Welcome & Strategy
# The agenda

**Capital Markets Day Covestro, Düsseldorf / Leverkusen**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Note</th>
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<tbody>
<tr>
<td>08:00</td>
<td>Welcome &amp; Strategy</td>
<td>Patrick Thomas, CEO</td>
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<tr>
<td>08:15</td>
<td>Coatings, Adhesives, Specialties (CAS) and Q&amp;A</td>
<td>Daniel Meyer, Head of Coatings, Adhesives, Specialties business unit</td>
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<tr>
<td>09:15</td>
<td>Polyurethanes (PUR) and Q&amp;A</td>
<td>Markus Steilemann, Head of Polyurethanes business unit, Board member</td>
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<td>10:15</td>
<td>Coffee break</td>
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<td>10:35</td>
<td>Polycarbonates (PCS) and Q&amp;A</td>
<td>Michelle Jou, Head of Polycarbonates business unit</td>
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<td>11:00</td>
<td>Financial Performance</td>
<td>Frank H. Lutz, CFO</td>
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<td>11:40</td>
<td>Key Investment Highlights</td>
<td>Patrick Thomas, CEO</td>
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<td>11:50</td>
<td>Q&amp;A</td>
<td>All Speakers</td>
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<td>12:30</td>
<td>Lunch break</td>
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<td>13:30</td>
<td>Shuttle to Covestro, Leverkusen</td>
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<td>14:30</td>
<td><strong>PUR / PCS Innovation &amp; Application Centers</strong></td>
<td>Leverkusen</td>
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<td>16:00</td>
<td>Shuttle to Airport DUS</td>
<td>Shuttle</td>
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*Thursday, 12th May 2016*
The presentation team

Patrick Thomas
CEO

Daniel Meyer
Head of Coatings, Adhesives, Specialties business unit

Dr. Markus Steilemann
Head of Polyurethanes business unit, Board member

Michelle Jou
Head of Polycarbonates business unit

Frank H. Lutz
CFO
Covestro at a glance

Inventor and leader in high-tech material solutions driven by global trends

- Leading global polymer producer in polyurethanes and its derivatives as well as polycarbonates
- Proven track record of process and product innovation, customer proximity as well as market-driven solutions
- State-of-the-art asset base with leading process technology and total production capacity of 4,800kt\(^{(a)}\) distributed across 8 world-scale production facilities in three main regions
- Backward-integration into chlorine, propylene oxide and other feedstock, aimed at sourcing critical raw materials internally with no or limited merchant market sales
- Headquartered in Leverkusen, Germany, with 15,750 employees\(^{(c)}\) globally

Key Covestro Financials:

| Key Covestro Financials: | Sales 2015A €12.1bn | Adj. EBITDA 2015A €1.6bn | Adj. EBITDA margin 2015A 13.6% |

Notes:

\(^{(a)}\) Includes total nameplate capacity for PUR and PCS in 2015A, rounded to nearest 100kt

\(^{(b)}\) based on Covestro Annual Report 2015A; EMLA = Europe, Middle East, Africa, Latin America (without Mexico); NAFTA = USA, Canada, Mexico; APAC = Asia, Pacific

\(^{(c)}\) Employees refers to full-time-equivalents (FTE), rounded to nearest 50
## Covestro business units

### Three industry-leading, structurally attractive business units

<table>
<thead>
<tr>
<th>Business Units</th>
<th>Polyurethanes (PUR)</th>
<th>Polycarbonates (PCS)</th>
<th>Coatings, Adhesives, Specialties (CAS)</th>
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<tbody>
<tr>
<td><strong>Global Position</strong>&lt;sup&gt;(a)&lt;/sup&gt;</td>
<td>Global #1 (3,470kt)</td>
<td>Joint Global #1 (1,280kt)</td>
<td>Global #1:</td>
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<td>• MDI: #2 (1,420kt)</td>
<td>• EMEA: #2 (540kt)</td>
<td>• Aliphatic isocyanate derivatives</td>
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<td>• TDI: #2 (720kt)</td>
<td>• NAFTA: #2 (230kt)</td>
<td>• Aromatic isocyanate derivatives</td>
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<td>• Polyether polyols: #2 (1,330kt)</td>
<td>• APAC: #2 (510kt)</td>
<td>• Polycarbonate dispersions</td>
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<td><strong>Sales 2015A</strong></td>
<td>€6.1bn or 50% of Covestro</td>
<td>€3.2bn or 26% of Covestro</td>
<td>€2.1bn or 17% of Covestro</td>
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<td>10.2%</td>
<td>17.7%</td>
<td>23.5%</td>
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<td><strong>Adj. EBITDA Margin 2015A</strong></td>
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<td><strong>Key Applications</strong></td>
<td>Rigid foam:</td>
<td>Flexible foam:</td>
<td>Coatings, Adhesives, Specialties:</td>
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<td>• Building insulation</td>
<td>• Furniture</td>
<td>• Surface coatings</td>
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<td>• Cold chain</td>
<td>• Bedding/mattresses</td>
<td>• Adhesives and sealants</td>
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<td>• Automotive parts</td>
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<td>• Elastomers</td>
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<td>• Specialty films</td>
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**Notes:**

(a) Based on total nameplate capacity for PCS, MDI, TDI and Polyether polyols at year-end 2015A relative to competitors as per Covestro internal estimates; for PCS: joint global leader (SABIC is the other #1); based on entire polycarbonates nameplate capacity as per Covestro internal estimates; for CAS: based on total volume in 2015A relative to competitors as per Covestro internal estimates.
Covestro is a leader across its entire portfolio and across regions

Global industry positions

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<tr>
<th>Polyurethanes</th>
<th>Polycarbonates</th>
<th>Coatings, Adhesives, Specialties</th>
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<tr>
<td>MDI</td>
<td>PC</td>
<td>Aliphatic isocyanate derivatives</td>
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<td>TDI</td>
<td>Joint #1(b)</td>
<td>Polyurethane dispersions</td>
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<td>Polyether polyols</td>
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<td>#1 in EMEA</td>
<td>#2 in EMEA</td>
<td>#1 in EMEA</td>
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<td>#2 in APAC</td>
<td>#2 in APAC</td>
<td>#1 in APAC</td>
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</tbody>
</table>

Notes: (a) Based on total nameplate capacity for MDI, TDI, Polyether polyols and PCS in 2015A relative to competitors as per Covestro internal estimates; for CAS: based on total nameplate capacity for Aliphatic isocyanate derivatives and Polyurethane dispersions in 2015A relative to competitors as per Covestro internal estimates
(b) Joint #1 position between Covestro and SABIC based on total nameplate capacity for PCS in 2015A relative to competitors as per Covestro internal estimates
Above GDP industry growth supported by global trends

Exposure to fundamental macro trends

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<thead>
<tr>
<th>Global trends</th>
<th>Needs</th>
<th>Covestro solutions</th>
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<tr>
<td>Climate change</td>
<td>• Zero emission concepts</td>
<td>• Building insulation</td>
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<td>• Low energy buildings</td>
<td>• Insulation along the cold chain</td>
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<td>Mobility</td>
<td>• Energy efficient mobility</td>
<td>• Foam mattresses and comfort solutions</td>
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<td>• Lightweight transportation</td>
<td>• Weight-saving car parts</td>
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<td>Growing population</td>
<td>• Food preservation</td>
<td>• Lightweight materials for transportation</td>
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<td>• Low cost durable goods</td>
<td>• Roofing and glazing for buildings</td>
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<td>Increasing urbanization</td>
<td>• Affordable housing</td>
<td>• Blends and composites for electronics / IT and consumer</td>
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<td>• Living comfort</td>
<td>goods</td>
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<td>• Public infrastructure</td>
<td>• High performance surfaces and coatings</td>
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Notes:
(a) Assumes global GDP CAGR 2015A – 2020E of ~3%
(b) Comprises MDI, TDI and polyether polyols
(c) Shows PU raw materials industry demand in coatings, adhesives and sealants
Source: Company information. CASE market: Orr & Boss 2014A & Covestro internal estimates with annual growth of 4% for 2015A
A common chemical backbone across all segments

Significant synergies in scale, process technology and chemical know-how

**Chemical backbone**
- Chlorine ▶ Phosgene
- Caustic soda
- Hydrochloric acid
- Services
- Propylene oxide

**Products**
- MDI
- TDI
- PCS
- CAS
- PET

**Customer industries**
- Automotive/transportation
- Construction
- Wood/furniture
- Electrical/electronics
- Chemicals
- Sports, leisure, cosmetics, health, other industries

**Synergies**
- Common assets ▶ economies of scale
- Chemical know-how
- Process technology

**Notes:**
(a) Contracts and JV activities
(b) Gas Phase Phosgenation
Covestro integrated sites in all key regions
Common backbone chemistry provides scale and synergies
Focused R&D to build and protect profitable competitive positions

Research and development strategy

1. Product R&D:  
   - PDI  
   - CO₂ polyols  
   - PCS composites

2. Process R&D:  
   - IMPACT technology  
   - Automotive interior

3. Areas of potential bolt-on acquisitions to boost R&D and business development  
   - Wind blades  
   - LED lighting  
   - Ophthalmic lenses

• Product R&D primarily in close collaboration with external partners in adjacencies, guided by stringent stage-gate processes
• Process R&D critical to maintain cost leadership position
• Areas of potential bolt-on acquisitions to boost R&D and business development
People & Planet & Profit
Covestro sustainability along the value-chain

Global trends  R&D  Raw materials  Production  Products to markets

R&D resources allocated based on benefits for:
- People
- Planet
- Profit

More sustainable procurement addressing customer needs and profit improvement:
Examples:
- C1 feedstock (e.g. CO₂)
- Bio-based feedstock (e.g. BDO\(^{(a)}\))
- Low carbon energy

- Best-in-class safety track record
- Cost efficiencies by energy efficient process

Address customer needs for more sustainable solutions (e.g. lightweight, durable, bio-based)
Examples:
- CO₂ Polyols
- INSQIN® (artificial leather)
- Desmodur® Eco (coating hardener)
- Baytherm® Microcell (insulation foam)
- Makrolon® (LED Lighting, Automotive)

Notes:
(a) BDO refers to 1,4-butanediol
(b) Number of incidents recordable after Occupational Safety & Health Administration (OSHA)-regularities per 200,000 hours worked
(c) Number of LoPC (Loss of Primary Containment) incidents per 200,000 hours worked by operational employees
Leverage industry leadership to capture growth in our industries and improve our asset and cost base

Covestro strategy

1. **Capture market growth**
   over the next years with existing world-scale assets

2. **Optimize asset footprint**
   through site consolidation, restructuring and efficiency projects

3. **Improve cost position**
   by 2019, align overall costs with best-in-class chemical industry benchmarks

4. **Protect and build profitable competitive positions**
   through focused R&D

5. **Embed sustainability**
   in every element of the strategy
Coatings, Adhesives, Specialties (CAS)
Niche enablers business focused on high-end products

CAS at a glance

- Global leading supplier of high-performance materials to the coatings and adhesives industry and other specialties (films, elastomers, textiles, medical and cosmetics)
- Inventor of and technology leader in isocyanate derivatives for coatings, adhesives, sealants and specialties
- More than 2,300 products based primarily on six monomers, serving over ten high-end industries and over 4,300 customers
- Product pricing driven by value-added to end-customer, as CAS materials are critical to the performance of the final product, but form a small proportion of the overall cost
- Market-driven innovation in close collaboration with all partners in the value chain, developing customized solutions for specific problems (“forward marketing”)
- Efficient production processes benefitting from low cost technology and integration
- Has delivered high, resilient margins and strong cash flow and returns

#1 Producer of aliphatic isocyanates\(^{(a)}\)

€2.1bn Sales

23.5% Adj. EBITDA Margin

2,300+ Products

4,300+ Customers\(^{(b)}\)

Notes:

(a) Based on total aliphatic isocyanates volume in 2015A relative to competitors as per Covestro internal estimates
(b) Includes direct customers only
Focused on selected high-value part of PU resins industry

CAS product lines

**Total PU Resins volume: 2,600kt**

- **Coatings:** 1,700kt
  - Industrial Furniture: 22%
  - Auto OEM Metal: 13%
  - Auto Refinish: 12%
  - Others: 34%

- **Adhesives:** 700kt
  - Construction: 61%
  - Automotive & Transportation: 26%
  - Others: 12%

- **Sealants:** 200kt
  - Construction: 61%
  - Automotive & Transportation: 27%
  - Others: 12%

**Notes:**
(a) Coatings, adhesives and sealants
(b) Excluding decorative coatings
(c) Volumes rounded to nearest 100kt
(d) Polyurethane dispersions

**Source:** Orr & Boss as of 7/2015, annual figures for 2014A
Managing complexity in a capex-light industry

2,300+ products derived from 6+ monomers

Raw Materials / Amines

- 4+ Monoesters
  - HDA
  - NDA
  - H₂MDA
  - IPDA

- 6+ Monomers
  - Aliphatic
    - HDI
    - IPDI
    - H₂MDI
  - Aromatic
    - NDI
    - TDI
    - MDI
  - Newly Developed
    - PDI
    - XDI

Total CAS Products

- 2,300+
  - Oligomers
    - HDI-Trimers
    - Blurets
    - Alphanates
    - IPDI-Trimers
  - Asymmetric Trimers
    - PDI-Trimers
  - NCO pre-polymer
    - TDI-TMP Adducts
  - XDI-TMP Adducts
  - Urethanes
    - Dispersions
    - TPU
  - Products based on other chemistries
    - (a)

Customers

- 4,300+
  - Coatings
  - Adhesives & Sealants
  - Elastomers
  - Specialty Films

Industries

- 10+
  - Automotive
  - Construction
  - Wood & furniture
  - Electronic
  - Packaging
  - Footwear
  - Medical
  - Textile
  - Cosmetics
  - Security

Note: (a) Including STP, PAC dispersions, PAS, PES, PC diols
Additives
Extender / Pigments
Organic solvents or water
Resins / Binders and Hardeners

CAS delivers tailored solutions and has contact to all partners in the value chain

- CAS raw materials
- Coatings and adhesives formulators
- Tier 1 manufacturers
- OEM / ODM
- End user / brands

Hardener requirements identified through interaction with all partners in the value chain

- 3-5% Additives
- 15-25% Extender / Pigments
- 20-30% Organic solvents or water
- 60-70% Resins / Binders and Hardeners

Volume share

Binders & hardeners impact performance
Factors of customers’ challenges solved by CAS products

Multiple application conditions affect the choice of product

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Environment</th>
<th>Industry specifics</th>
<th>Application method</th>
<th>Curing</th>
<th>CAS Portfolio</th>
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<tbody>
<tr>
<td>Concrete</td>
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8+ x 72+ x 864+ x 4,320+ x 21,600+ → Total CAS Products 2,300+

Note: (a) Including STP, PAC dispersions, PAS, PES, PC diols
Example: Refinish

Even within one application, conditions can vary
Example: Refinish

Even within one application, conditions can vary

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<td>Packaging</td>
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<td>Cosmetics</td>
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<td></td>
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<td>Textile</td>
<td>...</td>
<td>...</td>
<td>Products based on other chemistries(a)</td>
</tr>
</tbody>
</table>

8+ x 72+ x 864+ x 4,320+ x 21,600+ → Total CAS Products 2,300+

Note: (a) Including STP, PAC dispersions, PAS, PES, PC diols
Example: Sport Shoes
Even within one application, performance requirements can vary
Example: Sport Shoes

Even within one application, performance requirements can vary

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Environment</th>
<th>Industry specifics</th>
<th>Application method</th>
<th>Curing</th>
<th>CAS Portfolio</th>
</tr>
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<tbody>
<tr>
<td>Concrete</td>
<td>Abrasive</td>
<td>Automotive</td>
<td>Brush</td>
<td>Crosslinking</td>
<td>Oligomers</td>
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<tr>
<td>Glass</td>
<td>Alternating</td>
<td>Aviation</td>
<td>Curtain</td>
<td>Air-dry</td>
<td>HDI-Trimers</td>
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<tr>
<td>Metal</td>
<td>Cold</td>
<td>Construction</td>
<td>Dip</td>
<td>Electro beam</td>
<td>Aliphatics</td>
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<td>Plastic</td>
<td>Dry</td>
<td>Electronics</td>
<td>Roll</td>
<td>Infrared dry</td>
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<td>Spray</td>
<td>Oven-dry</td>
<td>Asymmetric</td>
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<td>Hot</td>
<td>Footwear</td>
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<td>UV curing</td>
<td>Trimers</td>
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<td>Hair</td>
<td>Humid</td>
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<td>Heat-dry</td>
<td>TDI-TMP</td>
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<tr>
<td>Skin</td>
<td>Interior</td>
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<td>Adducts</td>
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<td>Resistant</td>
<td>Infrastructure</td>
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<td>Urethanes</td>
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<td>Marine</td>
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<td>Wood</td>
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<td>NCO pre-polymers</td>
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<tr>
<td></td>
<td></td>
<td>Hair</td>
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<td>TDI-TMP Adducts</td>
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<tr>
<td></td>
<td></td>
<td>Skin</td>
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<td>IPDI-TMP Adducts</td>
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<td></td>
<td></td>
<td>TDI-TMP Adducts</td>
</tr>
</tbody>
</table>

8+ x 72+ x 864+ x 4,320+ x 21,600+ → Total CAS Products 2,300+

Note: (a) Including STP, PAC dispersions, PAS, PES, PC diols
Construction: PASQUICK™
Inventing productivity win

The Challenge

Construction market strives for cost and time savings. Current standard is three-layer-technology with 18-24 hours curing time.

Our Solution

PASQUICK™ enhances productivity as a two-layer-technology, reducing the number of layers and speeding up the drying process to 4-6 hours.

Success Factors

- **Accelerates applying process** at the applicator through fewer coating layers
- **Faster curing** without compromising long-term performance
- **Joint marketing campaign** with direct customers to leverage market potential

Metal
Alternating
Construction
Brush / Spray
Crosslinking (2C)
Polyaspartic
Automotive industry focuses on reducing CO$_2$ emissions by using lighter materials and looking for more efficient production processes.

Desmodur® blulogiq is the first technology that enables faster curing at low temperatures for coating of plastic parts and coating of multi-material cars at temperatures below 100 °C.

- Higher efficiency for automotive coating processes
- Up to 30% faster curing for plastic parts like bumpers, mirror housings or tailgates
- Reduction of energy consumption up to 15% and CO$_2$-emissions up to 10% compared to the best OEM metal coating process
Automotive: Desmodur® eco N 7300

Inventing renewable hardeners

The Challenge
Automotive industry focuses on reducing CO₂ emissions. Material production has strong impact on a car Life Cycle Analysis. OEMs looking for more sustainable materials.

Our Solution
Desmodur® eco N 7300
7300 is the first bio-based hardener that enables the development of polyurethane coatings, with a significantly better carbon footprint than petro-based hardeners.

Success Factors
- Delivers very high performance to the coating
- 70% based on renewable resources, reducing the use of fossil resources
- Significantly supports to meet the targets of the 21st United Nations Climate Conference agreed in December 2015 in Paris
Food packaging: Desmodur® quix 175
Inventing safe packaging

The Challenge

Lamination adhesives for retort packaging need up to 2 weeks curing until packaging laminates can be shipped and filled.

Our Solution

Desmodur® quix 175
as raw material for lamination adhesives speeds up curing significantly and laminates can be shipped and filled after 2-3 days.

Success Factors

- Decreases process costs and reduces lead times at packaging manufacturers
- As safe as currently used system, but significantly faster curing
- We approach packaging manufacturers directly to accelerate market launch

Success Factors:

Desmodur® quix 175

The Challenge

Lamination adhesives for retort packaging need up to 2 weeks curing until packaging laminates can be shipped and filled.

Our Solution

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Success Factors

- Decreases process costs and reduces lead times at packaging manufacturers
- As safe as currently used system, but significantly faster curing
- We approach packaging manufacturers directly to accelerate market launch
Specialty Films: Polycarbonate films
Providing a secure life with ID cards

**The Challenge**
High security in ID cards and passport documents that can be manufactured and personalized efficiently.

**Our Solution**
**Makrofol® ID**
Polycarbonate films provide highest level of forgery protection and card durability. This technology enables many security features, of which some cannot be disclosed in public.

**Success Factors**
- **Development of partnerships** to optimize customer’s processes and card designs with high security features
- **Best film quality and custom formats** for reliable print results, highest yields and simple handling
- **Innovation** in new films for card personalization and customer productivity
Medical applications: Wound dressing
Superior moisture management for treatment of chronic wounds

The Challenge
Controlled moisture management is key for wound dressings. Currently available materials do not match high performance requirements.

Our Solution
Baymedix® FP based wound dressing foams offer high absorption combined with excellent retention. The new white color foam could set a new standard in wound care.

Success Factors
- Market needs identified with OEMs and key converter
- Foam dressing market shows strong growth, new material offers differentiation and improved performance
- Soft touch, feel and non-yellowing properties
Cosmetics: Polyurethane solutions for hair care
Push polyurethane-based film formers as innovative ingredients

The Challenge
Film forming market is dominated by heritage polymers such as acrylic polymers, etc. PUR-based polymers represent a small market so far, but enable customers to develop new and innovative product claims.

Our Solution
Baycusan® C1008 allows to design multifunctional hair care products with superior aesthetics and long lasting performance, customized for different hair types and needs. Major benefits are flexible hold, heat protection, frizz control and split end repair.

Success Factors
Covestro’s polyurethane ingredients have enabled first product launches at market leader such as Schwarzkopf Professional, Brand Osis:
- Heat Protection Spray
- Anti-frizz Cream
Textile surfaces: INSQIN®

Inventing inspiring touches

The Challenge

The fashion and sportswear industry faces rising demand for more sustainable materials.

Our Solution

INSQIN® enables eco-friendly production of synthetic materials, improving worker safety, eliminating risks of environmental pollution and needing up to 95% less water and up to 50% less energy.

Success Factors

- Functionalities and effects bring new possibilities in design, comfort, performance and manufacturing.
- Collaboration to integrate stakeholders along the value-chain
- Partner Manufacturer Program to foster supply chain transparency and good manufacturing practice
The Challenge
Reduce installation time and improve installation process safety of power cables to ensure world class protection through high performance elastomers in offshore wind turbines.

Our Solution
Tailor-made Cast PU Elastomers
Cast PU elastomers are the state of the art raw materials for cable protection improving longevity and performance of offshore windfarms.

Success Factors
- Product range with long term track record of high performance in the marine environment
- Strong partnerships along the value chain
- Major decrease of installation time and costs for operators
- Covestro technologies with a vast amount of installed references in the market

Off-shore: Cast polyurethane elastomers for windfarms
Inventing sustainable systems for a challenging environment
# New technology: Additive Manufacturing / 3D-printing

Inventing industrial 3D-printing

## The Challenge

Existing Additive Manufacturing materials performance and cost are currently not suitable for industrial applications.

## Our Solution

**Desmodur®, Desmopan®, Makrolon®**

will enable higher performance materials (improved toughness, resistance, flexibility, optics, touch…) easily tunable to meet application requirements. Those materials can be fully integrated in a reliable ecosystem to produce industrial parts.

## Success Factors

- Sell filaments, powders and liquid resins **designed for Additive Manufacturing**
- Create and manage **ecosystem of partners** to deliver **solutions** to brands / OEM
- **Actively** build and manage **IP portfolio**
CAS
Investment Highlights and Strategy
Global set-up provides proximity to customers and markets

CAS global asset base

<table>
<thead>
<tr>
<th>Selected customers</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development partners</td>
<td>Active in selected countries</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Global key accounts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wörwag</td>
<td>Votteler</td>
</tr>
</tbody>
</table>

| Global asset base | Require global marketing and technical service |

<table>
<thead>
<tr>
<th>Distributors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CBC</td>
<td>J Hanshin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three world-scale monomer production hubs in all key regions complemented by regional derivative plants</td>
</tr>
<tr>
<td>Efficient production processes benefiting from low cost technology and integration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technical centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical centers in all key regions ensure proximity to customers</td>
</tr>
<tr>
<td>Superior technical support capabilities help to build long-term relationships</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specialties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialty films, elastomers and other specialties facilities allow to capture high growth in adjacent applications</td>
</tr>
<tr>
<td>Global footprint provides for leadership in a fragmented industry across regions</td>
</tr>
</tbody>
</table>

- Production
- Technical centers
- Specialties
Holding global leadership positions across entire portfolio
CAS positioning in the industry

<table>
<thead>
<tr>
<th>Global industry landscape in derivative products(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aliphatic isocyanate derivatives</strong></td>
</tr>
<tr>
<td>CAS global position</td>
</tr>
<tr>
<td>47%</td>
</tr>
<tr>
<td><strong>Aromatic isocyanate derivatives</strong></td>
</tr>
<tr>
<td>CAS global position</td>
</tr>
<tr>
<td>20%</td>
</tr>
<tr>
<td><strong>Polyurethane dispersions</strong></td>
</tr>
<tr>
<td>CAS global position</td>
</tr>
<tr>
<td>17%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specialties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PC films</strong></td>
</tr>
<tr>
<td>CAS global position</td>
</tr>
<tr>
<td>18%</td>
</tr>
<tr>
<td><strong>TPU films</strong></td>
</tr>
<tr>
<td>CAS global position</td>
</tr>
<tr>
<td>19%</td>
</tr>
<tr>
<td><strong>Elastomers</strong></td>
</tr>
<tr>
<td>CAS global position</td>
</tr>
<tr>
<td>10%</td>
</tr>
</tbody>
</table>

Notes: (a) 2015A share of total volumes
Source: Orr & Boss, hot cast elastomers global position as per company estimates and volume share as per Orr & Boss analysis
High margin resilience over time demonstrates specialty nature
CAS financial performance

Through the cycle production and profitability overview

- Value-add to customers and diversified application profile secures stable margins
- Gross margin driven by high value portfolio as well as low cost technology

Note: (a) Defined as net sales proceeds less variable product costs per kg
Growing portfolio-adjusted revenues and EBITDA margin

CAS historical financial performance

<table>
<thead>
<tr>
<th>Region</th>
<th>Net sales (€m)</th>
<th>Core volume growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012A</td>
<td>1,984</td>
<td>5.1%</td>
</tr>
<tr>
<td>2013A</td>
<td>1,876</td>
<td>(1.3)%</td>
</tr>
<tr>
<td>2014A</td>
<td>1,928</td>
<td>4.3%</td>
</tr>
<tr>
<td>2015A</td>
<td>2,093</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>End-market</th>
<th>Net sales and core volume growth</th>
<th>Adj. EBITDA and margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive / Transport 26%</td>
<td>1,984</td>
<td>19.6%</td>
</tr>
<tr>
<td>Construction 14%</td>
<td>1,876</td>
<td>22.7%</td>
</tr>
<tr>
<td>Electrical &amp; Electronic 5%</td>
<td>1,928</td>
<td>23.5%</td>
</tr>
<tr>
<td>Footwear &amp; Textiles 8%</td>
<td>2,093</td>
<td>23.5%</td>
</tr>
<tr>
<td>Wood &amp; Furniture 11%</td>
<td>1,984</td>
<td>19.6%</td>
</tr>
<tr>
<td>Others 36%</td>
<td>1,876</td>
<td>22.7%</td>
</tr>
</tbody>
</table>

Note: (a) Reference values until FY 2015 recalculated effective March 31, 2016. Main changes result from CAS portfolio adjustments.
Global industry leader with high and resilient profitability

CAS Key Investment Highlights

1. High-end solution provider to intrinsically complex customer industries
   unlocking above-average growth potential

2. Market-driven innovation capability and customer proximity
   help create new application space and maintain leadership

3. Global leading and defendable position
   in an industry with distinct barriers to entry

4. Strong financial profile due to high margin resilience and low capex requirements
   represent solid platform for future business expansion
Polyurethanes (PUR)

Polyether polyols
MDI
TDI
PUR innovations
Summary
Inventor of and leader in polyurethanes

PUR at a glance

- Inventor and producer of polyurethane raw materials and systems mainly for rigid and flexible foams\(^{(a)}\)
- Broad portfolio spanning MDI and TDI (isocyanates) and polyether polyols
- Competitive integration from feedstock to systems
- Global production platform comprising 18 facilities located in Europe, the United States and Asia\(^{(b)}\)
- Total production capacity of around 3,500kt globally
- Largest business unit generating half of Covestro sales and around 40% of EBITDA

---

\(^{(a)}\) As well as integral foam, semi rigid foam, RIM, TPU and CASE applications
\(^{(b)}\) Includes all MDI, TDI and polyether polyols facilities that partially reside at one site; feedstock, TPU and systems houses are excluded
\(^{(c)}\) Based on total combined nameplate capacity for MDI, TDI and polyether polyols in 2015A year end as per Covestro internal estimates
Polyurethanes provide sustainable solutions to global challenges leading to above GDP growth

**Tailwind from macro trends**

<table>
<thead>
<tr>
<th>Global PU Market(a)</th>
<th>Macro trend</th>
<th>Challenge</th>
<th>Need</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAGR ~4%</td>
<td>Global PU market</td>
<td>Growing population: The world’s population is expected to reach 9.6 billion by 2050</td>
<td>Food preservation</td>
<td>Efficiently insulated cold chain</td>
</tr>
<tr>
<td>~18.5Mt</td>
<td>2015A</td>
<td>In 1990 there were 10 mega cities – in 2030 there will be 41</td>
<td>Intelligent solutions</td>
<td>Intelligently insulated buildings</td>
</tr>
<tr>
<td>15.2Mt</td>
<td>2020E</td>
<td>Urbanization: Size of global middle class will increase from 1.8 billion in 2009 to 3.2 billion by 2020</td>
<td>Affordable comfort</td>
<td>Comfort adapted to requirements and higher standards of living</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increasing wealth: Climate change is happening at an accelerated rate</td>
<td>Closing carbon cycle</td>
<td>CO₂ usage, recycling, thermal recovery</td>
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</tbody>
</table>

*(a) Global PU market comprises combined MDI, TDI and polyether polyols industry demands as per Covestro internal estimates*

**Source:** UN, OECD, IPCC
Polyurethanes in automotive – all-purpose material with unique value propositions

PU-based applications show structural growth above the automotive market\(^{(a)}\)

<table>
<thead>
<tr>
<th>Seating</th>
<th>Headliner</th>
<th>Instrument Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High performance materials for increased comfort &amp; ergonomics</td>
<td>• Solutions for noise dampening, low density interior parts</td>
<td>• Connecting high value surface with structural support and offering</td>
</tr>
<tr>
<td>Load Floor</td>
<td>Car Body Parts</td>
<td>Body Structure</td>
</tr>
<tr>
<td>• Lightweight, high productivity through short cycle times</td>
<td>• Freedom of design &amp; Class-A surface quality</td>
<td>• Resin for Carbon Fiber Composite</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• High performance material – substituting steel or aluminum</td>
</tr>
</tbody>
</table>

Note: (a) Market growth CAGR 2010-2015: 4.6% for PU applications in automotive vs. 3.6% for total automotive
Source: Company information, LMC
Polyurethanes in cold chain – growth through energy efficiency requirements and larger size units

PU-based applications show significant structural growth above the refrigerator market\(^{(a)}\)

- Stricter energy efficiency requirements support growth of PU as first choice insulation material
- Larger interior space in refrigerators\(^{(b)}\) through high performance PU insulation
- Mechanical properties of insulant support efficient usage of other materials (e.g. thinner steel)
- Trend towards larger size units (e.g. side-by-side refrigerators) in the last decade: PU-consumption increased from ~5kg/unit to ~8kg/unit

Note:
\(^{(a)}\) Market growth CAGR 2010-2015: 7.2% for PU in refrigerators vs. 2.3% unit growth for total refrigerators. 
\(^{(b)}\) Refrigerators include fridges, freezers and wine coolers.

Source: Company information, Euromonitor, Nexant
Covestro is one of two global leaders with full scope advantage as basis for innovation and growth

Industry structure and position

**Competitive position of key PU players (2015A)**

- **Global**
  - Covestro
  - BASF
  - Dow
  - Huntsman

- **Regional**
  - Vencorex
  - MCNS
  - Tosoh

**PU chemistry scope**
- Limited
- Full-spectrum

Size of bubble represents total MDI, TDI and polyether polyols nameplate capacity (2015A)

**Advantages of broad access play**

- **Full innovation leverage**
  - Full-spectrum chemistry scope allows for broad solutions offering
  - Global backbone in technical support and production start-ups for customers
  - Proximity to customers and customized blends

- **Broad coverage of customer needs**
  - Reliable supply out of large production facilities globally
  - Joint sales of polyols and isocyanates ("one-stop-shop") allow for economies of scope
  - Offering of specialty polyol and isocyanate grades

- **Smoothened cyclicality**
  - Optimized asset utilization at any point in the industry cycle
  - Broad geographical, customer & application portfolio
  - Niche applications with limited competition

Notes:
- (a) Excluding CASE

Source:
- Covestro internal estimates
Balanced business with attractive growth invested for margin improvements

PUR in numbers

Sales split by End-markets:
- Comfort/furniture: 30%
- Construction: 25%
- Automotive: 15%
- Appliances: 10%
- Chemicals: 10%
- Others: 10%

Strategic Business Entities:
- MDI c. 40%
- Polyether polyols c. 40%
- TDI c. 20%

Regions:
- APAC: 24%
- NAFTA: 33%
- EMLA: 43%

Total sales: €6.1bn

Net sales and Core volume growth:
- Core volume growth (%): 2012A - 4.2%, 2013A - 3.1%, 2014A - 4.0%, 2015A - 1.8%

Adj. EBITDA and margin:
- Adj. EBITDA margin (%): 2012A - 12.1%, 2013A - 10.6%, 2014A - 9.4%, 2015A - 10.2%

- EBITDA margin bottoming out in 2014; working on improving results
- Core volume growth outpaces turnover increase due to sales declining roughly in line with raw material prices
- PUR asset base has been strengthened by more than €1.1bn capex in 2012–2015
Polyurethanes (PUR)
Polyether polyols
MDI
TDI
PUR innovations
Summary
Leading position in polyether polyols as distinctive component in polyurethanes

Polyether polyols at a glance

- **Resilient profitability and cash generation** backed by stable historic and forecast industry margins

- **Key source of distinction and critical “enabler”** in terms of providing market access and driving product innovation in polyurethanes

- **Leading global supplier of polyether polyols** with broad range of products and focus on NAFTA and EMEA

- **Sustainable cost position** through backward-integration into propylene oxide and best-in-class process technology in polyether polyols

- **Covestro polyether polyol growth limited in the short term**, yet strategy remains to grow with whole portfolio

Notes:

(a) Based on nameplate capacity 2015A as per Covestro internal estimates
(b) Excludes Belford Roxo facility, closed mid-year 2015
Polyether polyols demonstrate inherently stable margins

Polyols industry spreads

- Non integrated polyether polyols producers with limited competitiveness
- Single capacity addition with little influence on supply/demand dynamics
- Specific entry requirements for new players, e.g. capex and technology

- Resilient industry margins over the last decade reflective of overall Covestro polyether polyols profitability
- Spreads not materially impacted by high volatility of propylene prices, particularly during the financial crisis
- Propylene oxide supply / demand dynamics create local pricing opportunities in the short-term

Notes:
(a) The global average polyols price has been calculated based on the polyols prices in Europe, US and China and weighting this average against the respective demand in those regions
(b) The global average propylene price has been calculated based on the propylene prices in Europe, US and China and weighting this average against the respective demand in those regions
Source: Nexant and Covestro internal estimates
Stable utilization and margins expected
PO industry utilization rates and polyether polyols spreads outlook

PO Capacity Expansions

<table>
<thead>
<tr>
<th>Supply (Mt)</th>
<th>+2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015A</td>
<td>10.3</td>
</tr>
<tr>
<td>2020E</td>
<td>12.5</td>
</tr>
</tbody>
</table>

CAGR (%) | Supply growth (kt)
<table>
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</thead>
<tbody>
<tr>
<td>~4%</td>
<td></td>
</tr>
</tbody>
</table>

PO capacity utilization development and polyether polyols margin expectation

- Announced PO investments mainly in APAC (1,800kt) and from LyondellBasell in NAFTA (400kt)
- CAGR of supply additions in line with expected demand indicating little change in PO supply/demand ratios
- Stable PO utilization underlines projected resilience in polyether polyols business as shown in the past

Notes:
(a) Information based on public sources such as ICIS, IHS and other reporting
(b) Simulation of a gross chemical margin by calculating the difference between published prices for standard polyether polyol versus propylene
(c) Information based on Nexant analysis as of July 2015 and other public sources such as ICIS and IHS
(d) Utilization of nameplate capacity; ICIS, IHS and Company information
Covestro global #2 producer with strong positions in NAFTA and EMEA

Polyether polyols positioning in the industry

- Polyether polyols landscape comprising 4 major players; Covestro is #2 producer globally with strong positions in NAFTA and EMEA
- APAC is highly fragmented based on a large merchant propylene oxide market; ~50 small producers\(^{(b)}\) accounting for c. 20% share
- Higher margins and barriers to entry for the business model of propylene oxide backward-integrated polyols vs. stand-alone polyols business
- Key entry barriers: capital intensity, propylene oxide access, competitive polyols process technology; R&D and technical infrastructure

Notes:
(a) Based on nameplate capacity
(b) Producers with capacity <70k t p.a. each
Source: Covestro internal estimates
Competitive cost position through propylene oxide backward-integration with strong partner

Covestro joint venture with LyondellBasell

LyondellBasell agreements

- US propylene oxide joint venture
  - Started in 2000
  - Long-term off-take of propylene oxide from JV plants
- EMEA propylene oxide Joint Venture
  - 50/50 manufacturing JV for world-scale facility in Rotterdam
  - Propylene oxide output used captively by Covestro as feedstock; sells styrene monomer in merchant market

Key benefits to Covestro

- Secure access of propylene oxide in Europe and US
- Producer cost economics vs. market price in a limited merchant market for propylene oxide
- US Propylene Oxide JV not exposed to propylene oxide co-product volatility (TBA / MTBE or Styrene monomer)
- COVESTRO exposed to styrene monomer co-product volatility out of EMEA joint venture
Polyether polyols drive innovation to protect and expand profitable competitive positions

Role of polyether polyols in Covestro portfolio

<table>
<thead>
<tr>
<th>Polyether polyols mixed with isocyanates lead to versatile applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rigid foam</strong></td>
</tr>
<tr>
<td>Average mix = 1mol MDI to ~0.7mol polyether polyols</td>
</tr>
<tr>
<td><strong>Building insulation</strong></td>
</tr>
<tr>
<td>- space and energy efficient</td>
</tr>
<tr>
<td>- flexible processing</td>
</tr>
<tr>
<td><strong>Cold chain</strong></td>
</tr>
<tr>
<td>- affordable temperature preservation</td>
</tr>
<tr>
<td><strong>Automotive parts</strong></td>
</tr>
<tr>
<td>- strong, durable and light</td>
</tr>
<tr>
<td>- noise and heat insulation</td>
</tr>
</tbody>
</table>
Polyurethanes (PUR)

Polyether polyols
MDI
TDI
PUR innovations
Summary
Leading global player in industry with growth 1-2pp above GDP

MDI at a glance

- **Leading positions in all key regions** make Covestro globally leading supplier of raw materials for MDI consuming industries
- Robust growth expectation of **1-2pp above GDP** support stable industry utilization / margin outlook
- **Well-positioned to grow volumes** through increased utilization of fully invested Covestro asset base
- **World-scale integrated production facilities** support competitive cost position
- **Proven track record of cost discipline;** asset restructuring potential in Europe to deliver further efficiency upsides
- **Uplift in margins** due to operational leverage

Notes:
- (a) Based on nameplate capacity 2015A at year end, excludes Belford Roxo facility closed in mid-2015A
- (b) World-scale defined as MDI facility with capacity of 400kt p.a.

Source: Company information
Diverse end-markets across all regions support robust growth outlook

MDI industry demand

**MDI demand by region**

<table>
<thead>
<tr>
<th>Demand ('000kt)</th>
<th>CAGR (%/2015A-2020E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010A</td>
<td></td>
</tr>
<tr>
<td>APAC</td>
<td>4.4</td>
</tr>
<tr>
<td>LATAM</td>
<td>1.8</td>
</tr>
<tr>
<td>EMEA</td>
<td>1.6</td>
</tr>
<tr>
<td>NAFTA</td>
<td>0.8</td>
</tr>
<tr>
<td>2015A</td>
<td></td>
</tr>
<tr>
<td>APAC</td>
<td>5.9</td>
</tr>
<tr>
<td>LATAM</td>
<td>2.7</td>
</tr>
<tr>
<td>EMEA</td>
<td>1.9</td>
</tr>
<tr>
<td>NAFTA</td>
<td>0.9</td>
</tr>
<tr>
<td>2020E</td>
<td></td>
</tr>
<tr>
<td>APAC</td>
<td>7.4</td>
</tr>
<tr>
<td>LATAM</td>
<td>3.4</td>
</tr>
<tr>
<td>EMEA</td>
<td>2.4</td>
</tr>
<tr>
<td>NAFTA</td>
<td>1.3</td>
</tr>
</tbody>
</table>

**CAGR 2015A – 2020E**

- APAC: 6.4%
- LATAM: 4.4%
- EMEA: 0.2%
- NAFTA: 0.1%

**Underlying application growth driver**

- Construction: ~5%
- Appliances: ~4%
- CASE (b): ~4%
- Others (c): ~4%

- **Increase in global construction activity**
  - broader macro upturn
  - high growth in emerging economies
- **Growing demand for insulation foam to comply with regional energy efficiency directives, particularly in developed markets**
- **Higher consumption of appliances (refrigerators) in developing regions**
- **Steady GDP-driven growth in other applications, e.g. CASE, textiles and footwear**

---

**Notes:**

(a) Figures represent per annum growth between 2015A and 2020E
(b) CASE refers to coatings, adhesives, sealants and elastomers
(c) Others include applications such as flexible foams and polyurethane elastomer used in, for example, coated textiles and shoe soles

**Source:** Covestro internal estimates
Stable utilization and margins expected

MDI industry utilization rates vs. spreads outlook

MDI spread over raw materials, MDI industry supply / demand and utilization

- MDI profitability generally at the lower end of the cycle; average annual increase 2015 vs. 2014 mainly stemming from H1 and NAFTA
- Spreads expected to remain low given the assumed slightly declining utilization rates
- At the end of the decade, potential upside expected

Notes:
(a) Based on historical and announced future nameplate capacity based on Nexant & Covestro internal estimates
(b) Global average margin calculated based on margin over raw materials in Europe, US and China and weighting this average against demand in those regions
(c) Industry nameplate capacities as announced, divided by industry demand as per Covestro internal estimates, not adjusted for actual / physical market availability
Source: Company information
Leading cost position in US and China, efficiency potential in Europe

MDI regional industry cost curve

A Covestro cost leadership through backward-integration

B Western European leader with larger MDI and precursor capacity

C Uerdingen more cost efficient relative to other Covestro facilities in Europe due to level of backward-integration and economies of scale

D Chinese leader with larger backward-integration and different energy source

E Shanghai ahead due to larger MDI train capacity and energy efficiency

Note: (a) Cost of production based on total raw material costs less co-product credits, utility costs, direct fixed costs and allocated fixed costs at specific level of utilization based on Covestro internal estimates

Source: Company information
**Competitive cost position through continuous efficiency improvements**

**Covestro asset efficiency**

- **Track record of improving cost position in MDI**
  - Covestro global average MDI cash costs driven by structural and technology improvements without benzene\(^{(a)}\)
  - **Shutdown in New Martinsville**
  - **Investment in Shanghai**
  - **De-bottle-neckings**
  - **Restructuring Japan**
  - **Belford Roxo exit 2015**
  - **EMLA restructuring potential**

- **Closure of Belford Roxo, Brazil**
  - Operations discontinued since July 2015
  - Decision driven by relative cost competitiveness vs. other production sites

- **EMEA restructuring potential**
  - Operation stop in MDI Tarragona planned for 2017
  - Stop of chlorine supply driven by phase out of Mercury cell based chlorine production
  - Possible re-usage of idle TDI infrastructure and precursors in Brunsbuettel would enable economic doubling of MDI capacity by 200kt p.a.

---

Note: (a) Covestro global average MDI production cash costs without benzene at uniform currency, labor and energy/feedstock prices based on management information
Polyurethanes (PUR)

Polyether polyols
MDI
TDI
PUR innovations
Summary
Global leader in long-term growth industry

TDI at a glance

• **Leading producer of raw materials for TDI consuming industries globally** with leading positions in all major regions

• **Demand growth above GDP** driven by all key end-markets and regions, particularly APAC

• **TDI margins currently at the bottom of the cycle** due to significant overcapacities

• **Superior cost position** through backward-integration, proprietary gas-phase technology and world-scale, integrated asset base\(^{(b)}\)

• **Cost savings and increased profitability** out of restructuring of European asset base

• **Growth into recently expanded world-scale asset base** and eventual recovery of margins expected to deliver uplift in financials

---

Notes:

(a) Based on nameplate capacity 2015A, year-end
(b) World-scale defined by company assessment as TDI facility with capacity of 250kt p.a.

Source: Company information, Nexant
Growth above GDP driven by all key end-markets and regions

TDI industry demand

Notes:
(a) Figures represent per annum growth between 2015A and 2020E
(b) CASE refers to coatings, adhesives, sealants and elastomers
(c) Others include applications such as flexible foams and polyurethane elastomer used in for example coated textiles and shoe soles

Source: Covestro internal estimates
TDI margins currently at the bottom of the cycle due to significant overcapacities

TDI industry utilization rates vs. spreads outlook

- H2 pressure on industry margins to remain, owing to wave of new capacity resulting in bottom of cycle conditions
- Improvement from 2018E onwards, consistent with higher utilization rates
  - margin recovery may be volatile based on levels of competition and plant availabilities
- Possible upside from potential capacity exits / delays as near-term pressure weighs on higher cost producers

Notes:
(a) Based on historical and announced future nameplate capacity additions based on Nexant & Covestro internal estimates
(b) Global average margin calculated based on margin over raw materials in Europe, US and China and weighting this average against respective demand in those regions
(c) Industry nameplate capacities as announced, divided by industry demand as per Covestro internal estimates, not adjusted for actual / physical market availability

Source: Company information
Combination of scale, integration and technology provides global cost leadership

TDI regional industry cost curve

- Covestro cost leadership through backward-integration
- Covestro advantages from superior process technology
- Raw material integration and process technology advantages driving superior cost position for Covestro

Notes:
(a) Cost of production based on total raw material costs less co-product credits, utility costs, direct fixed costs and allocated fixed costs at specific level of utilization based on Covestro internal estimates

Source:
Company information
Polyurethanes (PUR)

Polyether polyols
MDI
TDI
PUR innovations
Summary
Construction: Improved product and process technology
Levering processing know-how and polyether development

The Challenge
Meeting fire classification standards in building and construction industry.
Reliable, high speed continuous processing.

Our Solution
Improved product and process technology
Combination of new processing tool (Fixed Plastic Distribution Rake) with tailor made formulation.

Success Factors
- Enabling improved processing of metal panels
- Improved product meeting the demanding European fire standards
Appliances: Micro polyurethane insulation foam
A better cold chain with effective insulation performance

**The Challenge**
Reducing energy consumption in refrigerators and improving production efficiency.

**Our Solution**
Baytherm® Microcell
High energy efficiency at lower costs
This enables better thermal insulation e.g. in refrigerators, meaning chilled items inside stay fresh longer

**Success Factors**
- Increase presence in PU insulation, i.e. building, construction and cold-chain
- 20% finer cells for 5% better insulation
- Optimized curing for 10% improved productivity
Next generation polyols
Polyether polyols made of carbon dioxide

The Challenge

- Reduce the carbon footprint
- Make CO₂ react …! (the catalyst quest)
- Find an alternative carbon source!

Our Solution

Polyether polyols made of carbon dioxide
New technology developed to use CO₂ as alternative building block for polyether replacing a proportion of the petrochemical precursors.

Success Factors

- Overcomes key industry challenges and provides superior technology in core of polyurethanes
  - Reduced carbon footprint
  - Replaces petrochemicals
  - Performance of end-products unimpaired
- Driver of potential polyether polyols growth in mid-term
Construction: Process technology
Polyurethane for wind turbine rotor blades

The Challenge
The wind industry’s main target is still the reduction of the cost of wind power to achieve parity with fossil fuels.

Our Solution
**Polyurethane for wind turbine rotor blades**
Replacing Epoxy resins by PU resins in blades or large blade parts
- faster production processes
- increased performance

Success Factors
- Polyurethane system design leading to superior processing behavior and material properties: *better fracture toughness, faster infusion* and *lower cycle times* than current solutions.
- International certification\(^{(a)}\) achieved

Notes: \(^{(a)}\) DNV GL: Det Norske Veritas and Germanischer Lloyd — a leading international industry standard for the safety, reliability and performance of wind turbines
Construction: New molecules for better flame retardancy

New polyurethane rigid foam for enhanced flame retardancy

The Challenge
Meeting fire classification standards in building and construction industry.

Our Solution
Polyurethane rigid foam with improved resistance to fire
Breakthrough to non-combustibility leading to broader accessible market

Success Factors
- Introduction of new chemistry for enhanced flame retardancy in construction insulation
- Starting with best-in-class PU fire performance
Polyurethanes (PUR)
Polyether polyols
MDI
TDI
PUR innovations
Summary
Global PU leader with solid earnings growth potential

PUR key investment highlights

1. **#1 global producer of PU**
   with leading and defendable market positions owing to distinct barriers to entry, broad customer base / access and polyether polyols driven innovation capabilities\(^{(a)}\)

2. **Attractive industry outlook**
   underlined by robust structural growth and stable supply / demand dynamics

3. **Well-invested assets as basis for top line driven profit growth**
   through increased utilization of MDI capacity and restructuring activities in MDI and TDI

4. **Cost leadership in TDI and competitive cost position in MDI**
   driven by competitive process technologies, integrated production model and leading scale assets

5. **Solid earnings growth potential**
   supported by intense focus on cost discipline and resilient polyether polyols financial profile

---

Note: \(^{(a)}\) #1 position based on combined 2015A MDI, TDI and polyether polyols nameplate capacities as per Covestro internal estimates
Polyurethanes (PUR)

Backup
Polyether polyols drive innovation to protect and expand profitable competitive positions

Role of polyether polyols in Covestro portfolio

Covestro Production Chain

- Propylene oxide
- Propylene

Role in the Portfolio

- Versatile Polymer structure thus key performance enabler for final polyurethane products.
- Multiple options in the built up of the chemical structure is driving innovation
- Broad product portfolio for tailored solutions thus broader application and customer base.
- Corner stone in the PUR portfolio for broad access to market and customers.

Propylene oxide

840kt

Polyether polyols

1,330kt

by-product styrene

~350kt

Purchased raw-material

Contracts & JV activities

Covestro activities

35
Strong Covestro industry position supported by distinct entry requirements

MDI barriers to entry

<table>
<thead>
<tr>
<th>Global capacity by producer</th>
<th>Industry</th>
<th>Covestro position</th>
</tr>
</thead>
</table>
|                             | Capital intensity | • Considerable investment required to develop world-scale plants(a)  
|                             |                  |   • US$1.2 – 1.3bn (+ / - 30%)  
|                             |                  |   • 3 – 4 years to full operation  
|                             | Process technology | • State-of-the-art technology along the process chain vital  
|                             | Feedstock integration | • Long-term supply contracts for precursors standard  
|                             | Technical capabilities and expertise | • Systems demanding greater knowledge and expertise  
|                             | Proximity to markets | • Importance of proximity to markets  
|                             |                      | • Global asset base critical to support ambitions of global customer base  
|                             |                      | • Well-invested, large- to world-scale asset base  
|                             |                      | • Economies of scale  
|                             |                      | • Total capacity 1,420kt(b)  
|                             |                      | • Competitive process technology  
|                             |                      | • Cost leader in NAFTA and advantageous position in Asia  
|                             |                      | • Restructuring potential in EMLA  
|                             |                      | • Favorable backward-integration and long-term contracts  
|                             |                      | • Access to systems houses where required by industry  
|                             |                      | • Superior expertise and know-how in application development and customer insight  
|                             |                      | • Reputation cemented through 60+ years experience  
|                             |                      | • Diverse, global footprint  
|                             |                      | • Plants in all core regions  
|                             |                      | • Ability to service all key areas of demand  

Notes:
(a) World-scale defined as MDI facility with capacity of 400kt p.a.
(b) Based on nameplate capacity 2015A at year end, excludes Belford Roxo facility closed in mid-2015A
Source: Covestro internal estimates
Well-positioned production network to supply customer demand globally

Covestro MDI operations

Baytown, TX, USA
- Nameplate capacity: 320kt
- Start of production: 1974
- Continuous investments into increased reliability

Pittsburgh, PA, USA
- Nameplate capacity: 170kt
  - Start of production: 1971
  - Operation stop planned end of 2017

Tarragona, Spain
- Nameplate capacity: 200kt
  - Start of production: 1988
  - Economic expansion to 400kt p.a. possible based on existing TDI infrastructure and precursors

Brunsbüttel, Germany
- Nameplate capacity: 200kt
  - Economic expansion to 400kt p.a. possible based on existing TDI infrastructure and precursors

Uerdingen, Germany
- Nameplate capacity: 200kt
  - Start of production: 1964
  - Expansion in 2002
  - EMEA facility with focus on specialties production

Shanghai, China
- Nameplate capacity: 460kt(a)
  - Start of production: 2006

Belford Roxo, Brazil
- Nameplate capacity: 55kt
  - Start of production: 1983
  - Operations discontinued since July 2015

Uerdingen, Germany
- Nameplate capacity: 70kt
  - Start of production: MDI-1 1978, MDI-2 1995
  - Covestro has 60% JV share of Sumika Bayer Urethane
  - 2010 shutdown of older MDI train

Amagasaki, Japan
- Nameplate capacity: 70kt
  - Start of production: MDI-1 1978, MDI-2 1995
  - Covestro has 60% JV share of Sumika Bayer Urethane
  - 2010 shutdown of older MDI train

Niihama, Japan
- Nameplate capacity: 55kt
  - Start of production: 1983
  - Operations discontinued since July 2015

Notes: All nameplate capacities based on 2015A
(a) Excluding potential additional nameplate production capacity of 40kt once fully ramped up and subject to potentially necessary investments; only to be performed if backed by additional market demand
Strong Covestro position safeguarded by distinct entry requirements plus state-of-the-art GPP technology

TDI barriers to entry

<table>
<thead>
<tr>
<th>Global capacity by producer</th>
<th>Industry</th>
<th>Covestro position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Capital intensity</td>
<td>· World-scale plant(^{(a)}) requires:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· &gt;US$1bn investment in full train</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· 3 – 4 years to full operations</td>
</tr>
<tr>
<td></td>
<td>Process technology</td>
<td>· Advanced technology along the process chain important particularly in high cost locations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Limited options for licensing</td>
</tr>
<tr>
<td></td>
<td>Feedstock integration</td>
<td>· Supply contracts as standard option</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Backward-integration advantageous</td>
</tr>
<tr>
<td></td>
<td>Technical capabilities and expertise</td>
<td>· Permits required to handle hazardous feedstock, e.g. phosgene</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Track record and suitable infrastructure important</td>
</tr>
<tr>
<td></td>
<td>Proximity to markets</td>
<td>· Benefits for established global players</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Required to service large-scale multi-nationals with diverse operations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· World-class expertise and know-how in customer-centric application development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Proven reputation with 60+ years experience</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Impeccable safety record</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Global footprint and customer insight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Facilities in all core regions</td>
</tr>
</tbody>
</table>

Notes:
(a) World-scale defined by company assessment as TDI facility with capacity of 250kt p.a
(b) Covestro global cost leadership position as per company estimates
Source: Company information
Ongoing European efficiency program to further enhance quality of existing world class assets

Covestro TDI operations

- **Brunsbüttel, Germany**
  - Nameplate capacity: 125kt
  - Start of production: 1977
  - Technology used: Liquid-Phase Phosgenation
  - TDI production shut down in 2015

- **Dormagen, Germany**
  - Nameplate capacity: 250kt
  - Start up beginning 2015
  - Technology used: Features new Covestro Gas-Phase Phosgenation
  - Cost leader resilient to new capacity additions in EMEA

- **Baytown, TX, USA**
  - Nameplate capacity: 220kt
  - Start of production: 2000
  - Technology used: Liquid-Phase Phosgenation
  - Serves both US and non-US markets

- **Shanghai, China**
  - Nameplate capacity: 125kt
  - Start of production: 1977
  - Technology used: Liquid-Phase Phosgenation
  - Cost leader resilient to new capacity additions in Asia

- **Pittsburgh, PA, USA**
  - Nameplate capacity: 250kt
  - Start of production: 2011
  - Technology used: Features new Covestro Gas-Phase Phosgenation
  - Cost leader in APAC and well-positioned to capture strong demand in Asia

- **Amagasaki, Japan**
  - Nameplate capacity: 220kt
  - Start of production: 2000
  - Technology used: Liquid-Phase Phosgenation
  - Serves both US and non-US markets

Notes: All nameplate capacities based on 2015A
Polycarbonates (PCS)
Global leading producer of polycarbonates serving key growth end-markets

PCS at a glance

- Inventor of polycarbonates and joint global leader in polycarbonates together with SABIC
- Offers products and solutions for a wide range of applications
- Optimally integrated production processes along the value chain
- Global platform with 5 production sites, 5 R&D centers, 7 compounding centres with business unit headquarters in Shanghai, China
- Total current primary production capacity of around 1,300kt
- Upswing in industry margin level, as a result of increasing industry utilization rates

---

Joint #1 Producer of PC globally(a)

€3.2bn Sales 2015A

17.7% Adj. EBITDA margin 2015A

26% of total Covestro sales 2015A

---

Electronics Laptop housing

Construction Stadium Roofing

Consumer Products Robot Housing

Mobility Automotive Glazing

Information Technology LED Street Lamp

Medical Dialyzer Housing

Notes:
(a) Together with SABIC, as per Covestro internal estimates
Positioning and access to customers is key

PCS global asset footprint and world-scale plants\(^{(a)}\) in all key regions

### Primary production plants
- Production of polycarbonate resin for either external sales or internal feedstock for compounding and sheet plants

### Compounding plants
- Refinement of polycarbonate resin with color and/or other additives (e.g. ABS)
- Color matching, technical service and small-scale production capabilities

### Sheet plants
- Production and sales of solid sheet in all regions and multi-wall sheet in EMEA and APAC

---

Note: (a) Defined as a plant consisting of single lines with capacities of 100kt or more each
Engineering thermoplastics with a unique combination of properties serving numerous industries

**Polycarbonates (PC)**

- **Resins:**
  - Makrolon®, Bayblend®, Apec®, Makroblend®

- **Sheets**

- **Composites**

---

**Key PC properties**

- Break-resistant
- Lightweight
- Transparent
- High dimensional stability
- Heat-resistant
- High flame retardance
- High impact strength
- Electrical insulation

---

**Key applications**

- **Automotive interior & exterior panels**
- **Bodywork parts**
- **Lighting systems**
- **Glazing**
- **Outer door panels**
- **Radiator grills**

- **IT equipment**
- **Housing for mobile devices & consumer electronics**
- **Chargers**
- **Switchbox and other electrical systems**
- **Diffusion panel of LCD monitors**
- **LED parts**

- **Windows**
- **Conservatories**
- **Roof structures**
- **Partition walls**

- **Medical devices**
- **Robotics**
- **Personal safety (helmets, headgear, eyewear)**
- **Packaging (water bottles, pitchers)**
Strong growth and margin improvement in 2015 driven by higher industry utilization

PCS historical financial performance

- Sales in 2015 rose by 12.4% against prior year to €3,172 million. Shifts in exchange rates had a positive effect on sales.
- Core volume growth amounted to 5.1%. The expansion in volumes added 4.6% overall to sales. Sales improved in all three regions, due especially to higher demand from the automotive industry.
- Both the movement in exchange rates and higher volumes had a positive impact on sales, outweighing the effect of lower selling prices.

- Adjusted EBITDA in 2015 increased to €560 million and adjusted EBITDA margin to 17.7% in 2015.
- This increase resulted from a more favorable supply and demand situation that enabled us to improve our margins and generate pricing advantages.
Material, application, and production know-how ensure leading market access and development

### Customer product development

<table>
<thead>
<tr>
<th>Customer requirements</th>
<th>Material &amp; concept development</th>
<th>New application technologies</th>
<th>Scale up &amp; customer production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium Automotive Interior</td>
<td>Door Trim Strip with Backlight</td>
<td>Part Manufacturing Process</td>
<td>Commercial Production</td>
</tr>
</tbody>
</table>

#### Customer needs

- Distinctive automotive interior design
- Specialized material solutions
- Optimized manufacturing process
- Global competitive offerings

#### Covestro solution

- Premium interior solutions with best-in-class product & technology portfolio
- Support across the whole value chain
- Innovative polycarbonate grades, e.g. for transparent and translucent ambient lighting
- New designs for lifestyle colors, surface decoration and soft touch and feel
- Combination of best-in-class expertise in thermoplastics and polyurethane technologies
- Reduction of cost and complexity
- First choice development partner for leading OEM, Tier-1 and Tier-2 component suppliers, as well as for design houses
- Cutting-edge material and process innovation at value based cost
- Global footprint
Macro trends support above GDP demand growth across diverse customer industries and regions

Polycarbonates industry demand

### Polycarbonates by application

<table>
<thead>
<tr>
<th>Year</th>
<th>Optical Media</th>
<th>Consumer, Appliance, Medical, Packaging</th>
<th>Construction</th>
<th>Automotive</th>
<th>Electrical</th>
<th>Electronics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005A</td>
<td>2.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010A</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015A</td>
<td>3.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020E</td>
<td>4.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### GDP 2015A – 2020E

- GDP 2.6%
- GDP 2.8%
- GDP 3.4%
- GDP 5.6%
- GDP ~3%
- GDP ~4%

### CAGR 2015A – 2020E

- CAGR 3.4%  
- CAGR 6.8%
- CAGR 10.2%
- CAGR 4.7%

### Accelerated growth 2015A-2020E

- APAC ~5%
- EMEA ~2%
- NAFTA ~3%

### Underlying drivers

- Upgrade to “smart” electronics and new device class, e.g. smartphones / TV
- New revolutionary technologies, e.g. wearable computing and sensors, service robots
- Penetration of LED luminaires
- Upgrade of automotive interior and exterior
- Medical device applications, e.g. disposable surgical instruments and glass substitutes

Source: Covestro internal estimates
Development of diverse applications drives the demand of PC

Polycarbonates industry demand

World polycarbonate demand
Mt, 2000A – 2020E

- Optical Data Storage decline not affecting anymore the business set-up & overall market performance
- Future demand drivers coming from new applications
Sustainable margins driven by high utilization rates
Polycarbonates industry utilization outlook

Based on historical supply / demand balance trends, utilization rates above 80% in polycarbonates suggest improving industry spreads

Notes:
(a) Based on historical and announced future nameplate capacity based on Nexant & Covestro internal estimates
(b) Industry nameplate capacities as announced, divided by industry demand as per Covestro internal estimates, not adjusted for actual / physical market availability
Broad access to customer applications and regions allows for optimized risk distribution and asset utilization

Covestro positioning in the industry

<table>
<thead>
<tr>
<th>Positions in the industry&lt;sup&gt;(a)&lt;/sup&gt;</th>
<th>Advantages of broad play</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad range</td>
<td>Full market access</td>
</tr>
<tr>
<td>Narrow range</td>
<td>• Reduced exposure to cyclicality of single customer industries</td>
</tr>
<tr>
<td>Breadth of applications spectrum</td>
<td>• Access to high growth end-markets</td>
</tr>
<tr>
<td>Local footprint</td>
<td>• Optimized risk distribution</td>
</tr>
<tr>
<td>Geographic reach / footprint</td>
<td>• Optimized asset utilization</td>
</tr>
<tr>
<td>Global footprint</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Advantages of broad play

- Reduced exposure to cyclicality of single customer industries
- Access to high growth end-markets
- Optimized risk distribution
- Optimized asset utilization

Advantages of narrow play

- Greater technical specification requirement
- Comprehensive technical service is key
- Premium pricing in selected segments (e.g. automotive)

Limited disruptions from new capacity additions

- Niche applications with strong differentiation potential
- Customer loyalty and distinct barriers to entry
- Room to maneuver

Notes: (a) Bubbles represent 2015A global nameplate capacity as per Covestro internal estimates (legend bubble ~50kt)
Leading cost positions in all regions

PCS regional industry cost curve

**NAFTA**
- Covestro Baytown: North American Follower
- Covestro cost leader in North America. NAFTA has the lowest cost level due to favorable feedstock and energy prices

**EMEA**
- EMEA Leader: Covestro Uerdingen
- Western Europe Follower
- West European Laggard
- Leader benefitting from regional sourcing advantages (excludes transportation costs)

**APAC**
- Asian Leader
- Covestro Shanghai
- Covestro Map Ta Phut
- Asian Laggard
- Leader benefitting from technology and backward integration
- Covestro’s leading cost position in China due to integration and economies of scale

**Assumptions:**
- (a) Cash cost ex gate, 82% utilization rate for all plants based on nameplate capacity. Integrated players are shown without any margins for BPA, phenol, acetone, etc.
# Innovative composite material provides potential for future growth

Continuous Fiber Reinforced Thermoplastics Composites (CFRTP)

<table>
<thead>
<tr>
<th>What customers have been looking for</th>
<th>What Covestro aspires to provide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable process substitutes of metal</td>
<td>Lightweight materials, e.g. 1/5 of the weight of stainless steel</td>
</tr>
<tr>
<td>Energy saving solution</td>
<td>Efficient production process to provide easy-to-use and high quality products</td>
</tr>
<tr>
<td>High performance material to support broad application requirement</td>
<td>Composites Solutions for high-end IT, automotive, and consumer products applications</td>
</tr>
</tbody>
</table>

## Current status

- Developed manufacturing process based on acquired technology and scaling up production capacity in South Germany
- Close cooperation with many players in the IT value chain to position CFRTP Composites as a material of choice including many key OEMs in IT industry
- Deploy IP strategies regarding processing, application and product solutions
- Aim for first commercialization in 2017
Pro-active and market-driven innovation are our crucial value drivers

R&D spend in 2015: €68m (+11%)

Project examples per category

1. **Direct Coating/Direct Skinning**: allows coated components to be manufactured efficiently in one step, eliminating the need for surface treatment.

2. **Automotive interior trim**: Process optimization combined with design freedom drives value for customer – allows for system integration.

3. **LED Lighting**: Development of TC grade allows for weight reduction and provides more design freedom.

Approximately 15% of the PCS sales volume comes from new products, i.e. products not older than 5 years.
Excellent position to capture global demand growth, leading to attractive financial outlook

PCS key investment highlights

1. **Leading player in an attractive industry**
   with above GDP growth, driven by broad application range and fast-growing, high-requirement customers favoring large-scale global players

2. **Favorable supply / demand outlook**
   with increasing industry utilization rates supporting higher industry margins

3. **Well-invested own global asset base**
   with competitive cost position in all key regions

4. **Best-in-class market access to a broad customer base**
   with globally proven market reputation of product and application development
Polycarbonates (PCS)

Backup
PC with superior properties against PMMA, crucial for our key industries

<table>
<thead>
<tr>
<th>Property</th>
<th>PC</th>
<th>PMMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Resistance [°C]</td>
<td>148</td>
<td>100</td>
</tr>
<tr>
<td>Impact Strength (23°C) [kJ/m²]</td>
<td>89</td>
<td>92</td>
</tr>
<tr>
<td>Flame retardance</td>
<td>95</td>
<td>2</td>
</tr>
<tr>
<td>Optical Transmission [%]</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Weathering stability / Yellowness Index</td>
<td>26</td>
<td>2400</td>
</tr>
<tr>
<td>Stiffness</td>
<td>100</td>
<td>3300</td>
</tr>
</tbody>
</table>

Key end-product application fields require the specific combination of PC properties, PMMA with limited overlap

Source: Covestro internal estimates
Covestro well positioned to deliver

Key financial highlights

**Solid historical core volume growth**
driven by growth across all segments over the period 2012-2015, with strong recent momentum in Q1’16

**Strong cash generation**
supported by limited need for new asset investments until 2019 and focus on margin expansion through operational leverage and profitability enhancement measures

**Positive value creation**
measured by ROCE above WACC in 2015, first time after 4 years

**Robust financial profile**
based on solid equity ratio, investment grade rating, successful re-financing of debt and target of further net debt reduction

**Attractive dividend policy**
with first dividend payment of €0.70 per share for the stub year 2015 and a targeted dividend pay-out in FY2016 of 30-50% based on Covestro Group IFRS net income

**Performance culture based on consistent bonus metrics**
STI solely based on Group KPIs and LTI based on total shareholder return
Improving financial performance in past years

Key performance indicators

- Core volume growth primarily driven by increasing utilization of available capacities in line with demand, particularly in APAC, yet showing some volatility over time
- FY2015 showed solid development despite de-stocking in Q3, followed by dynamic core volume growth in Q1’16
- FOCF positive in every year with proven ability to adapt to earnings volatility through short-term measures. FOCF over the last years affected by capex and fluctuations in net working capital driven by scheduled plant turnarounds
- Record FOCF in FY2015 based on strong EBITDA contribution, release of working capital and capex below D&A
- Return on capital employed (ROCE) above weighted average cost of capital (WACC) used as indicator for value generation
- In FY2015, ROCE above WACC achieved for first time in 4 years based on significantly improved earnings
Focus on core volume growth
Core vs. non-core volume development (2012A–2015A)

- Core volumes are the focus of business operations and refer to the core products in the PUR, PCS and CAS segments, externally sold, calculated as percentage change from the prior year in kilo tons.
- Non-core volumes include external sales from business opportunities outside the core business, e.g. sales of raw materials and by-products such as hydrochloric acid, sodium hydroxide solution (caustic soda) and styrene.
- Low Group core volume growth in 2013A, mainly impacted by declining PCS core volumes (cycle trough year), followed by solid Group core volume growth in 2014A, especially driven by increasing PCS core volumes, and in 2015A, despite de-stocking by customer industries in Q3’15.
Below mid-cycle profitability provides margin upside

EBITDA delivery

Covestro adj. EBITDA margin development (2005A – 2015A)

- **Peak margins** driven by high utilization rates in PUR and PCS
- **Mid-cycle margins** driven by solid PUR utilization rates. PCS margin decline driven by increasing APAC competition
- **Highly volatile margins** driven by economic crisis and massive inventory movements (a)
- **Below mid-cycle margins** due to low industry utilization rates driven by capacity overhang and ODS phase-out; recent momentum based on improved pricing delta

Notes:
(a) De-stocking (Q4 2008A to Q2 2009A and Q4 2011A) and re-stocking (Q3 2009A to Q3 2011A)
Net saving expected to start ramping up in 2017
Structured profitability enhancement program on track

### Key Measures

<table>
<thead>
<tr>
<th>Asset optimization plan</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed asset management cost improvements</strong></td>
<td>ongoing</td>
</tr>
<tr>
<td>• Rolling out fixed asset management cost initiatives</td>
<td></td>
</tr>
<tr>
<td>• More efficient turnaround execution</td>
<td></td>
</tr>
<tr>
<td>• Further operational optimizations</td>
<td></td>
</tr>
<tr>
<td><strong>Asset restructuring / efficiency projects</strong></td>
<td>executed</td>
</tr>
<tr>
<td>• Closure of Belford Roxo</td>
<td></td>
</tr>
<tr>
<td>• TDI EMEA restructuring</td>
<td></td>
</tr>
<tr>
<td>• Site consolidation: closure of S.Korea PC sheet production</td>
<td></td>
</tr>
<tr>
<td>• MDI EMEA restructuring: closure of TAR</td>
<td></td>
</tr>
<tr>
<td><strong>Continuous improvement</strong></td>
<td>executed</td>
</tr>
<tr>
<td>• In manufacturing area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost improvement measures</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corporate overhead cost savings</strong></td>
<td>ongoing</td>
</tr>
<tr>
<td>• Streamlining IT infrastructure and business model</td>
<td></td>
</tr>
<tr>
<td>• More tailor-made service function designs to replace current TSA(^{(a)}) with Bayer</td>
<td></td>
</tr>
<tr>
<td><strong>BU-level specific savings</strong></td>
<td>ongoing</td>
</tr>
<tr>
<td>• Streamline sales force and back-office</td>
<td></td>
</tr>
<tr>
<td>• Focus on core areas and customers</td>
<td></td>
</tr>
<tr>
<td>• Consolidation within regional functions, product management and sales</td>
<td></td>
</tr>
<tr>
<td>• Maximize use of existing trade and distribution channels</td>
<td></td>
</tr>
<tr>
<td><strong>Continuous improvement</strong></td>
<td>ongoing</td>
</tr>
<tr>
<td>• In non-manufacturing area</td>
<td></td>
</tr>
</tbody>
</table>

### Phasing of net savings
- Net zero costs and benefits expected in 2016
- Linear ramp up of net benefits in 2017 and 2018
- Realization of full net benefits of >\(\text{€}100m\) in 2019

### Net Savings

- **Targeted gross savings**
  - c. 420

- **Accumulated inflation of existing cost base**
  - c. 270

- **Profitability enhancement potential by 2019**
  - c. 150

- **Expected net savings Potential by 2019**

**Note:** (a) Transitional Service Agreements
High EBITDA to FOCF conversion rate
Free operating cash flow development 2012A-2015A

- Historic FOCF development largely driven by adjusted EBITDA, special items, changes in working capital and capital expenditures
- In FY2015, positive contribution from changes in working capital fully eaten up by negative special items (carve-out/IPO and site restructuring)
Track record of positive FOCF across the cycle

Record free operating cash flow in 2015

• Accumulated more than €4bn in free operating cash flow since 2005A
• Free operating cash flow positive every year including 2008A–2009A cycle trough
• Attractive outlook for cash flow driven by volume growth, higher asset utilization, focus on cost discipline and limited need for further growth capex

Notes: Financials prior to FY2012A based on Bayer AG’s MaterialScience segment financials as published by Bayer AG.
Free operating cash flow (FOCF) is calculated as net operating cash flow less cash outflows for property, plant and equipment and intangible assets
Successful bond placing secured long-term financing
Baa2 rating (Moody’s) with stable outlook

Financial Debt as of March 31, 2016

Highlights

Successful bond placing of €1.5bn
• Financial debt maturity significantly prolonged

Unchanged ambitions for 2016: Further net debt reduction and increasing dividend
• Based on a dividend pay-out ratio of 30%-50% of net income

Mid-term targets (≤ 2019): Total net debt to adj. EBITDA ratio of 1.5x and at least sustainable or increasing dividend

Notes: (a) €600m of Bayer loan prematurely paid back in April 2016
Use of cash reflects strong cash generation

### Internal
- Capex (budget) below D&A in 2015A-2019E
- Goal to further reduce net debt
- Long-term preparation of next growth investments underway

### Dividend policy
- Clear commitment to sustainable dividend growth – or at least stable dividend in difficult economic environment
- For stub year 2015, dividend of €0.70 paid
- Target dividend pay-out ratio of 30-50% based on Covestro Group IFRS net income in FY 2016
- Efficient capital structure and strong free cash flow allowing for sustainable dividend policy

### Portfolio
- Disciplined & focused approach
- Bolt-on acquisition to boost R&D and business development
- Focus on high margin, differentiated business areas and continuous portfolio optimization
Limited need for capital expenditures until 2019

Early preparations for new growth investments underway

Strict underlying investment approval process assuring adequate returns under consideration of risk profile

Growth investments (capacity expansions)
Building up Caojing as new, multi-BU, world-scale site to participate in Chinese market growth


Sustain  Efficiency  Growth  D&A  Capex as % of D&A  Capex as % of sales

642  471  507  500  504  512  607  505  576  574  582  652  669  631  693  673  605  514  699

6.8%  7.4%  8.5%  8.5%  6.8%  5.0%  5.3%  5.6%  5.6%  5.7%  4.3%

2009 to 2019
Accompany market growth by filling asset utilization
Optimize existing asset landscape through focus on efficiency and sustain investments
Exploit operational leverage to generate high cash flows in preparation of next investment cycle

2020 and beyond
New growth investments lead to capacity expansions
Lead times: 5-6 year for planning process, 3-4 years for construction (provided all regulatory approvals in place)
Strengthen leading industry positions
Ensure growth rates at least on attractive market levels

Notes:
(1) 2015 adjusted for impairment losses
Focus on performance
C. 30% of Covestro employees participating in global management incentive programs

Notes:
All employee references refer to full-time-equivalents
Illustration based on German program; program eligibility may vary in other countries
LTI component based on total shareholder return

Long-term incentive program “Prisma”

<table>
<thead>
<tr>
<th>Prisma Performance Periods</th>
</tr>
</thead>
</table>

- **PRISMA PERFORMANCE PERIOD 1**
  - Prisma Payout 1
- **PRISMA PERFORMANCE PERIOD 2**
  - Prisma Payout 2
- **PRISMA PERFORMANCE PERIOD 3**
  - Prisma Payout 3
- **PRISMA PERFORMANCE PERIOD 4**
  - Potential for an annual payout

Program details

- Cash settled plan with four-year performance periods (January to December)
- Globally consistent program for all eligible employees
- Target amount based on fixed percentage of annual base salary
- Payout criteria based on:
  1. TSR (Total Shareholder Return) as absolute performance criterion
  2. Outperformance factor as relative payout criterion based on STOXX Europe 600 Chemicals index
- Start & end prices for Covestro share and index are determined by the average closing prices during November & December before the start and at the end of the performance period

Ending Share Price + Cumulated Dividends
Starting Share Price

\[
\text{Ending Share Price} + \text{Cumulated Dividends} \times \frac{\text{Starting Share Price}}{100} = \text{TSR Factor}
\]

\[
100\% + \left( \frac{\text{Change in Covestro Share Price}}{\text{Change in Index Price}} \right) = \text{Outperformance Factor}
\]

\[
\text{Prisma Payout} = \frac{\text{Prisma Target Amount} \times (\text{TSR Factor} \times \text{Outperformance Factor})}{100}\%
\]
STI solely based on three financial Group KPIs
Short-term incentive program “Profit Sharing Plan (PSP)”

Program details

- Based on three equally weighted Group performance metrics: core volume growth, FOCF, and ROCE above WACC
- PSP target amounts (equal 100% payout) are a percentage of annual base salary, linked to individual position grade, ranging from 18% for entry managerial level to 100% for board members
- For each metric, payout can range from zero to 300%, depending on Group achievement levels; total payout capped at 250%

Notes: Program description based on German program; program details and eligibility may vary in other countries.
## Outlook 2016 confirmed
Committed to deliver

### Sales and Earnings Forecast

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Volume Growth</td>
<td>+2.7%</td>
<td>Mid-single-digit increase</td>
</tr>
<tr>
<td>Free Operating Cash Flow</td>
<td>€964m</td>
<td>At high level, above the average of recent years</td>
</tr>
<tr>
<td>ROCE</td>
<td>+9.5%</td>
<td>Premium on cost of capital</td>
</tr>
</tbody>
</table>

### Basic Assumptions
- Our guidance is based on current exchange rates
- We assume a similar macroeconomic environment as in 2015
Covestro well positioned to deliver

Key financial highlights

- **Solid historical core volume growth**
  - driven by growth across all segments over the period 2012-2015, with strong recent momentum in Q1’16

- **Strong cash generation**
  - supported by limited need for new asset investments until 2019 and focus on margin expansion through operational leverage and profitability enhancement measures

- **Positive value creation**
  - measured by ROCE above WACC in 2015, first time after 4 years

- **Robust financial profile**
  - based on solid equity ratio, investment grade rating, successful re-financing of debt and target of further net debt reduction

- **Attractive dividend policy**
  - with first dividend payment of €0.70 per share for the stub year 2015 and a targeted dividend pay-out in FY2016 of 30-50% based on Covestro Group IFRS net income

- **Performance culture based on consistent bonus metrics**
  - STI solely based on Group KPIs and LTI based on total shareholder return
Financial Performance

Backup
Key raw materials secured through long-term contracts

Raw material exposure

Major raw material split (2015A)

- Benzene
- Phenol
- Propylene
- Toluene
- Acetone
- HDA
- Others

Comments

- Crude oil defines floor price for majority of petrochemical raw materials used, additional charges on crude oil price depend on the specific supply / demand dynamics in relevant raw material segments
- Key raw materials mostly secured through contracts with purchasing prices typically fixed on a monthly basis
- Contracts include defined volumes and in some exceptional cases take-or-pay obligations (e.g. carbon monoxide and chlorine)
- Chlorine, carbon monoxide and hydrogen (if no own production facility is available) sourced from onsite partners (at cost plus) or externally via long-term contracts
- Energy sourcing secured by long-term contracts covering access to crucial assets on-site or over-the-fence (steam generation, supply grids), respective costs are included in manufacturing costs, not in raw material expenses
- ‘Others’ contains more than 300 raw materials with each less than 3% of total raw material costs

Total raw material exposure €5.1bn(a)

Notes: (a) Total raw material exposure refers to actual raw material expenses, excluding approx. €0.2bn energy costs
Covestro benefitted from depreciation of Euro in 2015

Currency exposure

**Assets by region (2015A)(a)**

<table>
<thead>
<tr>
<th>Region</th>
<th>(€m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAFTA</td>
<td>22%</td>
</tr>
<tr>
<td>APAC</td>
<td>50%</td>
</tr>
<tr>
<td>EMLA</td>
<td>28%</td>
</tr>
</tbody>
</table>

**Sales by region (2015A)**

<table>
<thead>
<tr>
<th>Region</th>
<th>(€m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAFTA</td>
<td>28%</td>
</tr>
<tr>
<td>APAC</td>
<td>28%</td>
</tr>
<tr>
<td>EMLA</td>
<td>44%</td>
</tr>
</tbody>
</table>

**Foreign currency hedging**

- Covestro’s foreign exchange exposure is mainly derived from business activities in APAC and NAFTA region
- Material receivables and payables in liquid currencies are fully hedged
- The planned and contracted exposure is closely monitored but not hedged at present. Should the exchange rate risk increase significantly hedging of such exposure will be executed.

**Sales per reporting currency (2015A)(b)**

<table>
<thead>
<tr>
<th>Currency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR</td>
<td>41%</td>
</tr>
<tr>
<td>USD</td>
<td>25%</td>
</tr>
<tr>
<td>CNY</td>
<td>12%</td>
</tr>
<tr>
<td>HKD</td>
<td>9%</td>
</tr>
<tr>
<td>Others</td>
<td>13%</td>
</tr>
</tbody>
</table>

Notes:

(a) Property, plant and equipment
(b) Defined as percentage of sales based on functional (reporting) currency of Covestro legal entities
Key Investment Highlights
Global leader in high-tech material solutions

Covestro key investment highlights

1. **Leading and defendable global industry positions**
   based on focused portfolio

2. **Favorable industry dynamics**
   with robust above GDP growth prospects in a diverse range of end-markets

3. **Positioned to deliver volume growth**
   through well-invested, large-scale asset base with competitive cost position

4. **Portfolio including high-value CAS business**
   with attractive and historically resilient margin profile

5. **Attractive cash flow growth outlook**
   underpinned by disciplined cost management

Headed by experienced management with full commitment to value creation