

Nomura Chemicals Conference March 27 | 2009

## **Forward Looking Statements**



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# Focused on Polyurethanes and Polycarbonates





#1; approx. 25% market share

Applications: mainly rigid and soft foams in construction (insulation), furniture (mattresses) and automotive

25% 50% 7% 2% 16%

## **Polycarbonates**

#1-2; approx. 30% market share Main brand: Makrolon

Applications: electro/electronics, construction, automotive, sports/leisure

#### **Basic Chemicals**

Internal supplier of chlorine, sodium hydroxide solution, hydrogen, hydrochloric acid

## Thermoplastic Polyurethanes

#1; approx. 20% market share

Applications: automotive, sports/leisure, electo/electronics, mechanical engineering

Basic Chemicals incl. Other sales

## Coatings, Adhesives, Specialties

#1; >40% market share (arom. and aliph. isocyanates)

Applications: automotive & transport, construction, furniture & wood

€9,738m

Bayer MaterialScience FY 2008 sales

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## **Agenda**





## Unprecedented drop in demand

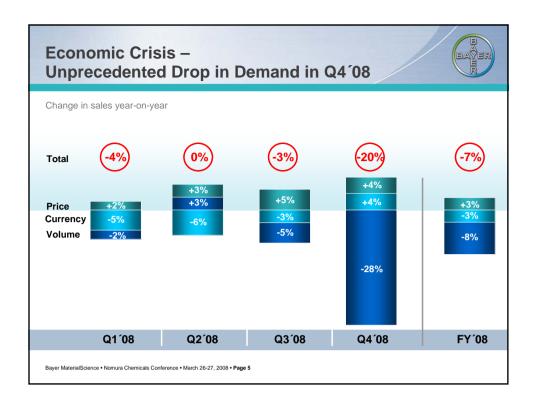
Acting fast and decisive – comprehensive countermeasures in place

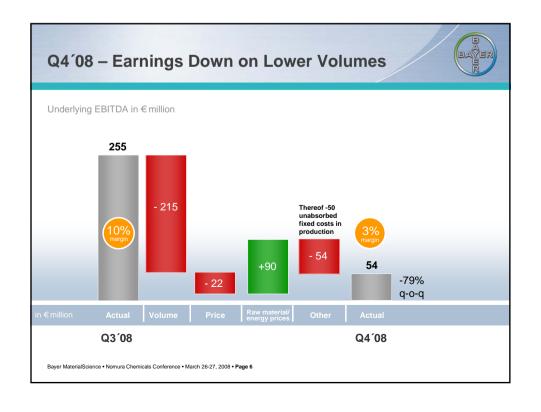


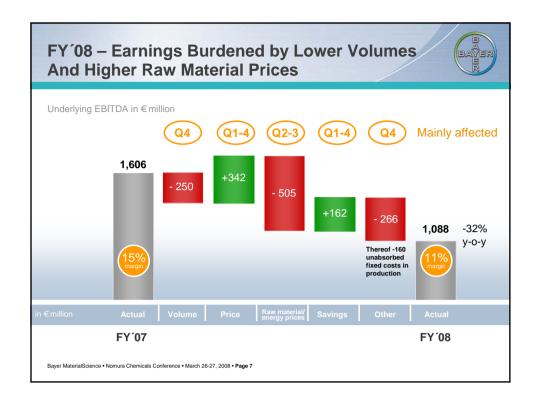
Long-term fundamental growth drivers intact



Short-term outlook is at least challenging



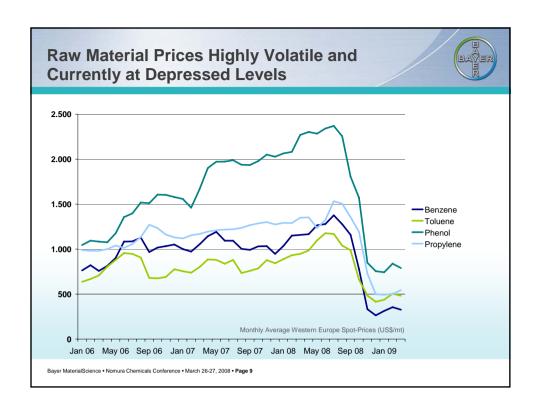




## **Amidst an Economic Recession**



- Almost no forward visibility
- Weaker demand
- Very low level of order entries
- Many customers order on confirmed sales only
- Capacity utilization in PUR ~70% and in PCS ~50%
- Entire industry is destocking and optimizing inventory levels
- Raw material prices highly volatile and currently at depressed levels





## **Deep Uncertainty Among Key Customers**



#### Chemicals Automotive "We ve shut down operations and laid off people. Our production rate is down 50-70%" **Customer in Europe** Others (sports, leisure, footwear Electro/ packaging, medical, etc.) **Electronics** "Not optimistic for 2009: "Appliance sales in 2009 exports -20%, domestic market down 5-10%" will decline. China could be least affected within **Customer in China** APAC due to ,Appliance goes suburban' government policy" Customer in APAC **Furniture/Wood** Construction "We only place orders if we have "Banks have to lend again in order firm customer orders ourselves" to restart the housing market. MDI **Customer in NAFTA** demand in 2009 will be -20%" **Customer in NAFTA**

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2008 Bayer MaterialScience sales by industry







Unprecedented drop in demand



Acting fast and decisive – comprehensive countermeasures in place



Long-term fundamental growth drivers intac



Short-term outlook is at least challenging

## Acting Fast and Decisive – Comprehensive Set of Counter Measures Already in Place



- Running restructuring program accelerated and expanded
- Short-term cost containment measures in place
- Additional ~€50m of savings in 2009 (not sustainable)
- Temporary reduction of working hours and salary
- Adjusted production output through extended plant maintenance and temporary plant shut-downs (mothballing):
  - PCS 300kt mothballed in Q1 '09
  - MDI 160kt mothballed in Q2´09
  - TDI 100kt mothballed in Q4′08
- CapEx budget trimmed, investments reduced to strategic projects only
- Business is run on cash focus

## Prepared for more drastic measures if necessary

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## Current Petrochemical Prices Lower Raw Materials Bill by ~€1bn in 2009



- Petrochemical feedstock prices have strongly declined in past 6 months
- Assumptions based on \$52/bbl average crude oil price in 2009
- Further relief from lower raw material and energy prices expected sequentially in Q1'09
- Raw material price decline could relieve EBIT by >€1bn in 2009

### Cost split 2008



### Exposure by value

- Benzene (incl. phenol, aniline, styrene)
- Propylene oxide
- Toluene
- Other petrochemical feedstock
- Others

## **Possible Impact of Economic Stimulus Packages on MDI Industry**



- Stimulus packages in major economies (e.g. US, China) largely address, among other,
  - (1) construction industry
  - (2) energy conservation and efficiency
- MDI insulation can be a major factor in delivering on these environmental objectives
- Insulation is the major driver for MDI consumption
- Insulation spending growth has been multiple times the rate of general construction
- MDI-based insulation growth has been at or above the overall rate of insulation growth
- Besides, MDI used as an adhesive in wood binders and other building materials continues to grow and displace formaldehyde-based resins for performance and environmental

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## **Agenda**









Long-term fundamental growth drivers intact



## Capitalize on Global Market Trends and Spur Future Growth





#### Scarce resources

- Energy savings
- Lightweight construction

### Climate change

- Energy efficiency
- Fuel efficiency

#### Mobility

Lightweight transportation

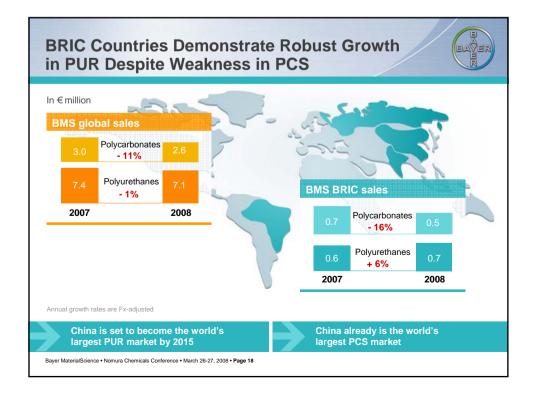


## **Growing wealth**

- Increasing living standards
- Demand for entertainment

#### **MaterialScience contributions**

- Building insulation
- Insulation along the cold chain
- Lightweight roofing
- Materials for solar modules
- Lightweight materials for cars
- Waterborne Coatings
- Automotive glazing
- Foam mattresses
- Blends for electro/electronic housing
- PCS sheets in large-frame screens



## **Employing State-of-the-Art Technologies in World-Scale Format on One Site in Caojing**



#### **Polycarbonates**

World-scale standard: 100kt single trains 100kt line with melt process: conversion costs -30%

#### MDI

New world-scale standard: 350kt

Adiabatic nitration (aniline): conversion costs -25% High efficiency phosgenation: conversion costs -45% ODC chlorine recycling: energy costs -30%

#### TD

New world-scale standard: 250kt Gas phase phosgenation: energy costs -40% Chlorine recycling: energy costs -50%

#### HDI

Gas phase phosgenation: energy costs -65%

All improvements compare to conventional process technology
ODC: Oxygen-depleting cathode

Bayer MaterialScience • Nomura Chemicals Conference • March 26-27, 2008 • Page 19



## Moving Further Along the Value Chain Through A Global Systems House Network



BaySystems concept supports target of 50% of MDI sales in systems business

## Three reasons to acquire or invest in new systems houses:

#### Access new regional markets

- e.g. Brahe in Czech Republic Strengthen market position in eastern Europe
- e.g. BaySystems India A green field project in an important emerging market

## Broaden applications in existing markets e.g. Resina in Netherlands – New rigid foam applications for Europe, Middle East and Africa

### Complementary technologies

e.g. Baulé in France - Prepolymer systems for hot- and coldcast elastomers



A global network of currently 30 local polyurethane systems providers under one umbrella brand



## Baytubes – CNTs in Industrial Scale as Material of Choice For Wind Turbines



- Cost-efficient manufacturing of ultrapure, multi-wall carbon nanotubes (CNT)
- Industrial scale production with stable purity
- Product development using carbon nanotubes: hybrids with outstanding mechanical, electrical and physico-chemical properties at significantly lower loadings than conventional fillers





- CNTs in hybrid materials offer extraordinary mechanical properties and allow longer, yet lighter blades in wind turbines
- CNTs greatly improve the energy efficiency and economics of wind turbines
- Wind turbine blades also use polyurethane composites and PUR-based adhesives for its structure

Bayer MaterialScience • Nomura Chemicals Conference • March 26-27, 2008 • Page 21

# High Value Application of Polyurethanes in Cosmetics and Medical Technology





### Cosmetics: Innovative polyurethanes - for a silky finish

- Baycusan® C: Polyurethane powder and four solvent-free polyurethane dispersions
- For mascara, foundation, eyeliner, eyeshadow, peel-off masks and hairspray

#### Medical technology: Innovative polyurethane adhesives

- Outstanding handling and adhesive properties, adhesive strength on wet wounds
- Biocompatible, no mutagenic / irritant action





## **Agenda**











Short-term outlook is at least challenging

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## Despite Short-Term Challenges, Our **Long-Term Business Model is Intact**



## **Financial Guidance 2009**

## Q1

Sales and underlying EBITDA in Q1'09 below Q4'08 level

- Severe drop in sales and underlying EBITDA in 2009 vs 2008
- Weaker demand and lower capacity utilization
- Lower raw material/energy prices



## **Reporting Events and AGM**



Date	Event	Publication
Wednesday, April 29, 2009	Investor Conference Call	First Quarter Results Stockholders' Newsletter
Tuesday, May 12, 2009	Annual General Meeting	
Tuesday / Wednesday June 2-3, 2009	Meet Management Conference	
Wednesday, July 29, 2009	Investor Conference Call	Second Quarter Results Stockholders' Newsletter
Tuesday, October 27, 2009	Investor Conference Call	Third Quarter Results Stockholders' Newsletter

Bayer MaterialScience • Nomura Chemicals Conference • March 26-27, 2008 • Page 25

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Bayer MaterialScience • Nomura Chemicals Conference • March 26-27, 2008 • Page 26

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