

Evonik in the World of Plastics

Press Conference K 2007

Dr. Manfred Spindler
Board of Management of Evonik Degussa GmbH
Düsseldorf, October 24, 2007



EVONIK
INDUSTRIES

- 1. Evonik Industries: a New Company**
- 2. A Look at our Markets:
‘plastics’ and ‘for plastics’**
- 3. Growth Drivers**
- 4. Market Trends**
- 5. Additional Examples of
Innovative Solutions**

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1. Evonik Industries: a New Company

Business Areas and Sales



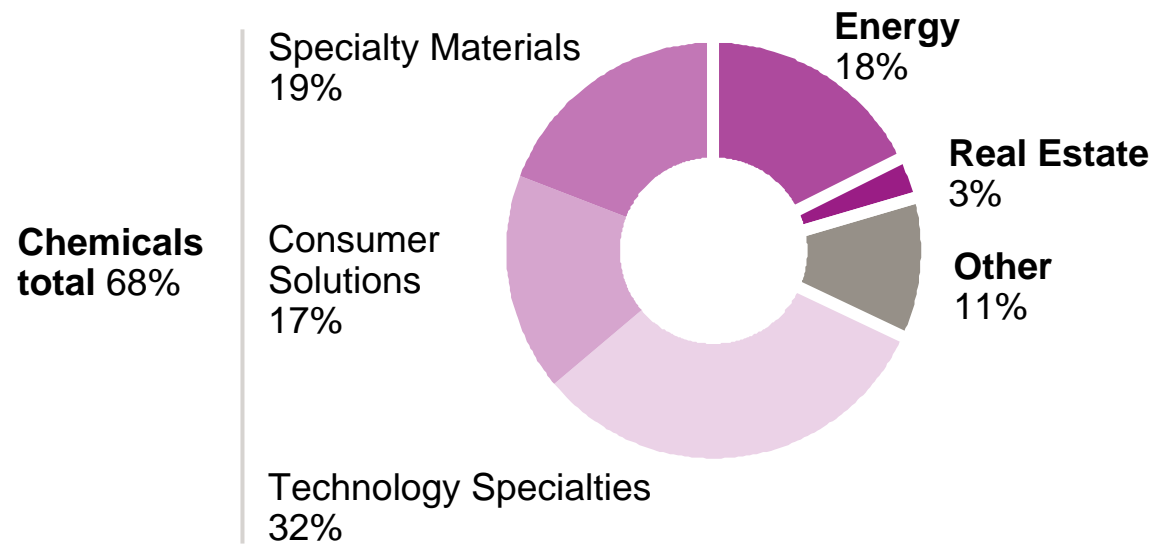
Chemicals



Energy



Real Estate

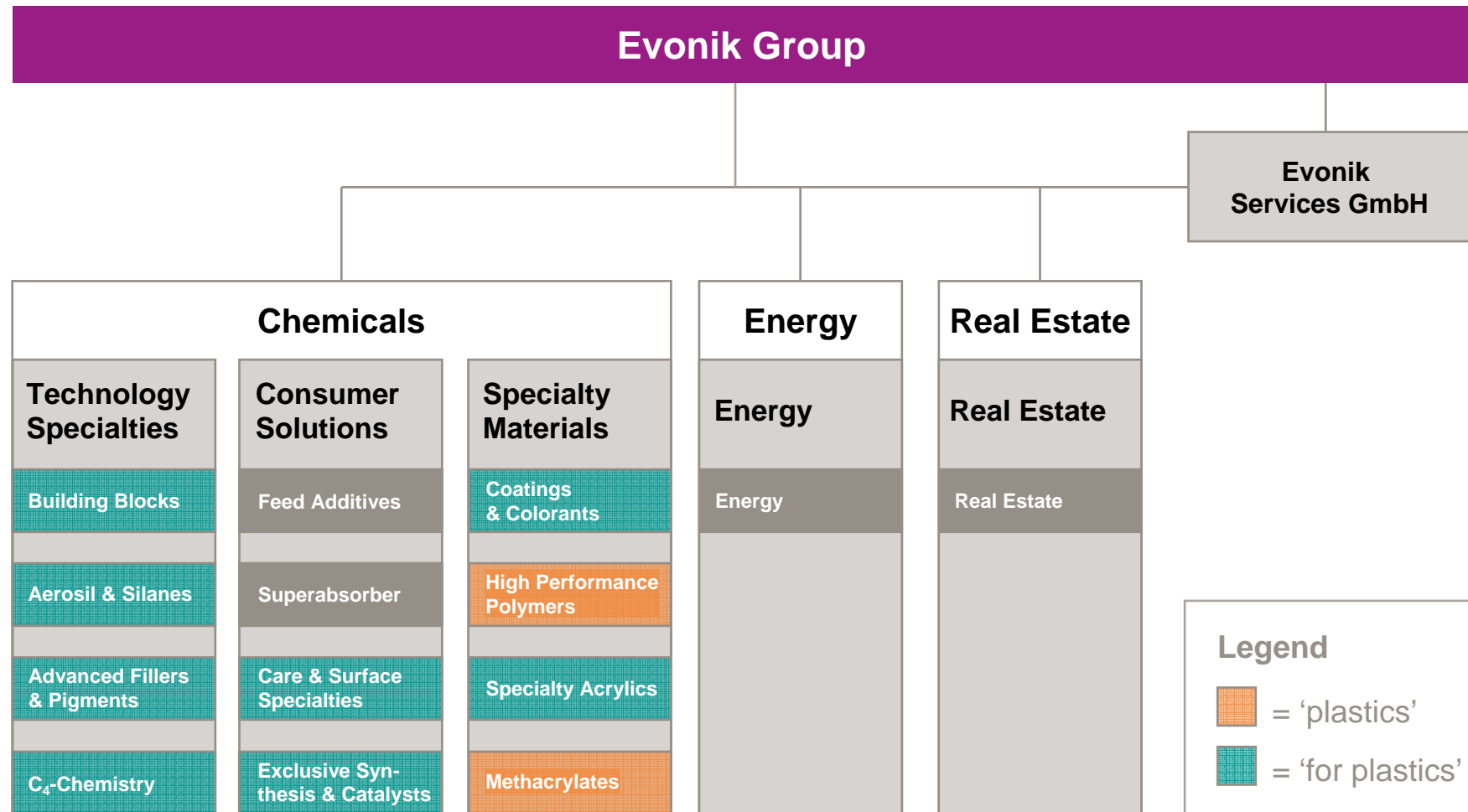


**2006 sales:
€14.8 billion**

**EBIT 2006:
€1.2 billion**

1. Evonik Industries: a New Company

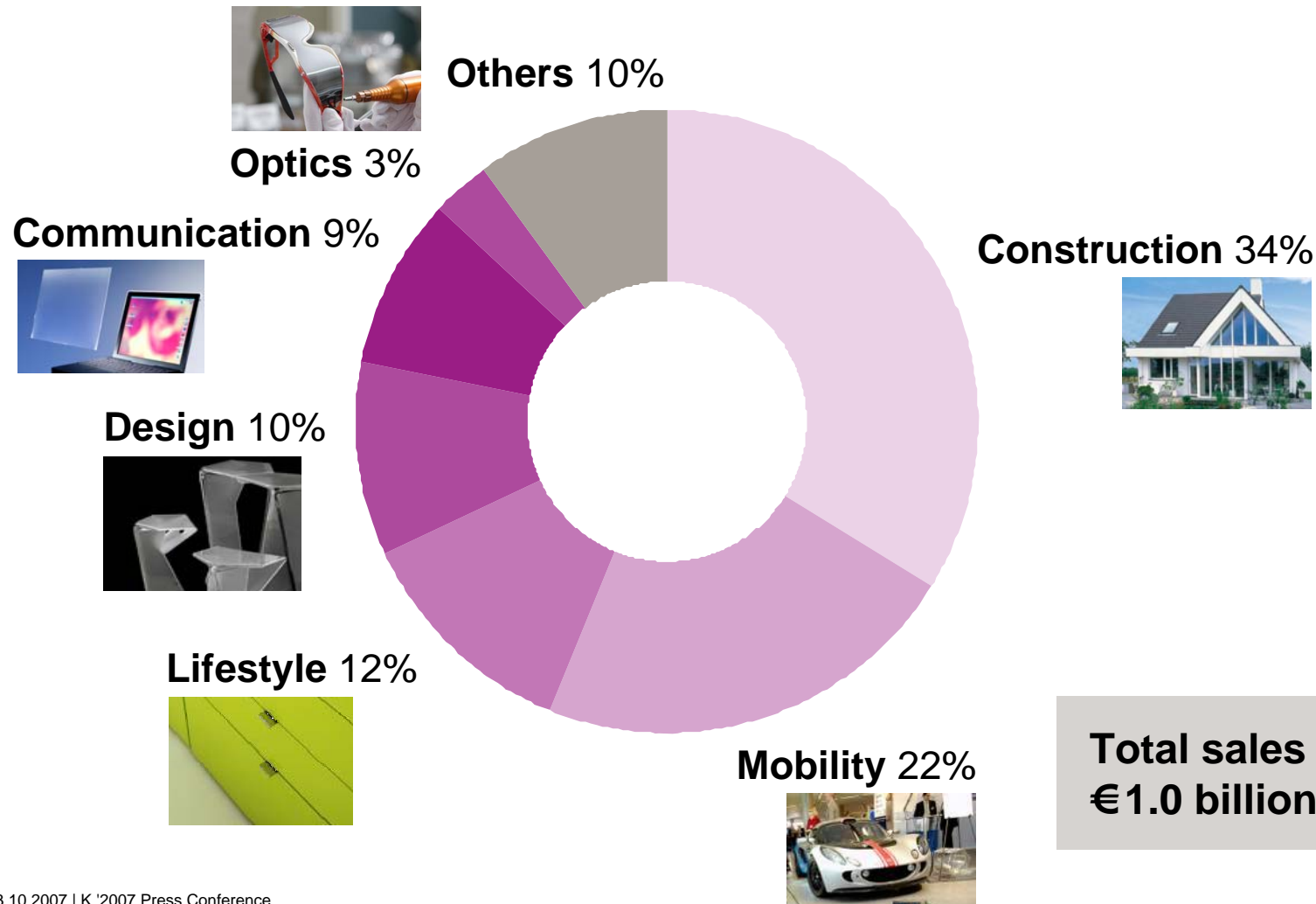
The Business Units



1. **Evonik Industries: a New Company**
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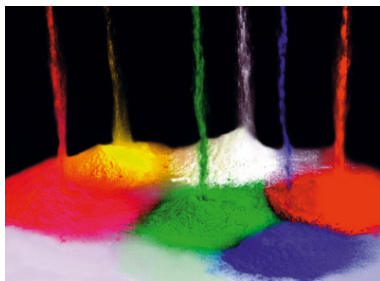
2. Our Markets: 'plastics' and 'for plastics'

'plastics': Sales by Market Segments

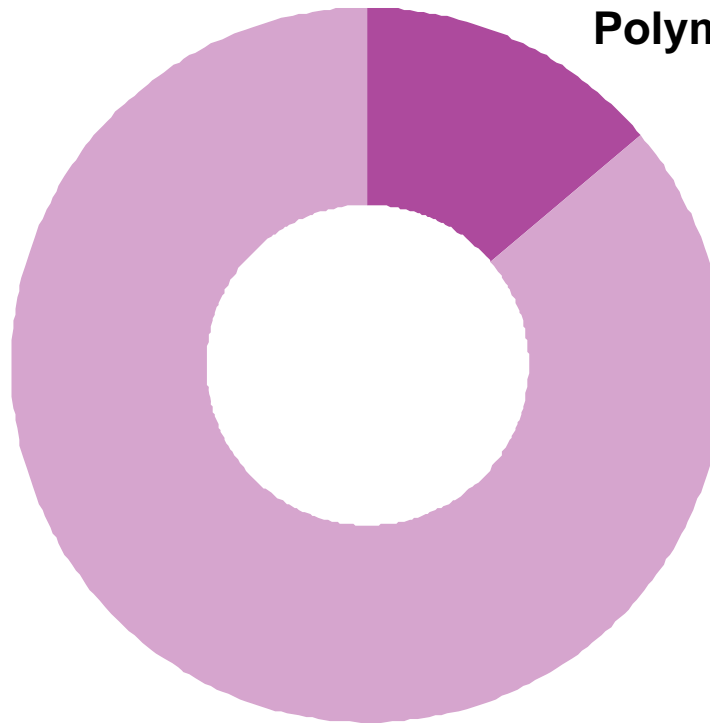


2. Our Markets: 'plastics' and 'for plastics'

'for plastics': Sales by Market Segments



Compounding/Converting 86%



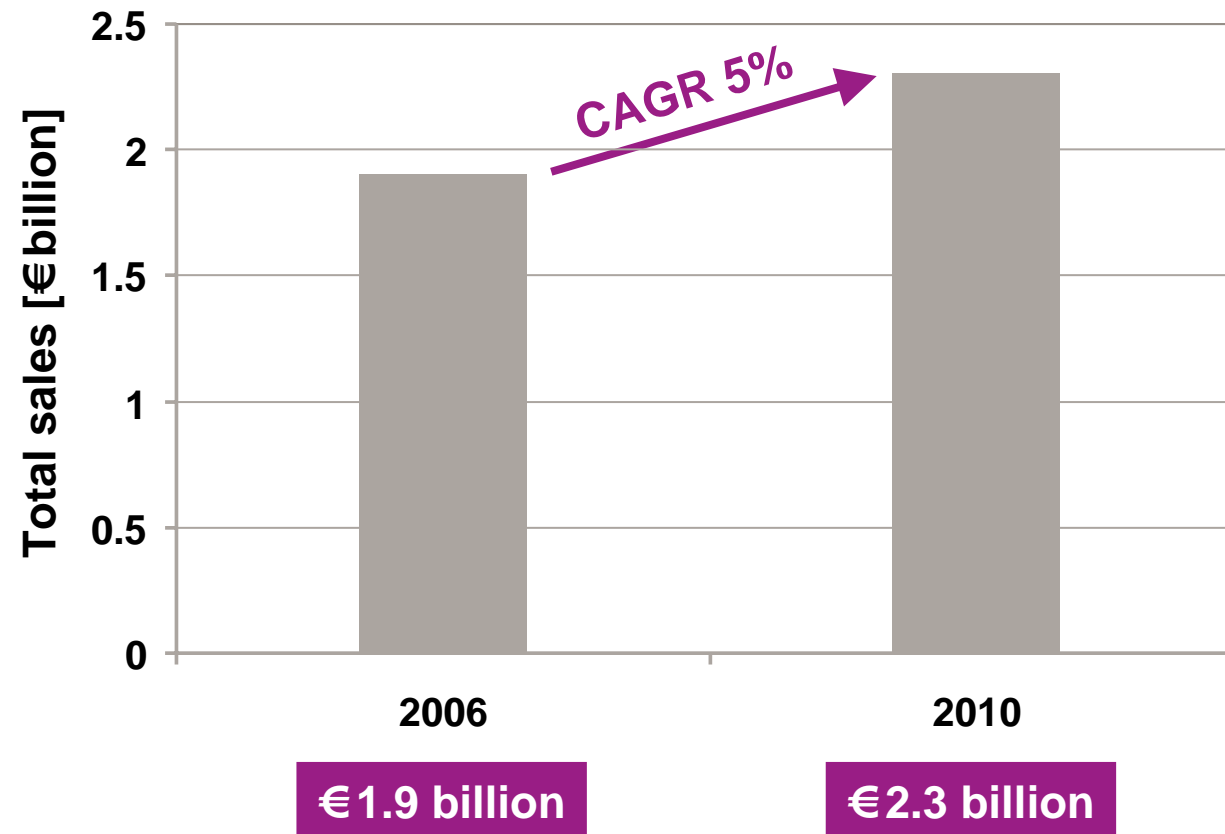
Polymerization 14%



**Total sales 2006:
€0.9 billion**

2. Our Markets: 'plastics' and 'for plastics'

Total Sales



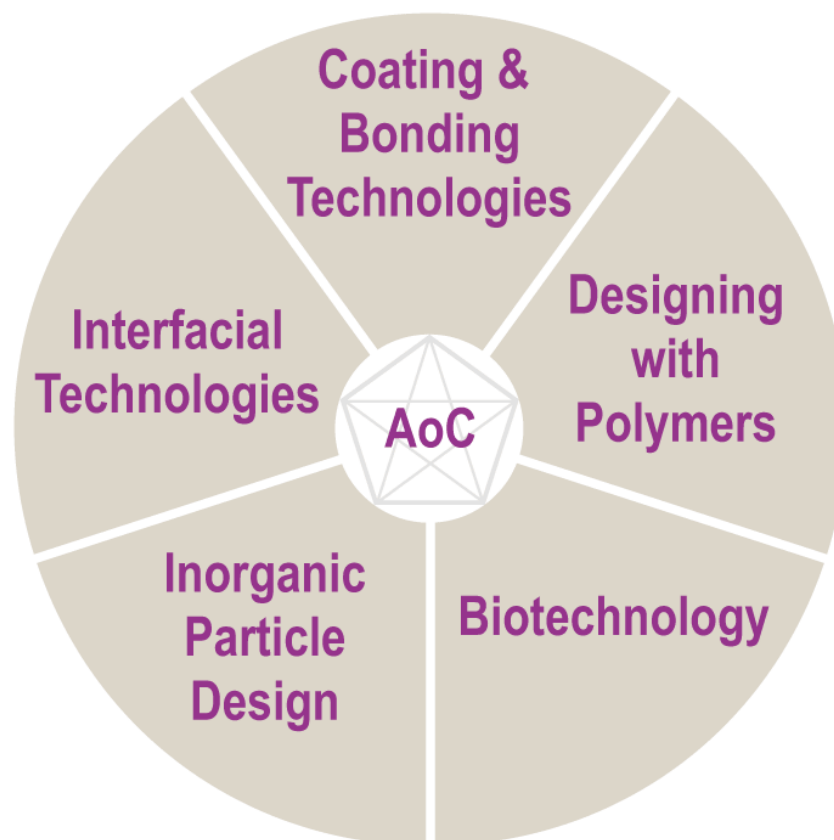
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Internal and External Factors



- Areas of Competence
- Project houses and Science-to-Business Centers
- Cooperations with universities, customers and business partners
- Verbund structure
- Increase of investments
- Focus on engineering and high performance plastics
- Strong brands

Areas of Competence



3. Growth Drivers

Project Houses



Nanomaterials
2000/01 – 2002/12



Biotechnology
2001/01 – 2003/12



Catalysis
2001/07 – 2004/06



**Functional
Polymers**
2003/10 – 2006/09



ProFerm
2004/01 – 2006/12



**Process
Intensification**
2005/01 – 2007/12



**Functional Films &
Surfaces**
2006/12 – 2009/12

3. Growth Drivers

Science-to-Business Centers Nanotronics and Bio



Chemicals

Functional
Assembly

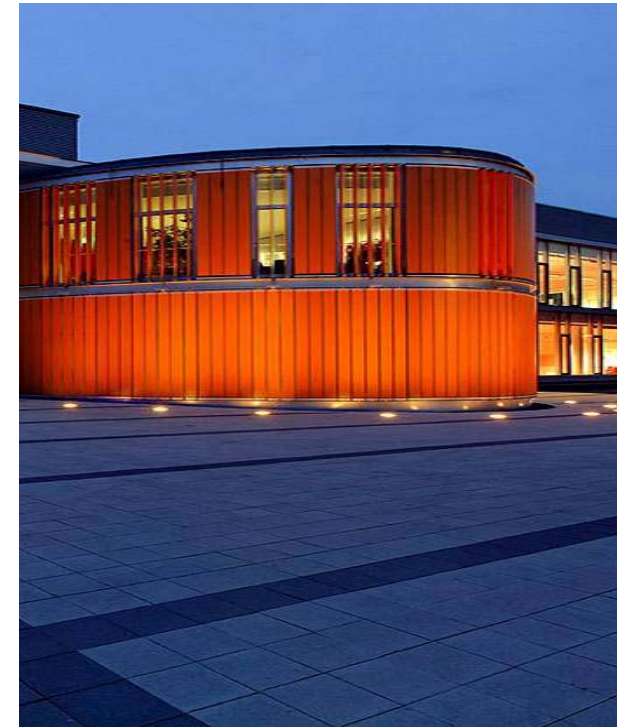
Device

System

→ Integration of scientific expertise at all levels of the value chain

→ International joint development cooperation with customers

→ Operating since April 2005



Collaboration with Adidas and Molder



Needs

- High-tech soles for top-of-the-range soccer boots

Solution

- Tailor-made plastic VESTAMID® combining the conflicting properties high rigidity, flexibility and minimal weight
- Exchangeable cleats are clip-fastened to the sole

Benefit

- Cleats are firmly anchored and can't break off



Cooperation with KraussMaffei



Needs

- Durable surfaces
- Simplified production of coated plastic parts

Solutions

- Scratch-resistant top layer applied in innovative injection molding process – CoverForm
- System solution: PLEXIGLAS® CF plus a special multi-component reactive system with perfect adhesion

Benefits

- No surface contamination
- Significant cost savings compared to offline coating process
- Perfect surface quality



3. Growth Drivers

Methacrylates 'Verbund Structure'



**MMA, BuMA for
external market**



**MMA for Perform.
Monomers**

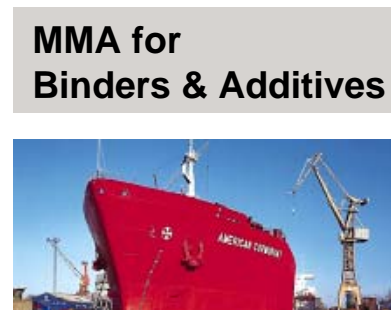


**MMA for
Molding Compounds**

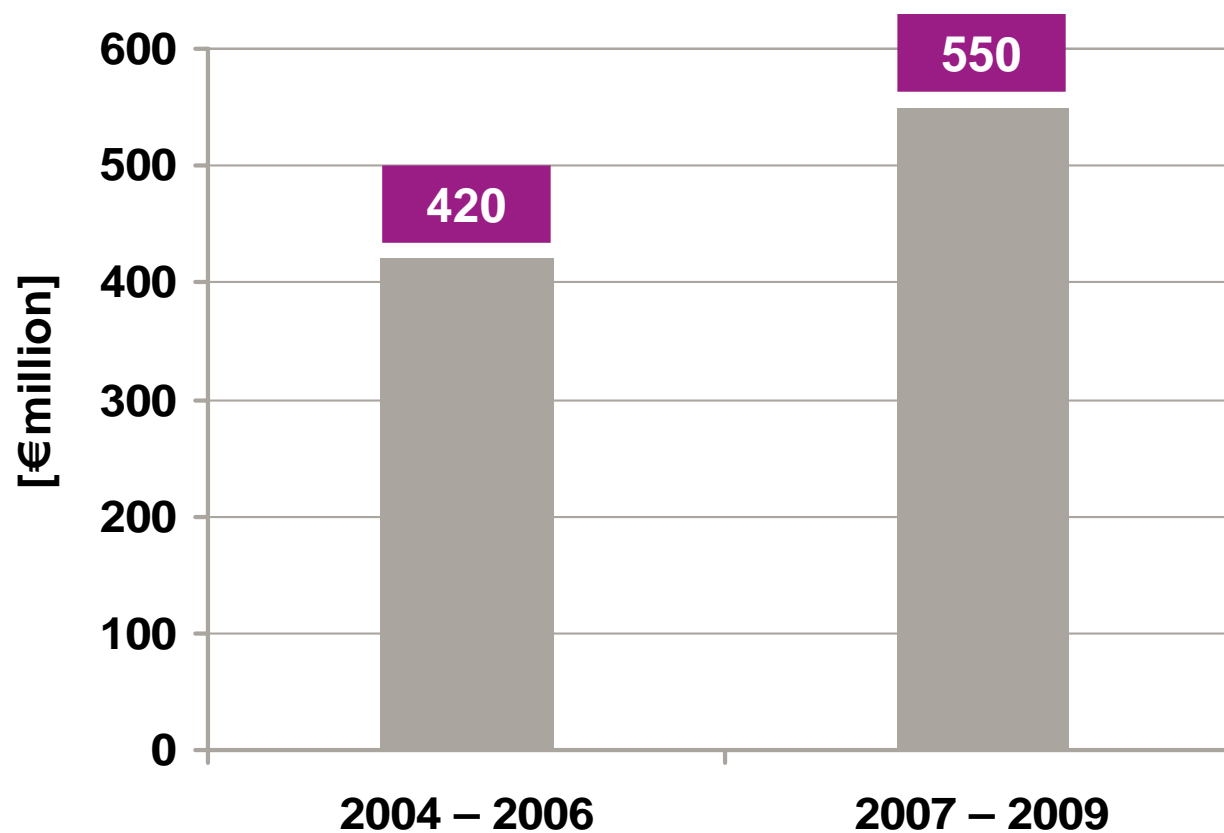


**MMA for Cast / Extrusion
PLEXIGLAS® GS / XT**

Methacrylates Verbund

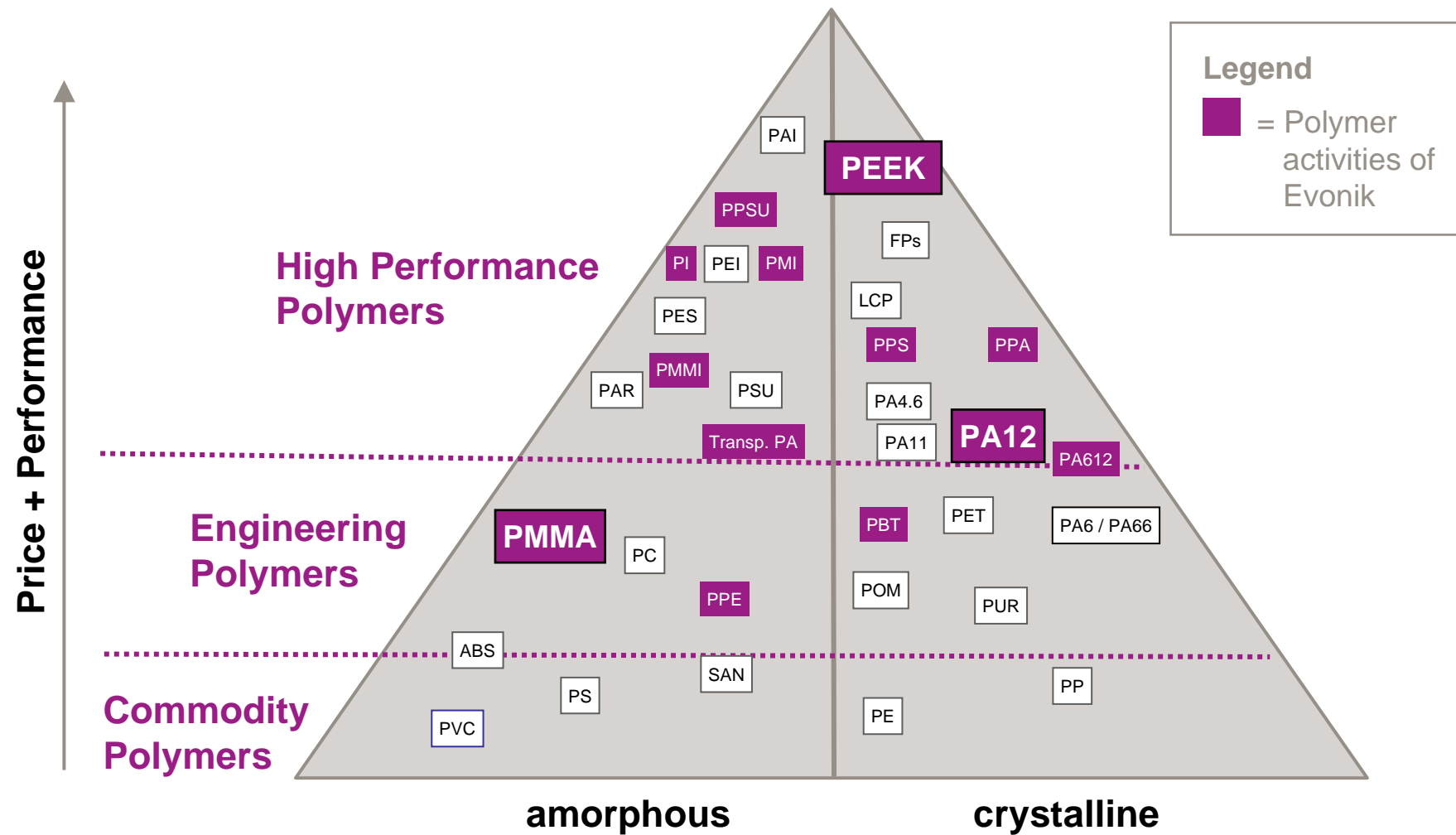


Global Investments



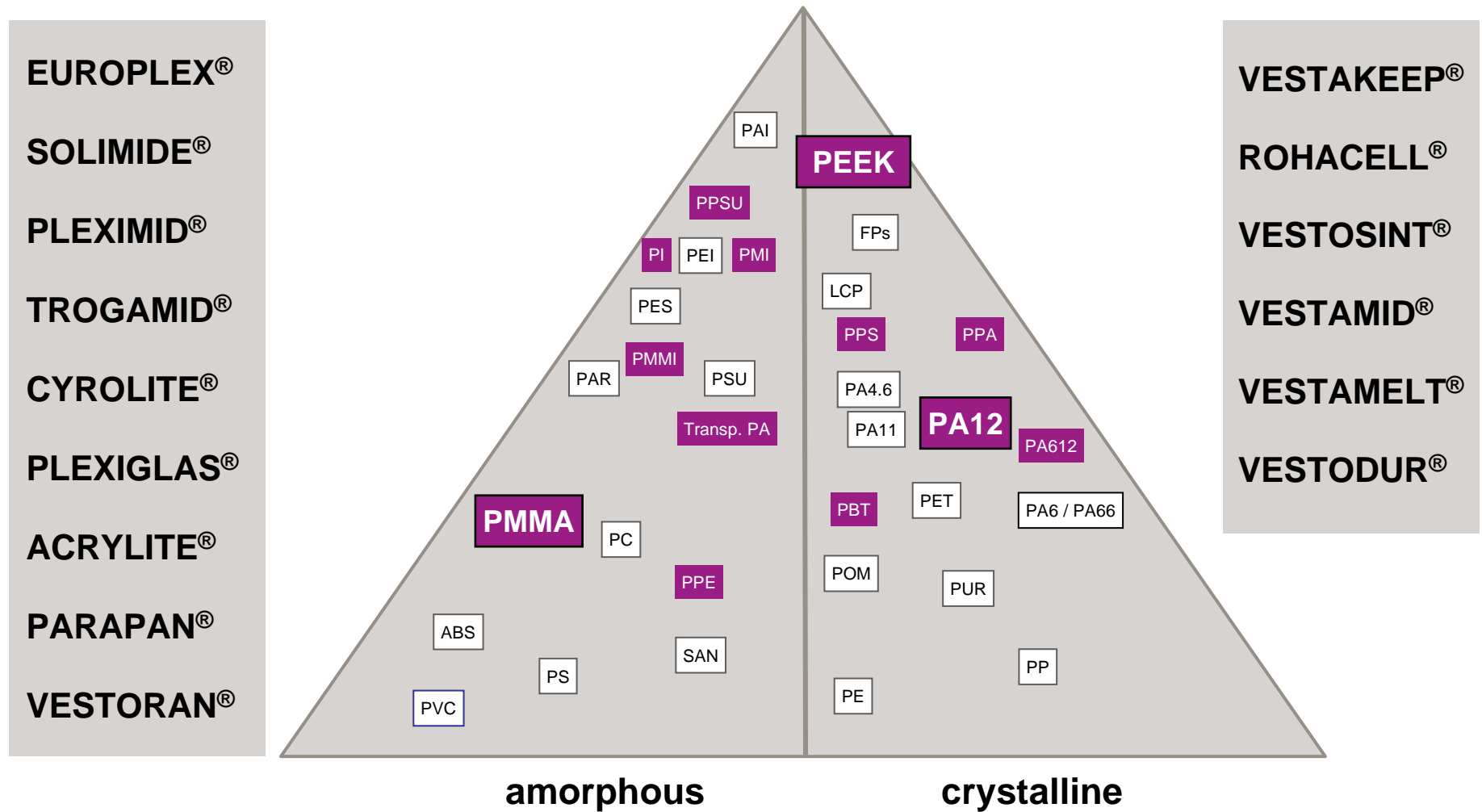
3. Growth Drivers

Focus on High Performance Plastics and Engineering Polymers



3. Growth Drivers

Strong Brands in 'plastics'



3. Growth Drivers

Strong Brands in 'for plastics'



AEROSIL®

COLCOLOR

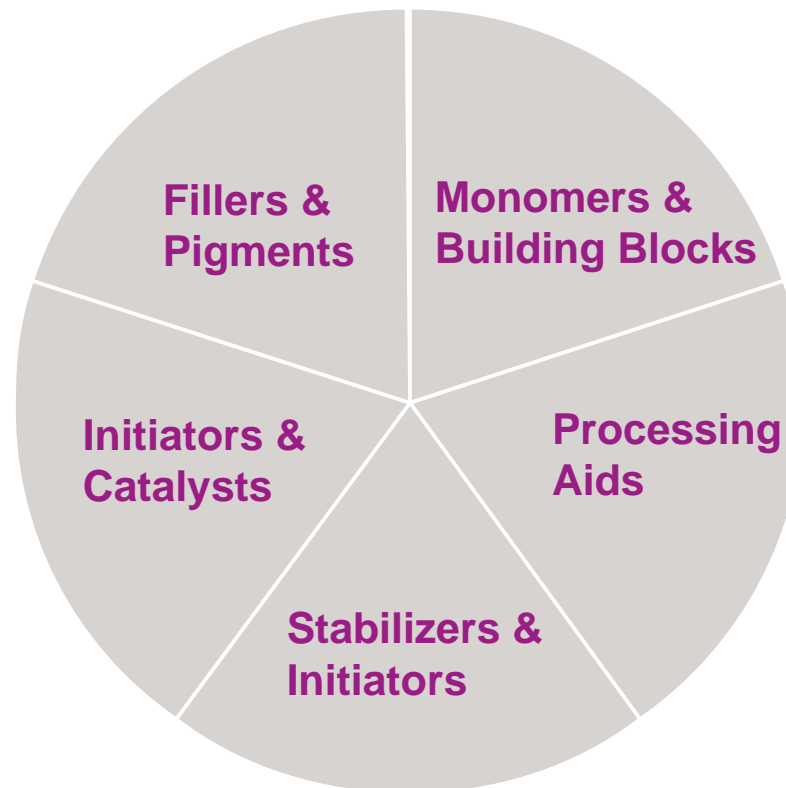
NEROX®

POLYTREND®

TEGOMER®

**COLOR
INFUSION
PLUS**

SiYPro®



TEGOSORB®

TEGO®

VESTINOL®

DEGALAN®

Dynasylan®

TEGOPREN®

**Dynasylan®
SIVO**

**Dynasylan®
SILFine**

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4. Market Trends

Three examples



“Globalization”



“Lifestyle”



**“Energy Efficiency
and
Climate Protection”**

Globalization

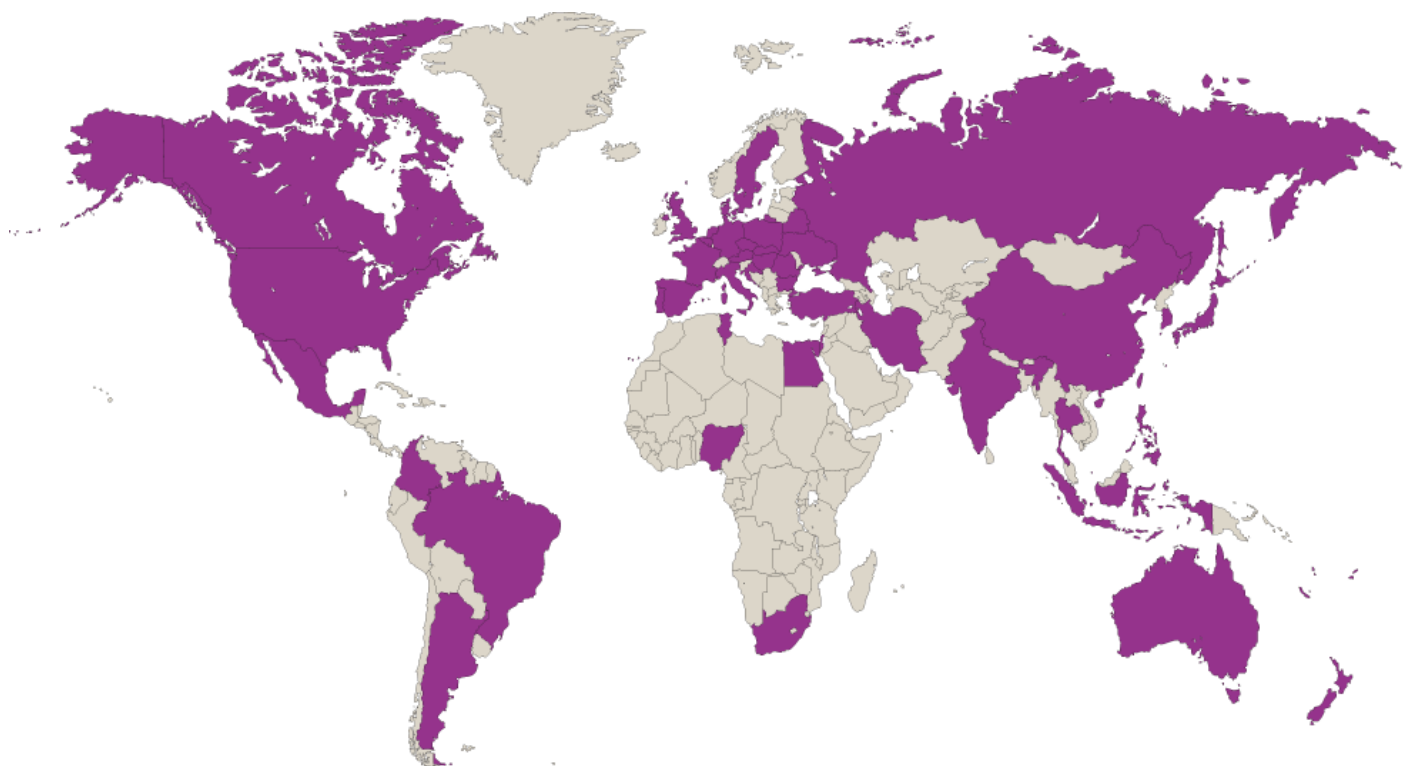


- **Global Accounts**
- **Global Cooperations**
- **Worldwide Production Sites**
- **Worldwide R&D / Tech Centers**

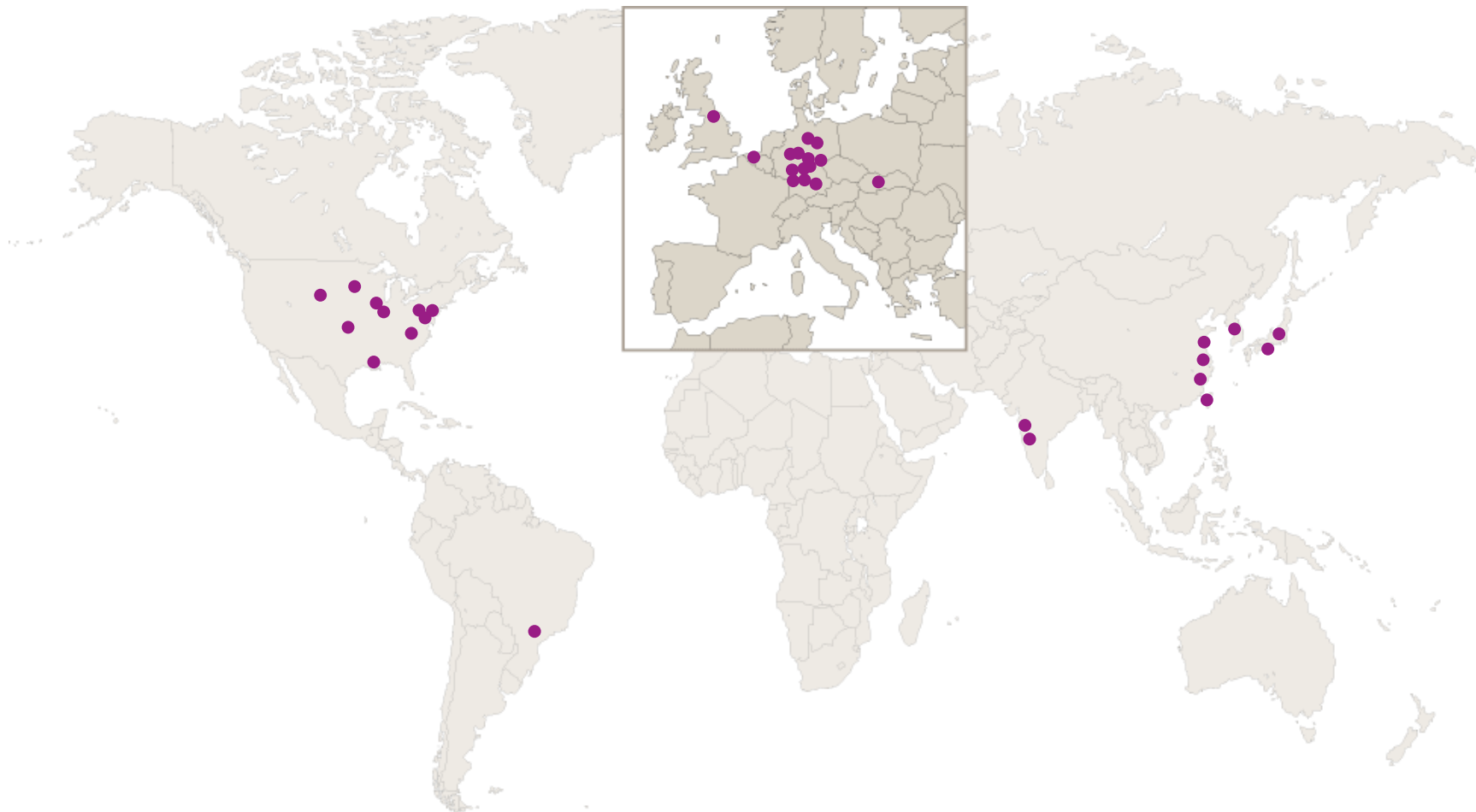


Evonik Around the Globe

Evonik has production and distribution sites in 52 countries around the globe and operates in more than 100 countries.



R&D and Tech Centers at 35 Sites



R&D/Tech Center in Shanghai is Growing



The Tech Center is focused on regional needs

- Application technology and plant support
- Local contacts (universities, institutes, associations)
- Quick response technical service for customers
- Training of our sales people and customers

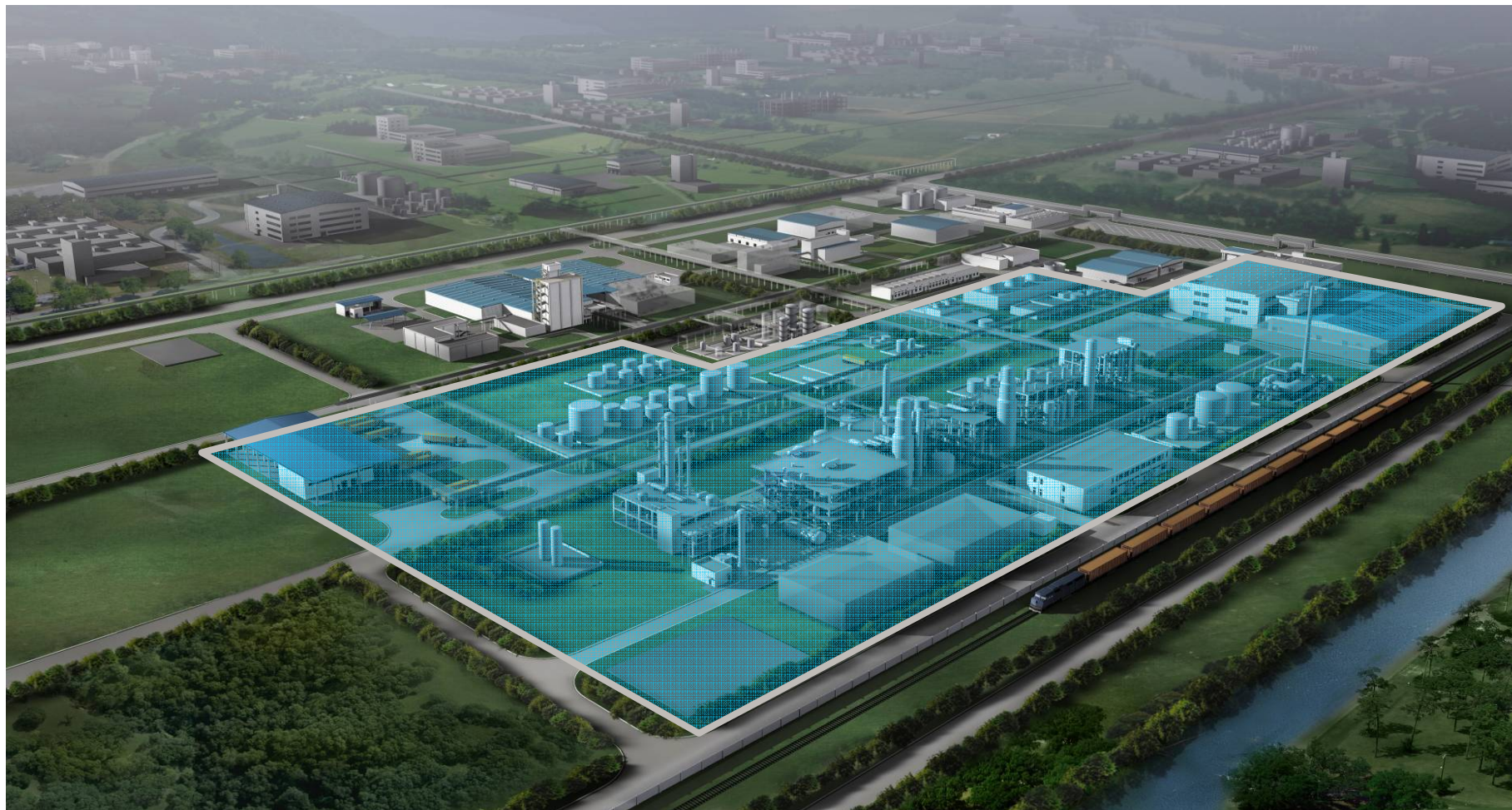
4. Market Trends – Globalization

Multi-User Site Shanghai (MUSC)



4. Market Trends – Globalization

Methacrylates to China (MATCH)



- **Information and Communication**
- **Sports and Leisure**
- **Living and Interior Design**



TFT-LCD Flatscreens



Needs

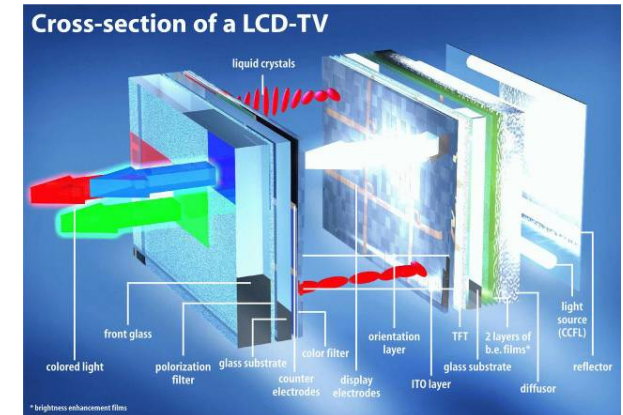
- Light and slim design
- Low energy consumption
- Flicker-free screen

Solution

- PLEXIGLAS® POQ for light guide panels
- Outstanding optical purity and transparency
- Joint venture Degussa Forhouse Optical Polymers Corporation in Taichung/Taiwan

Benefits

- Top brightness and colour gamut
- True colour images everywhere



Glasses, Frames and Lenses

Needs

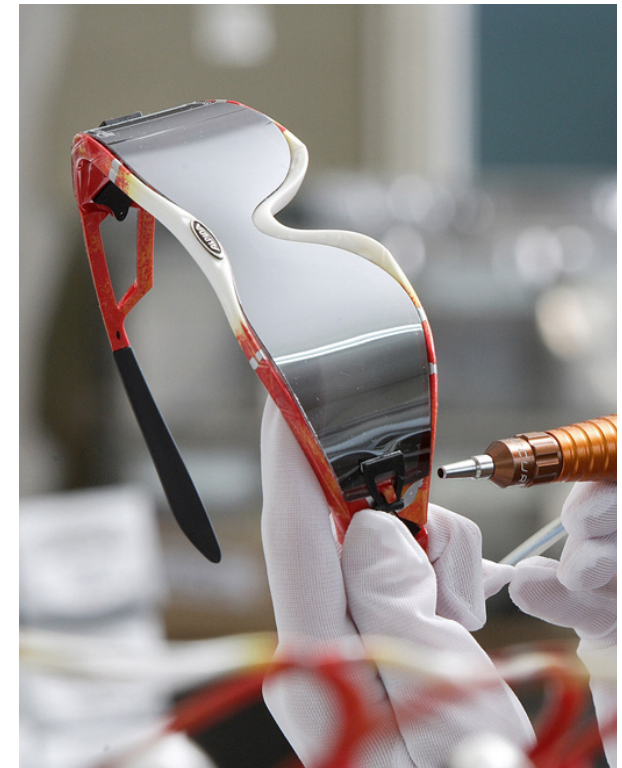
- Material with high transparency and resistance to chemicals, stress-cracking, abrasion and UV radiation

Solution

- TROGAMID® CX, a transparent specialty polyamide combining the properties of a semi-crystalline and amorphous polymer

Benefits

- High-quality sunglasses in virtually any design: flexible, lightweight, filigree or compact, nearly unbreakable
- All parts from one material, also temples, connectors and screws



Energy Efficiency and Climate Protection



- **Energy Savings**
- **Alternative Energy Sources**
- **Bio-renewables**



Lightweight Construction



Needs

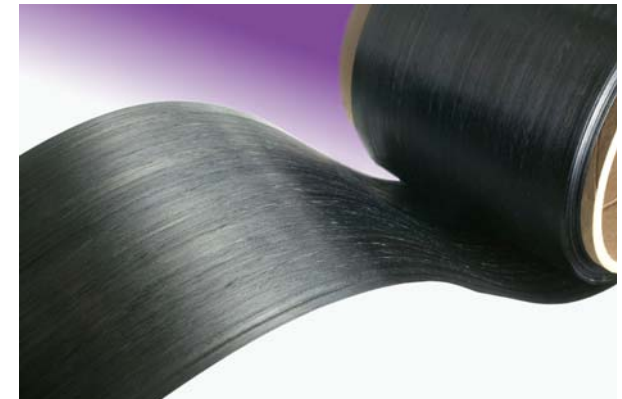
- Substitution of metal in lightweight constructions is the most important challenge to reduce fuel consumption and CO₂ emission
- Expanding future markets for VESTAKEEP® are aerospace and automotive industry

Solution

- Evonik offers customized VESTAKEEP® powders for an optimized fiber impregnation process (picture)

Benefit

- Reduction of manufacturing costs due to better consolidation of composite layers



Lightweight Construction



Needs

- High gloss black surfaces for exterior and interior parts, like pillar trims, roof modules and decorative interior trims

Solution

- Substitution of painted metal trims with high gloss injection-molded parts made of PLEXIGLAS® and PLEXALLOY®

Benefits

- No painting
- Up to 40% unit-cost savings
- Significant weight savings compared to metal parts
- Best UV and weatherability properties of all plastics
- More than 30 applications at 11 well known OEMs



Low Energy Buildings

Needs

- Energy-efficient building materials for greenhouses
- Compensation of increasing energy costs
- Excellent weather resistance and stable light transmission over decades

Solution

- PLEXIGLAS® multi-wall sheets as roofing material
- Excellent heat insulation combined with highest light transmission

Benefits

- Reduction of energy cost
- Enhanced growth of plants
- Long service life due to high weather resistance
- Individual energy calculation



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5. Additional Examples of Innovative Solutions

TEGOMER® AntiScratch 100



Needs

- Scratch resistance during car manufacturing
- Avoid additional coating operation of plastic parts
- Freedom in design
- Long term scratch resistance required by end users

Solution

- Increased surface slip leads to better antiscratch properties

Benefits

- Scratches are less deep and light scattering is reduced: scratches are less visible
- Car manufacturers can obtain attractive prices for high value surfaces
- High quality car interior surfaces for end users



5. Additional Examples of Innovative Solutions

PLEXIGLAS® CoolTouch™



Needs

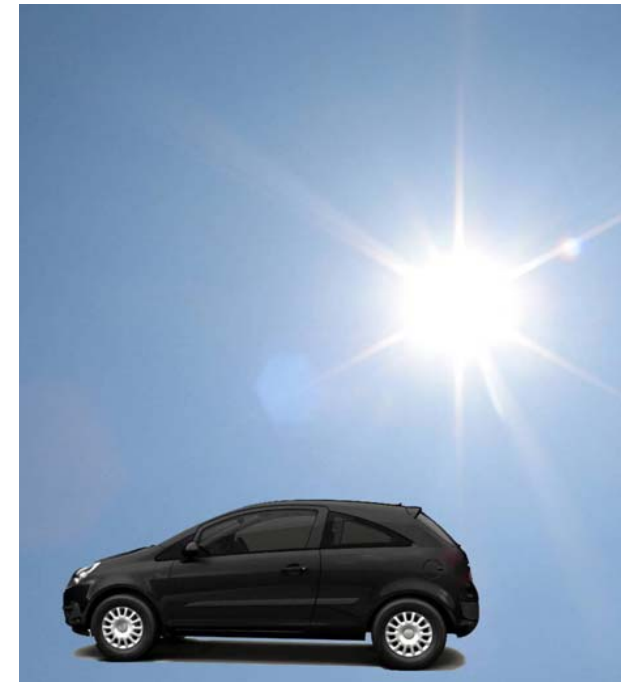
- Market demands dark colors that heat up less

Solution

- New development of dark colored opaque molding compounds with improved IR/heat-reflectivity
- The material reflects up to 20% of the IR radiation

Benefits

- Cars with CoolTouch™ roof modules stay cooler in the sun
- Less expansion and contraction, higher dimension stability
- Protection of poor reflective materials to provide improved reflectance
- Dark colored molding compounds that reflect heat and save energy



5. Additional Examples of Innovative Solutions

PLEXIGLAS® for bearing structure



Needs

- Transparent bearing structures for bridges or columns
- Ability to combine wood or steel with transparent material
- Construction companies to finalize construction on site

Solution

- PLEXIGLAS® in combination with steel or wood as a bearing structure

Benefit

- Enables customers to realize new and more flexible forms of construction



NEROX® Product Range

Needs

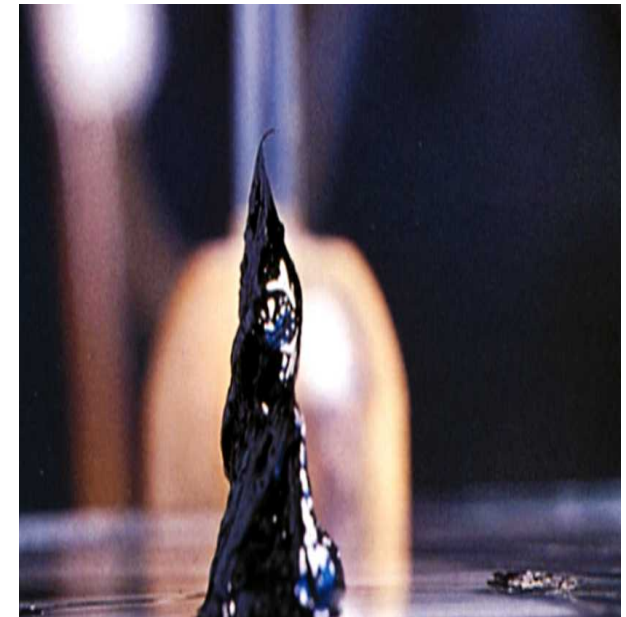
- Taylor-made jetness and color undertone
- High loading level of liquid systems
- Low conductivity

Solution

- NEROX® – Broad range of Pigment Blacks for liquid systems
- Higher pigment-black loading in soft PVC, PU precursors, and UP resins
- Excellent processability and improved coloristic properties

Benefits

- Broad selection of Pigment Blacks for specific demands (coloristic, rheology or conductivity)
- Supplementing the existing product range of Special Blacks



5. Additional Examples of Innovative Solutions

POLYTREND, Liquid Color Systems for Plastics



Needs

- Broad range of colors
- Frequent switch of colors

Solution

Color management system providing

- Liquid base colors
- Hardware and software
- Color formulations
- Color system setup support

Benefits

- Highest flexibility in color management
- Reduced networking capital by keeping only base colors on stock
- Reduced time to market



No limits in coloration
Hall 7a, Booth D 19

Conclusions



Evonik Industries

- **We are well positioned under Evonik's roof**
- **We want to grow in the plastics market by 5% annually**
- **We offer our customers new products, applications, and system solutions all around the world**
- **Our partnerships lead to new horizons**
- **We invest in promising markets**



EVONIK
INDUSTRIES