



LANXESS Capital Markets Day 2012 Butyl Rubber – Much more than rubber for tire innerliners

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New York, September 20, 2012



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Agenda

- **BTR overview**
 - Market landscape and customer dedication
 - BTR applications for growth
 - Update on investments

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“Green Mobility” energized by LANXESS



Chemistry is the key to
“Green Mobility”

Performance Polymers: ~60% of group sales; ~60% of segment earnings

Butyl Rubber

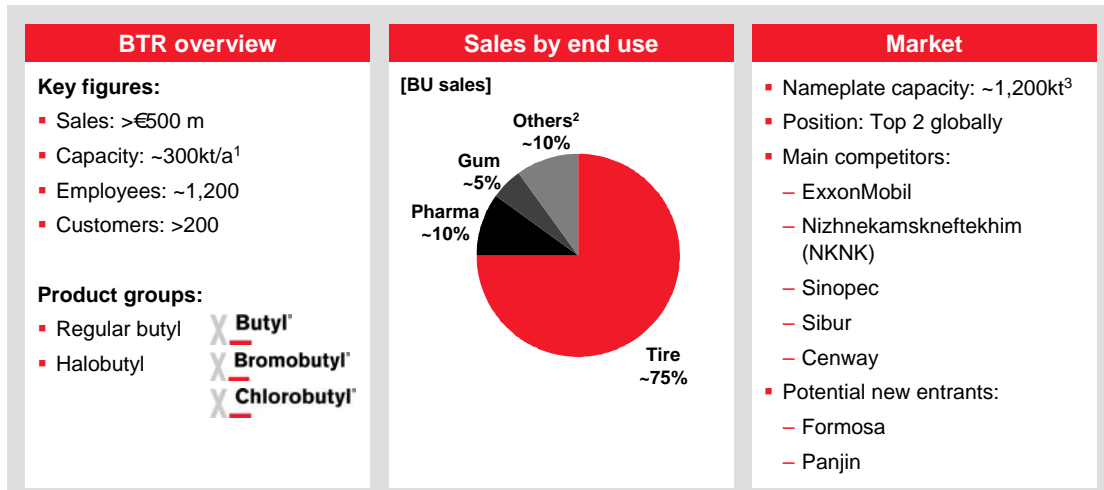
Performance
Butadiene Rubbers

Technical
Rubber Products

High Performance
Materials

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BTR overview – Well positioned in the butyl rubber business



¹ Excluding additional capacity in Singapore; ² Others contains products such as adhesives & sealant, condenser cap, membranes, ball bladders;
³ Source: IHS Chemicals 2012

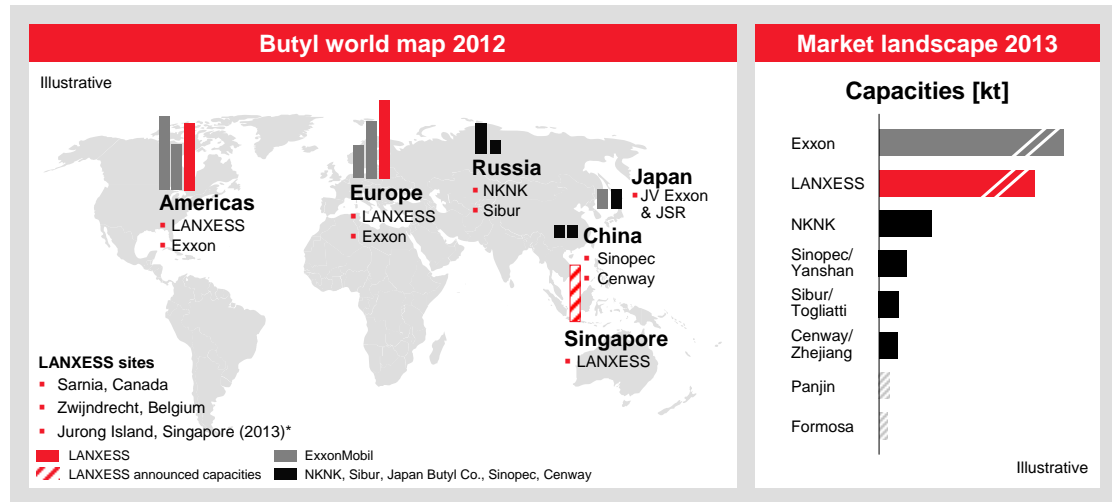
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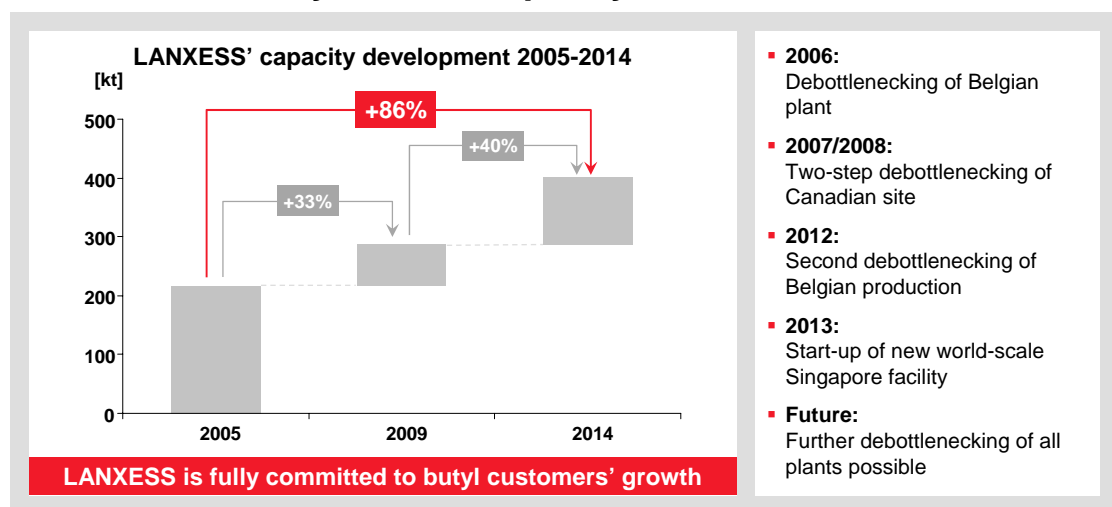
LANXESS is investing to become the first supplier with a truly global manufacturing footprint for butyl rubber



Source: LANXESS market intelligence based on IHS Chemicals 2012, SRI; * Additional capacity in Singapore: 2013: 30-40kt, 2014: ~70kt, 2015: 100kt

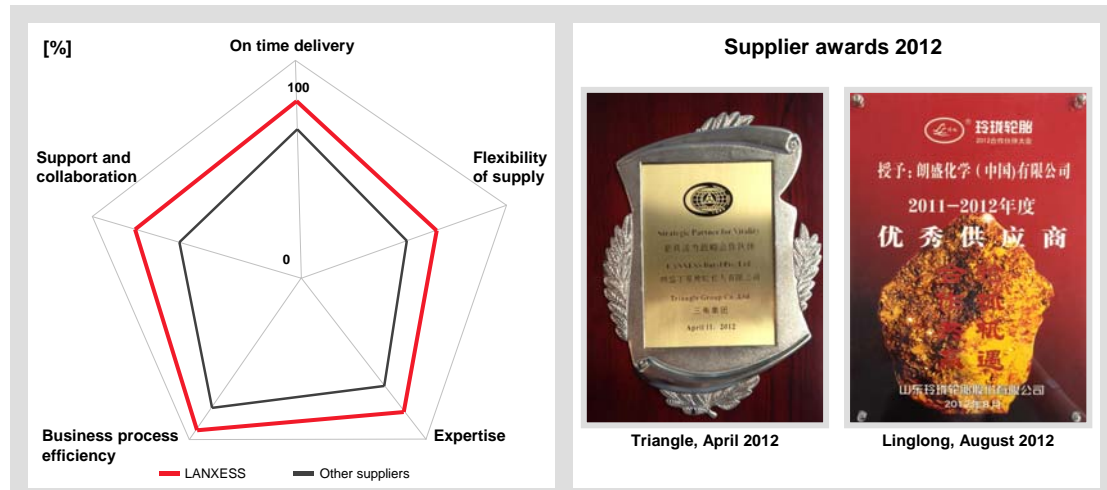
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2005-2014: LANXESS has invested over €500 m, adding around 200kt butyl rubber capacity



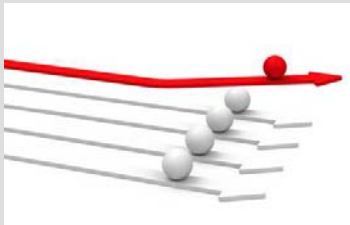

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Customer survey proves BTR's superior offering to customers



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LANXESS is looking at the butyl market based on long-term experience and a strong customer relationship

Demand calculation	Supply tracking	
<ul style="list-style-type: none"> ▪ Bottom-up approach with customer input to cover demand by regions and applications ▪ Adjusted by official publications on synthetic rubber, tires and non-tire applications ▪ Cross-check against economic indicators 	<ul style="list-style-type: none"> ▪ LANXESS monitors and keeps track of all publicly known peer projects ▪ All projects are assessed on: <ul style="list-style-type: none"> – Plausibility of timeline – Technology source – Raw material supply – Industry expertise ▪ Frequent updates with in-depth assessment of probability and timing of a butyl project 	 

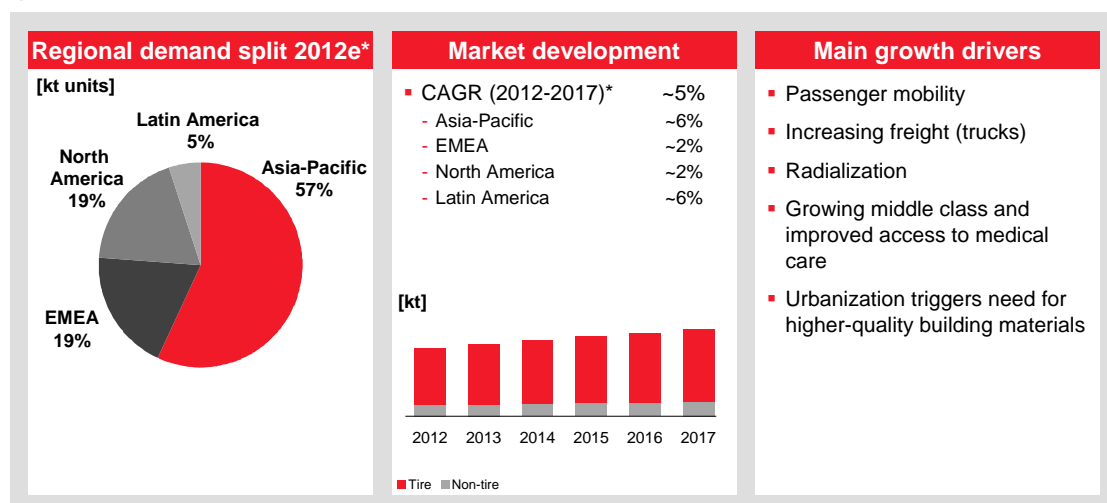
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High demand for tires in Asia and Latin America drives growth for butyl rubber




* LANXESS estimates based on IHS Chemicals 2012

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Mobility and Urbanization as underlying trends for new and existing application fields

Megatrends


Mobility




Agriculture





Urbanization



Water



"Green Mobility" – Underlying growth trend

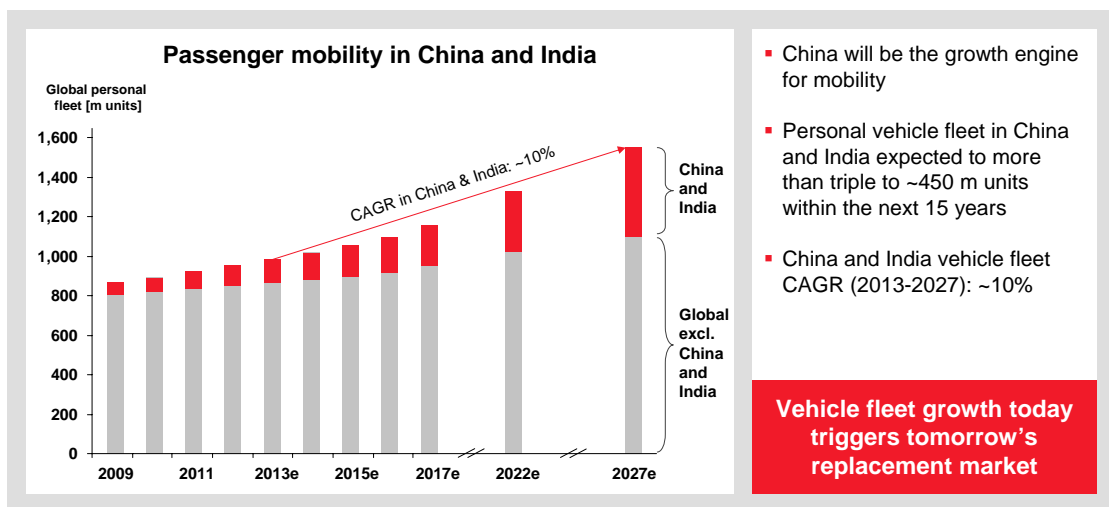



- ◆ Passenger mobility
- ◆ Global tire production
- ◆ Radialization
- ◆ Butyl in treads
- ◆ Fast cure grade for pharmaceutical closures
- ◆ Butyl100 in niche businesses

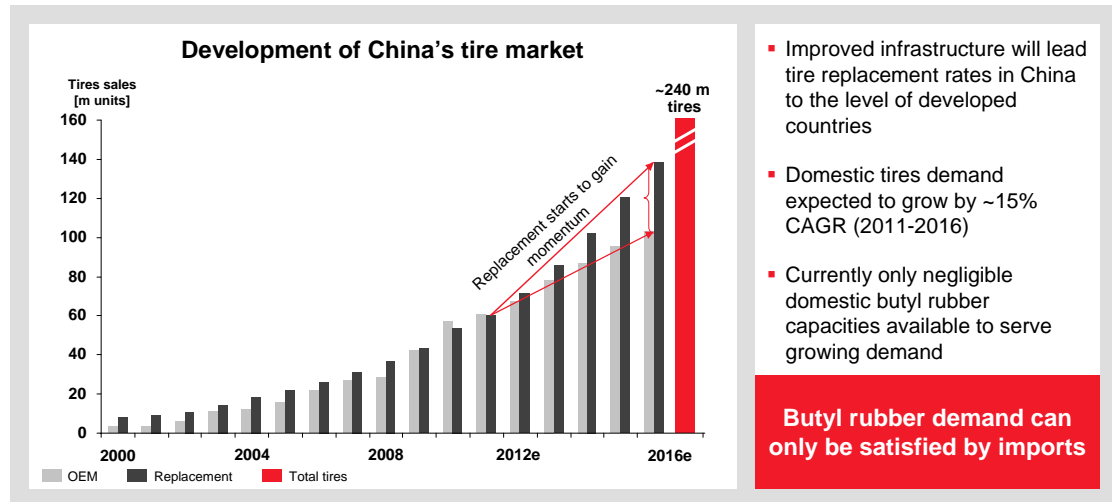
◆ Mobility
 ◆ Urbanization

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Megatrend Mobility: Increasing car ownership rate in China and India



Butyl rubber demand from replacement market to increase in China in the future



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LANXESS' innovation increases consumers' safety through advanced technology

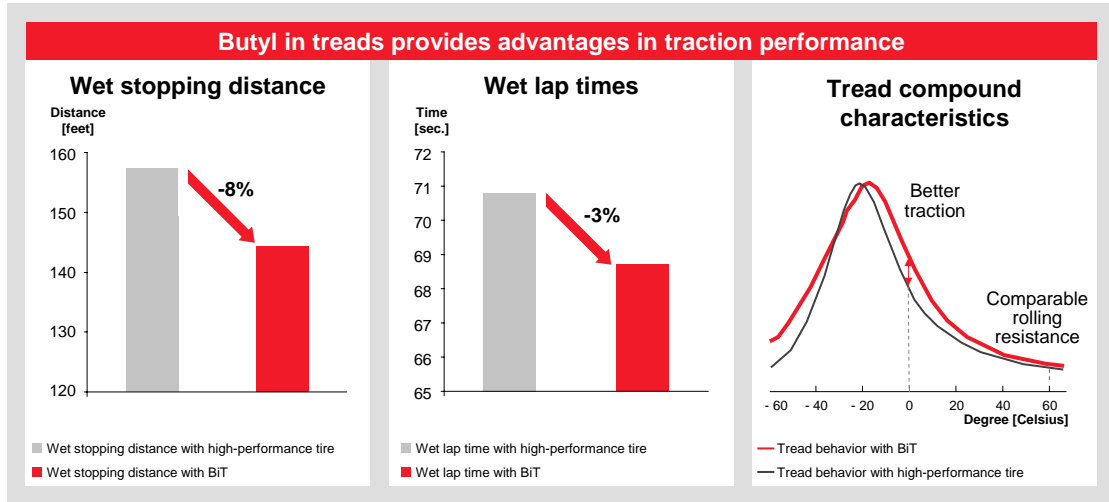
- X **Bromobutyl** offers new innovations that enable our customers to develop next generation tires
- High-end rubbers that enhance tire traction and safety
- Most important safety parameters are:
 - Traction
 - Handling
 - Wet breaking
- Customers have been selected to partner with for further development

"Fuel efficiency and skid resistance must be improved simultaneously. This requires a technical breakthrough, which we are achieving in the high-performance tires produced using LANXESS' expertise."
Dr. Hakjoo Kim, Hankook Tires

LANXESS enables a safer driving experience for consumers

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X Bromobutyl[®] in treads (BiT) application improves all relevant safety performance indicators



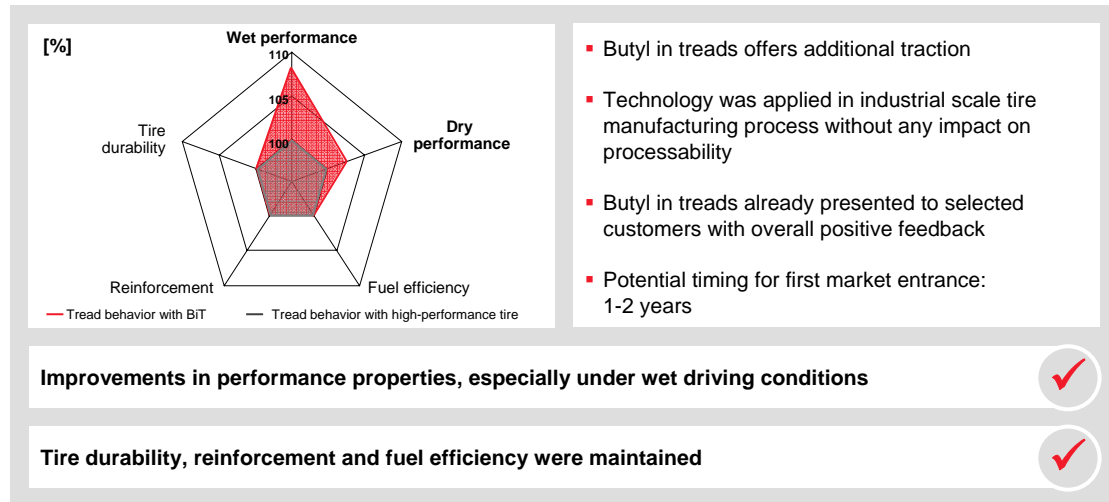
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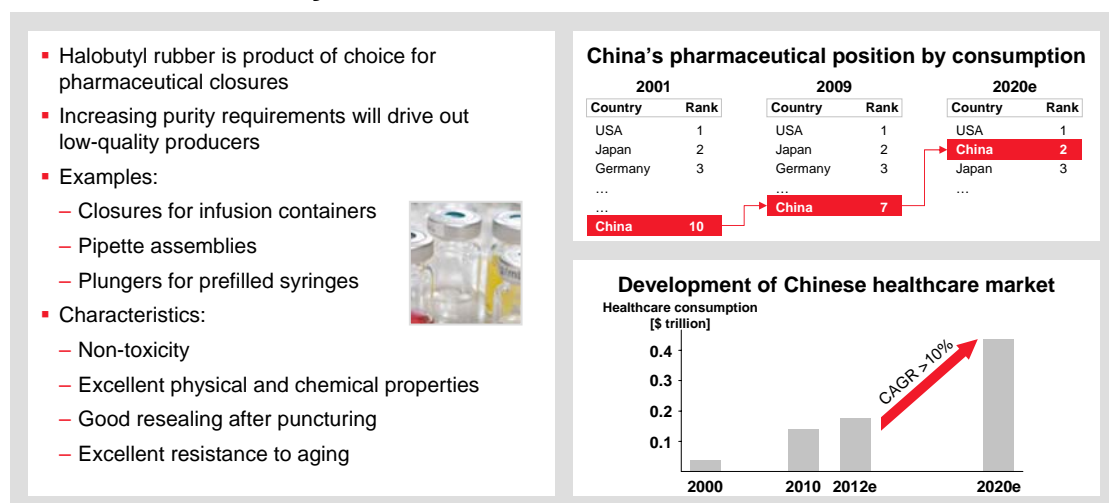
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Further step towards best-in-class tread performance



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Urbanization in China leads to a rapidly growing improvement in medical care system



Source: IMS Health 2011, market prognosis; McKinsey Quarterly 2012, Meet the Chinese consumer of 2020

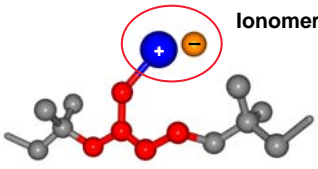
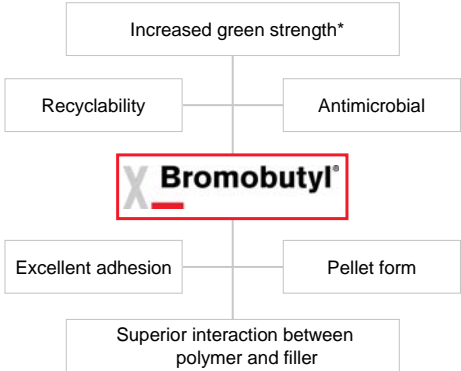
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Butyl100 for niche businesses – recently introduced due to strong market pull

Butyl100	Markets	Benefits
<ul style="list-style-type: none"> Modified type of butyl based on a special combination of raw materials <p>Properties</p> <ul style="list-style-type: none"> Highest resistance against oxidative and thermal aging 	<p>Tire curing bladders</p>  <p>High-end insulation glass sealants</p> 	<ul style="list-style-type: none"> Higher aging resistance ✓ Increased service life ✓

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Research on butyl ionomers to add key properties to butyl rubber

Butyl ionomers	New modifying properties
 <p>Ionomer</p> <ul style="list-style-type: none"> Post-production modification when ionomers react with halobutyl Variation of ionomers content allows for control of structure, function and thus physical and dynamic properties of the polymer 	 <p>X Bromobutyl®</p>

* Higher resistance against deformation in time in uncured state mainly for adhesive and sealant applications

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Butyl ionomers open up new applications for butyl rubber

<ul style="list-style-type: none"> ▪ Properties of commercial ionomers enable their use in a wide range of applications ▪ New applications <ul style="list-style-type: none"> – Sports grips – Improved adhesives and sealants – Medical adhesives – Antimicrobial coatings 	<p style="text-align: center;">New application fields</p> 
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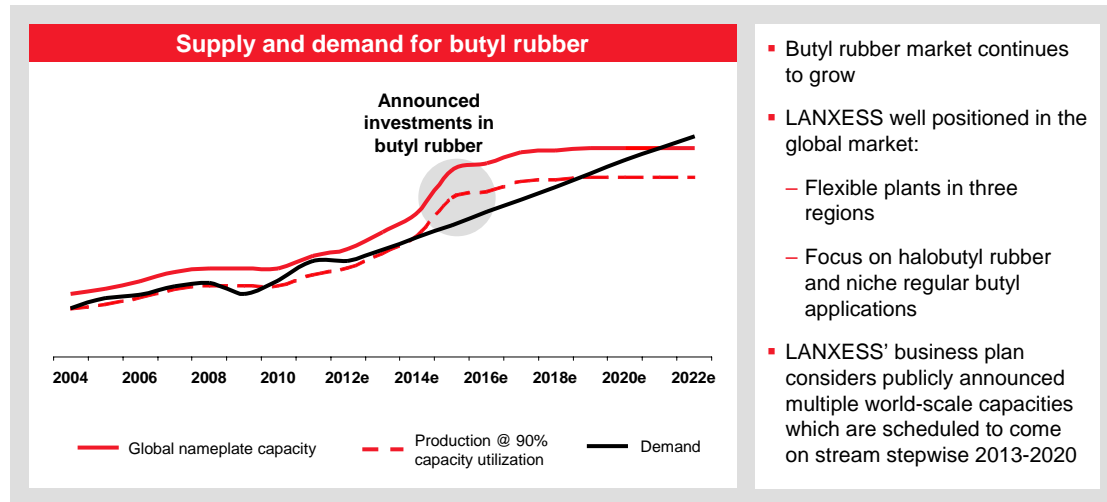
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BTR – Much more than synthetic rubber for innerliners

New material	<ul style="list-style-type: none"> ▪ New butyl for pharmaceutical closures 	<ul style="list-style-type: none"> ▪ Butyl ionomers
Current material	<ul style="list-style-type: none"> ▪ Butyl100 for curing bladder ▪ Butyl100 for glass sealants ▪ Butyl100 for adhesives ▪ Customer support for current applications ▪ Continuous improvement of products and production process 	<ul style="list-style-type: none"> ▪ Butyl in treads
Current applications		New applications

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Mid- to long-term supply and demand for butyl rubber remain balanced to tight



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Construction of world-scale production facility in Singapore is fully on track

Facts

- Greenfield BTR plant, Singapore
- Capex: ~€400 m
- Capacity: 100kt/a

Update on financials

- Expected sales: ~€300 m
- Preparation costs: ~€30 m, mainly Q4 2012
- Depreciation period: 10 years
- Additional annual depreciation: ~€40 m
- Ramp-up 2013: Capacity to come on stream stepwise in 2013
 - Q1 cold / hot commissioning
 - Q2 testing and customer approbation
 - Q3 expected start of commercial sales



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LANXESS has built a pilot unit to develop the new butyl rubber technology

Process innovation at BTR

- Development of new energy-efficient and environmentally friendly process to produce butyl rubber
- The new technology requires less chemical / physical process steps and therefore less capital investment to build a world-scale plant
- Process was proven in small scale and is now in pilot phase for scale-up for the next generation of butyl production
- Scale-up facilities will also be used for R&D work



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Butyl Rubber – Strong position in a premium business

Global reach	<ul style="list-style-type: none">▪ Flexible world-scale plants in three regions▪ Consolidated presence in Europe and Americas▪ New plant in Singapore further extends our reach in the fast-growing Asian market	
Customer orientation	<ul style="list-style-type: none">▪ Professional sales force, technical support and customer service for all markets and regions▪ Global supply chain with high flexibility and efficiency	
R&D excellence	<ul style="list-style-type: none">▪ Trend-setting innovations continue to bring inspirations to tire and non-tire markets▪ Integrated approach for processes, products and application developments	

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Energizing Chemistry