Capital Markets Day 2013

Specialty Materials

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Essen, 3 September, 2013

Specialty Materials overview
Segment structure

Segment

Specialty Materials
Sales: €4,843 m
Adj. EBITDA / margin: €853 m / 17.6%[1]

Business Units

Performance Polymers
Sales: €1,774 m

Advanced Intermediates
Sales: €3,069 m

Business Lines

Acrylic Polymers
(~40%)

Acrylic Monomers
(~35%)

High Performance Polymers
(~25%)

Performance Intermediates
(~70%)

Active Oxygens
(~10%)

Functional Solutions
(~10%)

Agrochemicals & Polymer Additives
(~10%)

Data as of Fiscal Year End 2012; in brackets % of sales of Business Unit in 2012
[1]Adjusted for IAS 19 restatement

Specialty Materials overview
Demand driven by globalization megatrend

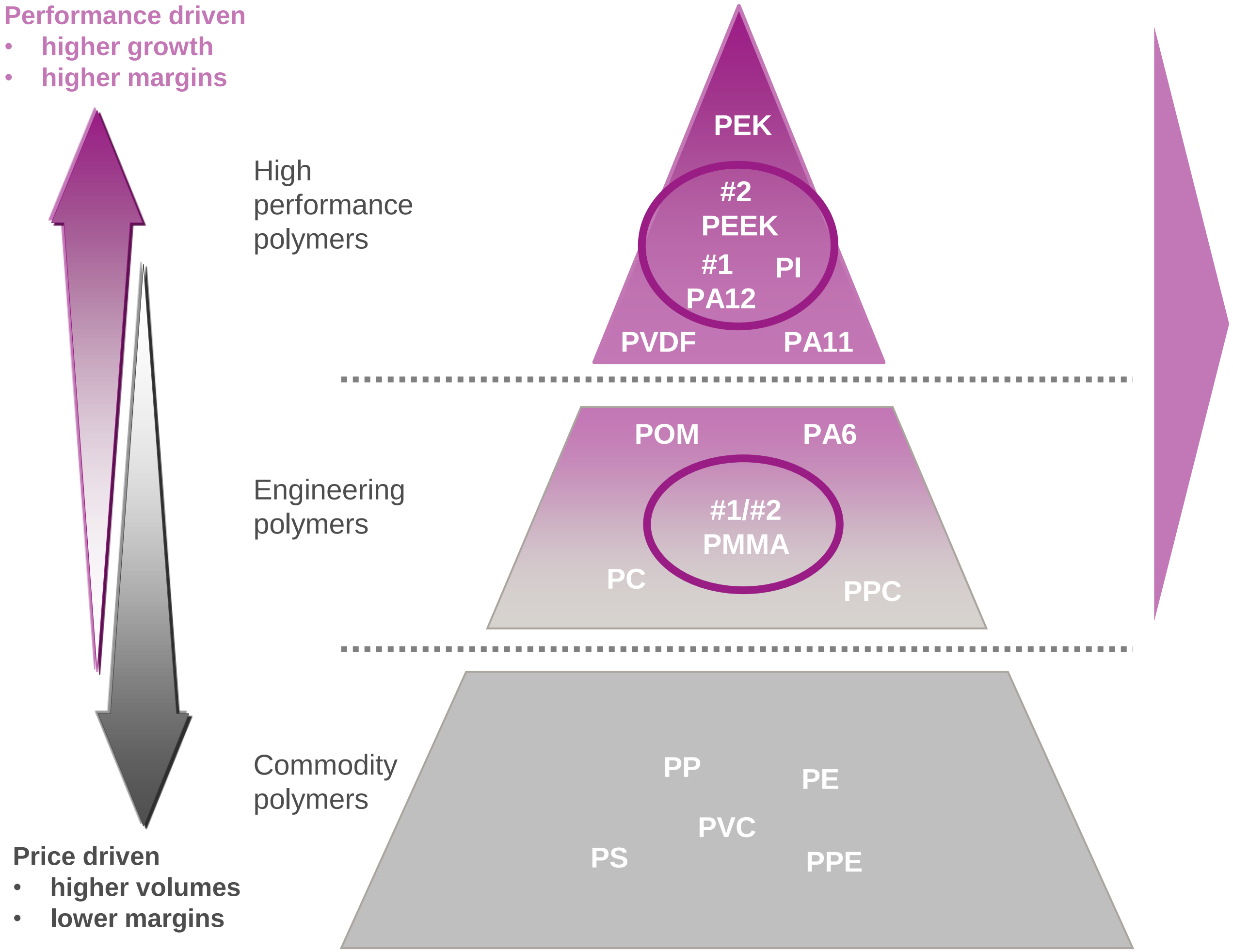
	Resource Efficiency	Mobility	Urbanization	Growing middle class in emerging markets
Megatrend and impact	Conventional materials substitution →**PMMA and composites for lightweight cars**	Demand for durable automotive components →**PA12 for brake and fuel lines**	Plasticizers for soft PVC, wall covers, floorings, etc. →**INA/DINP**	Growing need for sustainability and en-vironmental solutions →**H_2O_2 / HPPO**
End market growth[1]	e.g. auto plastics: 5% (global) 10% (China)	e.g. total auto: 4% (global) 6% (China)	e.g. PVC: 5% (global) 7% (China)	e.g. PU foam: 4% (global) 6% (China)

GDP+

[1] 2012-2020E; as per Frost & Sullivan (2013)

BU Performance Polymers
Focused on engineering and customized high-end polymers

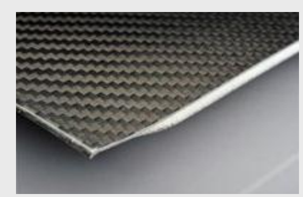
Polymer markets segmentation and Evonik market positions



Expertise in systems and applications

VESTAKEEP®

SEPURAN®



ROHACELL®

Business spotlight: Acrylic Monomers & Polymers
Vertical integration and innovative growth applications combined with leading cost position

Other captive use[1]

External sale

Feedstock → Monomers (MMA) → Polymers (PMMA) ~50% → Applications

Acetone-based production
- Acetone
- Hydrogen cyanide

MTBE-based production
- MTBE
- Methanol

Methacrylate platform

- Leading process technology and innovation, e.g. Aveneer®: new, highly efficient process technology for MMA production
- Global production set-up
- Competitive cost position
- Clear benefits from vertical integration
- Flexibility in downstream use

Lighting systems

Lightweight construction

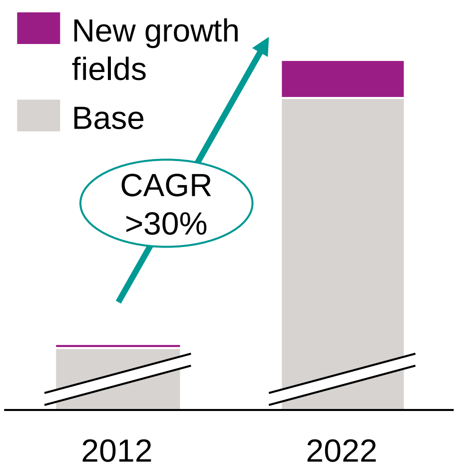
[1] E.g. Coatings, Pharma Polymers, Oil Additives

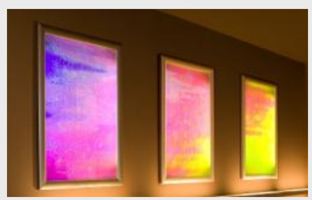
Business spotlight: Acrylic Monomers & Polymers
Potential in new growth applications for PMMA

Feedstock → Monomers (MMA) → Polymers (PMMA) → **Applications**

New growth fields

Market size and potential (kt / a)

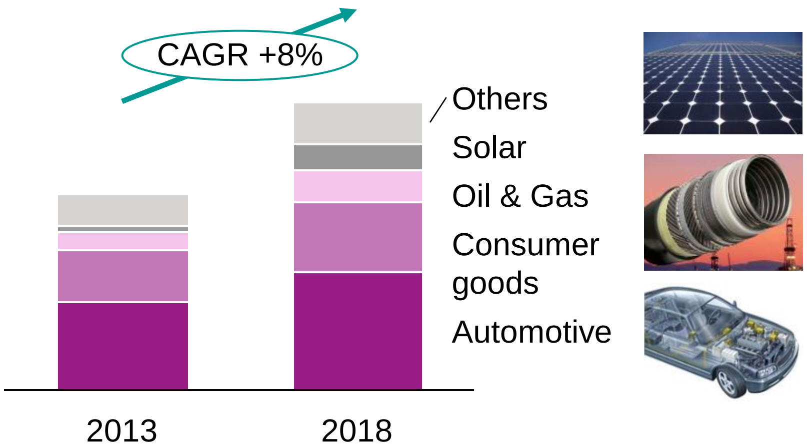


		Market size 2012	Market potential 2022
	**Lighting systems** LED lighting, mainly for ceiling lighting solutions (replacing neon lights)	10 kt p.a.	150 kt p.a.
	**Light construction** MMA-derivatives for lightweight design, e.g. Plexiglas® for automotive glazing	5 kt p.a.	100 kt p.a.

Company estimates

Business spotlight: PA12 (High Perf. Polymers)
Broad range of growth applications

PA11/12 markets by application (in kt / a)



Market characteristics

- GDP++ growth profile
- Growth drivers: Solar and Oil & Gas industries, Mobility trend
- 1-2 world scale plants needed to meet expected future demand
- Significant entry barriers
  - high technological hurdles
  - access to raw materials

Application examples & product characteristics

Solar

PA12 for back sheets of solar panels

Key characteristics

- heat-resistance
- scratch-resistance
- corrosion-resistance

Consumer Goods

PA12 for dishwasher basket coatings

Key characteristics

- scratch-resistance
- anti-microbial

Oil & Gas

PA12 for flexible pipes (off-shore)

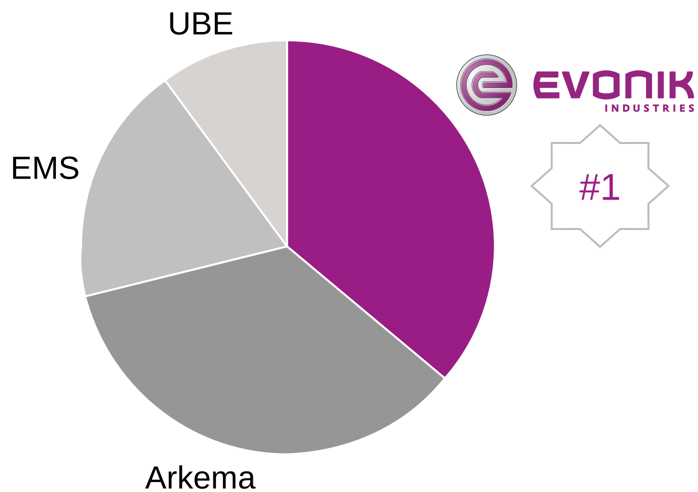
Key characteristics

- high strength per weight
- corrosion-resistance
- scratch-resistance

Company estimates

Business spotlight: PA12 (High Perf. Polymers)
Market position and key success factors

Market shares in PA 11/12 markets



Evonik's key success factors

- High application innovation focus
  - fast and customized solution development for single customers / applications
  - high level of application and system solutions know-how
  - excellent technical service and reputation
- Competitive production process
  - only integrated producer / advanced process technology
  - Pilot installations for new processes

Company estimates

Business spotlight: PA12 (High Perf. Polymers)
Leading positioning secured by strategic capacity increasing projects

Marl

- Rebuilding of the CDT plant in Marl (Germany) top priority in 2012
  - Record time of only 6 month
  - Nearly all clients are already back
    (strong client relationship and consequent crisis communication, mission-critical product, no true substitution)
- Successful debottlenecking of PA12 capacity

Singapore

- New PA12 plant in Singapore
  - Planned capacity expansion for polyamide 12 in Singapore
  - World scale production capacity for fast growing Asian markets
  - Increased supply reliability after incident in Marl in 2012

Bio-Polymers

- Continued development of bio-based materials
  - Bio-laurinlactam (BioLL): Biological production of monomer for biologically based polyamide 12 for the first time;
    pilot plant in Marl in operation
  - R&D for bio-based polymers (e.g. VESTAMID® Terra)

Business spotlight: H_2O_2 (Active Oxygens)
HPPO process creates new market for hydrogen peroxide

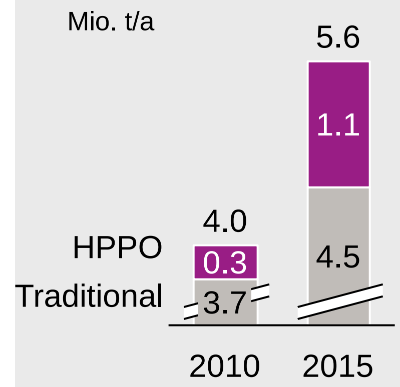
1 Traditional markets

- Traditional H_2O_2 end markets: Pulp & Paper and Textile (bleaching) with sustainable moderate growth (GDP)

2 HPPO process

- Technology to manufacture PO, a PU-precursor, on basis of H_2O_2
  - Substantial cost advantages vis-à-vis alternative processes
  - More environmentally friendly; only water as side stream
  - Own technology licensed by Evonik/Uhde (license fee); Evonik as only grantor of a licence for HPPO
- Evonik/Uhde and Dow/BASF only players with proprietary technology
- Cost advantage of new H_2O_2 plants will also allow to capture growth in other H_2O_2 applications besides HPPO

Expected market growth for hydrogen peroxide



HPPO in Ulsan, Korea

Proven large scale production with HPPO process in Ulsan, Korea; world scale plant in China under construction

Company estimates

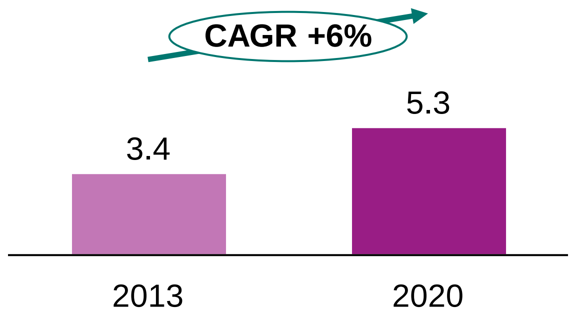
Business spotlight: H_2O_2 (Active Oxygens)

HPPO enables H_2O_2 growth esp. in Asia

HPPO process

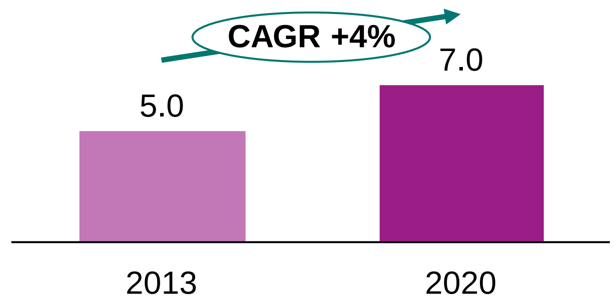
Propylene
H_2O_2
→ Propylene Oxide → Polyether Polyols → Polyurethane

PO demand in Asia (in Mio. t/a)[1]



- PO demand driven by global growth of polyurethane, especially Asia
- Gap expected between expected demand and supply

PU foam demand in Asia (in Mio. t/a)[2]



Selected applications for PU foam:

- Insulation (appliances, construction)
- Automotive
- Furniture and bedding




[1] Company estimates
[2] As per Frost & Sullivan (2013)

Business spotlight: H_2O_2 (Active Oxygens)
New world scale plant under construction in China

HPPO and H_2O_2 time line

from 2000
- Development of HPPO process together with ThyssenKrupp Uhde

from 2008
- First HPPO plant in South Korea worldwide
- Capacity increased subsequently; H_2O_2 production matched with >100 kt/a

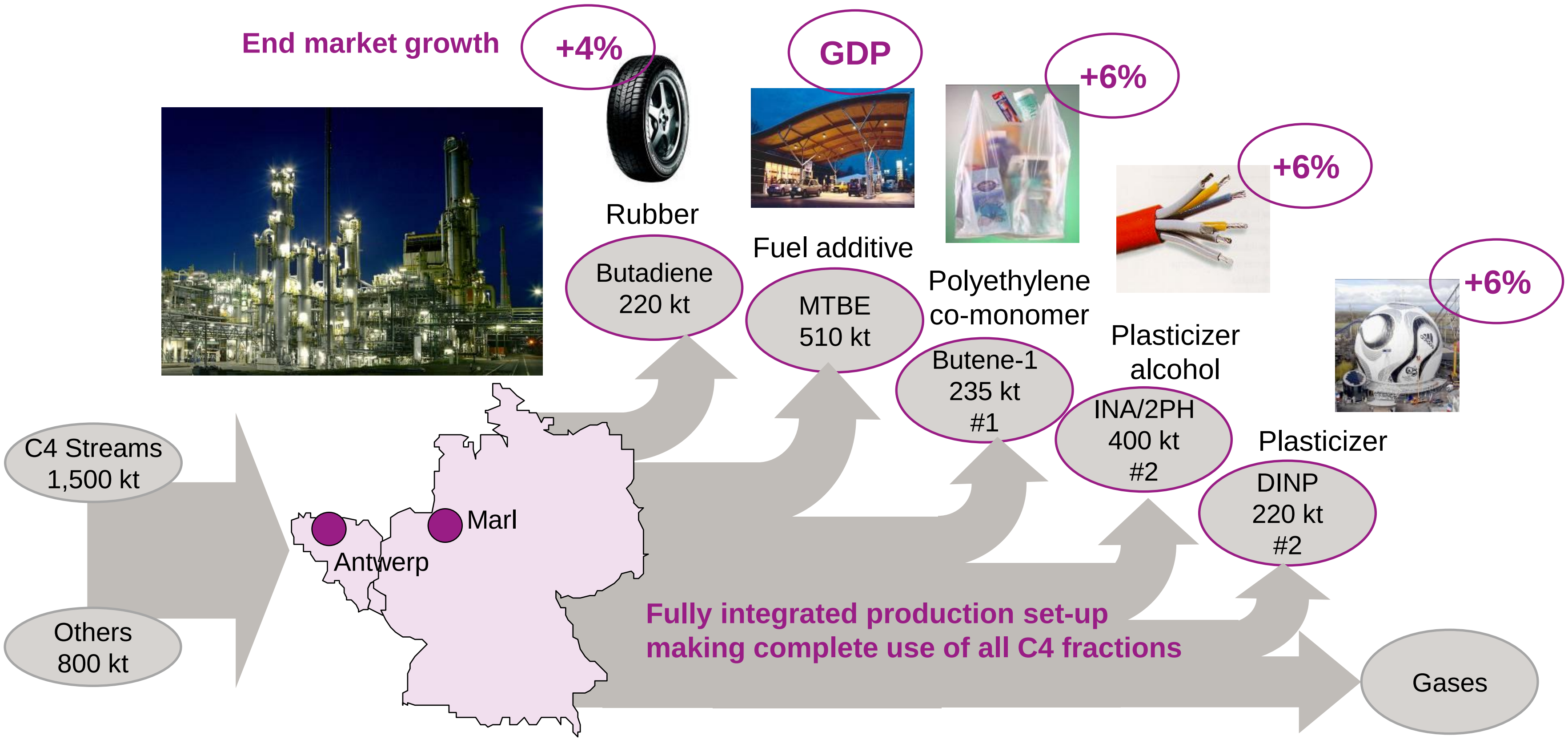
2013 / 2014
- Leverage growth potential of new process technology, grow H2O2 business beyond traditional markets
- New world scale plant for 230 kt/a H_2O_2 and 300 kt/a PO
- Investment volume >€100 m, start up expected by end of 2013

UNDER CONSTRUCTION

2017 / 2018
- Further growth in Asia to fulfill rising demand
- World scale H_2O_2 plant for HPPO (250 kt/a) as part of Petronas' RAPID project in Malaysia

Letter of intent

Business spotlight: C4 chain (Perf. Intermediates)
Fully integrated production platform in Europe

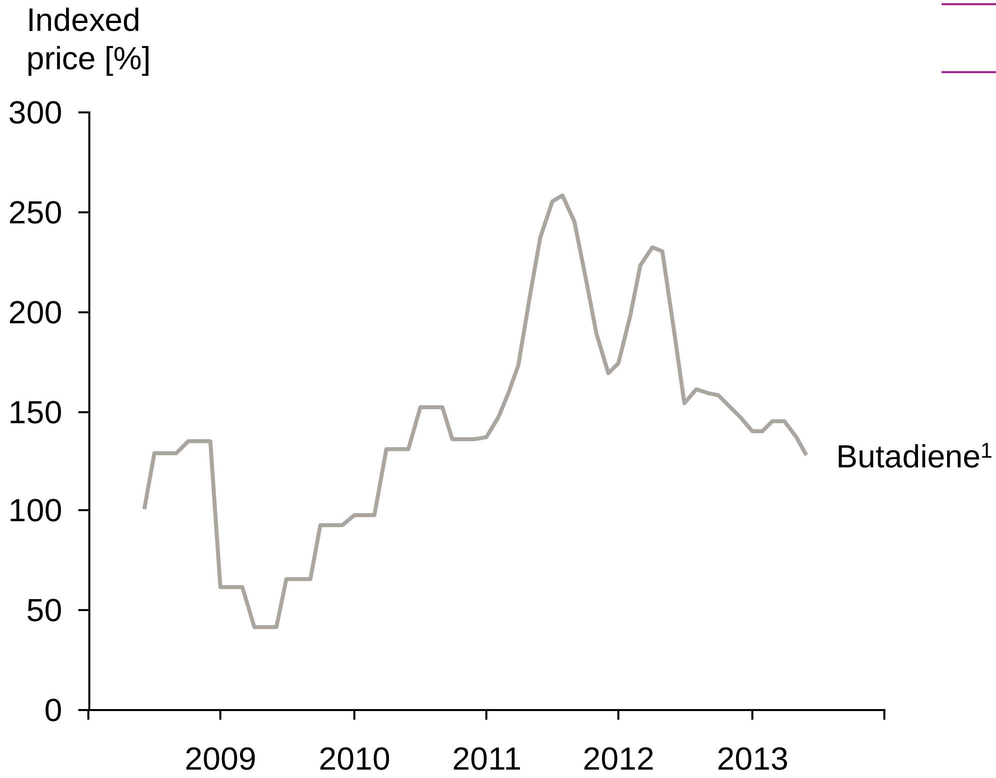


Key success factors

- Leading, cost efficient technology platform with more than 30 years of experience
- High expertise in logistics of C4 products and streams
- New technologies to capture additional C4 feedstocks
- Scale, secure feedstock base and long-standing customer relationships

Business spotlight: C4 chain (Perf. Intermediates)

Strong value chain with good resilience

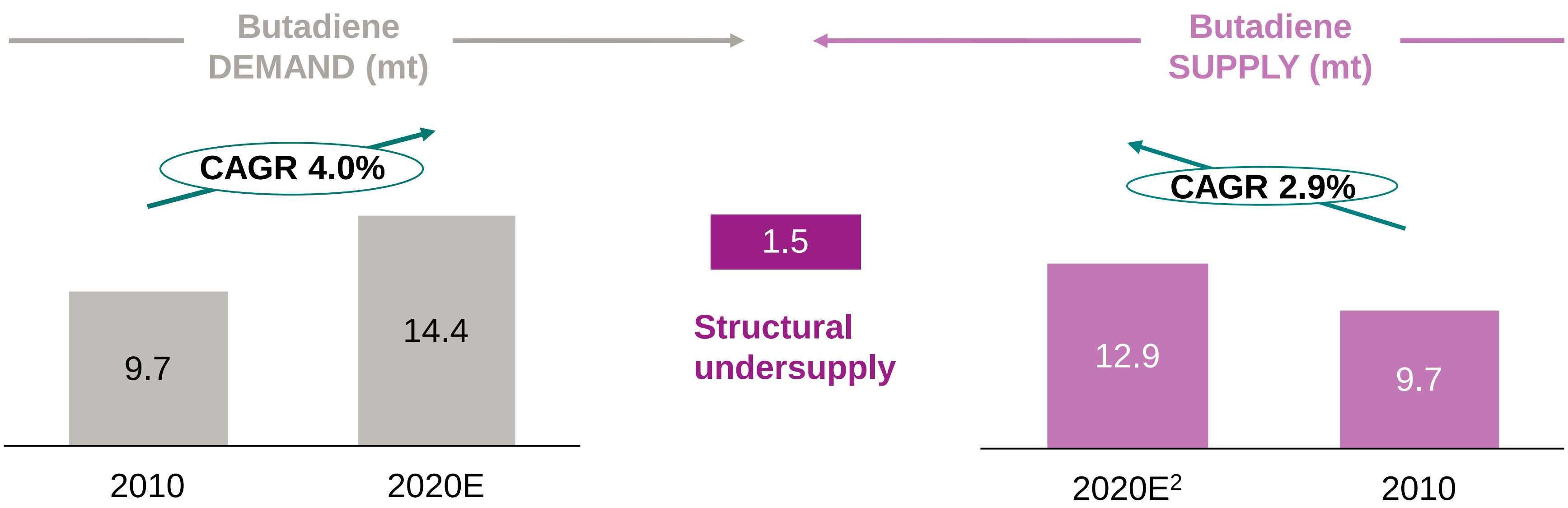


Business mix with good resilience

- **MTBE, 1-butene, INA and DINP** strong backbone of C4 business:
  - 80% of Performance Intermediates' volumes
  - prices predominantly stable
- **Butadiene** prices recently volatile, but:
  - only 20% of Performance Intermediates' volumes
  - Butadiene price historically notably higher than Naphtha price; price spread more important than absolute price levels
  - Captive use of Butadiene for Polyamide 12 production (natural hedge)
  - >70% for non-tire applications

[1] Contract price Europe

Business spotlight: C4 chain (Perf. Intermediates)
Butadiene demand outgrowing supply from traditional C4 sources



- Demand growth driven by two factors
  - Growing demand for current applications, esp. rubber (~75% of growth)
  - Increasing substitution of natural rubber (short) by synthetic rubber[1] (~25%)

- Growth of traditional Butadiene supply (extraction from side streams of Naphtha crackers) is slowing
- Increasing ethylene production from gas crackers (shale gas)
- Structural undersupply most likely gapped by on-purpose Butadiene production with higher cost than extraction
- Butadiene market price will be determined by minimal on-purpose opportunity costs

[1] 1 mt of additional synthetic rubber not included in IHS analysis
[2] W/o announced and hypothetical on-purpose capacities
Source: IHS world butadiene analysis 2013; Evonik research

BU Advanced Intermediates
Participation in Petronas‘ RAPID project

Performance Intermediates (C4)

PETRONAS

Active Oxygens (H_2O_2 for HPPO)

- JV together with Petronas; Evonik as majority holder
- Part of RAPID complex in South Malaysia (near Singapore)
- Production of Isononanol (plasticizer alcohol; Evonik #2), 1-Butene (Co-Polymer; Evonik #1) and H_2O_2 for HPPO process (Evonik #2)
- Startup between 2017 and 2018
- Total Investment volume of the JV of >€500 m

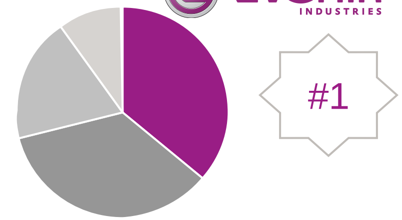
Pengarang (Malaysia)

Start up: 2017

Specialty Materials
Highlights

Leading global positions with attractive product portfolio

- MMA #2, PMMA #1-2
- PA 12 #1, PEEK #2
- Plasticizer alcohols #2, 1-butene #1
- H_2O_2 #2



Strong growth profile due to new applications and innovations

- PLEXIGLAS® for automotive glazing
- PA12 for oil and gas applications
- H_2O_2 for propylene oxide (HPPO)

Investment program already underway

- C4 expansion project in Europe to ramp up in 2015
- HPPO site in China in final construction phase

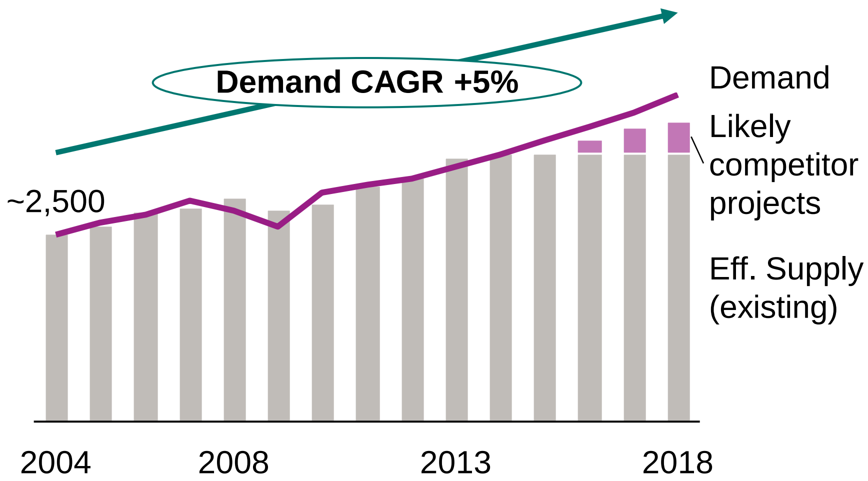
Additional investments intended with focus on Asia

- New PA12 site in Singapore
- Further enlargement of INA, 1-butene and H_2O_2 business with Petronas
- MMA production with new Aveneer® process in USA

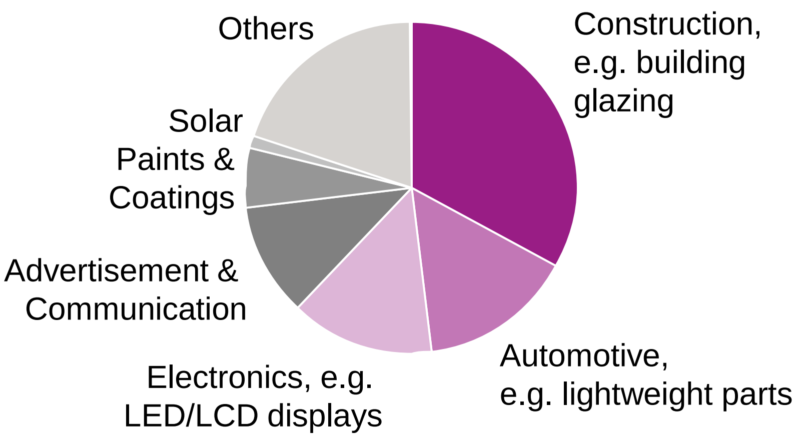
EVONIK
INDUSTRIES

Business spotlight: Acrylic Monomers & Polymers
Evonik well positioned in growing market

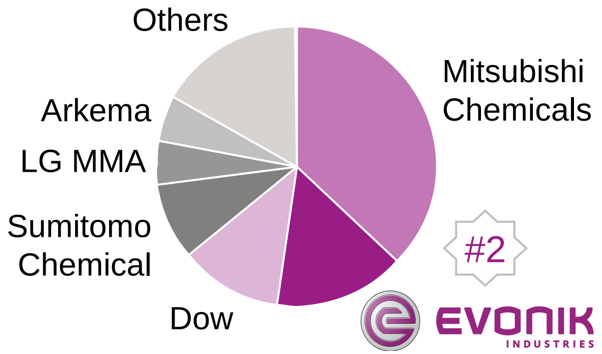
Expected MMA supply and demand (in t / a)



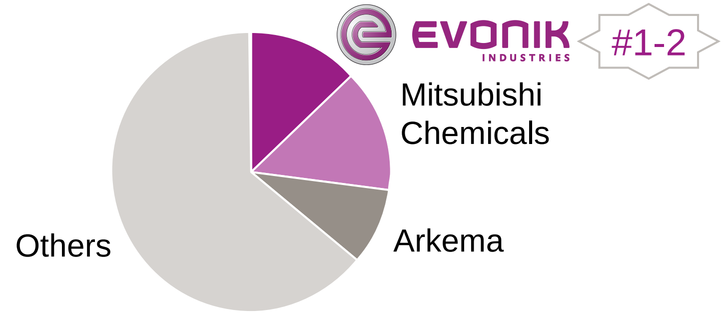
End markets for MMA/PMMA



Evonik strong #2 in MMA market



Evonik #1-2 in fragmented PMMA market



Company estimates

Business spotlight: C4 chain (Perf. Intermediates)

Market dynamics and regional strategies

Market dynamics for important C4 products

Butadiene

- SBR and PBR most important end markets for butadiene (>40%), driven by tire markets
- Growing structural undersupply due to limited C4 feedstock availability
- Ongoing volatility until structural changes in the industry (e.g. by on-purpose production)

Butene-1

- Long-term growth above GDP based on its role as preferred co-monomer for polyethylene (HDPE and LLDPE)

INA / DINP

- Favorable general purpose plasticizer for PVC industry, which is growing above GDP in Asia
- Additional growth potential from substitution of labeled plasticizer DEHP

Regional strategies for C4 business

Europe

- Expand European Verbund production to grow with markets
- Valorize existing CC4 feedstock by extracting additional butadiene
- Secure feedstock supply together with strategic supply partners

Asia

- Strengthen footprint in strong growing markets with regional production
- Support growth of strategic customers
- Build strategic partnership with Petronas in South East Asia

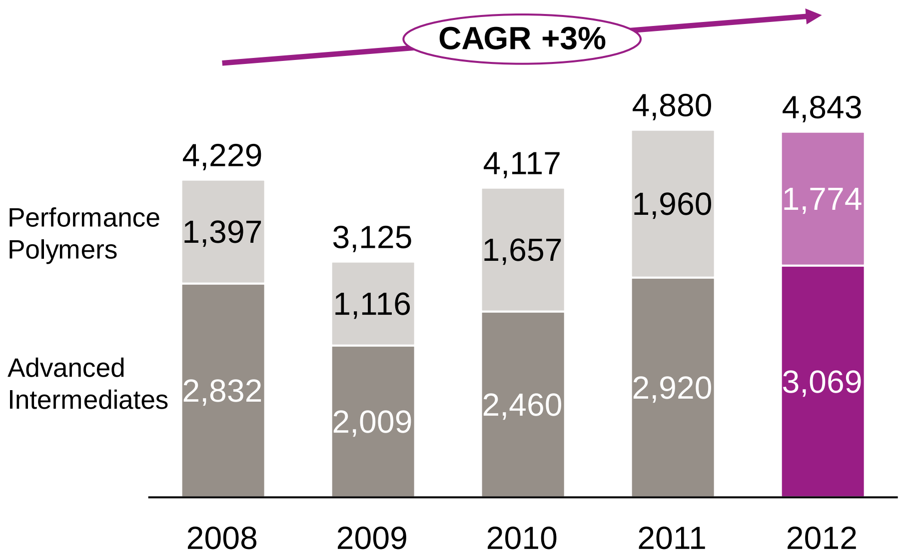
RoW

- Grow with markets from European and Asian Verbund production
- Looking for additional growth options based on conventional and alternative feedstock

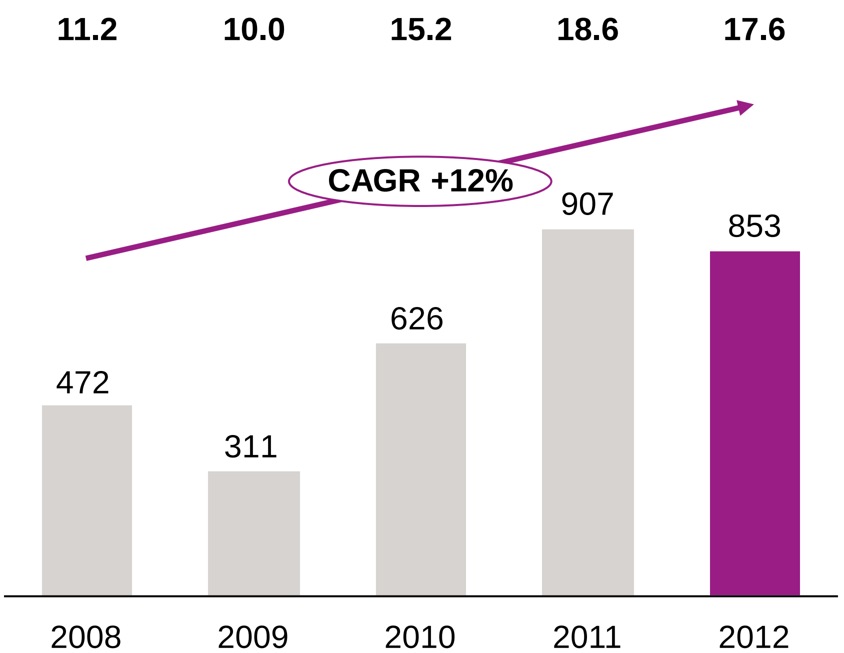
Company estimates

Specialty Materials overview
New profitability level after financial crisis

Sales (€ m)



Adj. EBITDA and margin (%)[1]



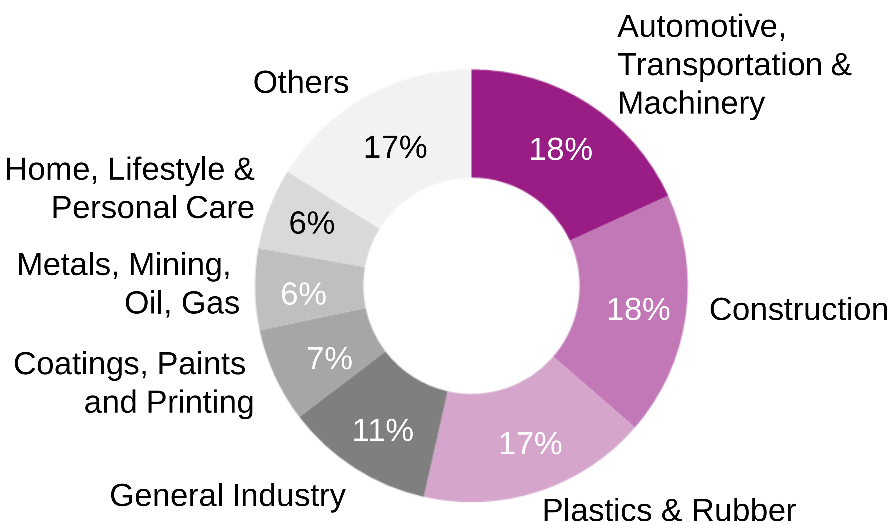
- Significant revenue growth generated across all businesses in Specialty Materials
- 2011 driven by record-high prices for C4 products (esp. butadiene)

- New profitability level established after financial crisis in 2009
- High value generation: 2012 ROCE of 38.7%

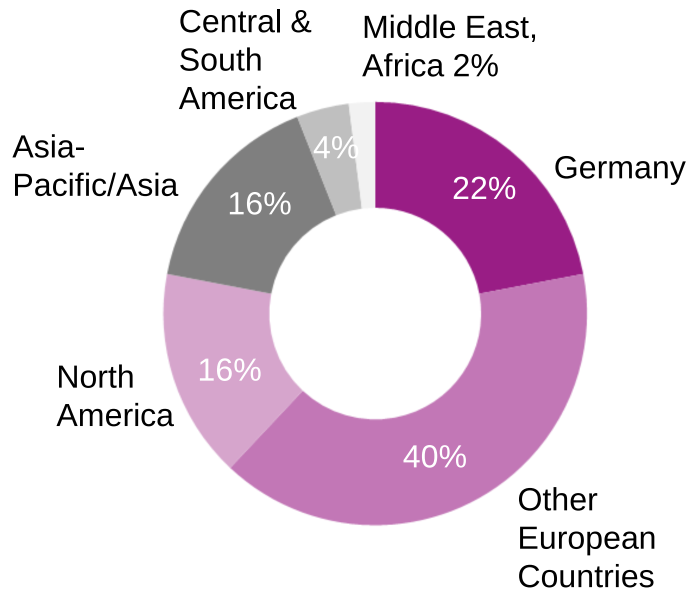
[1] Adjusted EBITDA 2012 restated for IAS 19 effects

Specialty Materials overview
Well balanced portfolio in both markets and regions

Sales split by Evonik's end markets (2012)[1]



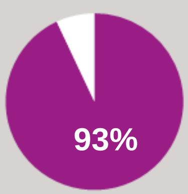
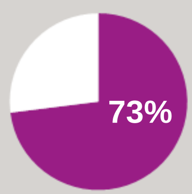
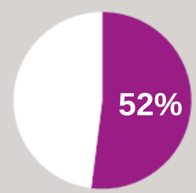
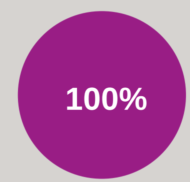
Sales split by region (2012)



- Diversified end markets split; no dependence on one single end market
- Overall geared towards end markets benefitting from the trend of substitution of conventional materials (e.g. auto, construction)
- Regional split influenced by strong European base of C4 business (Germany and Belgium)
- Project pipeline destined to increase emerging market exposure, e.g. HPPO project in China or participation in RAPID project in Malaysia

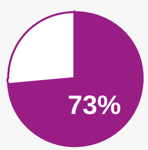
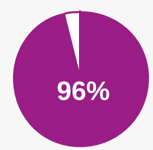
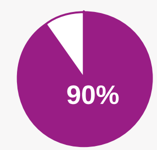
[1] Company estimates on the basis of information on Evonik's customers and the further use of Evonik's products by its customers

Specialty Materials overview
Leading market positions in attractive markets

Key Business Lines	Acrylic Monomers and Polymers	High Performance Polymers	Performance Intermediates	Active Oxygens
	 	 	 	 
Example products and applications	**PMMA** for the construction and electronics industry	**High performance polyamide (PA12)** for flexible oil & gas pipelines and auto components	**1-butene** as co-monomer for the production of polyethylene	**Hydrogen peroxide (H_2O_2)** for textile and paper bleaching or for PO production
Evonik product position[1]	#1-2 in MMA and PMMA	#1 in polyamide 12	#1 in in 1-butene	#2 in hydrogen peroxide
% of sales from leading market positions[2]	 93%	 73%	 52%	 100%

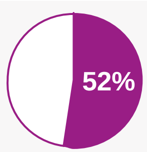
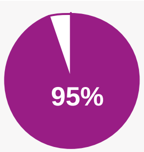
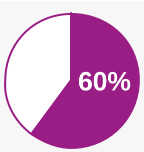
[1] Company estimates, based on multiple research reports
[2] Defined as top 1-3 positions; as per company estimates, based on multiple research reports

Specialty Materials overview
BU Performance Polymers

	High Performance Polymers	Acrylic Monomers	Acrylic Polymers
	 	 	 
Applications	• Medical • Photovoltaic systems • Automotive components • Oil & gas pipes	• Coatings • PMMA • Specialty monomer applications (e.g. disposable contact lenses)	• LED/touch screens • Photovoltaic • Light-weight systems • Automotive components
Key products	• High performance polyamide (PA12) • Polyetheretherketone (PEEK) • Polyimide fibres and foams	• Methy methacrylate (MMA) and application monomers • Methacrylic acid	• Molding compounds • Acrylic sheets (Plexiglas / Acrylite) • PMMA systems
Sales split 2012	~25%	~35%	~40%
Market position[1]	# 1 in polyamide 12	# 2 in MMA	# 1-2 in PMMA
% of sales from leading positions[2]			
Main competitors	• Arkema • DuPont • EMS • Victrex	• LG MMA • Mitsubishi Chemicals • Sumitomo	• Arkema • Mitsubishi Chemicals • Sumitomo

[1] Company estimates for relevant markets based on multiple research reports
[2] Defined as Top 1-3 positions; as per Company estimates, based on multiple research reports

Specialty Materials overview
BU Advanced Intermediates

	Performance Intermediates	Active Oxygens	Functional Solutions	Agrochemicals & Polymer Additives
				
Applications	• Plastics • Styrene-butadiene-rubber • High performance polymers	• Oxidising agent in chemical reactions • Pulp & paper bleaching	• Catalysts for biodiesel production	• Polymer additives • Optical brighteners • Photovoltaic • Agro chemicals
Key products	• Butadiene • Butene-1 • Plasticisers • Plasticiser alcohols	• Hydrogen peroxide	• Alcoxides (e.g. sodium methylate)	• Triacetonamine • Crosslinkers • Precursors of glyphosates
Sales split 2012	~70%	~10%	~10%	~10%
Market position[1]	# 1 in 1-butene	# 2 in hydrogen peroxide	# 1 in alcoholates	# 1 in cyanuric chloride
% of sales from leading positions[2]				
Main competitors	• BASF • Exxon Mobil • LyondellBasell • TPC	• Arkema • FMC • Solvay	• BASF • DuPont	• Lanxess • Nalco • Syngenta

[1] Company estimates for relevant markets based on multiple research reports
[2] Defined as Top 1-3 positions; as per Company estimates, based on multiple research reports