

# Tire Rubbers from LANXESS...



**...keep you rolling**

**Dr. Joachim Grub**

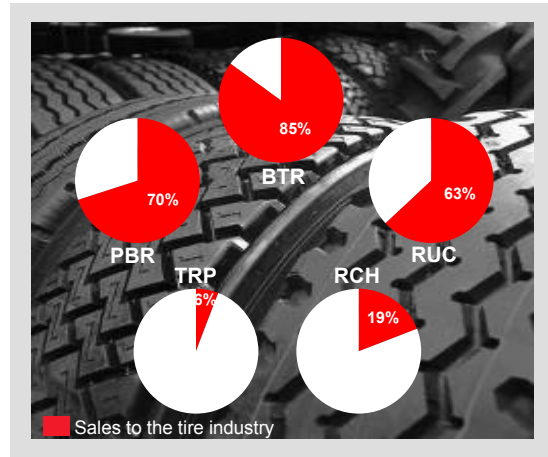
LANXESS Capital Markets Day

September 18, 2007

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Energizing Chemistry

## Tire industry is a major customer of LANXESS products

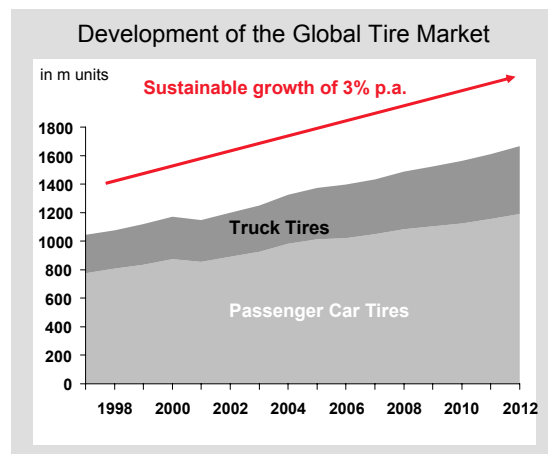
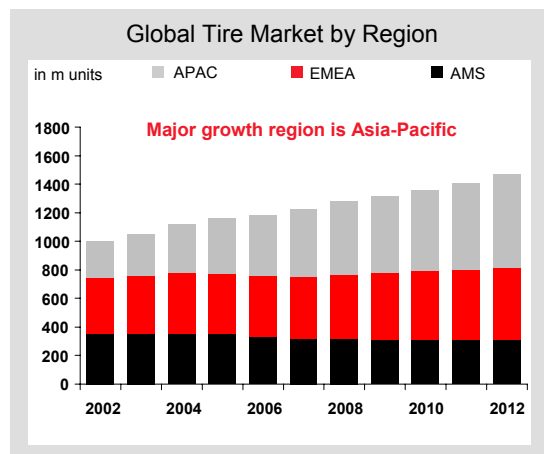
- In 2006 LANXESS had about 2.2 bn € sales to the rubber industry (PBR, BTR, TRP, RUC, RCH)
- Half of LANXESS sales to the rubber industry are to tire customers
- LANXESS focuses on high performance passenger car tires
- Tire market with reduced cyclicalty as 2/3 are replacement and 1/3 OEM tires
- The share of synthetic rubber in a passenger car tire is ~20-25 wt. %
- Limited substitution of and by natural rubber for butadiene based rubbers in the amount of around 5%



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## Mobility trend driver of stable tire market growth



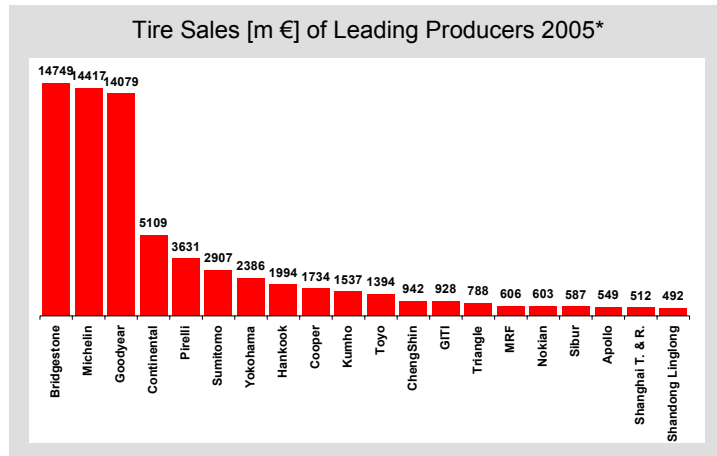
Source: LMC International: Rubber&Tyre Quaterly

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## New global players from Asia enter the tire industry

- Hankook and Kumho announced plans to become global #5
- Chinese tire industry grows fast and investments are concentrating on new capacities
- Current focus of Chinese producers is low performance tire sector, future development will drive quality improvements

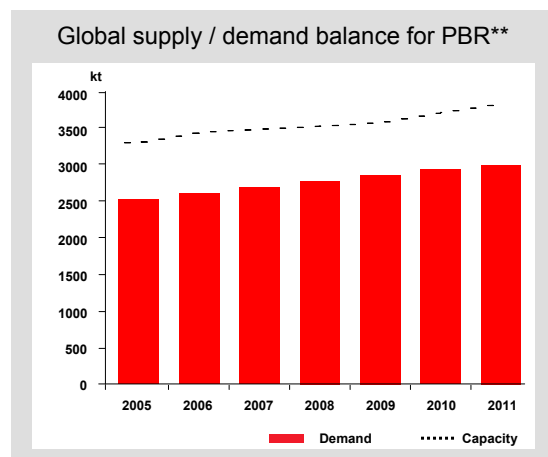
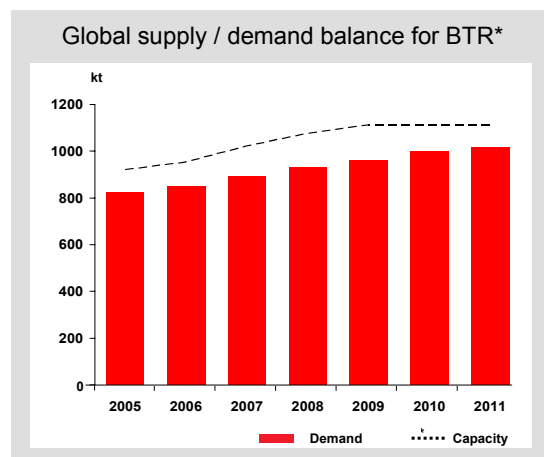


Source: European Rubber Journal

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## Balanced supply / demand ratio for BTR and PBR reflect stability of the market



Source: \*CMAI, July 2007; \*\*CMAI, Nov. 2006

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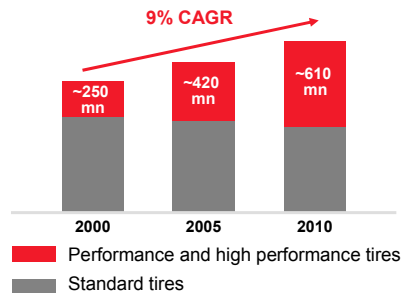
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## Strongly growing demand for high performance tires on the expense of standard tires

- Overall tire production shifts to Asia, but production of high performance tires is located in Europe, Americas and Japan
- High performance tire segment will grow above market as environmental aspects gain momentum:
  - Fuel Efficiency (Tire, Production Process)
  - Tire wear particles
  - Safe oils
  - Tread mileage, number of retreading cycles
  - Tire waste handling

### Growing demand for high performance tires\*

The share of performance (H) and high performance tires (V,W,Y,Z) will amount to half of the market by 2010



\*Car and light truck tire market

Source: Michelin Fact Book 2005

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## At 200 km/h you entrust your life to high performance tires... LANXESS has the ingredients



### Characteristics of high performance tires: LANXESS Products

Optimized microstructure and filler interaction

→ **Fuel economy**

Long chains (physical network)

→ **Crack resistance**

Flexible chains

→ **Elasticity**

High hardness

→ **Wear resistance**

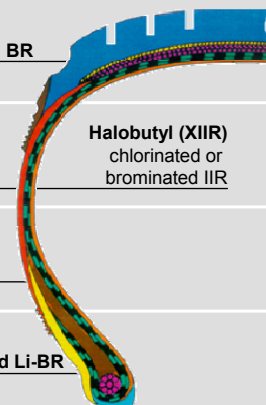
S-SBR, BR

Nd-BR

Nd-BR, Co-BR

coupled Li-BR

Halobutyl (XIIR)  
chlorinated or brominated IIR



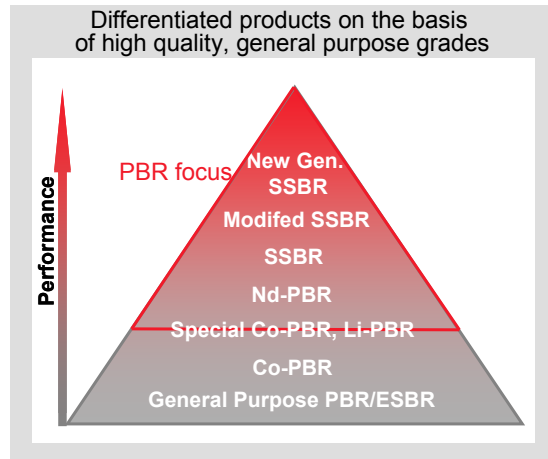
SSBR = solution-styrene-polybutadiene rubber; Nd = Neodymium; Co = Cobalt; Li = Lithium

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## PBR's strategic focus is on differentiated products

- PBR offers the full range of tire rubbers
- Differentiated products for high performance tire production have an above industry average share in PBR's portfolio
- PBR supports "new players" in the tire industry by supplying materials necessary to develop performance tires
- PBR therefore participates particularly in strong growing high performance tire segment

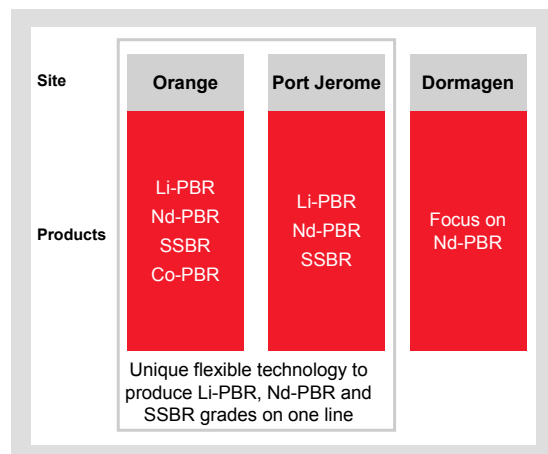


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## Flexible asset base supports business model

- In the course of turning around the PBR business, two sites were closed to take out redundant capacities and focus put on our world scale sites in Orange (USA), Port Jerome (France) and Dormagen (Germany)
- Unique flexible production capabilities to respond on market needs
- Majority of contracts with price index to pass on raw material price increases
- Increasing share of Asian and LATAM sales
- PBR is a leading player in the merchant rubber market; other players include Sinopec, Michelin / ASRC, Goodyear and Firestone



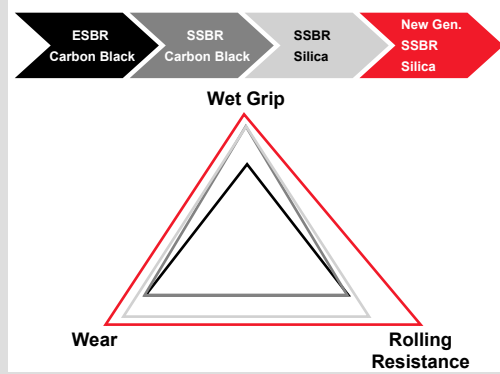
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## Portfolio of products driven by ongoing innovation

- PBR R&D team includes experts from technical marketing, catalysis, process development, filler and tire industry to enable efficient and customer oriented developments
- PBR is a world leader in the production of Nd-polybutadiene
- New modified SSBR grades have been developed in close cooperation with customers

Ongoing innovation improves tire performance

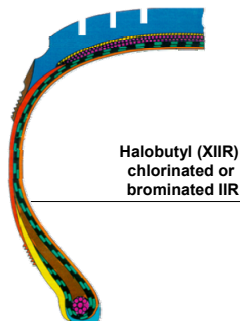


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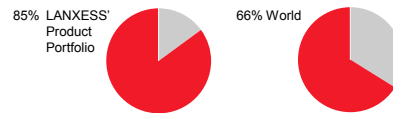
## BTR's focus is on strong growing halobutyl applications

- Tire production is main driver for growth in BTR consumption, as every tire needs Butyl Rubber for air retention
- Radialization of tires is main driver for future growth → focus on halobutyl for innerliner application
- Our portfolio today already > 80% halobutyl

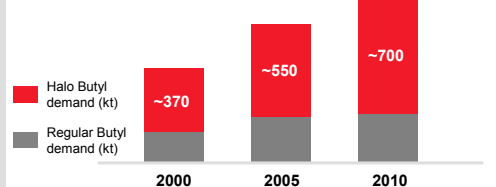


Focus on strategic products: Halobutyl

Share of halobutyl in LANXESS portfolio and total BTR market



Growth driven by halobutyl over Butyl Rubber

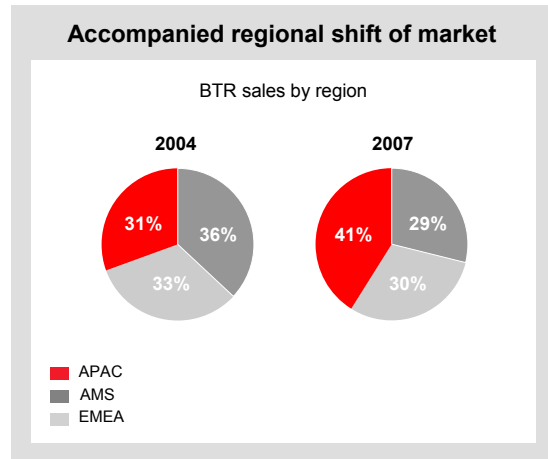


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## Butyl rubber is needed in every tire and demand is fueled by tire market growth

- CMAI sees future demand growth for butyl rubber at 3.6% CAGR
- New capacities are needed to serve the growing demand
- Tire production moves towards low labor cost countries e.g. BRIC
- Local demand in China / India further accelerates consumption of tire rubbers
- Asia already major market for BTR

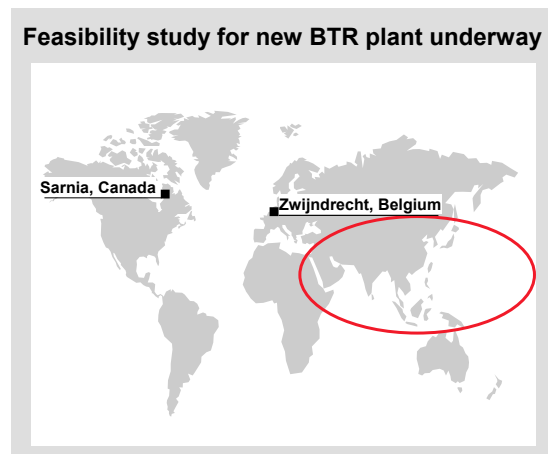


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## Capacity expansions to accompany market growth



- CMAI sees future demand growth for butyl rubber at 3.6% CAGR
- New capacities are needed to serve the growing demand
- BTR has finished a capacity expansion in Antwerp and the first step of a two step capacity expansion in Sarnia
- Available capacities in existing plants after debottlenecking increase to approx. 280 kt
- 2005: 215 kt / 2006: 225 kt / 2007: 235 kt / 2008: 250 kt / 2009: 265 kt / 2010: ~280 kt
- BTR is undertaking a feasibility study for a new production plant to be located close to the major markets in Asia and close to raw material supply



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## LANXESS is committed to the tire industry: already today and certainly in the future

<b>Products</b>	Broad product portfolio and acknowledged rubber expertise makes LANXESS THE partner for the tire industry	
<b>Markets</b>	A leading supplier to the tire industry	
<b>Innovation</b>	Ongoing innovation to enhance product performance and add value to high performance tires	
<b>Growth</b>	Debottlenecking and feasibility study for a new BTR plant in Asia to accompany increasing demand	

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