

investor  day
2010

Performance Products

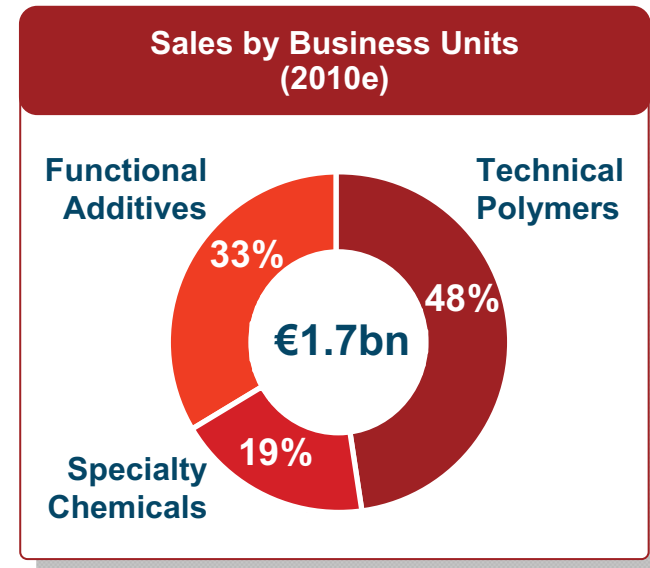
Pierre CHANOINE

Executive VP in charge of Performance Products



Performance Products overview

- **PERFORMANCE means OUTSTANDING PROPERTIES**
 - Temperature resistance, weathering resistance, barrier properties, higher energy savings,
- **Among world leaders in high margin niche markets with limited number of players. Examples:**
 - Arkema only producer of Rilsan[®] (bio-polyamide)
 - 2 international PVDF producers
- **Selling performances more than products**
- **Innovation-driven growth**
 - Benefit from mega-trends in sustainability
 - Patent strategy
- **Customized applications**
 - Marketing developments in regional R&D centers



A range of high specialty products

Technical Polymers

Specialty Polyamides



PA11: bio-based high performance polyamide
PA12: high performance polyamide

PVDF



High performance fluoropolymer – easy to process

Functional Polyolefins



High end of the ethylene copolymers range

Specialty Chemicals



**Specialty chemical products for 2 main markets:
filtration & surfactants**

Functional Additives



Additives for polymers production and formulation



Strong positions and well known brands

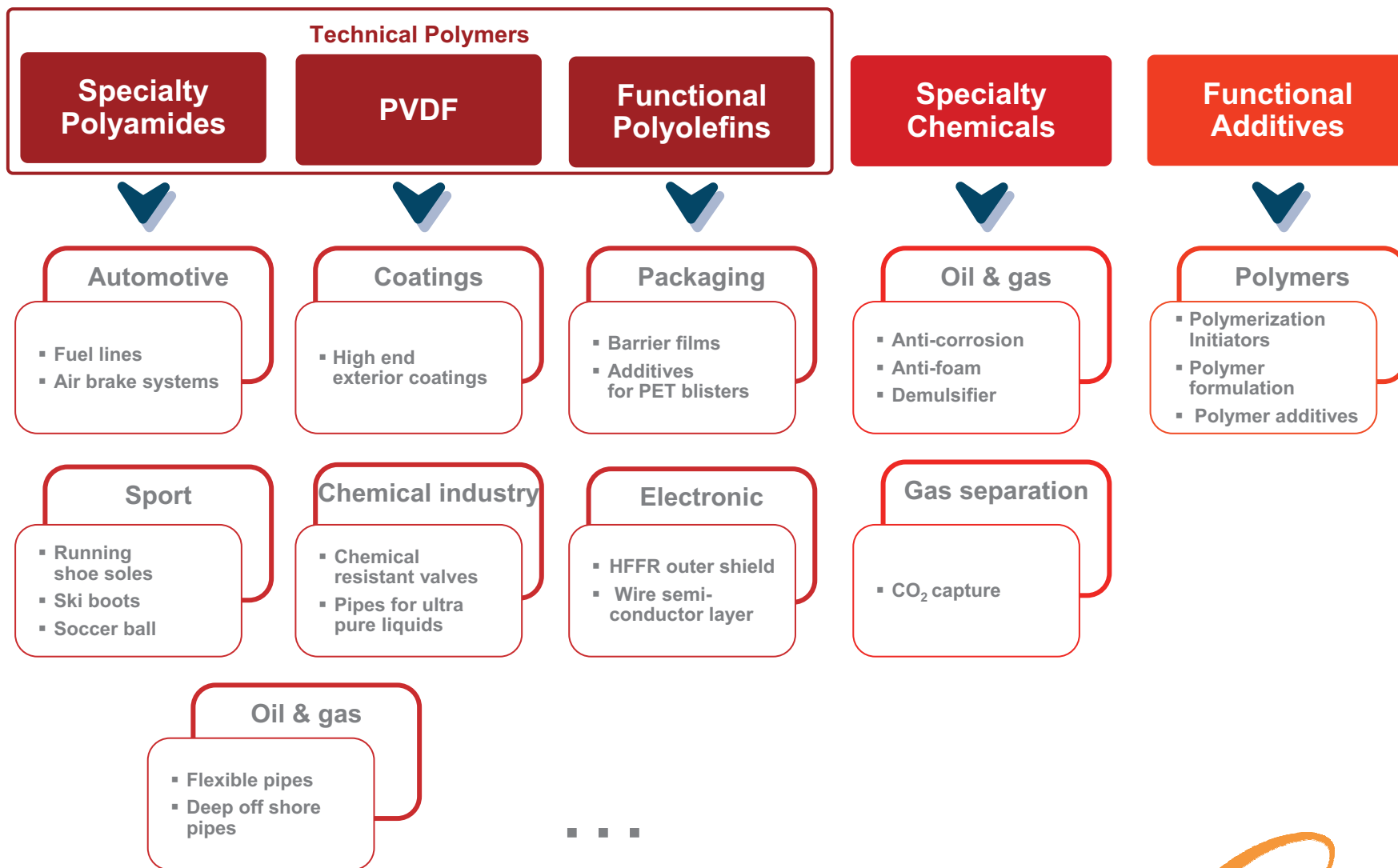
Technical Polymers	
Specialty Polyamides	<p>PA11: #1 PA12: #2</p> <p>     </p> <p>Competitors: Evonik, Ems</p>
PVDF	<p>Co-leader</p> <p>   </p> <p>Competitors: Solvay</p>
Functional Polyolefins	<p>#1 In Europe</p> <p>     </p> <p>Competitors: Dupont, Exxon</p>
Specialty Chemicals	<p>#2*</p> <p>    </p> <p>Competitors: Honeywell, Akzo, Zeochem</p>
Functional Additives	<p>#2**</p> <p>     </p> <p>Competitors: Akzo, Dow</p>

*Molecular sieve

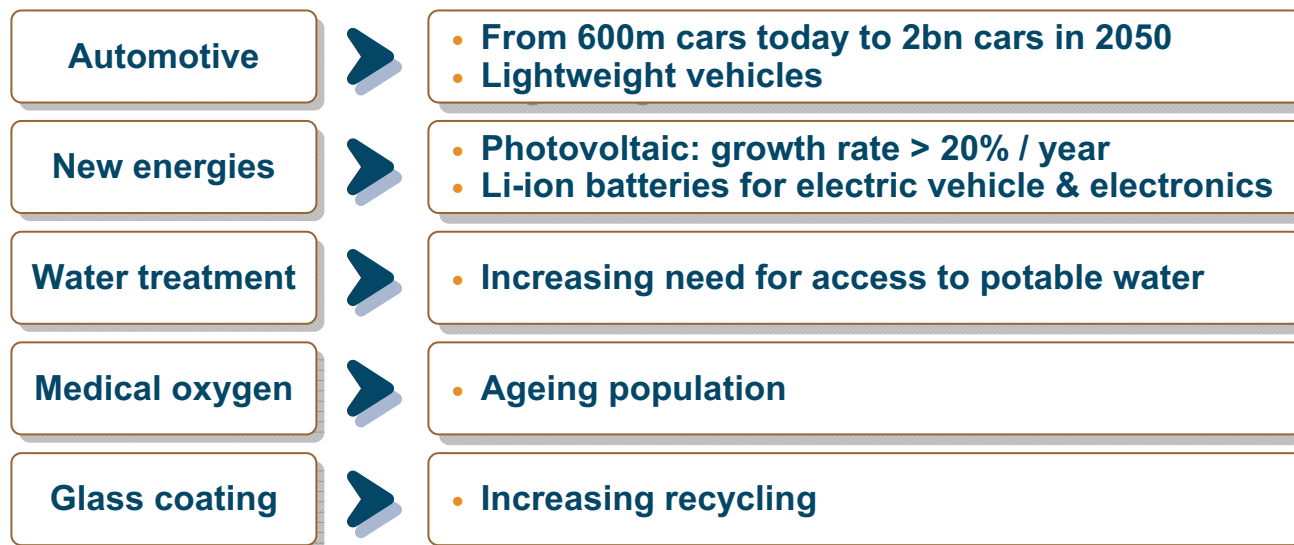
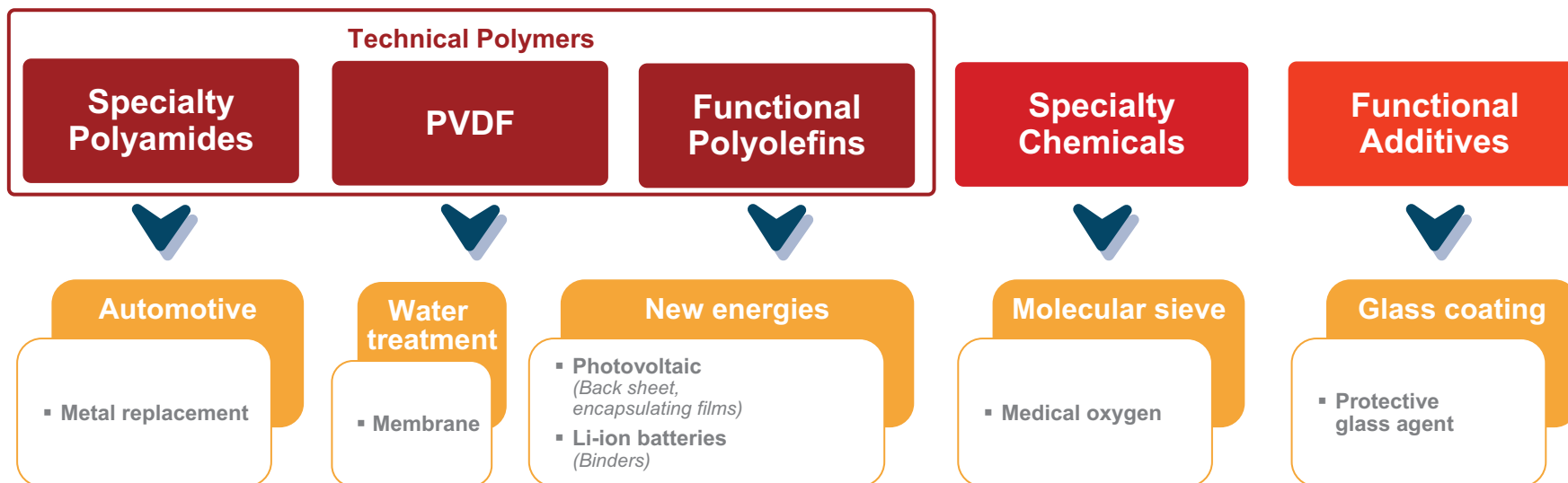
**Organic Peroxide



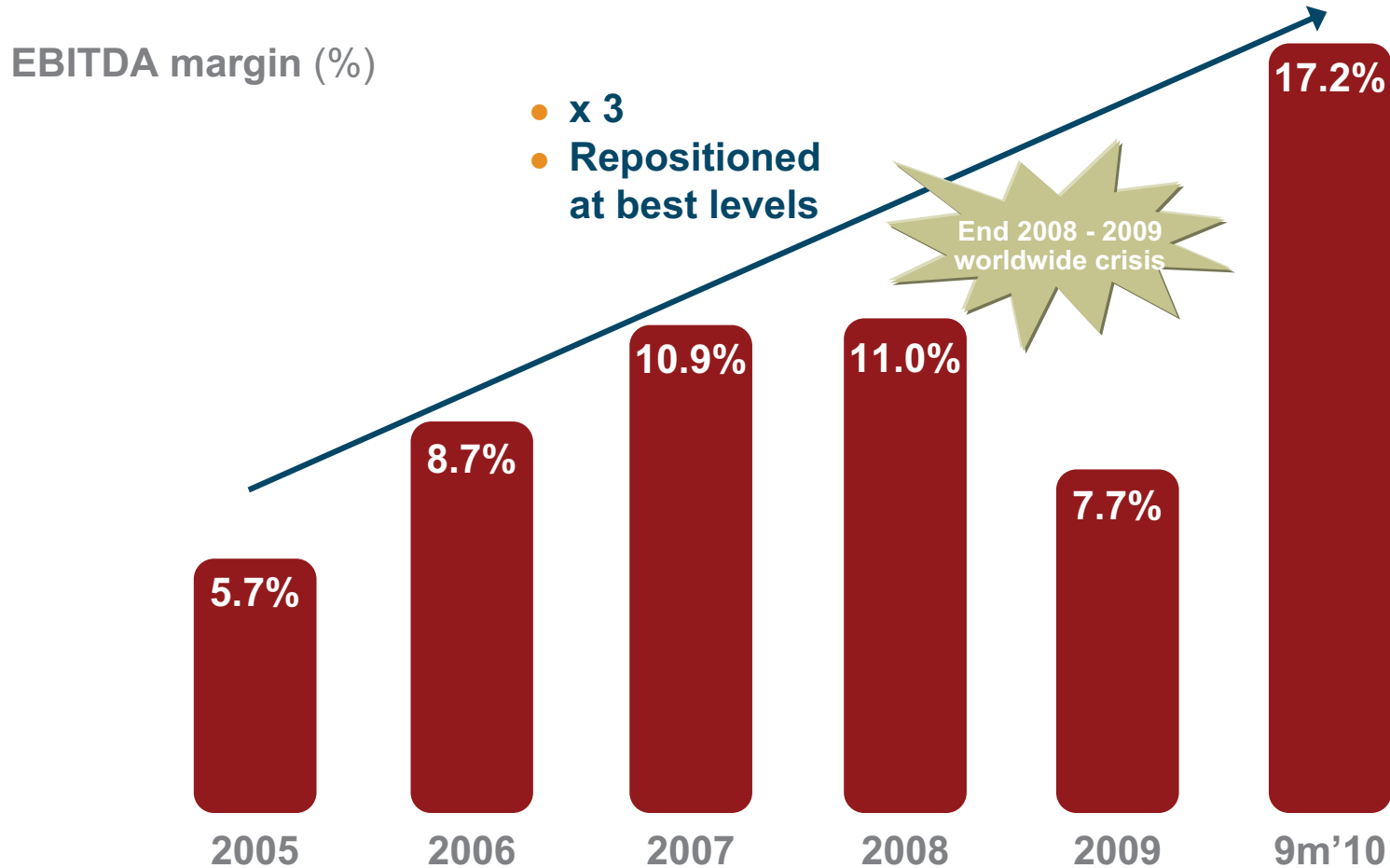
Customized products for niche markets



Benefits from emerging applications



A dramatic turnaround since 2005



2005 – 2010: in depth transformation

M&A

Acquisitions (sales = €30m)

- Geo (2009)
- Winkelman (2009)

Divestments (sales = €300m)

- Cerexagri (2007)
- Urea formaldehyde (2007)

Costs

Functional Additives:

- Closure of Loison (France) - 2006
- Restructuring of Vlissingen (NL) - 2007
- Closure of Axis (USA) - 2008

Technical Polymers:

- Restructuring of French operation - 2007/2008
- Closure of Bonn (Germany) - 2008

Organic growth

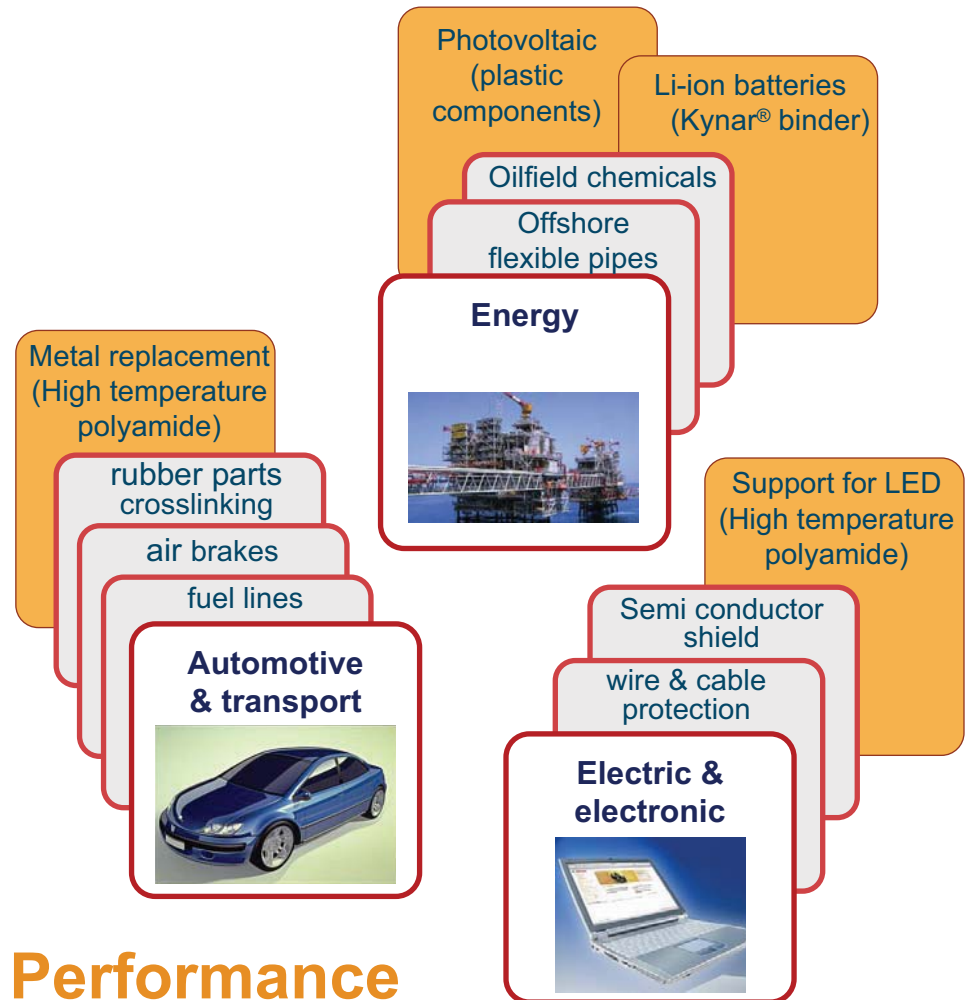
- **Specialty copolymers:** Balan - 2005
- **Organic Peroxides:** Changshu - 2005
- **PVDF:** Calvert City - 2009

Performance Products strategy

- **Continue strict control of fixed costs to ensure profitability**
- **Innovation driven by sustainability**
- **Reinforce manufacturing presence in Asia to support high growth trend**
- **Small and medium size bolt on acquisitions**
- **Value partnership with technical leaders**



Fueling growth with new developments

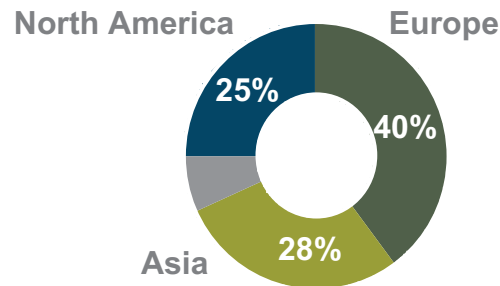
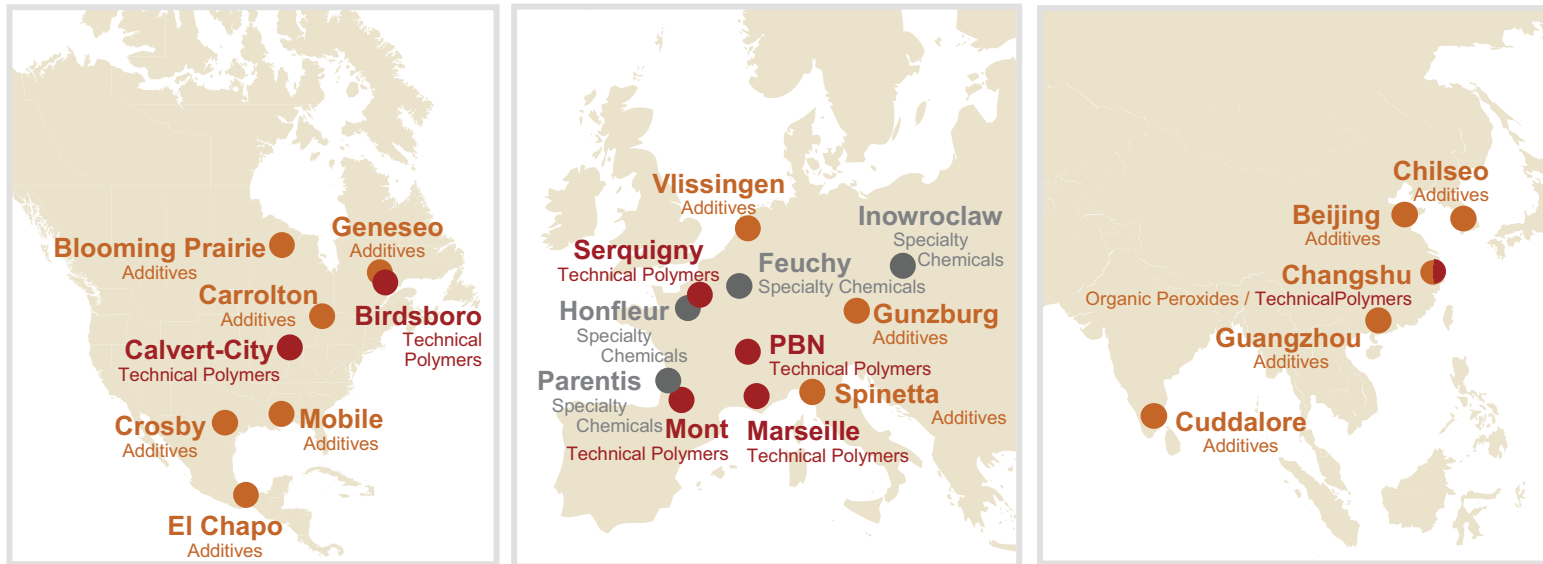


**Growth rate of Performance
Products expected at GDP +1**

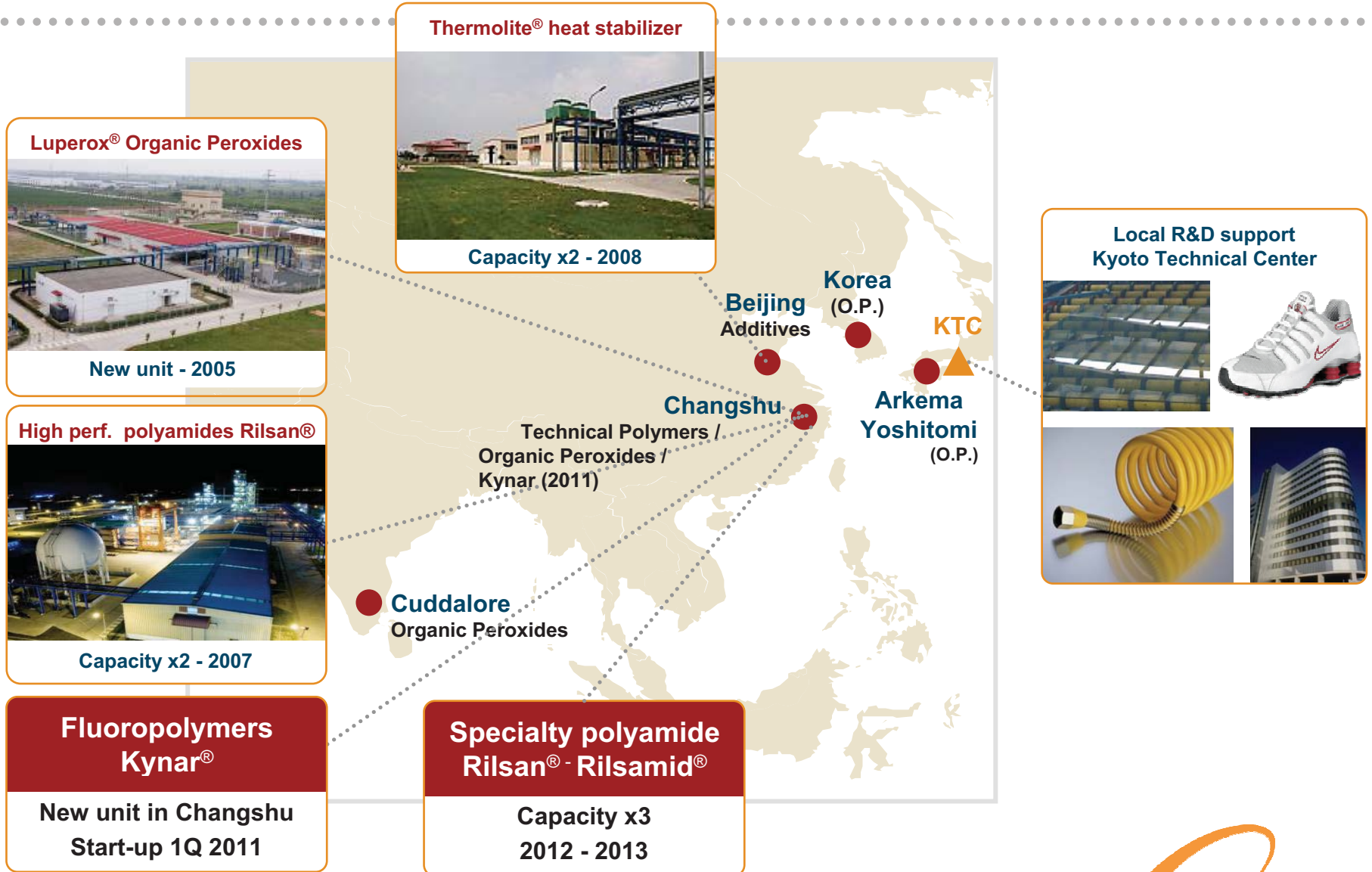


A strong global asset base

Sales by region (in €m)



Reinforce manufacturing to support growth in Asia

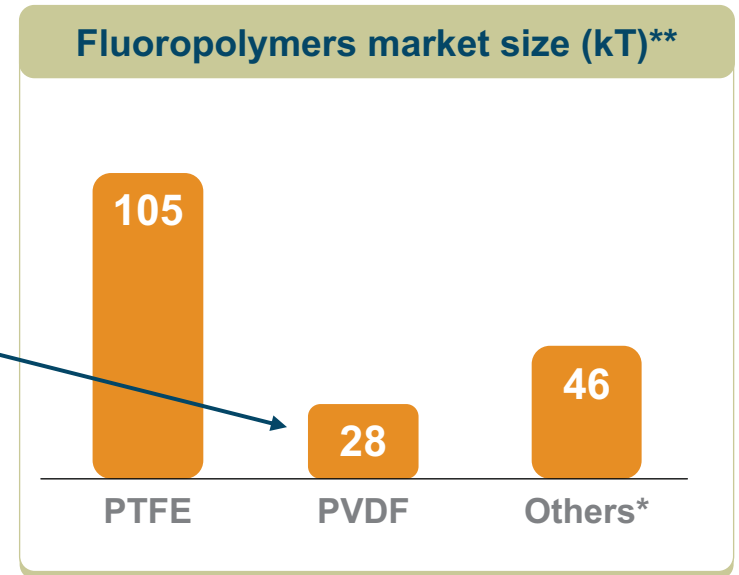
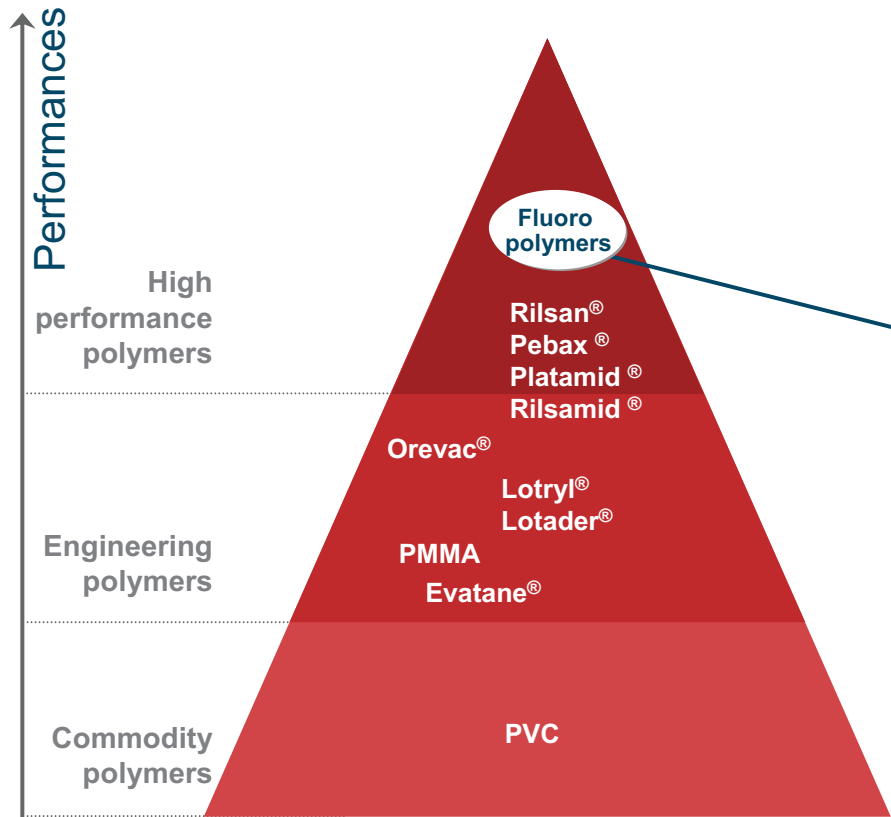


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Kynar®

 **ARKEMA**
The world is our inspiration

PVDF Kynar[®]: a very high performance polymer



* 9 different types of fluoropolymers

** Source: SRI consulting (2008)



Excellent processability / performance balance

- **PVDF Kynar®: largest processing window among fluoropolymers**
 - Many ways to process Kynar®

Injection molding



Extrusion



Thermoforming



- Wide range of applications
- **PTFE: cannot be processed by conventional thermoplastic methods**

High value niche applications in 3 main markets

Coatings

- High end coatings

Industrials

- Chemical Processing Industry
- Oil & gas (deep off shore)
- Wire & cable protection

New energies & water management

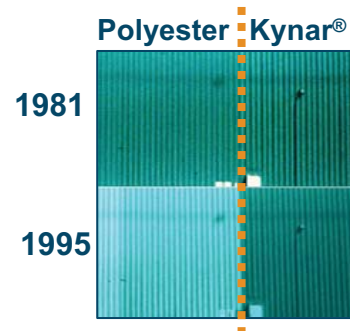
- Photovoltaic (protective films)
- Li-ion batteries (binder)
- Water filtration and transport



Traditional applications

**Exceptional UV
resistance**

High end architectural coatings



- Kynar® brand name licensing
- Development of new formulation and new applications
→ Kynar® Aquatec

**Chemical
resistance,
high purity + very
easy processing**

Chemical Processing Industry



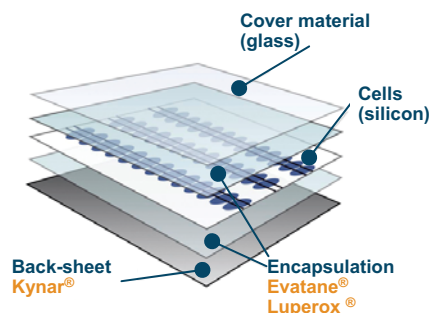
- High purity piping in:
 - Semiconductors
 - Pharmaceuticals
 - Biotech industries

Emerging fast growing markets

Exceptional UV stability +
low permeability



**Back and front sheets for
solar panels**



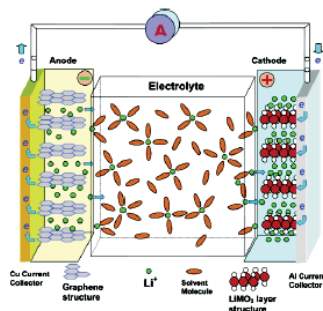
- Increase panel life time

Growth rate > 20% / year

Chemical resistance +
good binding properties



Li-ion batteries binders



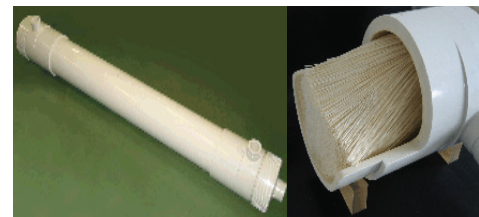
- Cheaper Li-metal layers
- More efficient graphite

Growth rate: > 10% / year

High purity + mechanical
resistance + easy processability



**MF and UF membrane for
water treatment**



Growth rate: > 8% / year



Global manufacturing presence

**Calvert City
(KY)**



**Pierre Benite
(FR)**



**Start of new plant in 1Q'11
Same capacity as in Europe**

**Changshu
(China)**



Market demand: 2010: 28 ktons
Market growth: +7% / year

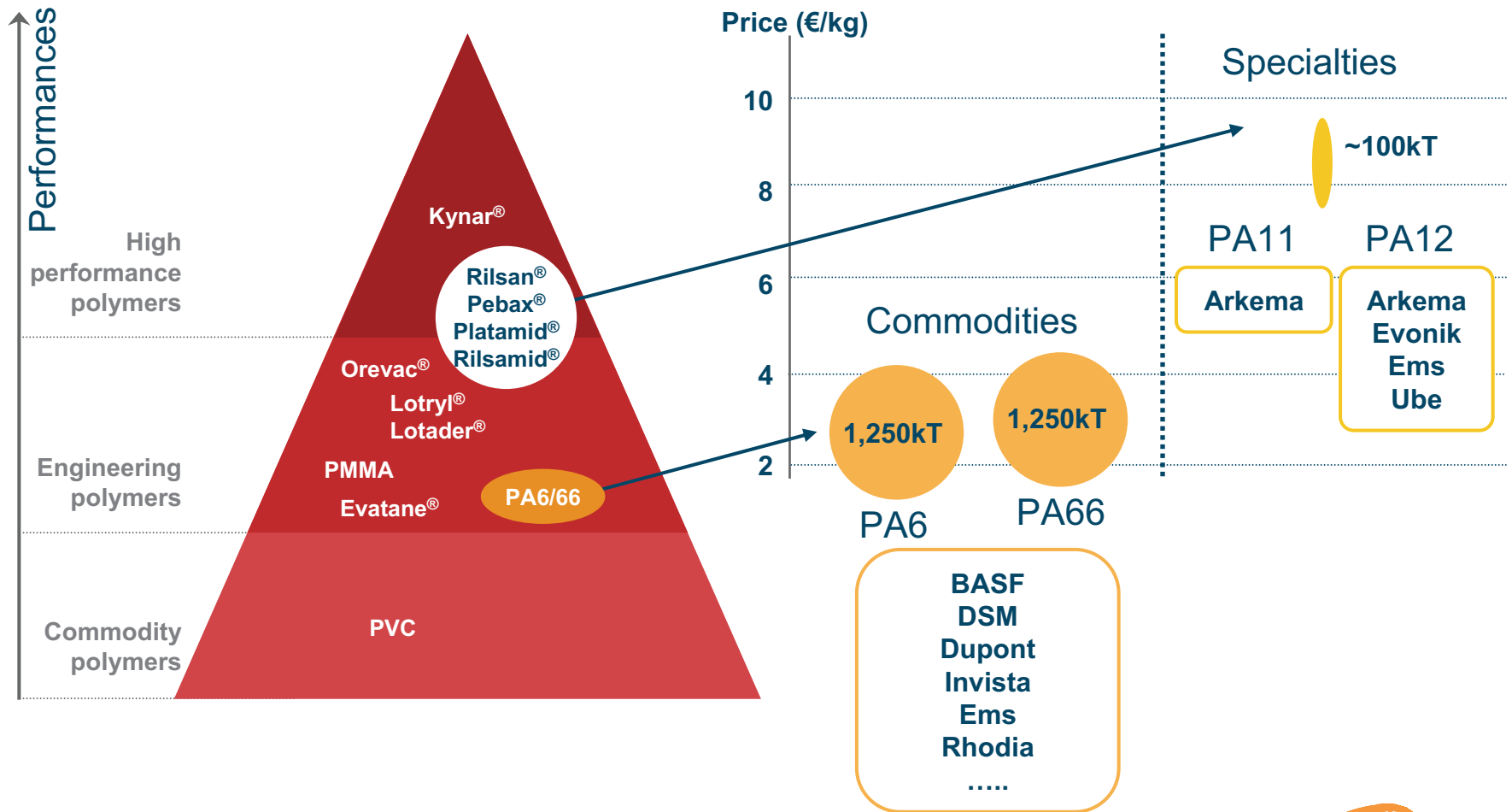


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Rilsan[®]
Rilsamid[®]

 ARKEMA
The world is our inspiration

Polyamide 11 & 12 : high performance polyamides



2 chemical lines for 2 brands



petroleum
- fossil resource -



lauryl lactame
- monomer -

POLYMER SYNTHESIS



Rilsan® A
- Polyamide 12 -



castor plants
- renewable resource -

HARVESTING



amino 11
- monomer -

POLYMER SYNTHESIS

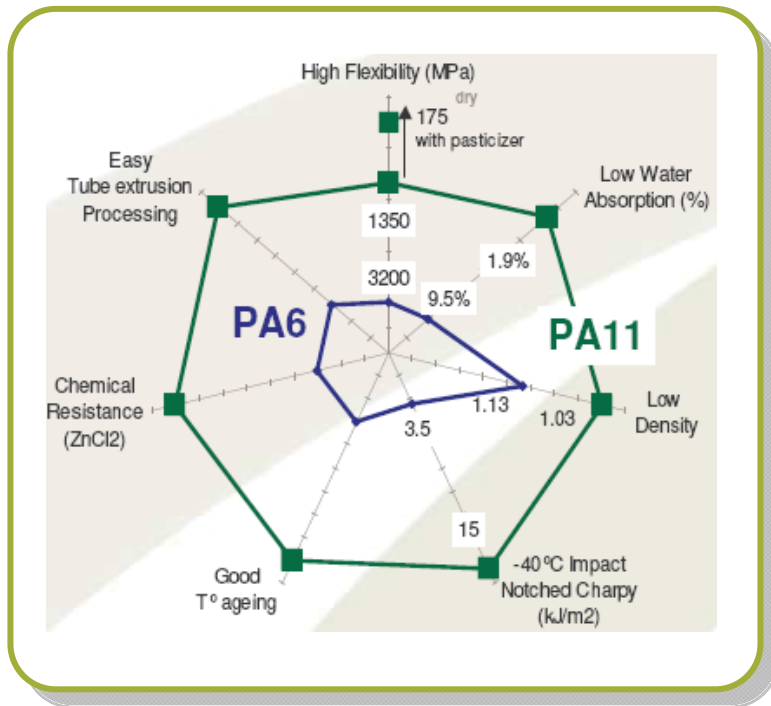


Rilsan® B
- Polyamide 11 -



Specialty polyamides outperform standard PA6/66

- Superior Mechanical properties
- Superior Thermal Resistance
- Superior Ageing Properties
- Superior Chemical Resistance
- Superior Stability



Specialty Polyamides are used when **Safety, Durability, Reliability** are required



High performances for demanding niche applications

- Resistance to fuel
- High service temperature



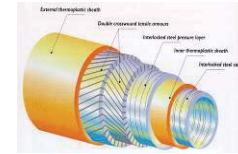
Automotive tubing
& connectors



- Mechanical properties
- High service temperature
- Chemical resistance



Off shore flexible pipe



Lifetime ~25 years

- Flexibility
- Toughness



Sport equipments



- Toughness
- Aging



Industrial tubes



- Flexibility
- Abrasion resistance



Wire & cable



New fast growing markets

- **Weight reduction**
- **Temperature resistance**
- **Flexibility**
- **Durability**



Rilsan® HT for automotive metal part replacement



- **Bio-based material**
- **Under-hood applications**
- **1st flexible HT polyamide**
- **Easy to process**

- **Temperature resistance**
- **Dimensional stability**
- **Durability**

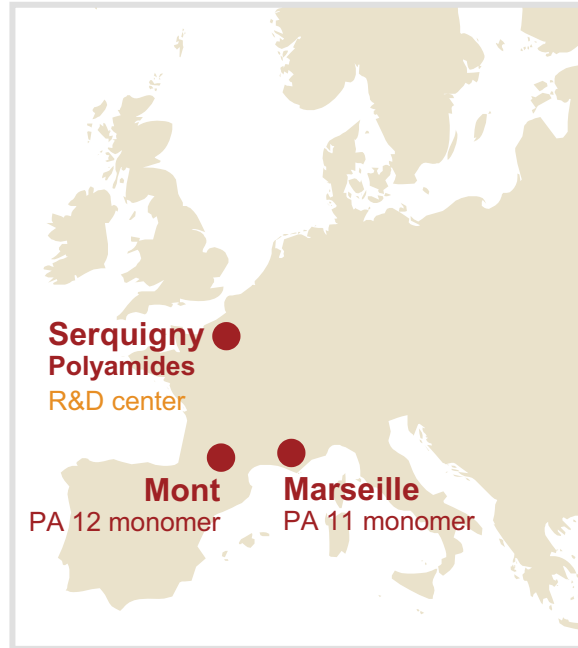


Rilsan® HT for LED support

- **High precision injection molding**
- **Excellent dimensional stability**



Global footprint



- **Polymerization plant and R&D center in each region**
- **Monomer production in France**

Specific strategic focus



- **Capitalize on Rilsan® 11's unique strengths**

- **Bio-sourced material**

→ Develop a full range of bio-sourced derivatives

- Pebax® Rnew → Sport, medical devices
- Platamid® Rnew → adhesives for textile, automotive
- Rilsan® clear Rnew → glasses

- **New range of Rilsan® HT**

- Metal replacement

- **Partnerships to access end markets**

- Toyobo partnership



- **Reposition on higher value added products**

- **Increase part of higher value rilsamid® derivatives**

- Orgasol® → cosmetics, industrial coatings
- Pebax® → sport, medical devices, packaging
- Platamid® → adhesive for textile, automotive



Strong underlying growth

- **Repositioned at profitability level similar to best peers**
- **Strong potential for organic growth**
 - **Alternative energies (photovoltaic, batteries)**
 - **Membranes**
 - **Lightweight materials**
 - **Gas separation**
- **Global and highly skilled R&D teams**
- **Leverage strong presence in Asia (28% of revenues in 2010e)**
 - **Close partnerships with Asian technical leaders**
 - **New plants under construction in PVDF and polyamides**



**Growth rate of Performance
Products expected at GDP +1**



Disclaimer

- The information disclosed in this document may contain forward-looking statements with respect to the financial condition, results of operations, business and strategy of Arkema. Such statements are based on management's current views and assumptions that could ultimately prove inaccurate and are subject to risk factors such as among others, changes in raw material prices, currency fluctuations, implementation pace of cost-reduction projects and changes in general economic and business conditions.
- Arkema does not assume any liability to update such forward-looking statements whether as a result of any new information or any unexpected event or otherwise. Further information on factors which could affect Arkema's financial results is provided in the documents filed with the French Autorité des Marchés Financiers.
- Financial information for 2010, 2009, 2008, 2007, 2006 and 2005 is extracted from the consolidated financial statements of Arkema. Quarterly financial information is not audited.
- The business segment information is presented in accordance with Arkema's internal reporting system used by the management.
- The definition of the main performance indicators used can be found in the 3Q'10 results press release available on www.finance.arkema.com
- A global chemical company and France's leading chemicals producer, Arkema is building the future of the chemical industry every day. Deploying a responsible, innovation-based approach, we produce state-of-the-art specialty chemicals that provide customers with practical solutions to such challenges as climate change, access to drinking water, the future of energy, fossil fuel preservation and the need for lighter materials. With operations in more than 40 countries, 14,000 employees and seven research centers, Arkema generates annual revenue of around €5.8 billion and holds leadership positions in all its markets with a portfolio of internationally recognized brands. The world is our inspiration.

