BASF’s Coatings Division: Focusing on growth and value

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President
Coatings Division

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BASF’s Coatings Division: Focusing on growth and value

BASF Group sales 2012

- Performance Products: 22%
- Ag. Solutions: 6%
- Chemicals: 25%
- Functional Materials & Solutions: 24%
- Coatings: 4%
- Oil & Gas: 18%
- Other: 5%

€72.1 billion
1 | BASF – a leading player in coatings

2 | Strategic focus on profitable growth
What are coatings used for?

- Protection
- Color
BASF’s Coatings Division: Focused on attractive market segments

Data source: BASF internal data

* Coil coatings Europe

** Brazil

*** CAGR is calculated from 0.65 in 2012 to 0.72 in 2015
BASF’s Coatings Division: Focused on key industries

- **OEM coatings**: Total coating and application solutions for automotive OEMs and tier suppliers
- **R efinish coatings**: Coating solutions and services for the automotive refinish and aftermarket
- **Decorative paints**: Decorative solutions for interior and exterior use in buildings (Suvinil®)
- **Industrial coatings**: Coil coatings for steel and aluminum, specialty coatings various industries (e.g. wind turbines)
Global presence brings customer proximity

Manufacturing sites
- North America
- South America
- Europe
- South Africa
- Asia Pacific

R&D centers
Balanced sales with a focus on growing markets and segments

By industry 2012

- Industrial coatings: 8%
- Decorative paints: 21%
- Refinish coatings: 22%
- OEM coatings: 49%

€3.0 billion

By region 2012

- Asia: 19%
- South America, Africa & M.E: 25%
- Europe: 42%
- North America: 14%

€3.0 billion

~ 45% of sales in emerging markets
Global player in automotive OEM and refinish coatings markets

**OEM coatings market in 2012**
- BASF: 20%
- Nippon Paint
- Kansai Paint
- PPG
- Other

**€7.3 billion**

**Refinish coatings market in 2012**
- BASF: 12%
- Axalta
- PPG
- Other

**€6.9 billion**

**BASF in OEM coatings**
- Globally # 2
- China # 1
- Leader in topcoats and process solutions
- Supplier to all major OEMs

**BASF in refinish coatings**
- Globally # 3
- Qualified by all major OEMs
- Focus on profitable premium segment
- Pioneer in waterborne technology

Source: BASF
Focus on attractive markets in decorative paints and industrial coatings

**Decorative paints market Brazil 2012**
- BASF: 40%
- PPG
- Sherwin-Williams
- Other

**Coil coatings market Europe 2012**
- Valspar: 19%
- PPG
- Other
- Beckers
- BASF

**BASF in decorative paints**
- Brazil #1
- Brand ‘Suvinil’ is the best known and desired decorative paint brand in Brazil
- >80% refurbishment

**BASF in coil coatings**
- Coil Europe #3
- Coil Russia #1
- Supplier to major steel and aluminum producers

Source: BASF
Coatings – consistent cash generator for BASF Group

Earned premium on cost capital every year

Sales* (in € billion)
1 | BASF – a leading player in coatings

2 | Strategic focus on profitable growth
We aim to grow above the market

Consistently outperforming coatings market growth

- Strengthen leading positions and expand in selected regions and segments
- Enhance and broaden innovation platform
- Leverage operational excellence
We aim to grow above the market

- Strengthen leading positions and expand in selected regions and segments
  - Strengthen footprint in key growth markets (>50% of future capex in Asia)
  - Strengthen our partnerships with fast growing OEMs
  - Develop new growth segments (e.g. value-for-money refinish, wind energy)

- Enhance and broaden innovation platform
  - Drive eco-efficient technologies (e.g. integrated, waterborne processes)
  - Strengthen and globalize R&D capabilities (30% of R&D in Asia by 2020)
  - Leverage BASF know-how Verbund (40% of R&D beyond core technologies)

- Leverage operational excellence
  - Coatings Excellence program launched in 2013 (>€100 million add. value by 2017)
  - Major levers in manufacturing, supply chain and procurement identified
  - Further optimization of BASF technology portfolio (platform concept)
Steadily growing and profitable business

**Growth targets**

- Deliver sales growth above market
- Achieve coatings sales of >€3.5 billion by 2015
- Steadily increase operating profitability

**Coatings sales**

(in € billion)

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3.0</td>
</tr>
<tr>
<td>2015</td>
<td>&gt;3.5</td>
</tr>
</tbody>
</table>

BASF to grow at ~6% p.a.

Expected market growth of ~4% p.a.
1 | BASF – a leading player in coatings

2 | Strategic focus on profitable growth

2a | OEM coatings
Global automotive production grows above historic rates driven by emerging markets

Cars/1000 people in 2012

Cars on the road in China would grow by ~120 million

Source: LMCA
OEM production in emerging markets will double
Coatings – smart combination of different functional layers

Major trends in the coatings industry:

- Reduce amount of layers = „Integrated process“
- Environmentally friendly products e.g. less solvents, chromate-free
What makes BASF successful in Automotive OEM coatings?

### Key success factors

- **Process innovator** – BASF is the global leader in integrated processes

- **Product innovator** – Competence in all layers: BASF is the global leader in topcoats (basecoat and clearcoat)

- **Partnership with customers** – From design to assembly
Process innovator
Our invention the “Integrated process” is an industry trend

Key facts
- Pioneer with Daimler (1997)
- BASF is the leader in integrated processes
- BASF targets > 30% market share by 2015

Customer benefits
- Reduction of capital investment
- Energy & material savings
- Lower environmental footprint
Topcoats (basecoat and clearcoat) are the most valuable layers on a car body.

<table>
<thead>
<tr>
<th>Layer</th>
<th>Avg. usage per car (by value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearcoat</td>
<td>20%</td>
</tr>
<tr>
<td>Basecoat</td>
<td>43%</td>
</tr>
<tr>
<td>Primer</td>
<td>14%</td>
</tr>
<tr>
<td>E-coat</td>
<td>23%</td>
</tr>
</tbody>
</table>

- **iGloss**: Benchmark in protection
- **XColors**: Innovative color trends
- **Cathoguard 800/900**: Environmentally friendly
BASF Coatings – driving sustainability
Process and product innovations

Significant energy savings

Integrated processes save up to 17% of the total energy required for car production

VOC* in kg/car (average)

Waterbased coatings process reduces VOC by 66%

* VOC = Volatile Organic Compounds
Proximity to the customer
Close relationship from concept to market with Hyundai

Key facts

- Early involvement in design & development of the Hyundai concept car HED-7
- R&D center in Korea
- Support of global customer expansion activities
- BASF’s Coatings Division gained business at Hyundai plants in the U.S., Russia and Brazil
- By 2015, our sales with Hyundai are expected to triple
Partnership with key OEM customers

‘Smartforvision’ Technology competencies combined with customer know-how

- Lightweight tridion cell
- High performance foams
- Infrared-reflective film
- Infrared-reflective coating
- Solar roof with transparent organic solar panels and OLED modules
- E-textiles
- Multifunctional seat
- All-plastic wheel

Daimler & BASF concept car ‘Smartforvision’
Growth opportunities
BASF’s Coatings Division is well-positioned in BRIC countries

**BRIC production forecast**
(Light vehicles in million)

<table>
<thead>
<tr>
<th>Year</th>
<th>India</th>
<th>China</th>
<th>Russia</th>
<th>Brazil</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CAGR 11% p.a.
+6%
+10%
+13%
+7%

**Key facts**

- Market leader in China and BRIC
- Pioneer in China: since 1997; new OEM coatings production to start in 2014
- China growth fueled by investment in integrated processes. Until 2015 >16 new OEM plants will require this technology
- Objective: grow our sales share from BRIC countries to >35% until 2015

Source: LMCA
1 | BASF – a leading player in coatings

2 | Strategic focus on profitable growth

2b | Refinish coatings
Increasing number of cars drive refinish coatings market

Global number of vehicles (in million units)

<table>
<thead>
<tr>
<th>Year</th>
<th>North America</th>
<th>Europe</th>
<th>South America</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>950</td>
<td>400</td>
<td>100</td>
</tr>
<tr>
<td>2015</td>
<td>1,050</td>
<td>400</td>
<td>200</td>
</tr>
</tbody>
</table>

Refinish coatings market:

- Increase of vehicle park and mileage driven worldwide
- Increased environmental awareness and regulations:
  - VOC regulations are stringent in mature markets
    - Western Europe
  - Environmental awareness is growing in the Americas and China
- Increasingly global product quality and service standards

Source: JD Power
Premium A segment makes up 60% of automotive refinish market

Market share of segments in refinish coatings 2012 (in %)

- **A** segment: Car age < 5 years, OEM and insurer driven
  - Volume: 30
  - Value: 60

- **B** segment: Car age 5-10 years, insurer and owner driven
  - Volume: 40
  - Value: 20

- **C** segment: Car age > 10 years, owner driven
  - Volume: 20
  - Value: 20
What makes BASF successful in Refinish coatings?

Automotive refinish coatings

Globally #3

Key success factors

- **Process innovation** – leader in the integrated process
- **Product innovation** – leader in waterborne technology
- **Premium brands and distribution network**
Process Innovator
Integrated process in refinish

Key facts
- Market launch of direct-to-metal (DTM) sealer in 2011
- Market potential for refinish integrated system until 2020 is >€100 million

Customer benefit
- Process time saving of up to 50% up to 15% material consumption savings
### Key facts

- **BASF Refinish Coatings** is pioneer in waterborne technology
- Current roll-out of waterborne basecoat in North America
- Foster introduction in BRIC Countries
- In 2012 waterborne products accounted for >30% of BASF Refinish Coatings total sales
- Today already >50% of basecoat sales in China are waterborne
- In 2015 we expect to achieve >35% of BASF Refinish Coatings sales from waterborne products
- Increasing regulations worldwide push demand for waterborne technologies

### Rising share of BASF Refinish Coatings waterborne sales

<table>
<thead>
<tr>
<th>Year</th>
<th>BASF Refinish Coatings waterborne products sales</th>
<th>BASF Refinish Coatings total sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>15%</td>
<td>100%</td>
</tr>
<tr>
<td>2010</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td>2015</td>
<td>35%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Premium brands
One premium brand by country

In the market since 1898

Premium brand primarily sold in:
- Australia, BRIC, Europe, South Africa

In the market since 1919

Premium brand primarily sold in:
- North America, Europe, Japan
Growth opportunities
Targeting new markets with Value for Money brands

**Value for money brand sold in Mexico**

**Value for money brand sold in Australia, China, South Africa, Turkey**

**Key facts**

- Value-for-money brand
  - Provides access to new markets for BASF Refinish Coatings
  - Strengthens our dealers’ market position and dealer network
  - Facilitates additional sales of BASF Refinish Coatings premium brands

- Market potential ~€1.3 billion

- Target: Value-for-money brands will account for >10% of BASF Refinish Coatings sales in 2015
1 | BASF – a leading player in coatings

2 | Strategic focus on profitable growth

2c | Decorative paints
Market trends

- Increasing GDP/capita drives demand for decoration
- Trend towards fast & easy application due to increasing labor costs (premium products)
- Increasing importance of environmentally friendly products (e.g. low VOC)
- Innovation trends are driven by color and functionality (e.g. anti-microbial, anti-dirt)
What makes BASF successful in decorative paints?

**Key success factors**

- Premium brand
- Extensive distribution network
- Product innovation
Premium brand and distribution network

- “Suvinil” brand is the best known and desired decorative paint brand in Brazil
  - Rated as 1st most innovative brand in Brazil*
- With about 35,000 points of sale BASF Decorative Paints reaches 90% of the Brazilian market
- BASF Decorative Paints is market leader with 50% market share in the premium segment

* Survey conducted by Época Negócios magazine together with A.T. Kearney
Product innovation

Can-spraying

- Multi-purpose spray for decoration, repair and professional use
- Launched in 2011
- Market potential: ~€130 million sales in 2015

Antibacterial paints

- Paint reduces up to 99% of bacteria on the walls – for public buildings and hospitals
- BASF set regulatory standards with authorities
- Launched in 2011
- Market potential €20 million sales in 2015
1 | BASF – a leading player in coatings

2 | Strategic focus on profitable growth

2d | Industrial coatings
What makes BASF successful in the industrial coatings market?

Coil coatings

Globally # 3

Innovative coatings solutions

Key success factors:

- **Process innovator** – integrated processes
- **Product innovator** – environmentally friendly technologies
- **Strong presence in growth markets**
Growth opportunity in Russia

Russia is the biggest and fastest growing coil market in Europe

- BASF active with coil coatings in Russia since 1985
- Long-term relationship with Russian steel producers through intensive technical service on-site
- BASF is market leader with ~40% market share
BASF’s Coatings Division targets 2015

Operational targets

- **OEM:**
  - Remain No. 1 in topcoats and integrated process
  - Grow sales share in BRIC countries by >20 percent

- **Refinish:**
  - Expand leading position in premium waterborne technologies
  - Grow in Value for Money segment with focus on Asia

- **Decorative paints:**
  - Maintain market leadership in Brazil
  - Further strengthen distribution channels

- **Industrial coatings:**
  - Grow coil coatings market share in core markets (e.g. Russia)
  - Develop an attractive specialty coatings portfolio globally
BASF’s Coatings Division targets 2015

Financial targets

- Grow sales to more than 3.5 billion Euros by 2015
- Steadily increase operating profitability
- Continue to generate a substantial premium on cost of capital
Leveraging on BASF’s Verbund strategy

R&D and innovation

- Leveraging BASF corporate R&D
  
  ‘iGloss’ a new industry benchmark in scratch resistance

- Joint innovation with BASF Plastics division
  
  ‘Painted fuel door’ >50% cost saving vs. the fuel door painted in an extra line

Global business network

- ~13% of BASF Group sales in 2012 was to the automotive industry

- Global and cross-divisional approach for key accounts in automotive and construction

- Door opener for becoming supplier to Hyundai

Raw material procurement

- Leveraging BASF’s global procurement to bundle buying power for outsourced raw materials (e.g. epoxy resins)
Focusing on core businesses
Through optimization of production and R&D footprint

Investments
~€670 million*

2007
- OEM Pavlovsk Posad, Russia***
- Expansion Mangalore, India

2008
- Decorative Paints
  - Expansion Demarchi, Brazil
- OEM
  - Expansion Würzburg and Münster, Germany

2009
- OEM
  - Expansion Tultitlan, Mexico and Windsor, Canada
- Industrial Coatings
  - Verbania, Italy****
  - Ako, Japan****

2010
- Refinish
  - Tech. Center Korea***, Thailand***, India and China
- Industrial Coatings
  - Burago, Italy****
- Refinish
  - Belvidere, USA

2011-13
- OEM
  - Basecoat Plant, Resin Plant China

2014-15
- Closures
  ~€60 million**

*Total capex 2007-2015
**Reduction of operating fixed assets
***new site
****sold
Focusing on core businesses
Through active portfolio optimization

Acquisitions
~€50 million*

<table>
<thead>
<tr>
<th>Year</th>
<th>Acquisitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>OEM: Yasar, Turkey</td>
</tr>
<tr>
<td>2009</td>
<td>Refinish: Dealers in France and Portugal</td>
</tr>
<tr>
<td></td>
<td>OEM: Eason Paint, Thailand</td>
</tr>
<tr>
<td>2010</td>
<td>Refinish: Dealer in Italy</td>
</tr>
<tr>
<td>2011</td>
<td>Refinish: Dealers in Russia, South Africa, Italy</td>
</tr>
<tr>
<td>2012</td>
<td>Decorative Paints: Relius Decorative Paints, Europe</td>
</tr>
</tbody>
</table>

Divestitures
~€180 million**

<table>
<thead>
<tr>
<th>Year</th>
<th>Divestitures</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Industrial Coatings: Powder Coatings, Italy</td>
</tr>
<tr>
<td></td>
<td>Tolling Marine Coatings, Japan</td>
</tr>
<tr>
<td>2011</td>
<td>Industrial Coatings: Liquid Industrial Coatings, Italy</td>
</tr>
</tbody>
</table>

*Net sales acquired
**Net sales divested
Significant investments in emerging markets

>50% of investments until 2020 will be in Asia Pacific

2014/2015: New basecoat & resin plants China

2012: New Technical Center Thailand

2012: R&D Campus Shanghai

2012: New Laboratory Mexico
Unit growth expected to further accelerate

Global annual car production (in million)

CAGR 3%

+40 million cars in last 30 years

CAGR ~5%

+40 million cars in next 10 years

Source: LMCA
Emerging country OEMs will grow faster…

- Chinese and Indian OEMs will gain importance as regional players.
- The main part of the future growth will come from mature global OEMs.

Global vehicle production (in million units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Emerging country OEMs</th>
<th>Established OEMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>82</td>
<td>15</td>
</tr>
<tr>
<td>2020</td>
<td>122</td>
<td>27</td>
</tr>
</tbody>
</table>

- 5.1% p.a.
- 7.6%
- 4.5%

Source: LMCA
...but established OEMs will maintain lead with more than \( \frac{3}{4} \) of total vehicle production in 2020

<table>
<thead>
<tr>
<th>Million units</th>
<th>2012</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volkswagen</td>
<td>9.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Toyota</td>
<td>9.6</td>
<td>2.4</td>
</tr>
<tr>
<td>Renault/Nissan</td>
<td>8.0</td>
<td>3.0</td>
</tr>
<tr>
<td>GM</td>
<td>8.0</td>
<td>2.3</td>
</tr>
<tr>
<td>Hyundai</td>
<td>7.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Ford</td>
<td>5.6</td>
<td>2.0</td>
</tr>
<tr>
<td>Honda</td>
<td>4.0</td>
<td>2.1</td>
</tr>
<tr>
<td>BMW</td>
<td>4.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Fiat</td>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Mazda</td>
<td>3.0</td>
<td>1.7</td>
</tr>
<tr>
<td>Suzuki</td>
<td>1.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Kia</td>
<td>1.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Daimler</td>
<td>1.8</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Source: LMCA
Chemical market for automotive will almost double

Chemical market for automotive (in billion €)

- 2011: 65 billion €
- 2015*: 82 billion €
- 2020*: 111 billion €

~6% p.a.

* Precious metals constant at 2011 prices
Source: LMCA/BCG/BASF
BASF – a leading partner to the automotive industry

- BASF sales in 2012 to the automotive industry are €9.5* billion
- No. 1 chemical supplier to the automotive sector
  - No. 1 mobile emission catalyst supplier
  - No. 1 in topcoats for exterior coatings
  - No. 1 in plastic solutions for lightweight
- Frontrunner in developing new solutions for the cars of tomorrow
  - R&D spending for automotive in 2012 ~€200 million
- Preferred development partner for leading OEMs

* Includes Precious Metals
Acting as one company BASF has the broadest offering to automotive industry

- Coatings, Pigments
- Headliner
- Dashboard
- Door side part
- ABS cable
- Window encapsulation
- Air intake manifold, charge-air lines
- Battery materials
- Lubricants, engine coolants
- Engine encapsulation
- Air-filter housing
- Oil pan
- Spoiler, lower bumper stiffener
- Brake fluids
- Steering wheel
- Headrests
- Roof module
- Hatrack
- Catalysts
- Fuel additives
- Carpet, Floor mats
- Seats, handrests, armrests
- Cross beam
- Wheel rim
- Suspension: Jounce bumper, Top mount, Coil Spring isolator
BASF is the No. 1 chemical partner for the automotive industry

**Top 100 suppliers Automotive (2011)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Sales (in € billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bosch</td>
<td>30.4</td>
</tr>
<tr>
<td>2</td>
<td>Continental</td>
<td>29.1</td>
</tr>
<tr>
<td>17</td>
<td>BASF</td>
<td>9.5</td>
</tr>
<tr>
<td>41</td>
<td>DuPont</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>PPG Industries</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Lanxess</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Bayer</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>Evonik</td>
<td></td>
</tr>
</tbody>
</table>

**Supplier ranking**

Confirmed by three leading automotive industry publications ‘BASF is the No. 1 chemical partner’:

- **Automotive News**
- **Automobilwoche**
- **Automobilproduktion**

Source: Automobilproduktion, July 24, 2012
BASF’s offering is an unparalleled fit to the whole automotive value chain.