

---

London, December 14, 2011  
Rabobank SRI Conference

---

## “Sustainability through Innovation”

**Graeme Armstrong**

*Member of the Executive Committee responsible for  
Research, Development & Innovation*



---

# Agenda

---

- AkzoNobel at a glance
- Our value & values strategy
- Our innovation strategy
- Serving our key markets in a changing world
- Raw materials
- Summary
  
- Appendix: Examples of recent innovations

# The world's largest coatings company & a leading supplier of specialty chemicals

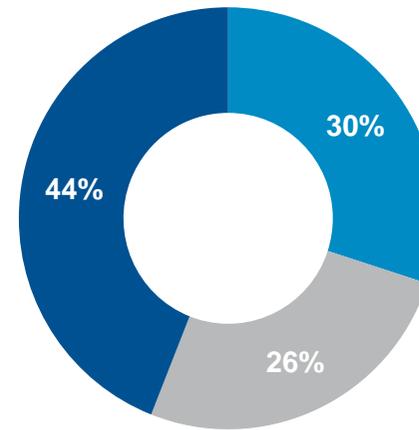
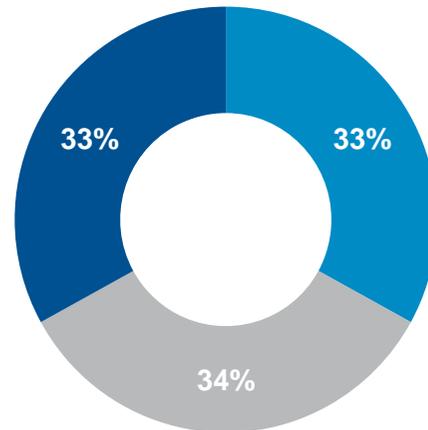
## 2010

- Revenue €14.6 billion
- 55,590 employees
- EBITDA: €2.0 billion\*
- Net income: €0.8 billion
- 39 percent of revenue from high-growth markets
- A leader in sustainability: number 2 in 2011 SAM ranking



Revenue by business area

EBITDA\* by business area



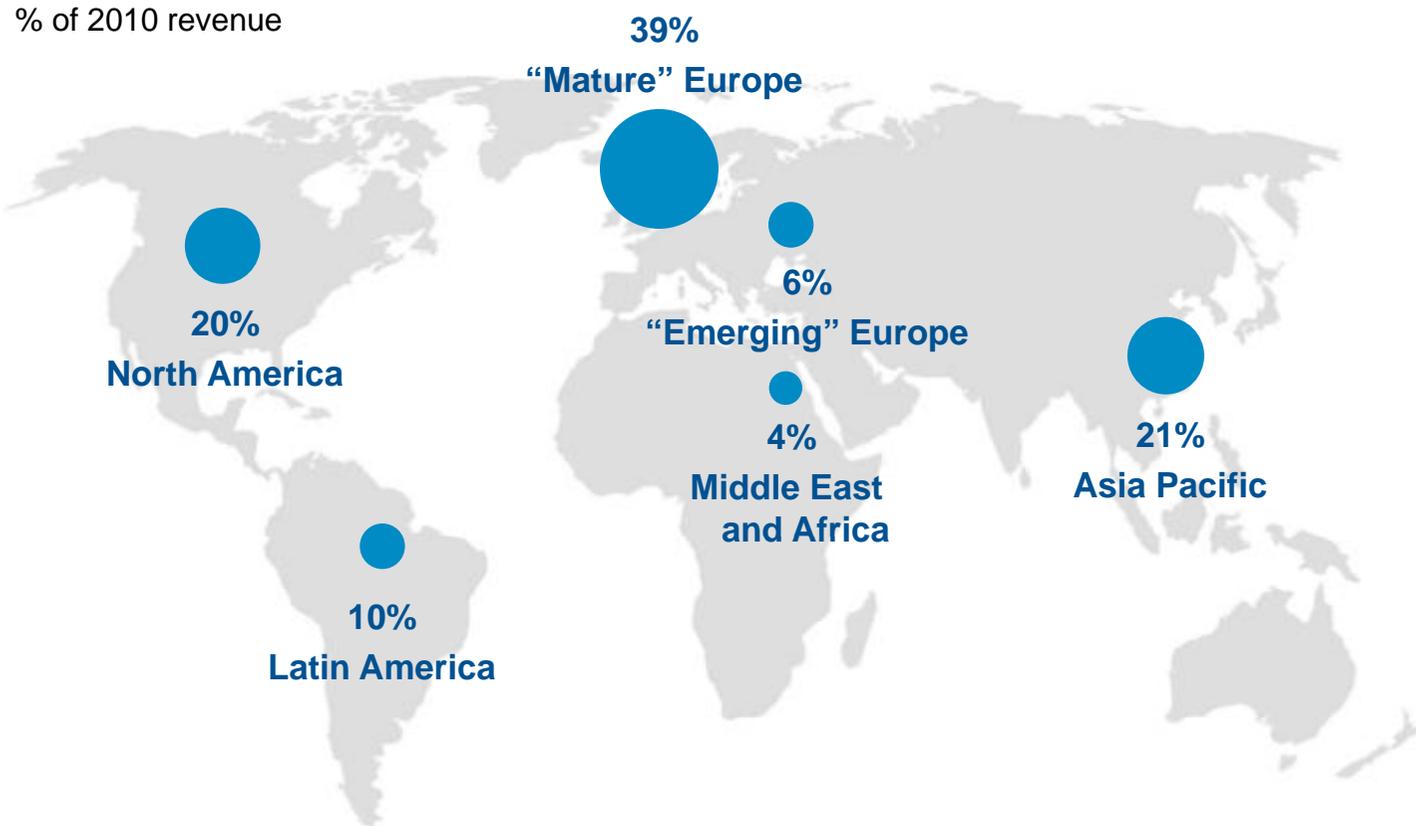
- Performance Coatings
- Decorative Paints
- Specialty Chemicals

\* Before incidentals



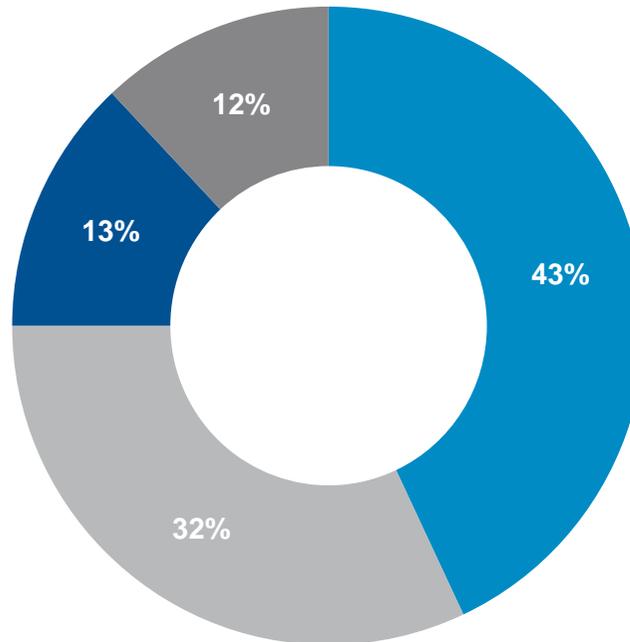
# Excellent geographic spread of both revenue and profits

High growth markets are important (39% of revenue)



## Our major markets

### Revenue by key market segments



- Residential construction
- Consumer goods
- Non-residential construction
- Transport



---

## Clear sustainability focus

---

### Accelerated sustainability strategy will deliver:

- Safety at 2.0 injuries/ million hours
- 30% of revenue from Eco-premium solutions
- Sustainable fresh water management
- 30% eco-efficiency improvement
- 10% carbon footprint reduction (25% by 2020)
- 20% executives from high-growth economies
- Key supplier partnerships delivering footprint reduction

Embed **safety and sustainability** in everything we do



---

# Our value & values strategy

---

---

# Our strategic ambition is to be

---

The world's leading  
coatings and specialty chemicals company



# Global megatrends which shape our strategy

## Population growth

From 6.8 billion people today to over 9 billion in 2050



## Climate change

Drives the need for energy efficiency and low carbon & renewable energy sources



## A new middle class

3 billion people emerging over the next 20 years



## Scarcity of natural resources

We are exceeding the replenishment capacity of the planet



\* Sources: UN World Population prospects, OECD, IPCC, World resources institute, WBCSD



## Our medium term strategic goals

### Value Accelerated growth

- Grow to €20 billion revenues
- Increase EBITDA each year, maintaining 13-15% margin
- Reduce OWC/revenues by 0.5 p.a. towards a 12% level
- Pay a stable to rising dividend

- Top quartile safety performance
- Top 3 position in sustainability
- Top quartile performance in diversity, employee engagement, and talent development
- Top quartile eco-efficiency improvement rate

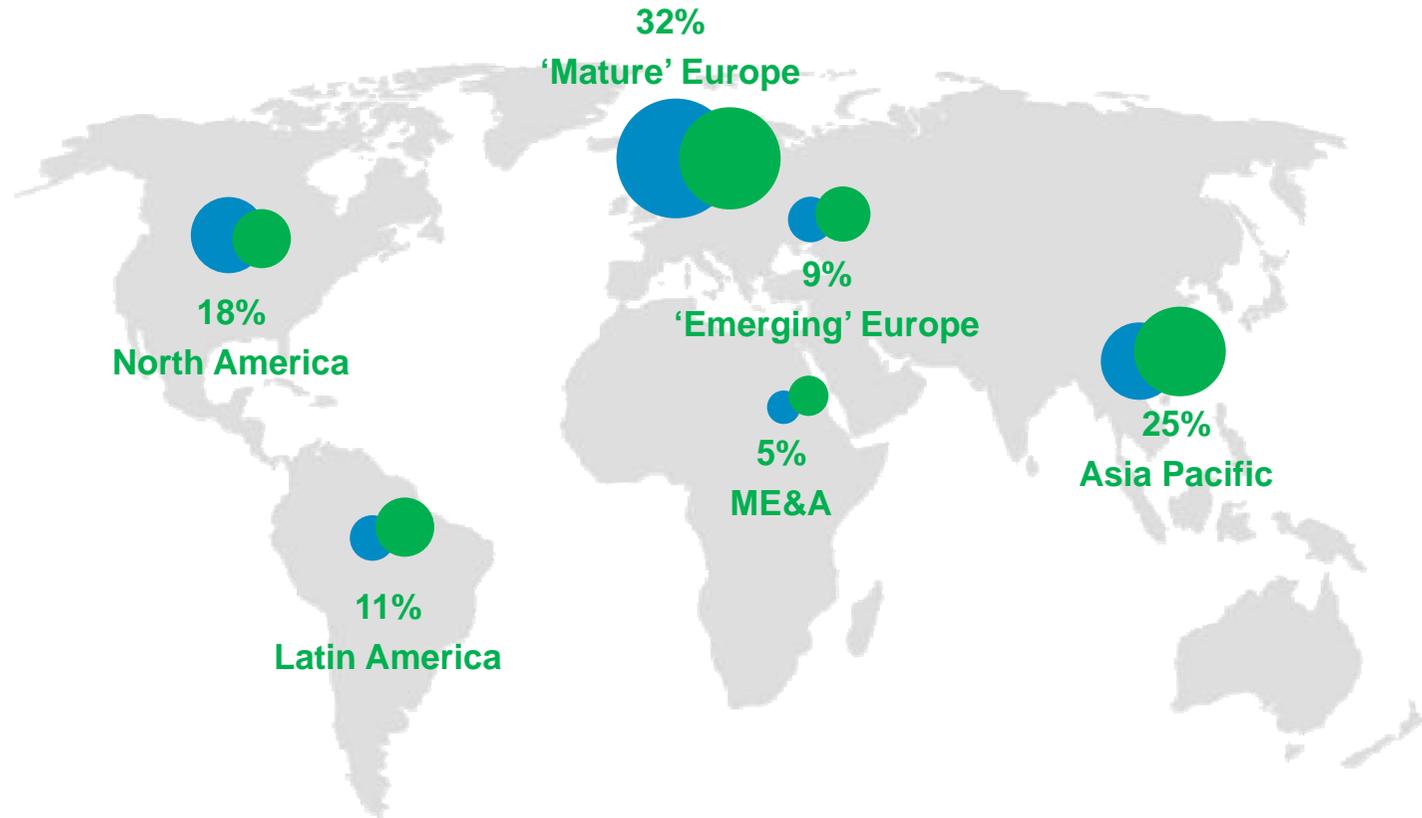
### Values Sustainable growth

**Sustainable growth is a prerequisite for future profitability**



# High-growth markets will become significantly more important

% of revenue, indicative



High-growth markets will be around 50% of revenue in this decade



---

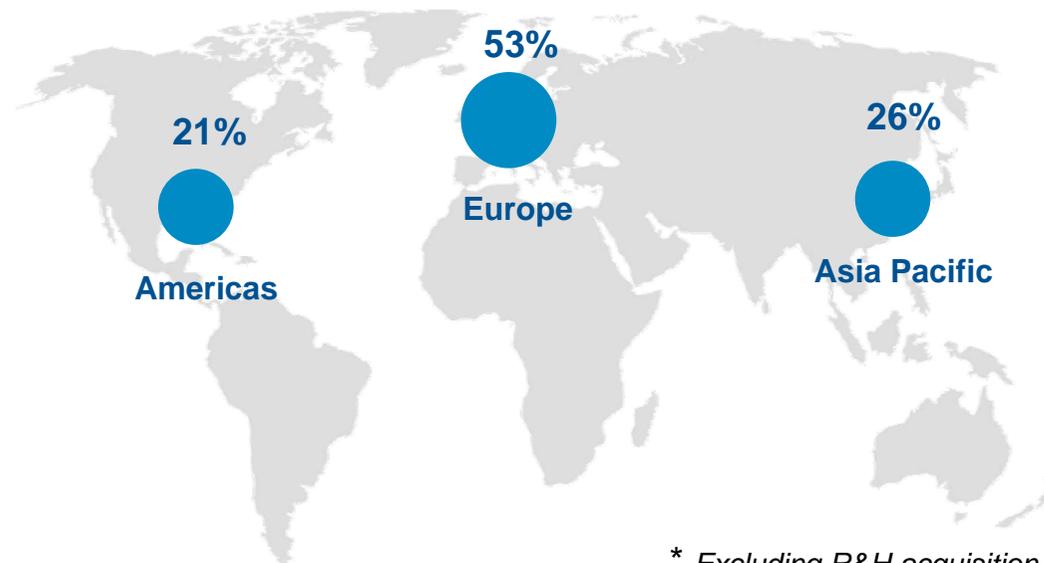
# Our innovation strategy

---

## Research Development & Innovation overview

- 2.3 percent of revenue spent on RD&I (2010: €334 million)
- 3,800 people employed globally
- Over 60 percent of portfolio is sustainability driven
- 90% of Big R+D program is eco-premium driven

Geographic spread of RD&I\* (2010)



\* Excluding R&H acquisition



### **Delivery of fewer, bigger, better innovations - faster by:**

- Focusing RD&I spend on 'Big R + D'
- Driving eco-premium solutions
- Building capability in the high growth markets
- Hiring and developing the best talents
- Adopting an open innovation approach
- Achieving functional excellence
- Creating an innovation culture



# Measured ambitions

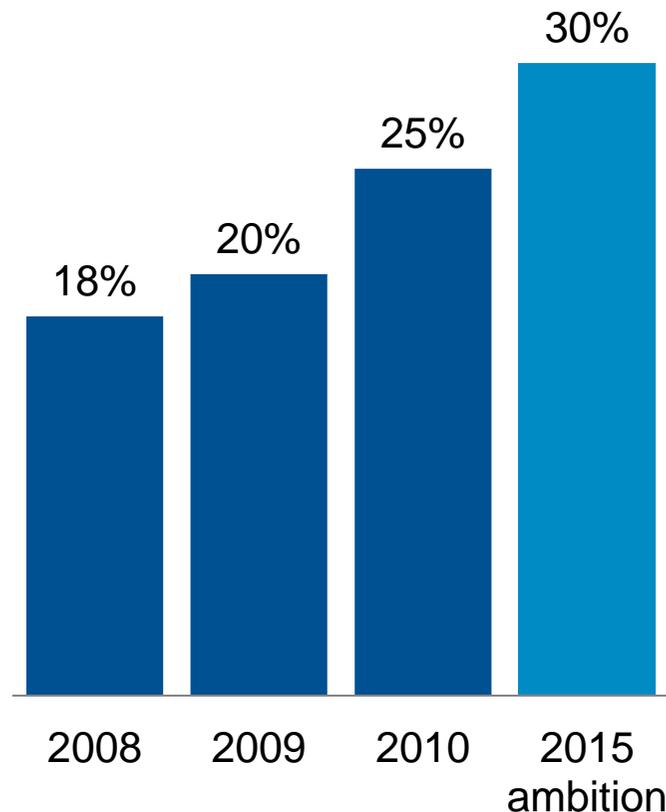
## The RD&I Dashboard

KPI	Starting Point		
	2008	2010	Ambition 2015
% Revenues from breakthrough innovation	5	9	15-20
% Spend on 'big R+D'	39	46	60-65
% Revenues from Eco-Premium solutions	18	25	30
% R&D staff outside Western Europe	48	53	60-70
% Moves of RD&I 'leaders'	1	12	15



## Eco-premium solutions have a superior growth rate and profitability

**Eco-premium solutions**  
In % of revenue



**Eco-premium solutions\***

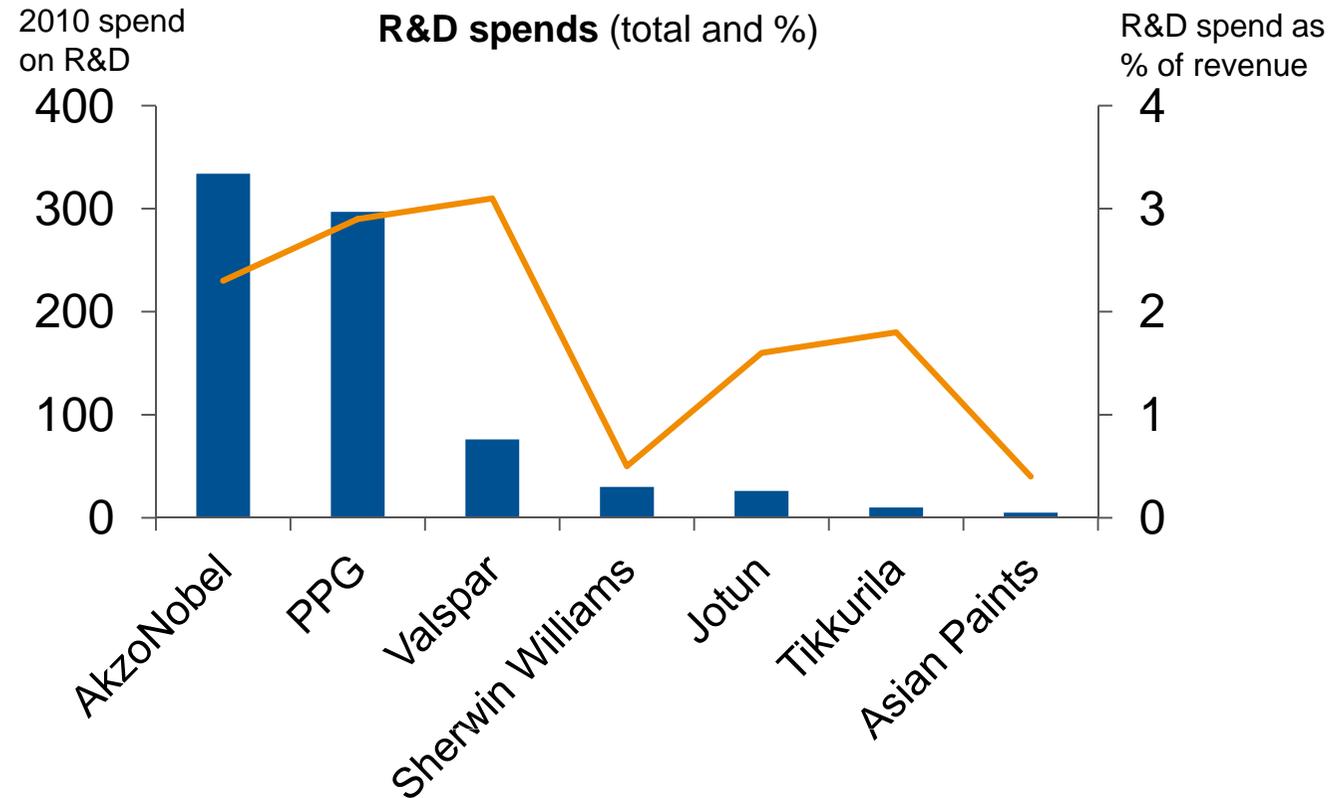
- Are products that have a higher eco-efficiency than the main competitive product
- Give us a competitive edge, are more profitable and have a superior growth rate compared to other products
- The 30% ambition is “a moving target”, requires a significant RD&I investment

*\* An eco-premium solution is measured using a quantitative analysis or a qualitative assessment focusing on six categories: toxicity, energy efficiency, use of natural resources/raw materials, emissions and waste, land use and risks (e.g. accidents). The eco-premium solution must be significantly better than currently available solutions in at least one criterion, and not significantly worse in any.*



## Our scale means we can outspend our peer group and leverage our R&D spend

- AkzoNobel's R&D spend in 2010 was higher than that of our major competitors
- We are able to leverage our technological capabilities across Business Areas



Source: Company annual reports and presentations

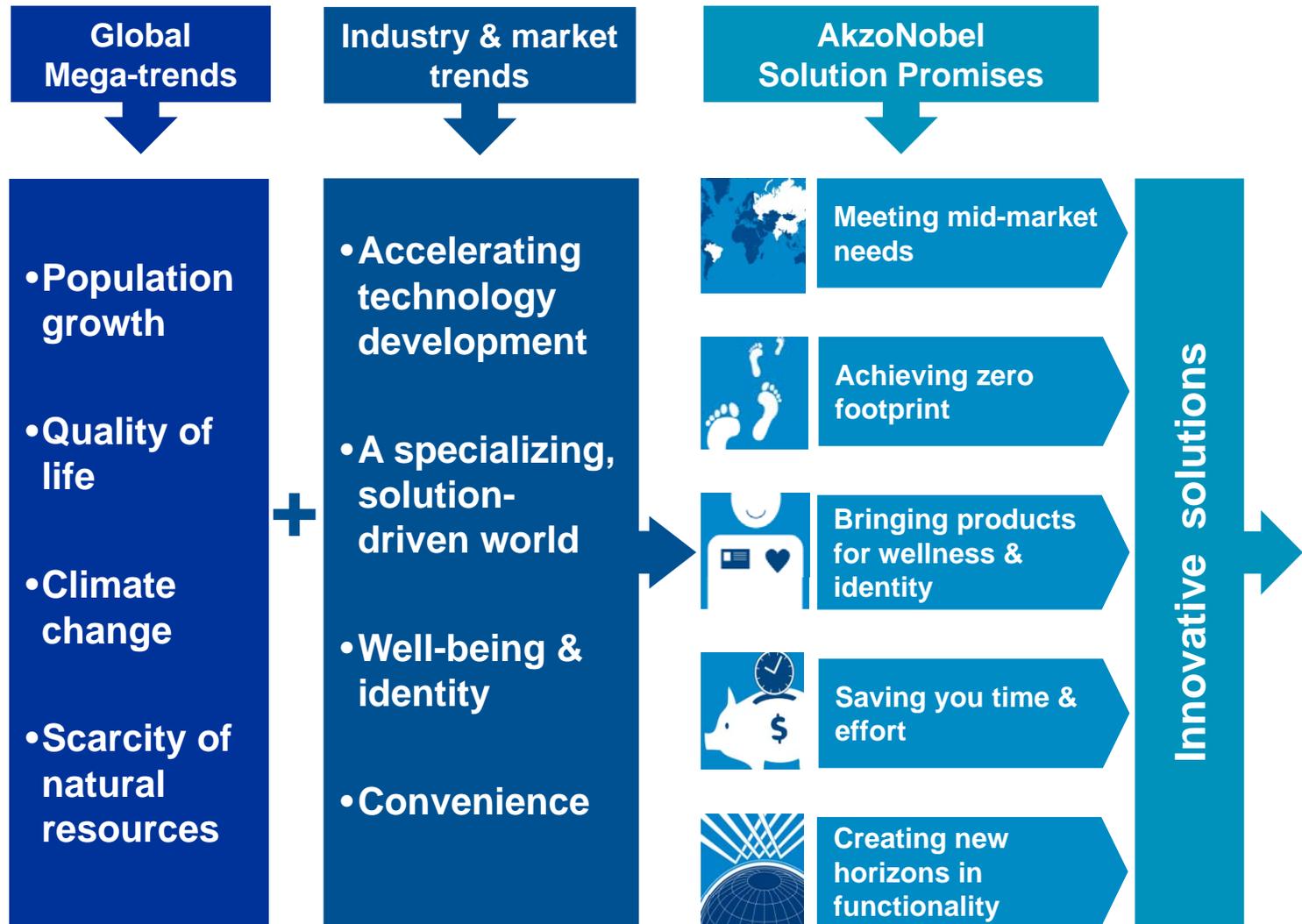


---

# Serving our key markets

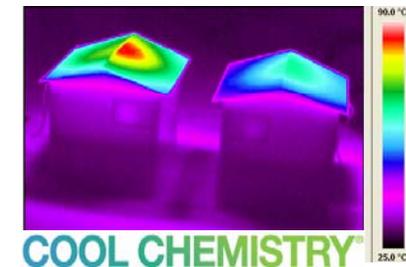
---

# From global mega-trends to innovative solutions





## IR reflective coatings for heat management of buildings



### Exterior wall paints

- Reduces internal temperatures by up to 5°C
- Savings of up to 15% on the energy used for air conditioning

### Metal roof coatings

- Reduces roof space temperatures by up to 11 C
- Reduces interior cooling demand by 15%

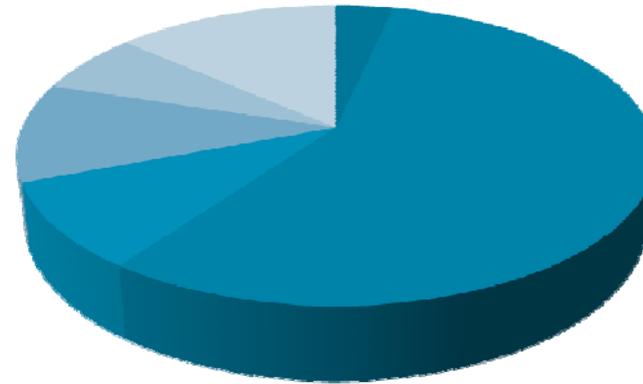


# Tomorrow's Answers Today in construction



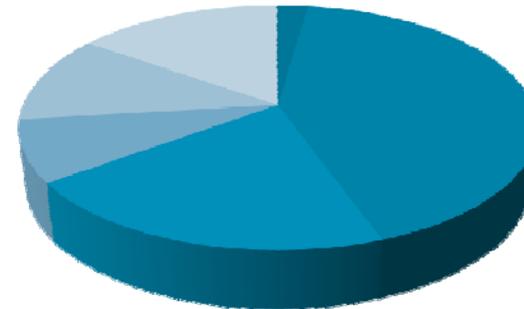
**Eco-premium – 30% footprint reduction**

Carbon footprint for Trade Matt



- Water
- Solvent
- TiO2
- Extender
- Latex
- Additives
- Can

Carbon footprint for Eco Matt





## Fire Protection Coatings

### Interchar® 1120

- A water-based intumescent coating
- Reacts in the presence of intense heat to form an insulating layer
- Extends the integrity of structural steel for up to 4 hours
- Applied easily on-site during construction
- Compliant with VOC regulations





## Coatings with more than aesthetic appeal

### Thinner automotive & aerospace coatings

- Reduced weight
- Less aerodynamic drag
- Reduced fuel consumption
- Faster



### Foul release coatings

- Biocide- & toxic metal-free
- Super smooth
- Less hydrodynamic drag
- Reduced fuel consumption
- Reduced CO<sub>2</sub> & NO<sub>x</sub> emissions





## Faster & less energy intensive automotive coatings

### UV curing technology

- Integrated LED UV gun & sprayer
- Reduced drying time
- Reduced labor & energy costs



### Sikkens Autosurfacer UV

- Completes our UV-cure system
- 50% less energy consumption
- 2 coats instead of 3
- Extremely short drying times
- Reduced process time



# Tomorrow's Answers Today in transportation



A quick & convenient DIY solution for repairing minor scratches

## stickerfix™

- Color-matched, film-based repair system
- Easy to apply
- Flexible – works on flat & curved surfaces
- OEM-approved
- Provided as accessory pack with new vehicles





## Consumer goods with minimal environmental footprint



- Naturally derived chelating agent
- Anti-scalant ingredient in phosphate-free dishwasher & laundry detergents
- Does not contribute to eutrophication
- Readily biodegradable





Consumer goods with minimal environmental footprint

**Bicstyle**<sup>TM</sup>  
POLYMERS FOR PERSONAL CARE

Sustainable, novel maltodextrin-  
vinyl pyrrolidone hybrid polymer

Provides hold and humidity  
resistance in hair gels and styling  
products

Cost & performance equivalent to  
synthetic benchmarks



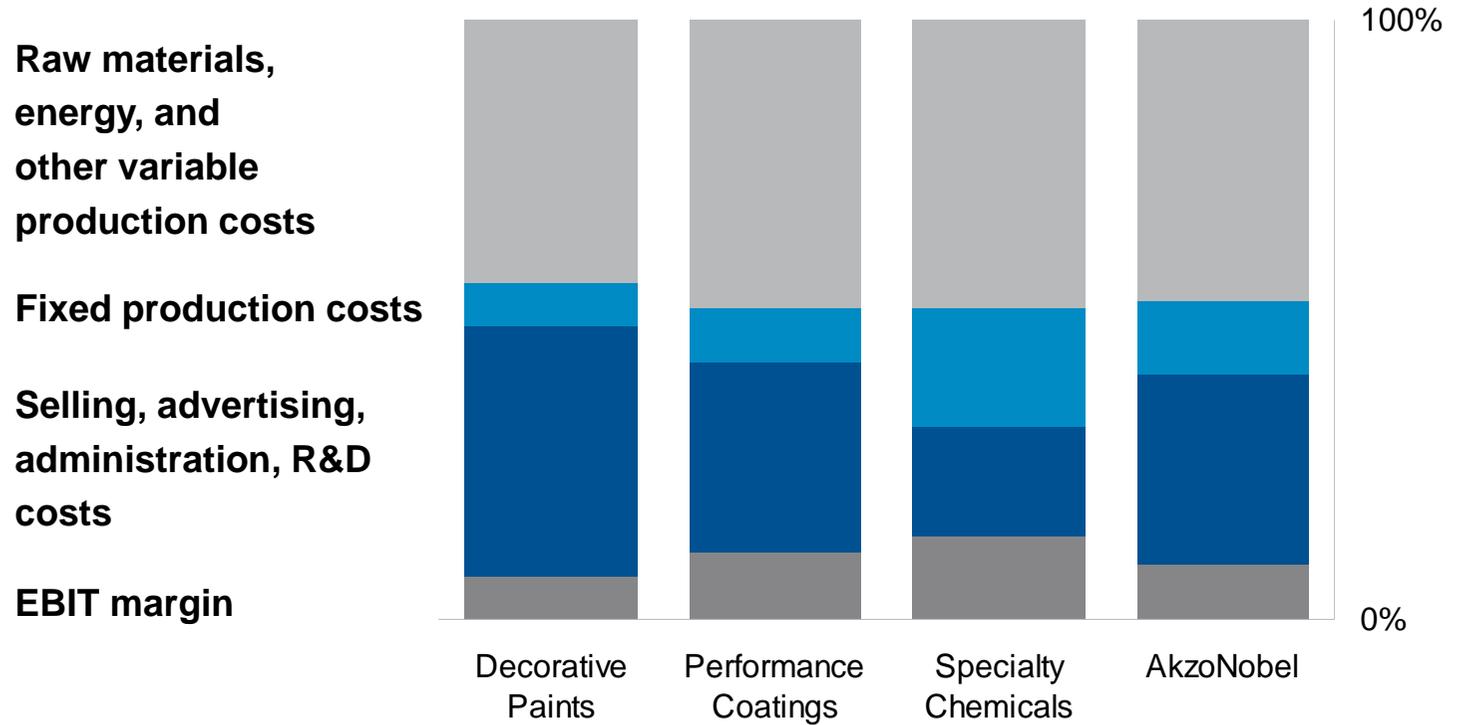
---

# Raw materials

---

# Raw materials: both risk and opportunity

% of 2010 annual revenue\*

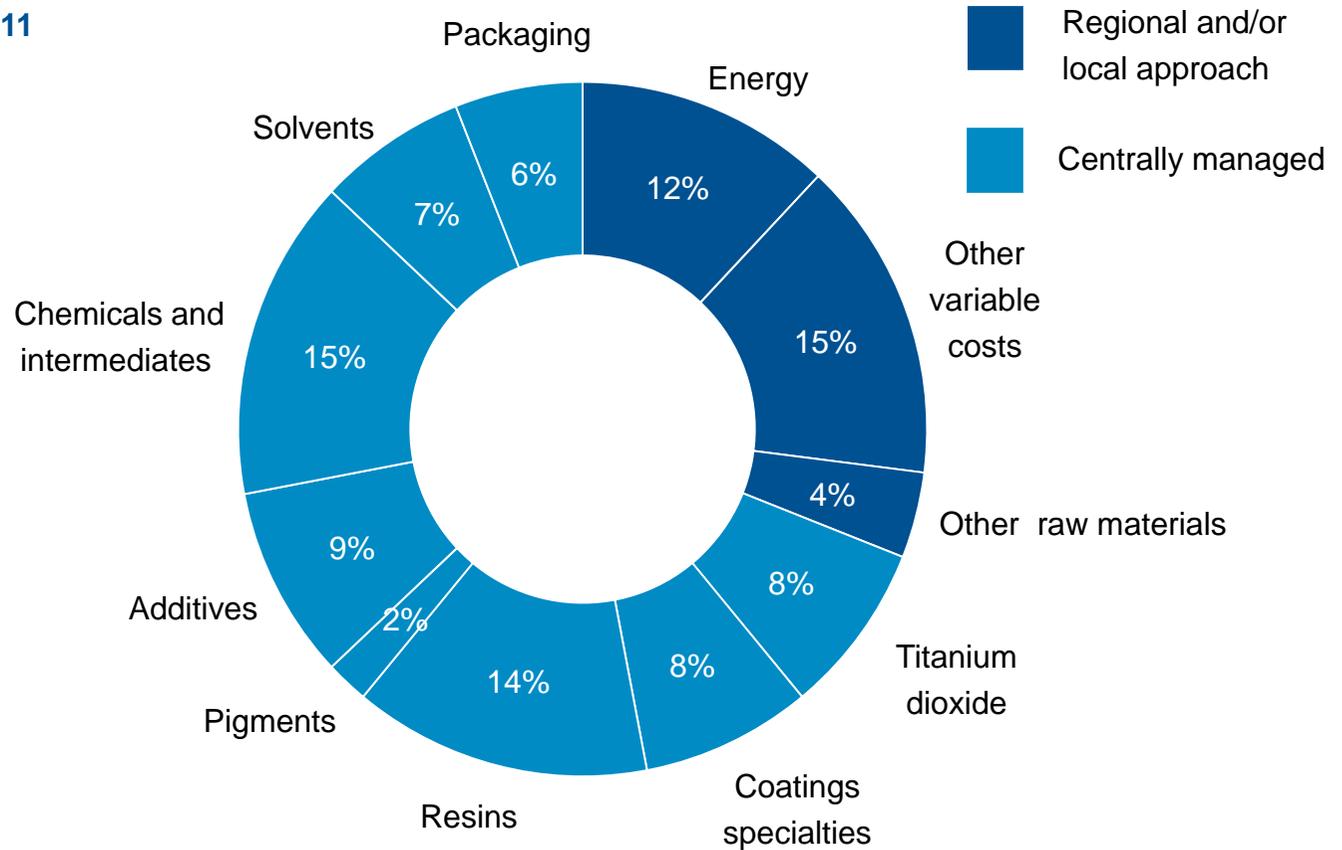


\* Rounded percentages, all data excluding incidentals



# Raw material costs represent a little over 1/3<sup>rd</sup> of revenue

H1 2011



**Around 70 percent of total spend is managed centrally to maximize scale advantages**



---

# Raw Materials Strategy

---

## Short-term

- Maintaining safety margin of stocks
- Leveraging strong relationships with existing major suppliers
- Creating partnerships with the emerging suppliers in our growth markets

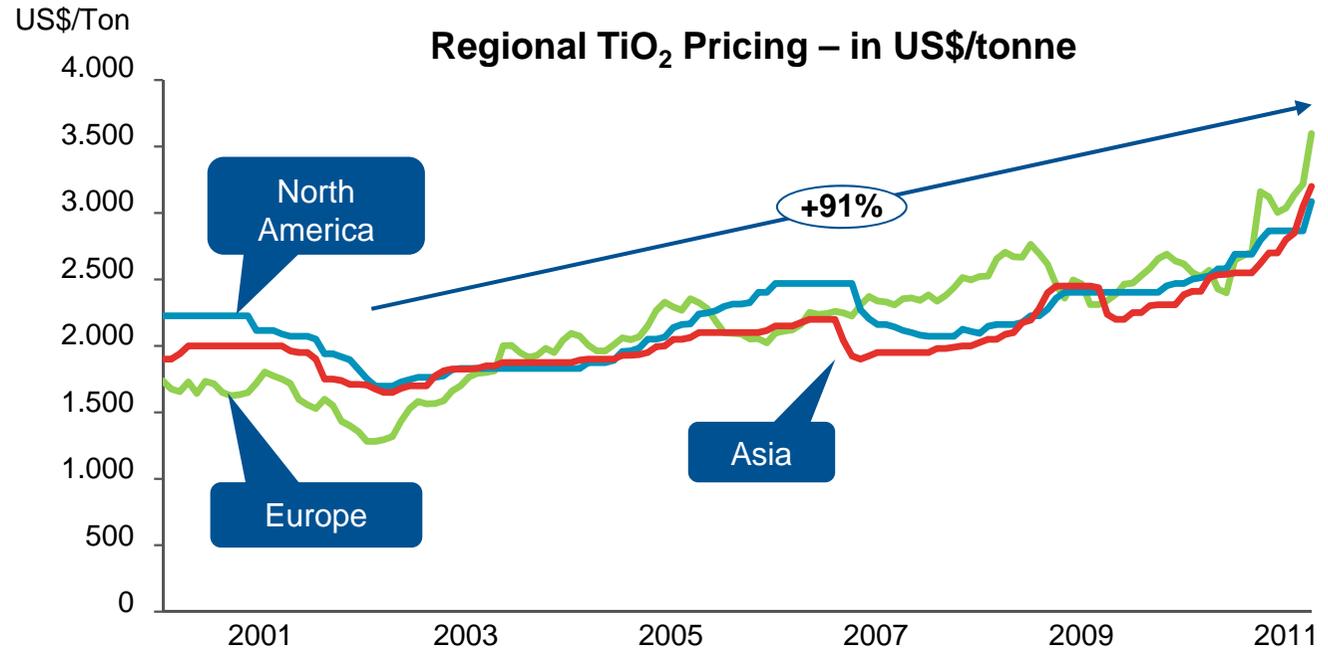
## Medium- to long-term

- Developing 'drop-in' alternatives with suppliers
- Developing alternative building blocks for resins & latexes
- Increasing use of renewable raw materials (*already 9% vs. industry average of 3%*)



# Raw material case study

## TiO<sub>2</sub> is a challenge



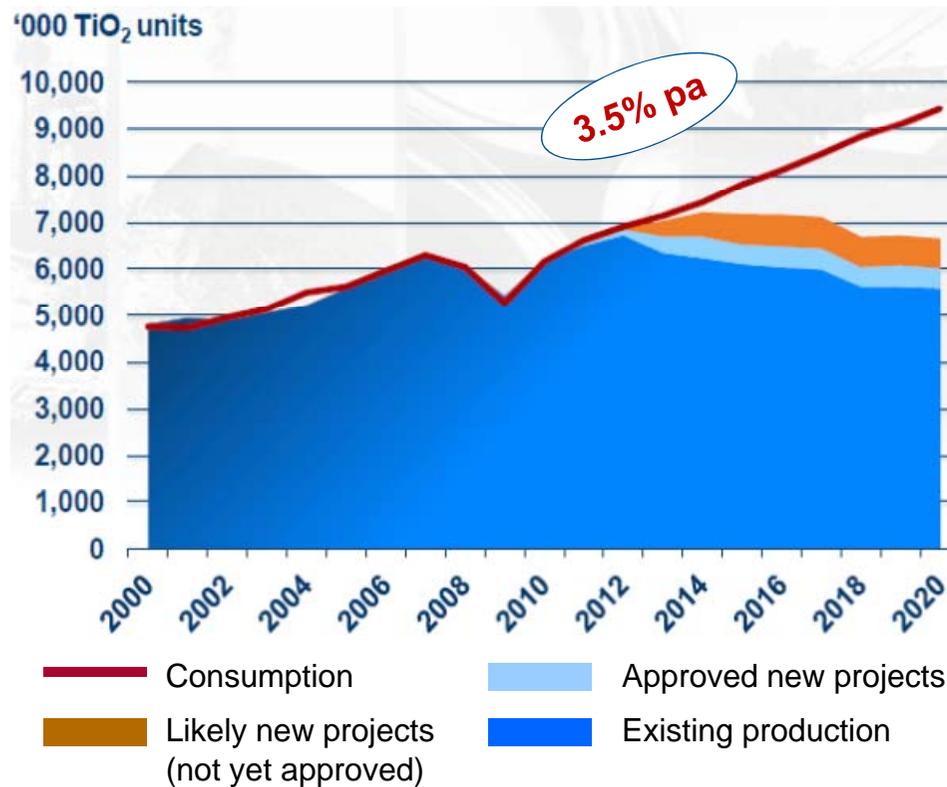
Source: ICIS Pricing

**Pricing has increased steadily over the last decade, across all regions**



## TiO<sub>2</sub> case study: There has been a lag in new extraction capacity coming on stream

### Global supply & demand outlook for Ti mineral 2000 – 2020F



- Although there is no shortage of feedstock in the ground (mostly ilmenite and rutile), the market fears an expected shortage in TiO<sub>2</sub> supply
- High current prices are bound to drive new investment in capacity – we have already seen ample evidence of this, particularly in China



Source: TZMI

## TiO<sub>2</sub> case study: We are actively working to both increase security of supply and reduce dependence

Sourcing	Research & Development
<ul style="list-style-type: none"><li>• Leveraging strong relationships with major suppliers, including the emerging suppliers in China</li><li>• Maintaining a safety margin of stock</li><li>• Partnering with China-based Guangxi CAVA Titanium Industry to manufacture and distribute TiO<sub>2</sub><ul style="list-style-type: none"><li>• With this deal a new TiO<sub>2</sub> facility will be developed in Qinzhou with a production capacity of 100,000 tons p.a., slated to begin operation in 2014</li><li>• Further guarantees security of supply for the Asian market</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Using our formulation science expertise and our high-throughput experimentation capability to reduce our TiO<sub>2</sub> dependence in 3 ways:<ul style="list-style-type: none"><li>• Using existing replacement technology</li><li>• Working with key suppliers to develop new technologies</li><li>• Increasing efficiency of use through formulation improvements</li></ul></li><li>• Combined, these initiatives mean we can reduce our total TiO<sub>2</sub> usage while maintaining cost efficiency and product attributes</li></ul>



## Renewable raw materials in action

### Products & on-going product development

- Dissolvine GL – Functional Chemicals



- Hybrid Polymers - Surface Chemistry



- Sustainable Latexes – Decorative Paints



---

# Summary

---

## Innovation is key to sustainability

- The RD&I strategy is focused on Big R + D and having the right resources in our growing markets
- Around 60% of our overall RD&I funding is directed at sustainability related initiatives & 90% of our key programs are focused on eco-premium solutions
- Eco-premium solutions give us a competitive edge and superior growth rates compared to other products
- Raw material innovations will bring relief in a resource- constrained world and will give us a competitive edge

**As the leader in our industry, we have a unique competitive edge in both innovation and sustainability**



# Sustainability and long-term shareholder value go hand in hand

**FIGURE 3: SUSTAINABILITY CAN OUTPERFORM**

(Cumulative Log Outperformance in %)

Source: SAM



Source: SAM (Sustainability Asset Management)



---

## Safe Harbor Statement

---

*This presentation contains statements which address such key issues as AkzoNobel's growth strategy, future financial results, market positions, product development, products in the pipeline, and product approvals. Such statements should be carefully considered, and it should be understood that many factors could cause forecasted and actual results to differ from these statements. These factors include, but are not limited to, price fluctuations, currency fluctuations, developments in raw material and personnel costs, pensions, physical and environmental risks, legal issues, and legislative, fiscal, and other regulatory measures. Stated competitive positions are based on management estimates supported by information provided by specialized external agencies. For a more comprehensive discussion of the risk factors affecting our business please see our latest Annual Report, a copy of which can be found on the company's corporate website [www.akzonobel.com](http://www.akzonobel.com).*



---

# Appendix: Examples of recent innovations

---

## Recent innovations

### Protective Coatings – Interchar® 1120 Intumescent Coating

A water based Intumescent coating for on-site application

#### Key Features

- Reacts in the presence of intense heat to form an insulating layer
- Extend structural integrity for up to 4 hours
- Applied easily on-site during construction

#### Customer Benefits

- Ensures building is sustainable, during construction and occupation
- Compliant with VOC regulations

#### Growth potential

- Sustainable, “green” building becoming increasingly important in high growth areas such as China and India
- Launched in the UK, Europe and China, soon in the United-States



# Pipeline 2011

## Powder Coatings – LAT Pipe Coating

In-situ powder coating of pipe joints made possible

### Key Features

- Lower Application Temperature (LAT) reduces pre-heating temperature from 230°C to 180°C
- Makes in-field coating of pipe joints with powder coatings an economic proposition



### Customer Benefits

- Lower temperature cure will result in energy savings for customers
- Powder coated field joints offer better protection than current alternatives

### Growth Potential

- Following successful trialing, product launch will occur in late 2011
- Immediate potential sale for coating 37,000 joints on a 225 km pipeline
- Allows penetration of new markets for single layer fusion bonded epoxies: e.g. higher grade steels, sensitive to temperatures above 200°C



## Recent innovations Performance Coatings - Sikkens Autosurfacer UV

An energy & material saving innovation for the automotive refinish market

### Key application features

- 50% less energy consumption
- 2 coats instead of 3
- Extremely short drying times
- Reduced process time



### Benefits for body-shop owners

- Less paint consumption
- Increased throughput
- Reduced labor and energy costs

### Strengthens market position by

- Completing our UV-cure system offering



## Recent innovations

### Powder Coatings - Interpon A 5000

**First full-body monocoat powder coating used on a passenger vehicle in Europe**

#### Key Features

- Unique matt black textured finish, developed with OEM stylists
- A high performance system with unique environmental advantages
- AkzoNobel supply both powder coatings and plastic components matching paint system through AAC

#### Customer Benefits

- Fewer process steps reduces both complexity and energy consumption
- Improved environmental footprint

#### Growth Potential

- Commercial launch by PSA is under discussion following successful trials with prototype vehicle
- Potential penetration of the automotive body-shell market
- Innovative design options open up for automotive manufacturers



## Recent innovations

### Specialty Chemicals – High Filler Concept

An energy & material saving innovation for the pulp & paper industry

#### Features

- Replaces tree fiber with non-wood filler
- De-watering/retention system using novel on-line treatment of fillers
- Cost of filler up to 10x lower than fiber



#### Customer benefits

- ~10% less tree fiber to purchase
- up to 50% lower energy for drying

#### Growth potential

- Sales to customer higher than standard papermaking additives
- Growth potential in both high-growth and mature markets
- Of interest to all fine paper producers



## Recent innovations

### Surface Chemistry - STRUCTURE<sup>®</sup> CEL Polymers

#### Naturally-derived rheology control polymers

#### Features

- Thicken and texturize shampoos, conditioners, styling products and skin care systems
- Enhance aesthetic properties in cleansing and conditioning products
- Use of coatings chemistry in personal care applications

#### Customer Benefits

- Thicken personal care products more naturally
- Attractive cost in use
- Performance equivalent to synthetic benchmarks

#### Growth Potential

- Launched April 2011
- First sales to customers in US and Europe



**STR**  **CTURE**<sup>™</sup>  
RHEOLOGY MODIFIERS



# Recent innovations

## Surface Chemistry - Recentia TP™

### Zeta Fraction™ Technology

#### Features

- Based on Tanacetum Parthenium (Feverfew) leaf/flower/stem juice – a safe and efficacious sustainable bio-active material
- Process isolates active components from living plant using patented solvent-free electrokinetic (zeta) potential fractionating technology
- No chemical modifications



#### Customer Benefits

- Effectively diminish multiple skin irritant pathways
- Potent antioxidant activity
- **Growth Potential**
- Launched in US by J&J in 2009, Launched in Europe in multiple brands & applications in 2011
- Non-exclusive fraction; new promotional channels under evaluation



## Recent innovations

### Surface Chemistry – Hybrid polymers

#### Used in cleaning and personal care applications

##### Key features

- Advantages include: reliability of supply, sustainability and cost
- Biodegradable and environmentally friendly

##### Growth potential

- Major players in consumer cleaning markets showing interest
- Biggest opportunity is in laundry and the second in automatic dishwasher detergents

##### Customer benefits

- Cut back on CO<sub>2</sub> emissions
- Improving their green credentials



# Recent innovations

## Functional Chemicals - Continuous Initiator Dosing

Growing AkzoNobel's position in the PVC production industry

### Key Features

- Patented technology for continuous dosing of fast peroxide catalyst in suspension polymerization of VCM

### Customer Benefits

- Faster reaction time improves reactor output by 20-40%
- Improved s-PVC product quality

### Growth potential

- 5 CiD technology licenses granted in Europe; more in pipeline
- First license granted in Americas
- Increased sales of Trignox® initiator
- Potential for development of fully continuous s-PVC polymerization process (patent filed)



## Recent innovations

### Industrial Chemicals – Meso tartrate (mTA)

The next **green** generation anti-caking agent for salt

#### Key Features

- Fully biodegradable and safe
- Superior performance in membrane electrolysis chlorine production
- Full dosing & application technology package



#### Customer Benefits

- 5% lower power consumption in  $\text{Cl}_2$  production
- Increased membrane and electrode lifetimes
- Explosive  $\text{NCl}_3$  formation risk eliminated

#### Growth potential

- Successful launch into the European market
- Being trialed in China – a 28M tonne/annum vacuum salt market
- Extension into de-icing and edible salt applications



## Recent innovations

### Decorative Paints - Dulux Weathershield (SunReflect™ & Keep Cool™)

#### Solar reflectance feature

- Ordinary paints absorb heat—new pigment technology reflects more of the solar, without affecting the color.
- Increased reflectance reduces internal temperatures by up to 5°C.

#### Customer benefits

- Savings of up to 15% on the energy used for air conditioning
- Available across 60% of the color range

#### Growth potential

- SunReflect™ launched in India and Keep Cool™ in SEAP.
- Roll-outs planned in similar climates.



Dulux Weathershield



# Recent innovations

## Decorative Paints – Discovery\* Tinting Machine

An automatic tinting machine at a breakthrough entry level price

### Key Features

- Low cost automatic color tinting machine
- Innovative design for easy maintenance
- Provides the same color range & accuracy as conventional in-store tinting systems

### Customer Benefits

- Extends retailers' color offers and enhances their ability to up-trade, thereby improving their profitability
- Offers improved competitive advantage for retailers whilst delivering strong returns on investment

### Growth potential

- Underpins AkzoNobel's color leadership by allowing us to be the first to offer a wide range of colors accurately delivered across many new geographies
- Potential to drive distribution across developing markets into smaller cities and rural areas
- Roll-out on-going in India, Turkey and SE Asia



\* Discovery is a joint development between AkzoNobel and CPS Color



## Recent innovations

### Decorative Paints – Dulux Color Click™

Helping consumers choose designer color schemes online



#### Key Features

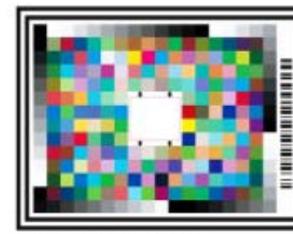
- When used with a digital camera the unique **Color Frame™** card ensures match with home furnishings, or any other objects you choose
- Easy access to a wide range of features on our websites to help with color choices

#### Customer benefits

- Expert advice on colors that go
- Accurate and consistent match to any target color you choose to capture with your digital camera

#### Growth potential

- Successfully launched with Dulux in the UK and Ireland
- Global roll-out planned for this year with our leading brands



## Recent innovations

### Decorative Paints – Sikkens EcoSure

An eco-friendly product range, supporting a fully integrated sustainability concept for the professional market

#### Key Features

- A full range of interior and exterior wall, trim and woodcare products
- Optimal balance between low environmental impact, high quality & total lifecycle footprint
- Minimized VOC (zero where possible) and low embodied carbon

#### Customer Benefits

- All products meet the criteria of the European Ecolabel and offer at least one additional eco-benefit (identified by the eco-droplet on the can for easy recognition)
- Similar application characteristics as alternative solvent-based products

#### Growth potential

- Full range launched in the Netherlands and Belgium; roll-out elsewhere in Europe in progress
- Further additions to the range expected from the end of 2012 onwards

