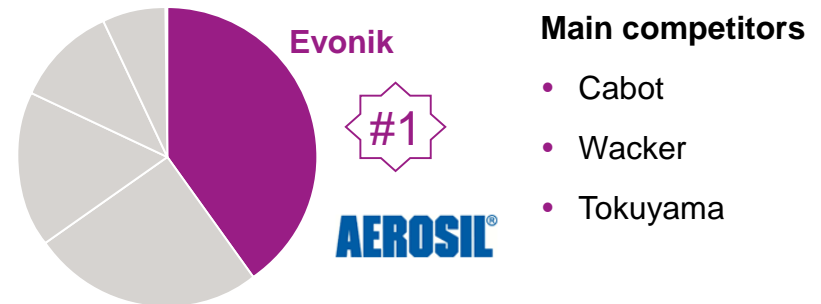


Precipitated Silica



- Close customer relationships, esp. with tire manufacturers
- Broad range of end markets with strong established brands
- Ongoing global expansion program

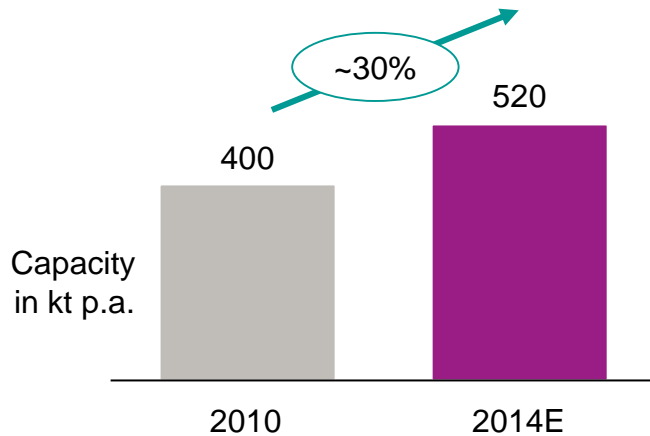
Fumed Silica



- Broadest product offering
- High brand awareness
- Strong process and applied technology (> 70 years of experience)
- Fence-to-Fence partnerships

Silica master plan supports #1 position globally

Capacity expansion steps since 2010



- Evonik precipitated silica capacity expansion by ~30% over last 4 years
- Targeted and selective expansion steps across all major regions
- Meeting strong customer demand

Expansion steps¹

Asia

- India 2011/2012
- Taiwan 2011/2012
- Thailand 2014
- Japan 2015²

Americas

- USA 2014
- Brazil 2016²

Europe

- Turkey
 - Germany
 - Spain
- 2010 – 2012

¹ Date of commissioning

² Under construction