

Shaping our future



The strength to change



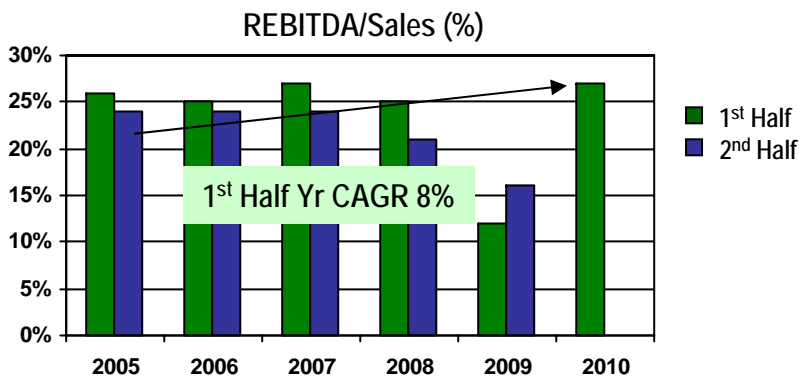
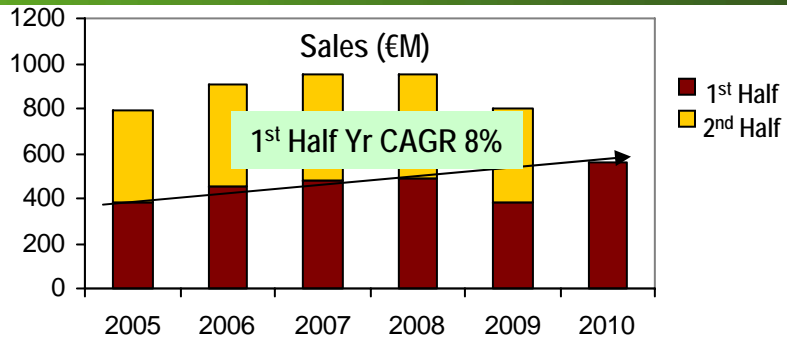
R&D for Specialty Polymers

Augusto Di Donfrancesco
General Manager Specialty Polymers

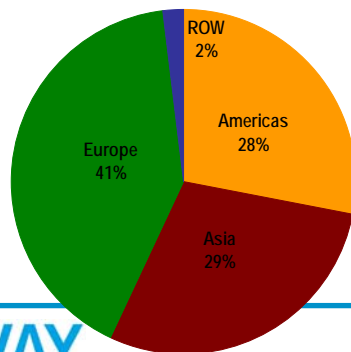


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Key Financials



First half 2010 Sales by Geography



- **Strong financial performance**
 - ➔ **Growth of sales and REBITDA**
 - First half year results show a 5 year CAGR of 8%
 - ➔ **REBITDA/Sales of 20+% (ex 2009)***
- **Balance of sales by geography**
 - ➔ **Diversity end-use markets and applications**

* Due to the global financial crisis, cash flow management had greater emphasis in 2009, resulting in a small reduction in REBITDA

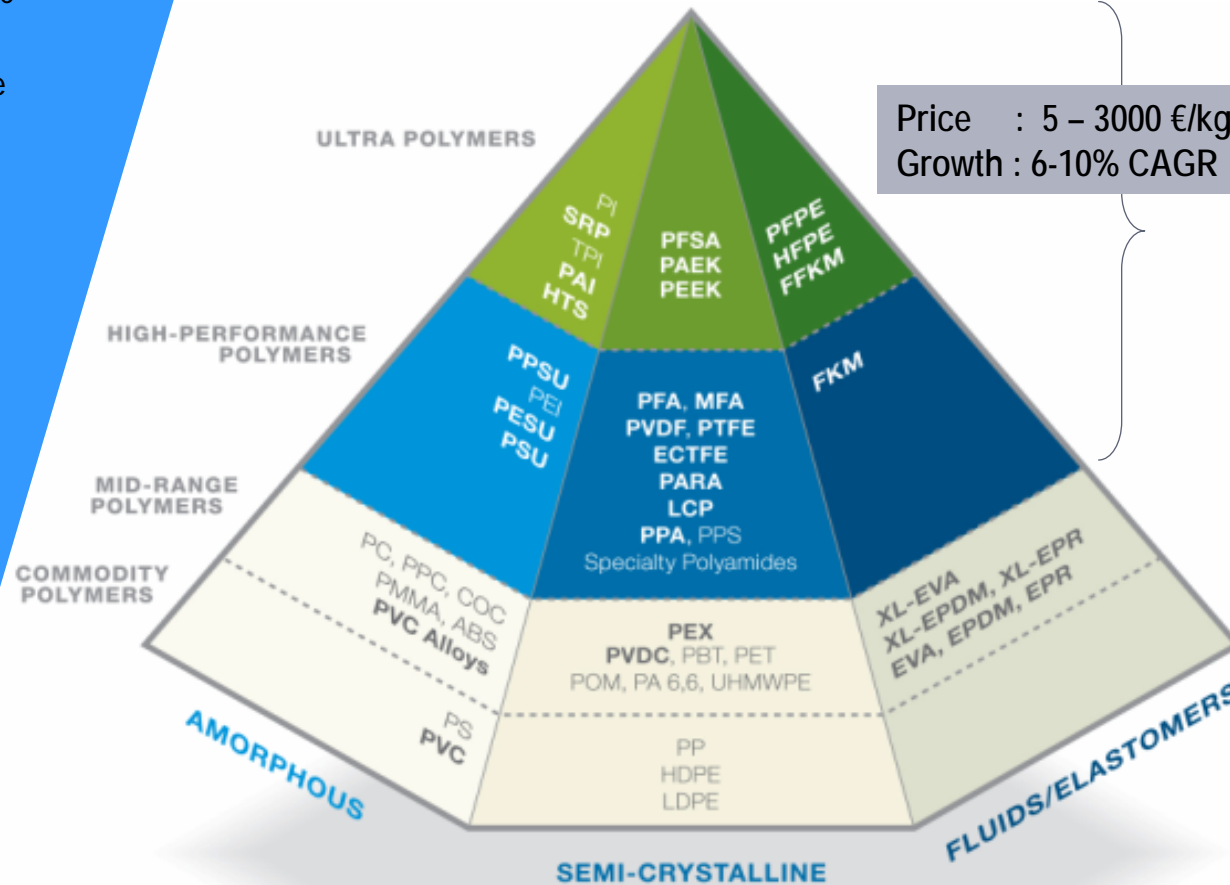
SOLVAY SPECIALTY POLYMERS

Broadest portfolio of high performance polymers



22 PERFORMANCE ATTRIBUTES

- Temperature Resistance
- Chemical Inertness
- Weathering Resistance
- Corrosion Protection
- Water Repellency
- Stain Repellency
- Electrical Inertness
- Non Flammability
- Fatigue Resistance
- Biocompatibility
- Extractables
- Self-Cleaning
- Transparency
- Heat transfer
- Processability
- Toughness
- Elasticity
- Barrier
- Tribology
- Release
- Color
- Cost



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Industry Participants



Limited number of world scale players in each product

	PVDC	PPS	LCP	HPPA	PEEK	PAI	PEI	PI	PSU PES PPSU	PTFE	PVDF	FEP/ PFA	FKM/ FFKM	PFPE	PEX, XLPE EPR ³ , EPDM ³	OTHERS
Solvay	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓
SOLVAY Trade Marks	Ixan® Diofan®	Primef® ⁽¹⁾	Xydar®	IXEF® Amodel®	Ketaspire® Avaspire®	Torlon®			Udel® Veradel® Radel R® Epispire® Acudel® ⁽¹⁾ Mindel® ⁽¹⁾	Algoflon® Polymist®	Solef® Hylar®	Hyflon®	Tecnoflon®	Fomblin® Galden® Fluorolink®	Polidan®, Polidiemme®, Cogegum®	Halar® Primospire®
Arkema				X	X						X					
BASF									X							
Daikin										X		X	X	(2)		X
DuPont				X				X		X		X	X	(2)		X
Dyneon										X	X	X	X	(2)		X
EMS				X												
Evonik				X	X											
SABIC							X									
Ticona		X	X													
Victrex					X											

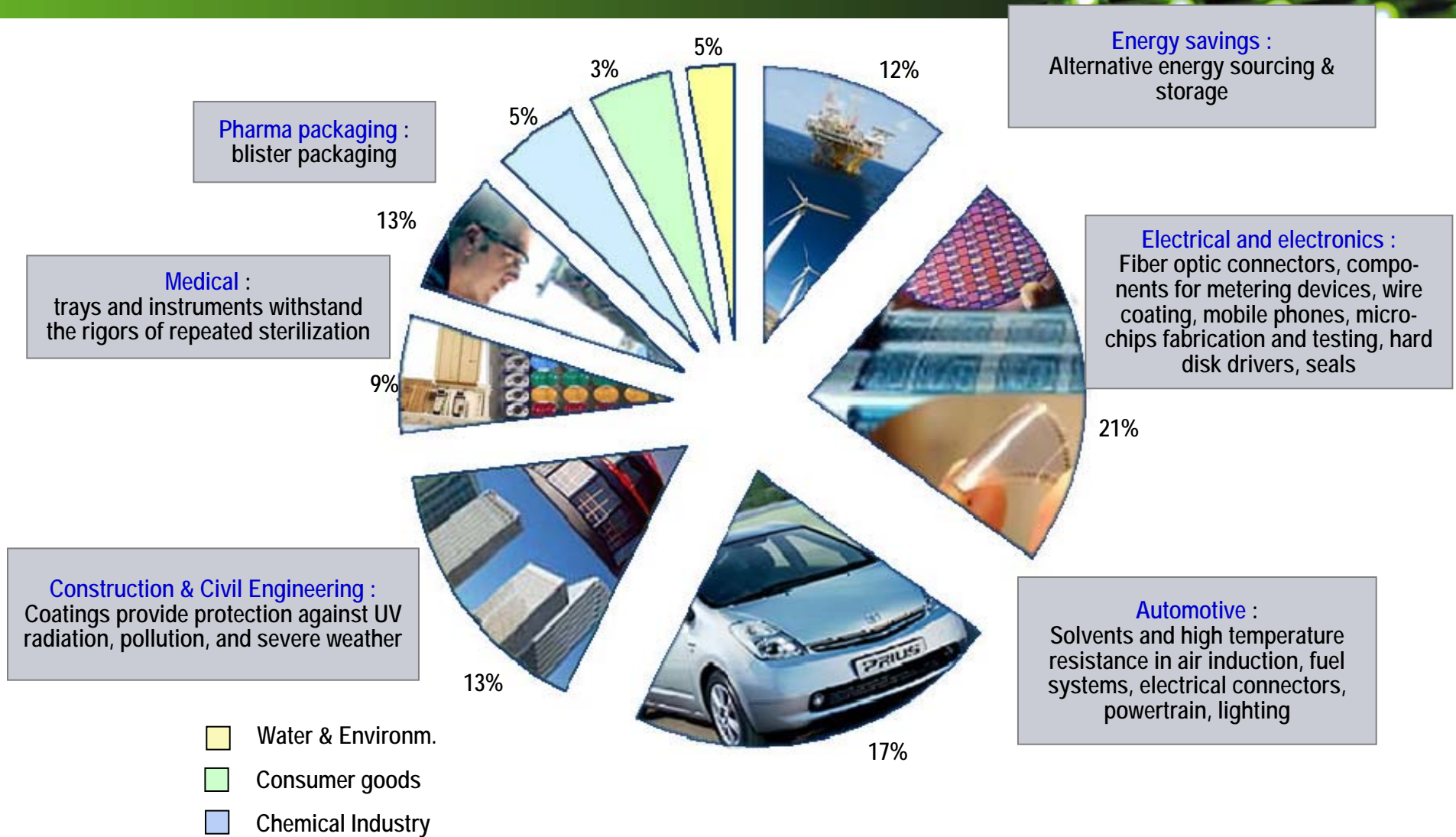
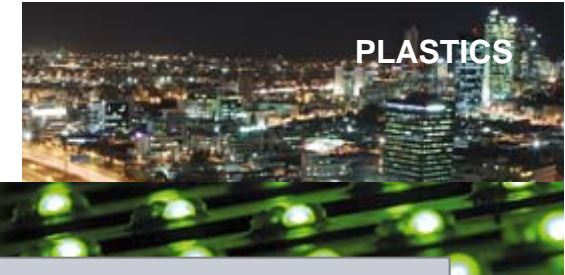
(1) : Blends/compounds

(3) : Crosslink elastomeric based compounds

(2) : Marketing some functional equivalent products

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Sales by application



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Strategic drivers



- **Top of the Plastics Pyramid Strategy**
 - ➔ Growth in high performance and ultra polymers
- **Focus on RD&T and Innovation**
 - ➔ Continued strengthening and broadening of the portfolio
 - ➔ Increasing use of partnerships and open innovation
- **Collaborative Business Development Approach & Customer intimacy**
 - ➔ Our strength comes from the combined resources of Sales & Marketing and RD&T to address customer needs. → ~ 30% of global employees
 - ➔ Extensive knowledge of markets and plastic processing technologies.
- **Focus on Asia & sustainable markets**
 - ➔ Accelerating and reinforcing efforts in Asia and sustainable markets

SOLVAY SPECIALTY POLYMERS RD&T mapping



 : RD&T
  : Sales
  : Plant

Diversity of technologies

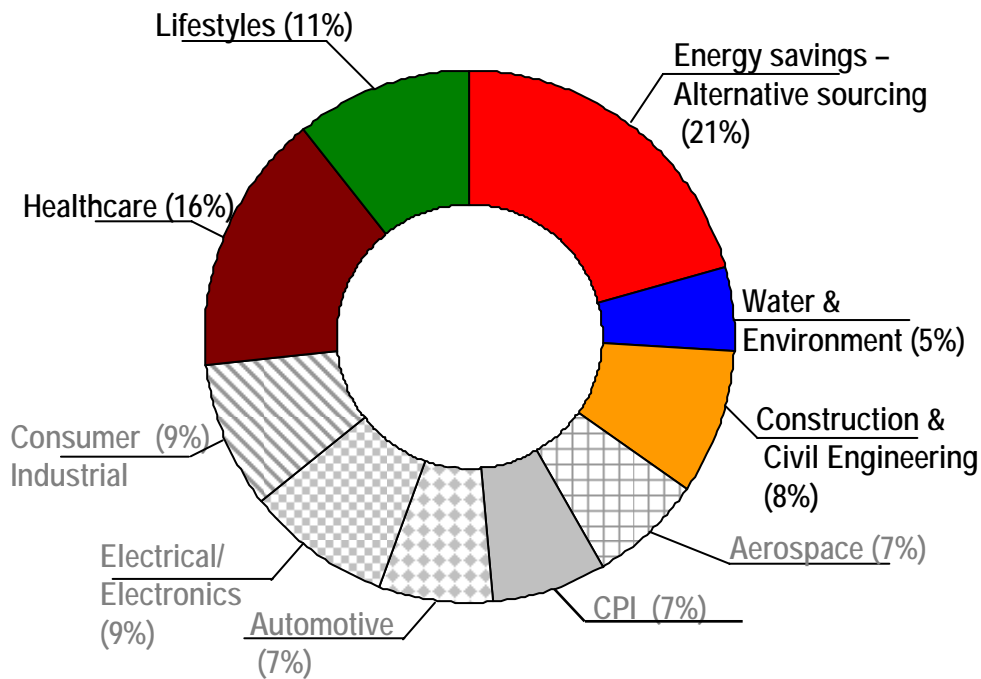
- 11 RD&T centers worldwide (2010)
- Solid global industrial base
 - ➔ 5 sites in Europe, 7 in the US and 2 in Asia.
- Proprietary technology
 - ➔ ~ 40 different process and 20+ polymeric backbone architectures

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RD&T global presence



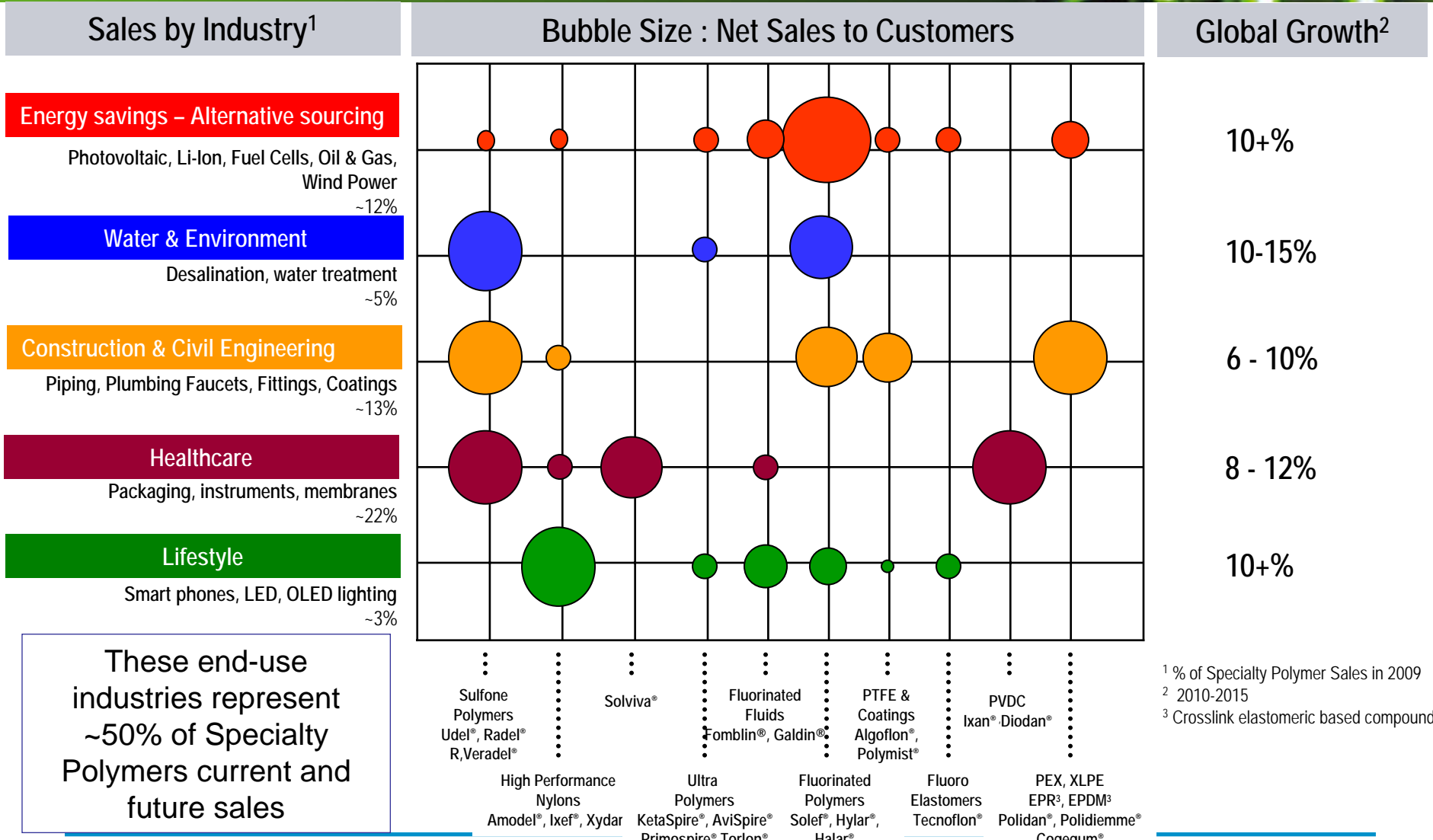
RD&T Investments in Growth Industries 2010



STRONG COMMITMENT TO RD&T

- **RD&T investments : 6% of sales**
- More than 400 employees involved in RD&T
- Over 100 partnerships with universities, start up companies, and industry partners
 - ➔ **On-going open innovation investment of EUR 5 m/y**
- Three new R&D Centers for the Solvay Group in Asia.
 - ➔ **25% of Specialty Polymers R&D resources based in Asia by 2015**
- **Revenue from new products & technology**
 - ➔ **38% of total revenue**
- 60% of RD&T investments focused on these platforms
 - ➔ Alternative Energy
 - ➔ Water and Environment
 - ➔ Construction & Civil Engineering
 - ➔ Healthcare
 - ➔ Lifestyle
- **Investment for Growth/Developing Industries (2010- 2015) : up to EUR 200 mR**

Long-Term Sustainable Development and Growth Drivers in End-Use Industries Benefiting from broad product portfolio

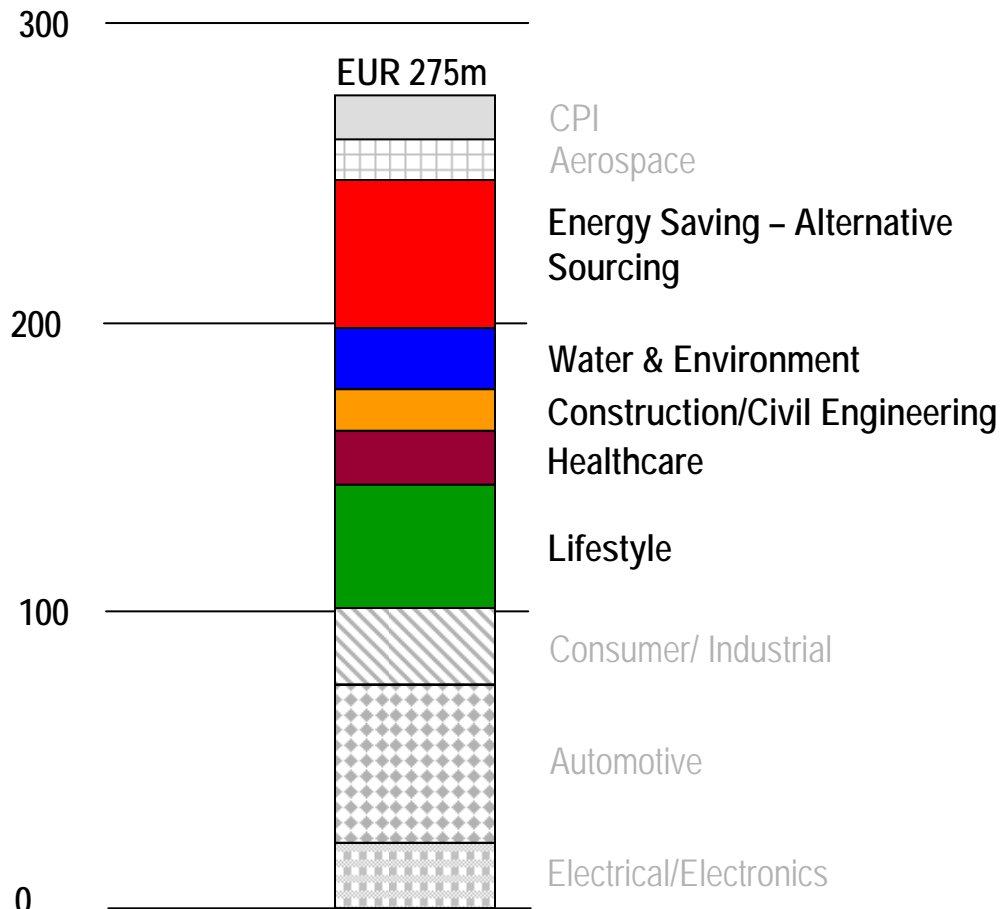


These end-use industries represent ~50% of Specialty Polymers current and future sales

¹ % of Specialty Polymer Sales in 2009
² 2010-2015
³ Crosslink elastomeric based compounds

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Development Pool Valued EUR above EUR 275m



RD&T Contributes Significantly to Earnings Growth

- Major contributions from Energy Savings, Lifestyle, Healthcare and Water
- Growth of base business in Automotive, Consumer and Electrical/Electronics in Asia
- Track record of success due to disciplined development process with key stakeholders from Sales & Marketing and RD&T
- Global RD&T centers key in reducing development cycle time

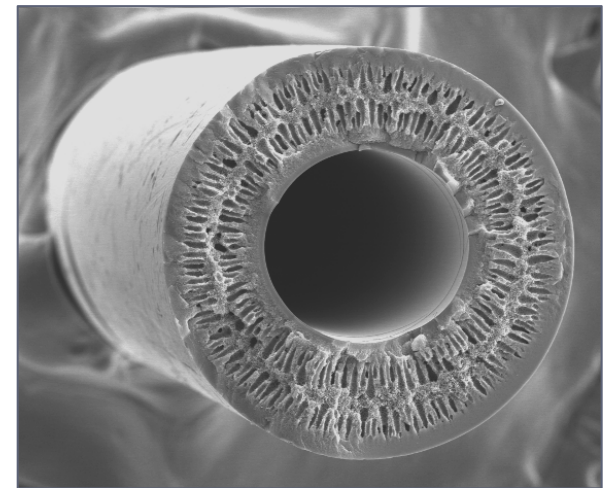
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Improving the quality of life



HEMODIALYSIS MEMBRANES

Product	Component	Technical advantage
UDEL™ PSU	Substrate for Solution Drawn Membranes	Biocompatibility Sterilizability; Hydrolytic Stability; Chemical Resistance; Processibility into hollow-fiber membranes;
Veradel® PESU	Substrate for Solution Drawn Membranes	Biocompatibility Sterilizability; Controlled Porosity; Hydrolytic Stability; Chemical & Heat Resistance; Processibility into hollow-fiber membranes;



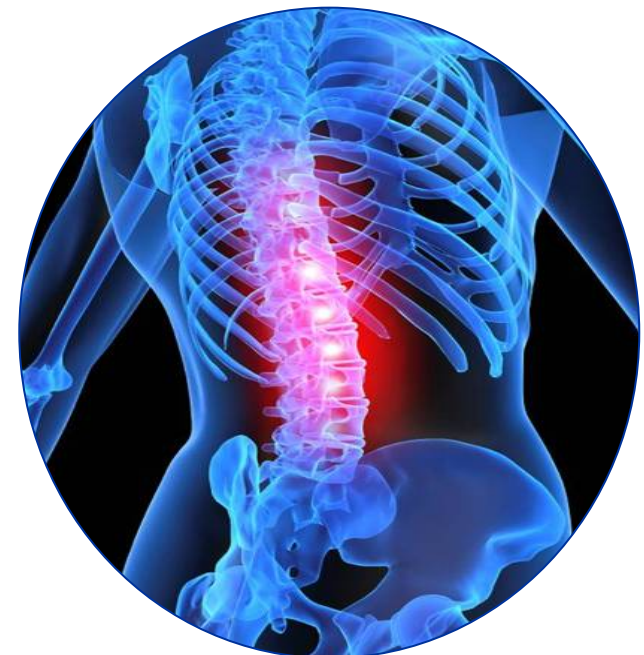
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Improving the quality of life



ORTHOPEDIC IMPLANTS & MEDICAL DEVICES

Product	Component	Technical advantage
Zeniva® PEEK	Orthopedic Knee, Hip & Vertebral Implants	Biocompatibility; Exceptional Chemical & Mechanical Properties;
Proniva® SRP	Orthopedic Knee, Hip & Vertebral Implants	Biocompatibility; Strongest, Stiffest, Unreinforced Thermoplastic; Stiffness-to-weight ratios comparable to cortical bone;
Veriva® PPSU	Cardiovascular Pacemakers;	Chemical & Thermal Properties; Excellent Toughness; Transparency
Eviva® PSU	Medical Devices	Practical Toughness & Strength; Water-white color and transparency;



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Building a sustainable future for Energy



HYDROGEN FUEL CELL⁽¹⁾: Automotive, Back-up Power, Fork-lift

Product	Component	Technical advantage
Aquivion™ PFSA	Membranes and catalyst inks	Shortest side chain ionomer (best available FC efficiency)
Algoflon® PTFE Aqueous Dispersions	Gas diffusion layer hydrophobization	Extremely low water angle contact, wide range of latex particle size
Tecnoflon® FKM	Stack sealing	High chemical and thermal resistance (longer lifetime)
Amodel® PPA and Radel® PPSU	Stack housing, manifold, humidifier housing,	Excellent mechanical properties (longer lifetime)
Solef® PVDF and Halar® ECTFE	Manifolds, fuel tubing fittings, valves	High thermal stability and purity, low contaminant release
Galden® HT PFPE	Heat transfer and direct immersion cooling	Chemical and thermal stability over a wide range of condition



(1) cooperation with NBD / SolviCore

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Building a sustainable future for Energy



SOLAR ENERGY ⁽¹⁾: Photovoltaic Cells, Concentrated Solar Power, Solar Thermal

Product	Component	Technical advantage
Radel® PSU	Carrying water pipe	Creep resistance at high temperature
Cogegum® XLPO/HFFR and Polidienne XLPO	Solar and PV cables	Wide working temperature rating, excellent resistance to UV-induced degradation and weathering, high fire and tear resistance
Solef® PVDF	Backsheet	Higher weathering, chemical and thermal resistance
Hyflon® PFA/MFA® and Halar® ECTFE	Frontsheet	Higher transparency and durability
Galden® UHB PFPE	heat transfer fluids, heat exchangers and chillers	Chemical and thermal stability over a wide range of condition
Solef® 80 000 Series Expanded PVDF	Insulation and supporting structure	Longer life of solar cells



(1) cooperation with NBD

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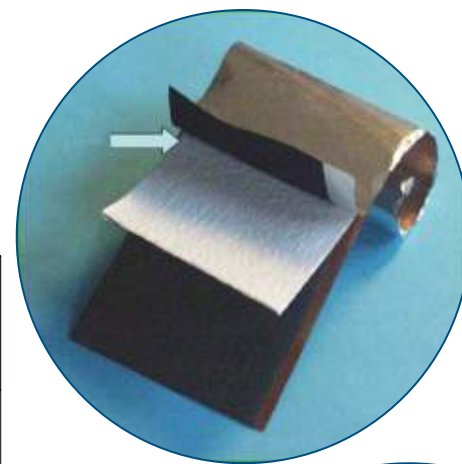
Building a sustainable future for Energy



LITHIUM ION BATTERIES

(Consumer Electronics: PC, phone, MP3 players, ... Electric Vehicles: hybrid and full electric vehicles)

Product	Component	Technical advantage
Solef® PVDF	Electrode binder and separator	Higher battery efficiency, longer lifetime and higher thermal and fire stability
F1EC®	Electrolyte additive	Higher battery efficiency and longer life time



SOLVAY SPECIALTY POLYMERS SBU & SOLAR IMPULSE



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