

# Business Unit Technical Rubber Products



**Innovative specialist for the non-tire world**

**Dr. Günther Weymans**

LANXESS Capital Markets Day

September 18, 2007

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Energizing Chemistry

## LANXESS offers the broadest portfolio of synthetic rubbers in the industry

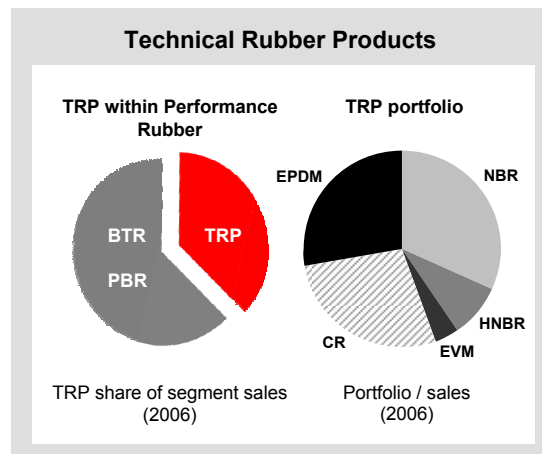
Supplier	Tire			Technical Rubber Products									
	SBR	BR	IIR	EPDM	CR	NBR	HNBR	AEM	ACM	EVM	CSM	FKM	ECO
<b>LANXESS</b>	✓	✓	✓	✓	✓	✓	✓			✓			
<b>Polimeri Europa</b>	✓	✓		✓		✓							
<b>Mitsubishi</b>					✓			✓			✓	✓	
<b>Dow</b>	✓	✓		✓									
<b>Exxon</b>			✓	✓									
<b>JSR</b>	✓	✓	✓	✓		✓							
<b>Zenon Chemicals</b>	✓	✓				✓	✓		✓				✓
<b>DSM</b>				✓									

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## TRP – a leading supplier for "non-tire" applications

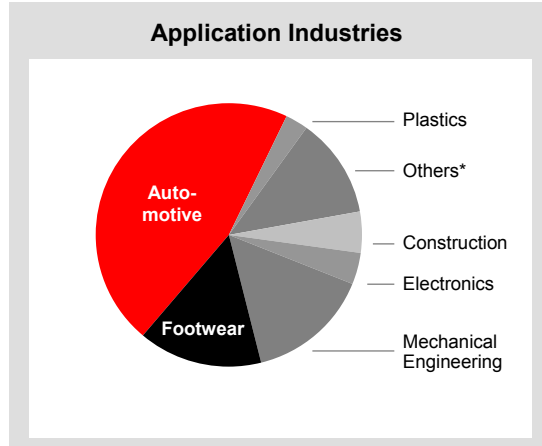
- Sales: > € 500 million
- Employees: < 1,200
- Products: > 200
- Product families / Key brands
  - Therban®
  - Levapren®
  - Perbunan®
  - Krynac®
  - Baypren®
  - Buna® EP
- Customers: > 600



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## TRP – premium applications beyond automotive

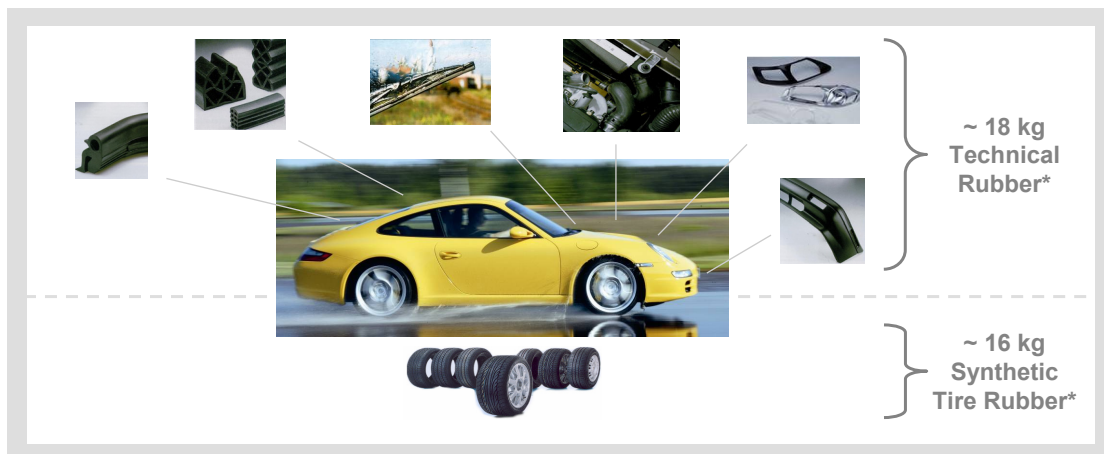


\* incl. oil - well, roller, food - industry et all

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## Rubber in automotive – more than tires



Note: applications serve as examples only and may not be used in its entirety in depicted model;  
\*elastomers portion only without fillers; content may vary depending on individual model

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## EVM – continued investment into specialty products



- EVM provides
  - Excellent FRNC\* properties
  - UV-resistance
  - Ozone resistance
- Market drivers are industry regulations requiring improved flame resistance and EVM as alternative to established materials (automotive industry)
- € 10 m expansion of EVM plant initiated
- New capacities to support growth in
  - Protective films
  - Photovoltaic modules
  - Automotive seals
  - Specialty cables
- Implementation expected by mid 2009

\*Flame Resistant Non Corrosive

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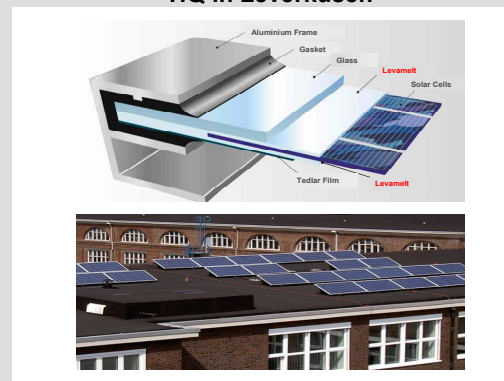
## EVM – solutions for new technologies



### Levamelt® (EVM) in photovoltaic modules

- Optimized production process
- Outstanding UV-resistance
- Excellent flame resistance
- Non corrosive

### Field test on roof - top of LANXESS HQ in Leverkusen



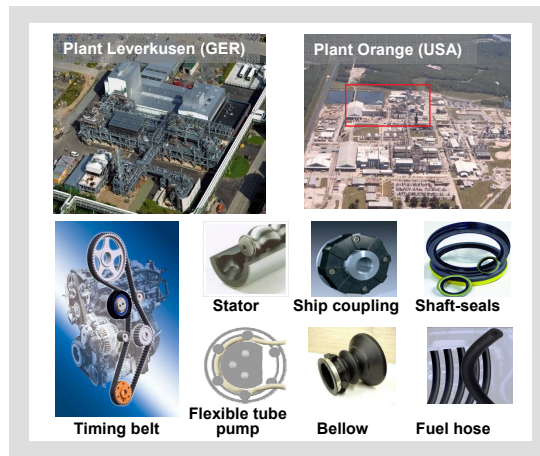
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## Therban (HNBR) – the universal high-performance specialty



- Therban® AT – the unique product line based on Nobel Price Technology provides
  - optimum processing
  - increased product quality
  - a broader functionality window
- Two state-of-the-art production sites
  - short-term expandable
- Portfolio of 25 different grades
- Continuously growing range of applications



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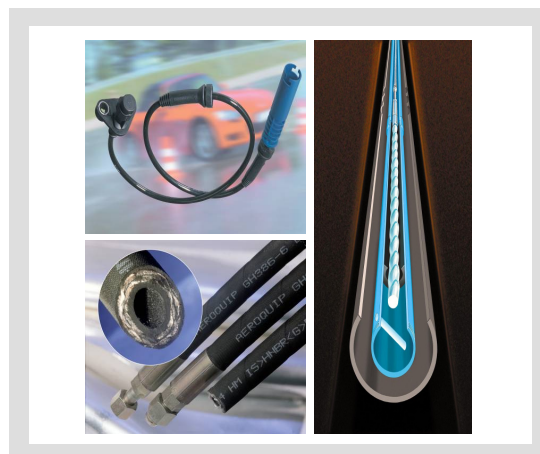
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## Therban developments address present industry challenges



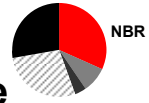
- Continuously growing range of applications
- **Industry Challenge**

Automotive	New generations of bio-diesels and flex-fuels
Oil - well	Minimisation of maintenance downtimes
- **TRP solution** High ACN Therban® AT
  - maximum media resistance
  - optimum processing



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## NBR – the media resistance & endurance workhorse

- NBR offers excellent stability in
  - mineral oils
  - fats
  - fuels
- High abrasion resistance
- Low permeability
- NBR powders for thermoplast modification
  - improved elasticity
  - better oil & fuel resistance
- Market growth ~ 3% p.a.



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## NBR – LANXESS is a leading supplier of emulsion rubber specialties

- La Wantzenau biggest emulsion plant worldwide → Economies-of-scale
- > 60 different grades
- > 50 years of technology expertise
- Emulsion rubber specialties :
  - Powdered NBR
  - Carboxylated NBR
  - Nanoprene SBR gels



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## EPDM – the weather elastomer

- Excellent ozone resistance
- No water swell
- Oil-extended grades for high filler loads
- Sulfur / peroxide / resin curable
- Outstanding electrical properties
- Low density → cost efficiency
- Good temperature resistance
- Market growth ~ 3 - 4 % p.a.



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## TRP is seeking to further expand its EPDM business

- Two world scale plants
- Debottlenecking to 140 kt capacity (2008)
- Sole EPDM producer with solution and slurry process
- **EPDM specialty approach:**
  - Production of ultra high molecular weight products (slurry process)
  - 25 kt pelletizing unit  
→ process improvement for thermoplast modification, wires, cables
  - Start up: Q2/2008



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## CR – high degree of specialty applications



- CR offers
  - excellent dynamic properties
  - weather and ozone resistance
  - low gas permeability
  - good rubber to metal adhesion
  - adjustable crystallisation behaviour (adhesives)
- Balanced product portfolio for traditional rubber applications (55% of business)
  - strong position in sulfur-specialties
    - provides best dynamic performance coupled with good adhesion to substrates
- 45% of business in non-rubber premium applications
  - CR-latexes
  - CR-adhesives
- Market growth ~ 2 % p.a.

### CR Applications



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## TRP well positioned in consolidated CR-market

- LANXESS sole significant European producer
- Unique continuous production technology with fully recycled feedstock-streams
- € 50 m investment into gradual capacity expansion and full process automatization during 2004-2007
- Approval process for expansion to 100 kt/a capacity in progress



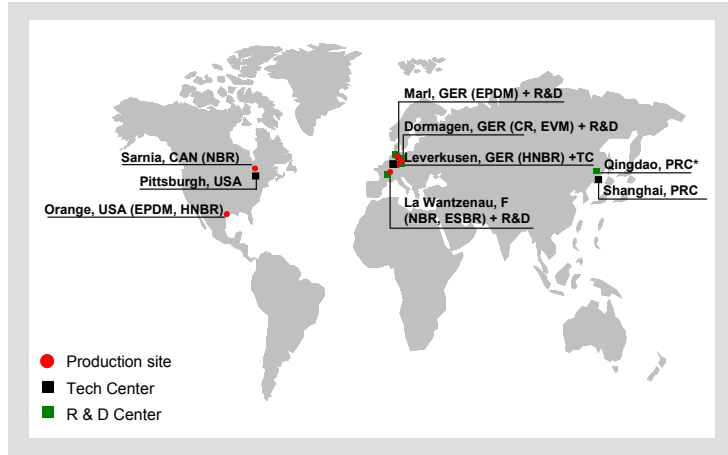
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## TRP global manufacturing and development network

- Three tech centers
- Global R&D centers
- Five product lines
- Six manufacturing sites
- > 100 application experts
- > 200 technical projects



\* start-up 1 / 2008  
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## LANXESS – a leading supplier of Technical Rubber Products

<b>Market Position</b>	Leading global positions in all product lines Broad customer base	✓
<b>Product Portfolio</b>	Balanced product portfolio Strong brands	✓
<b>Asset Base</b>	World-scale capacities with attractive cost position State-of-the-art process technology	✓
<b>Innovation</b>	Strong innovation capability focused on premium value and specialty products	✓

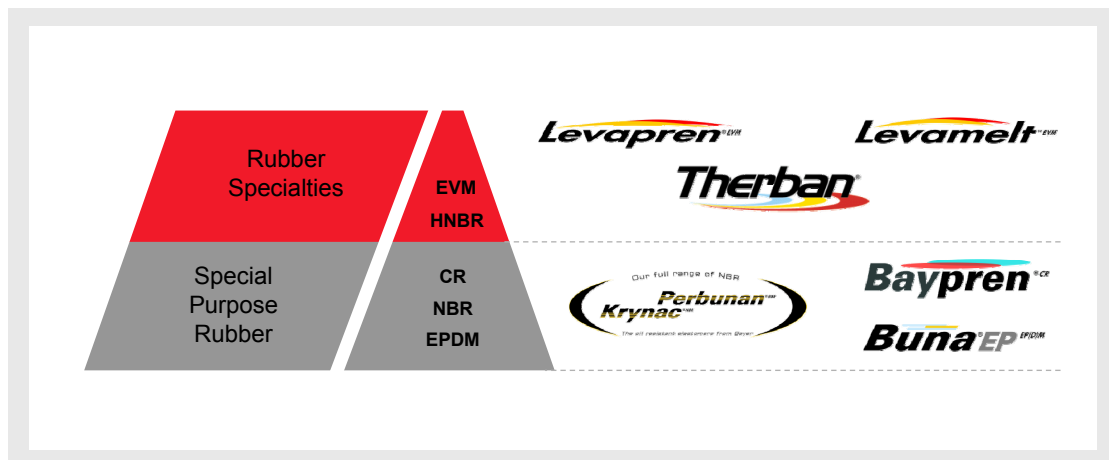
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**LANXESS Technical Rubber Products provides specialty products with well known brand names**



## Abbreviations

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<b>ACM</b>	- polyacrylate rubber	<b>EPDM</b>	- ethylene-propylene-diene rubber
<b>ACN</b>	- acrylonitrile	<b>EVM</b>	- ethylene-vinyl acetate rubber
<b>AEM</b>	- ethylene acrylic rubber	<b>FKM</b>	- fluoro carbon rubber
<b>BR</b>	- butadiene rubber	<b>HNBR</b>	- hydrogenated nitrile rubber
<b>CR</b>	- polychloroprene solid rubber and latices	<b>IIR</b>	- butyl rubber
<b>CSM</b>	- chlorosulfonated polyethylene	<b>NBR</b>	- nitrile rubber
<b>ECO</b>	- epichlorhydrin rubber	<b>SBR</b>	- styrene-butadiene rubber