

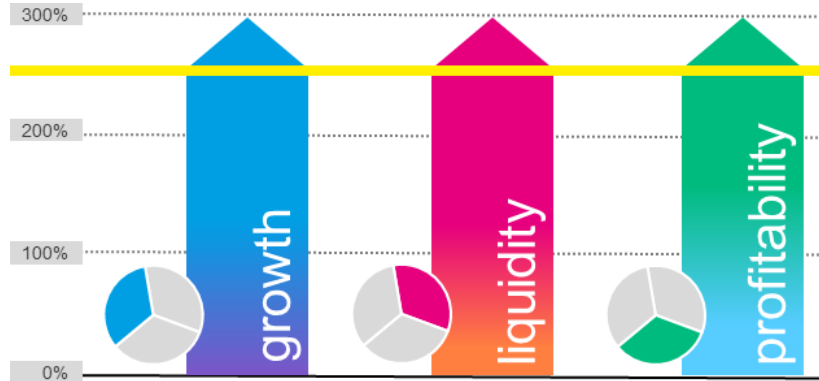


Financial Performance

Appendix

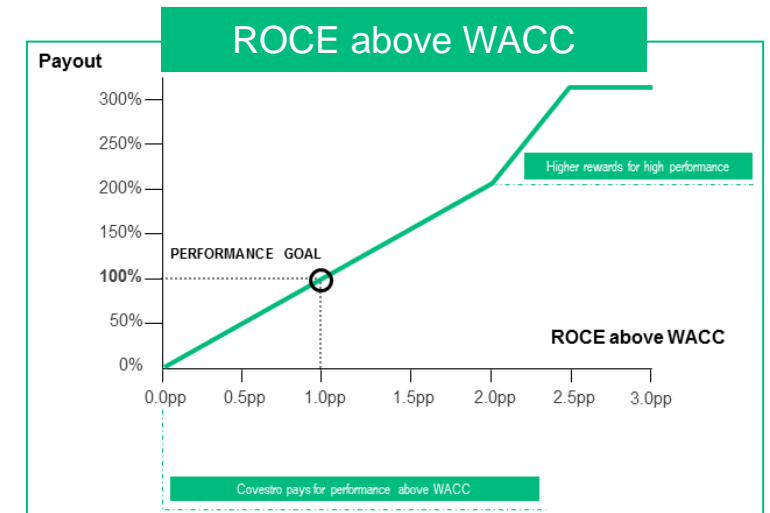
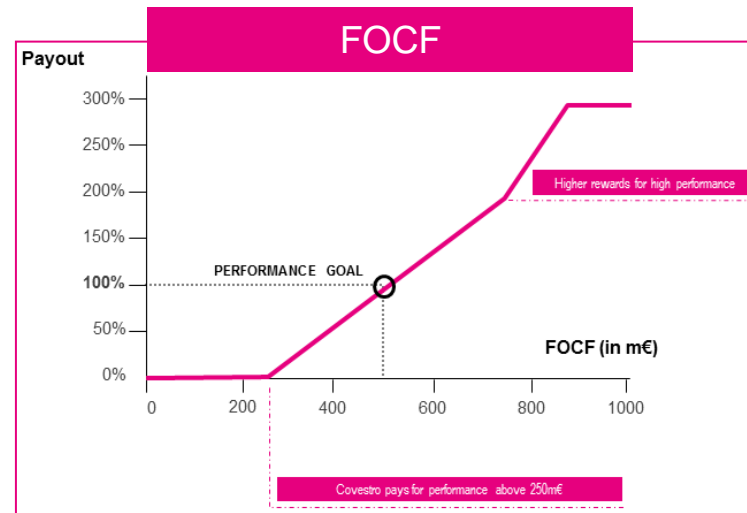
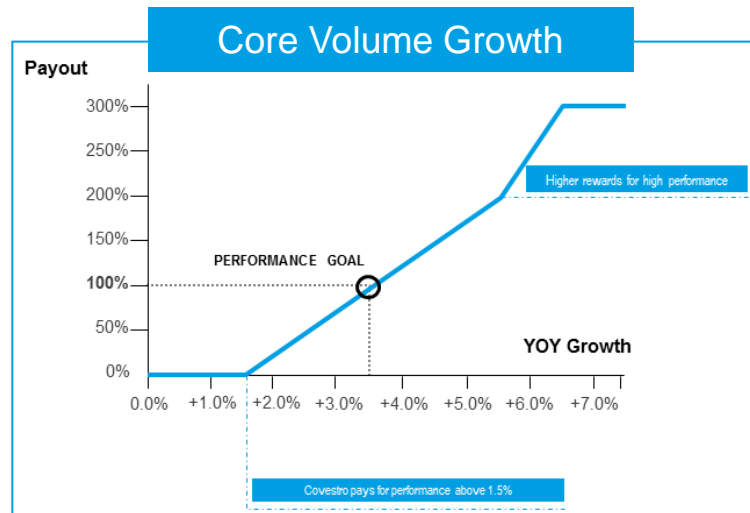
STI solely based on three financial Group KPIs

Short-term incentive program “Profit Sharing Plan (PSP)”



Program details

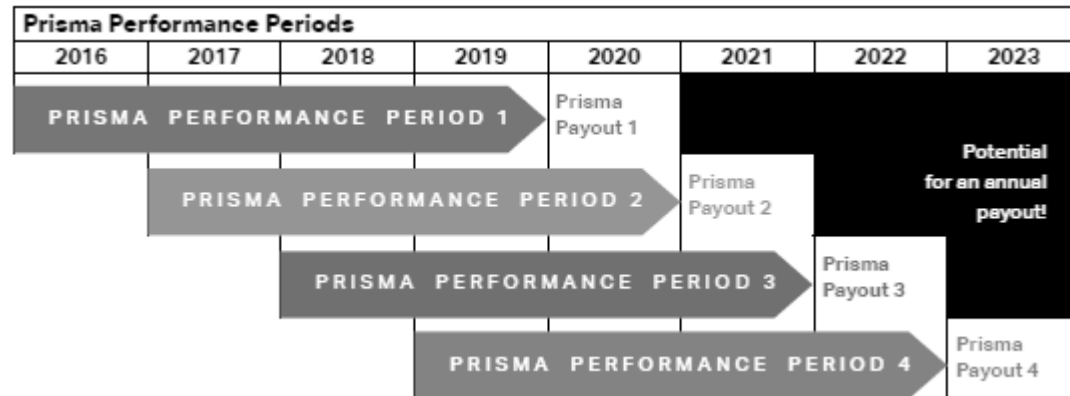
- Based on three equally weighted Group performance metrics core volume growth, FOCF and ROCE above WACC
- PSP target amounts (equal 100% payout) are a percentage of annual base salary, linked to individual position grade, ranging from 9% for non-managerial level to 100% for board members
- For each metric, payout can range from zero to 300%, depending on Group achievement levels; total payout capped at 250%





LTI component based on total shareholder return

Long-term incentive program “Prisma”



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:
 - TSR (Total Shareholder Return) as absolute performance criterion
 - Outperformance factor as relative payout criterion based on STOXX® Europe 600 Chemicals index
- Start and end prices for Covestro share and index are determined by the average closing prices during November and December before the start and at the end of the performance period

$$\frac{\text{Ending Share Price + Cumulated Dividends}}{\text{Starting Share Price}} = \text{TSR Factor}$$

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

Outperformance

$$\text{Prisma Payout} = \text{Prisma Target Amount} \times \left(\text{TSR Factor} \times \text{Outperformance Factor} \right)$$

Payout Percentage

Benchmark analysis of incentive programs

Exane BNP Paribas study



Range of metrics

Figure 6: Eclectic range of metrics used

Estimated low/mid/high (indicated by shading) exposure of total variable compensation to metrics



Source: Exane BNP Paribas

Highlights

- Study confirms Covestro’s focus on few, meaningful KPIs
- Covestro is one of three companies with highest exposure of Return on Capital Employed on total variable compensation, reflecting high emphasis on value creation
- The study confirms a “high exposure” of the variable compensation elements (volume growth, cash flow and ROCE for STI, TSR for LTI) to the used KPIs – Covestro is the only company with high score in *all* analyzed KPIs
- The incentive components are – also in comparison with competitor companies – well aligned with external targets and thus provide a strong pay-for-performance relation



Polyurethanes (PUR)

Dr. Markus Steilemann
June 29, 2017

Solid earnings growth potential through global PU leadership



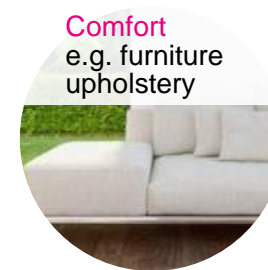
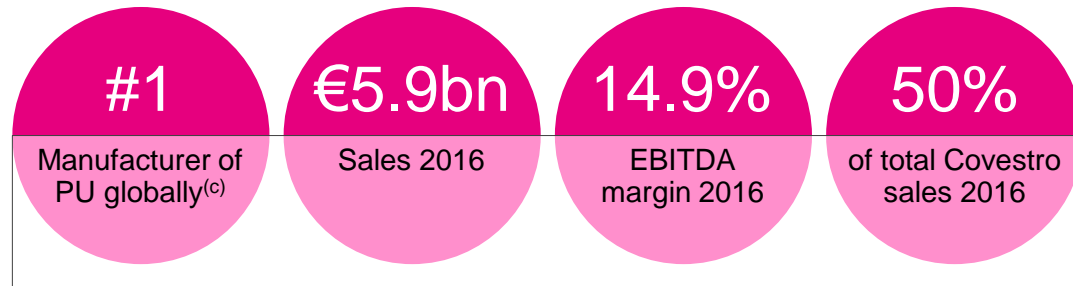
PUR key investment highlights

- 1 Attractive industry outlook**
based on robust structural demand growth and stable supply / demand dynamics
- 2 Global #1 producer of PU**
with leading and defensible industry positions owing to distinct entry requirements, broad customer base and access as well as polyols-driven innovation capabilities^(a)
- 3 Well-invested asset base and growth through smart capex**
complemented by evaluation of investment options to capture long-term market growth
- 4 Cost leadership in TDI and competitive cost positions in MDI and Polyols**
due to competitive process technologies, integrated production model and leading scale assets
- 5 EBITDA growth potential**
driven by volume growth and product mix improvements

Inventor of and leader in polyurethanes

PUR at a glance

- Inventor and producer of polyurethane raw materials and formulations mainly for rigid and flexible foams^(a)
- Broad portfolio spanning MDI and TDI (isocyanates) and polyether polyols
- Competitive integration from feedstock to formulations
- Global production platform comprising 18 facilities located in Europe, USA and Asia^(b)
- Total production capacity of around 3,500kt globally
- Largest business unit generating half of Covestro sales and above 40% of EBITDA in FY 2016

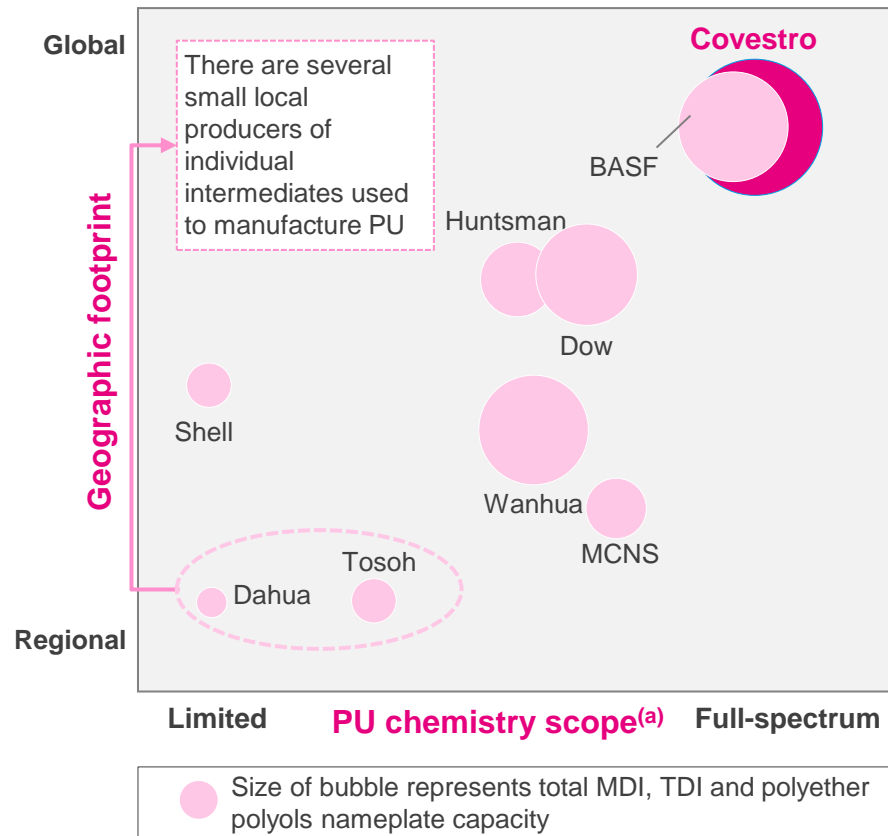


Full scope advantage as basis for innovation and growth



Industry structure and position

Competitive position of key PU players in 2016



Advantages of broad access play

<p>Full innovation leverage</p>	<ul style="list-style-type: none"> • 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
<p>Broad coverage of customer needs</p>	<ul style="list-style-type: none"> • 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
<p>Smoothened cyclicality</p>	<ul style="list-style-type: none"> • Optimized asset utilization at any point in the industry cycle • Broad geographical, customer and application portfolio • Strong positioning in niche application segments

Balanced business with attractive growth and margin trajectory

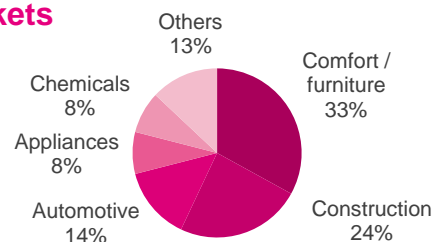


PUR in numbers

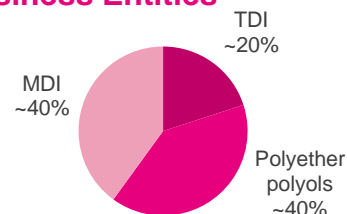
PUR sales split by

Covestro 2016

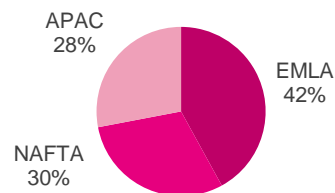
End-markets



Strategic Business Entities

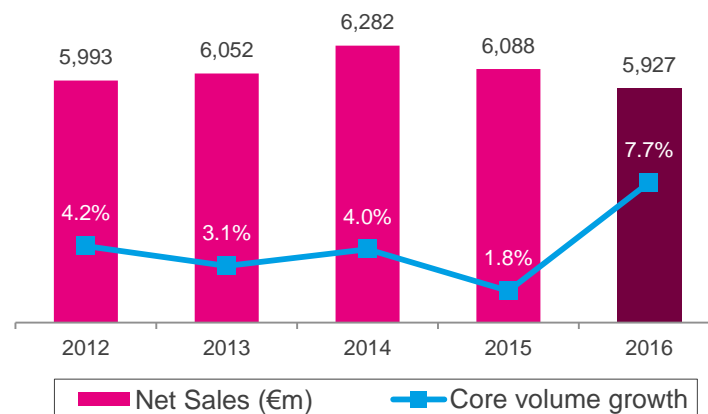


Regions

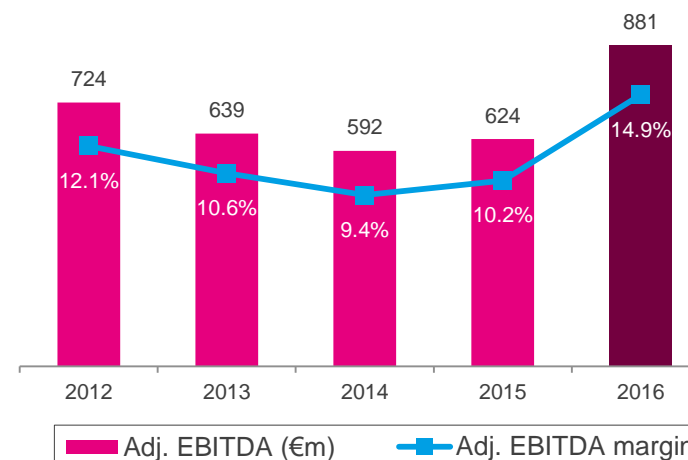


Total sales: €5.9bn

Net sales and core volume growth



Adj. EBITDA and margin



- Significant EBITDA margin increases since bottoming out in 2014
- Core volume growth outpaces turnover increase due to sales declining roughly in line with raw material prices
- PUR asset base strengthened by more than €1.4bn capex in 2012 - 2016

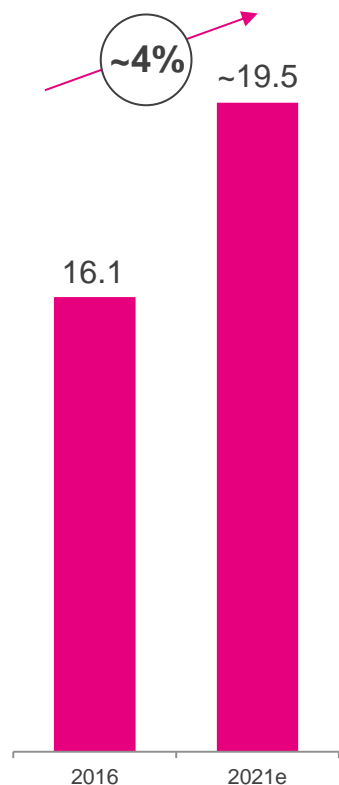
Sustainable solutions leading to above GDP growth



Tailwind from macro trends

Global PU industry^(a)

Demand ('000kt)
CAGR in %

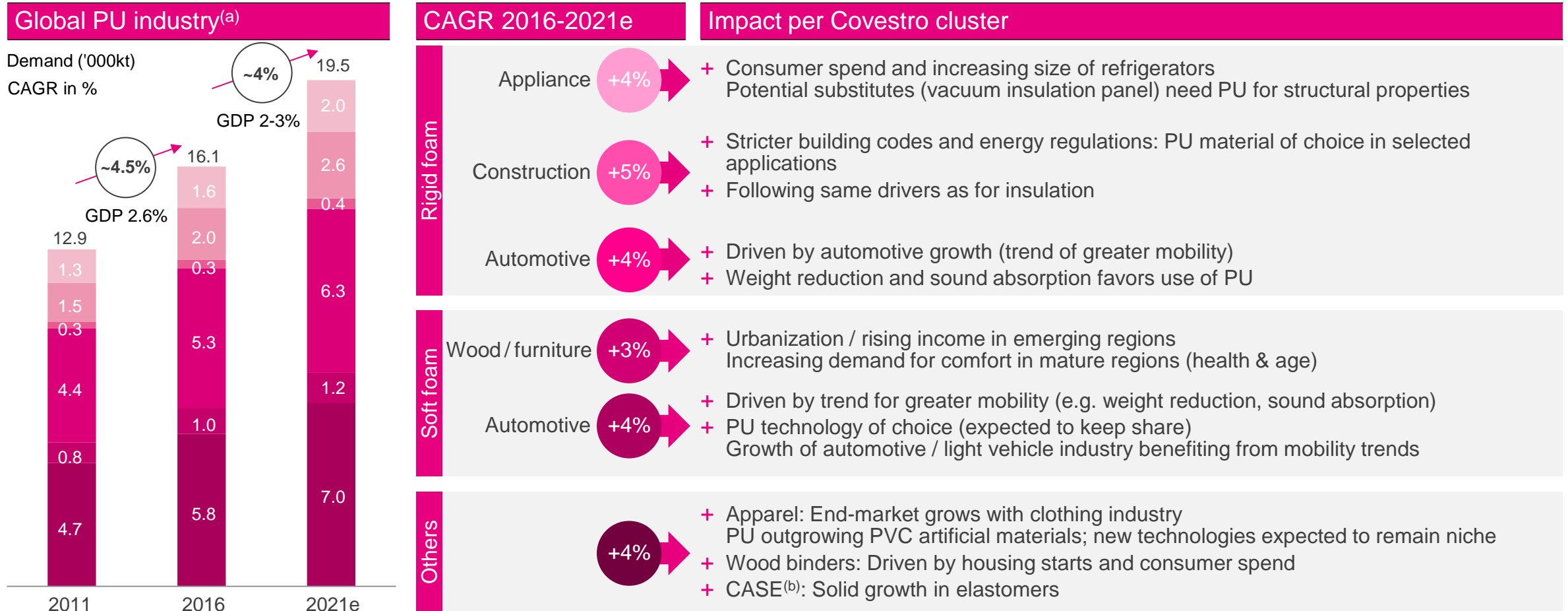


Macro trend	Impact on industries		PUR solution example
Resource depletion	Increasing focus for sustainable solutions	➔	Closing carbon cycle Cardyon® (CO ₂ based polyols) Bio-aniline (Bio-based MDI) Infusion technology for wind
Urbanization	New industry regulations on efficiency Material for comfort adapted to higher standard of living	➔	Affordable appliance & comfort Baytherm® Microcell (high-efficient microcellular foam) Bed in box
Population growth	Increasing needs for more intelligently insulated buildings	➔	Enhanced insulation Desmodur® (energy-efficient insulation material)
Mobility	Material for lightweight vehicles and enhanced consumer driving experience	➔	Smart mobility Baypreg® (Composite material for load floor) Baynat® headliners with improved acoustic
Digital revolution	Unleash the power of artificial intelligence to improve efficiency	➔	Intelligent solutions BayCap® (intelligent formulation support)

PU industry expected to grow at CAGR ~4% until 2021



Global PU industry growth driven by various applications



Market-driven innovation as key value driver



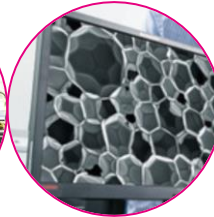
PUR R&D highlights

R&D project examples

Replacing epoxy resins by PU resins in wind turbine rotor blades



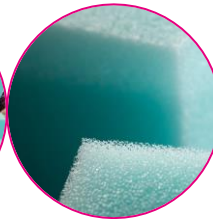
40% smaller cells allow up to 10% better insulation: BAYTHERM® Microcell



Bio-based aniline: biomass used as alternative raw material to benzene



Innovative technology enables use of up to 20% CO₂ as feedstock in polyether polyols production



Highlights 2016

100 Mio €
R&D spend

134
official approvals for product launches

~80%
of R&D spend going into product innovation

74
patent applications

Polyurethanes (PUR)

MDI

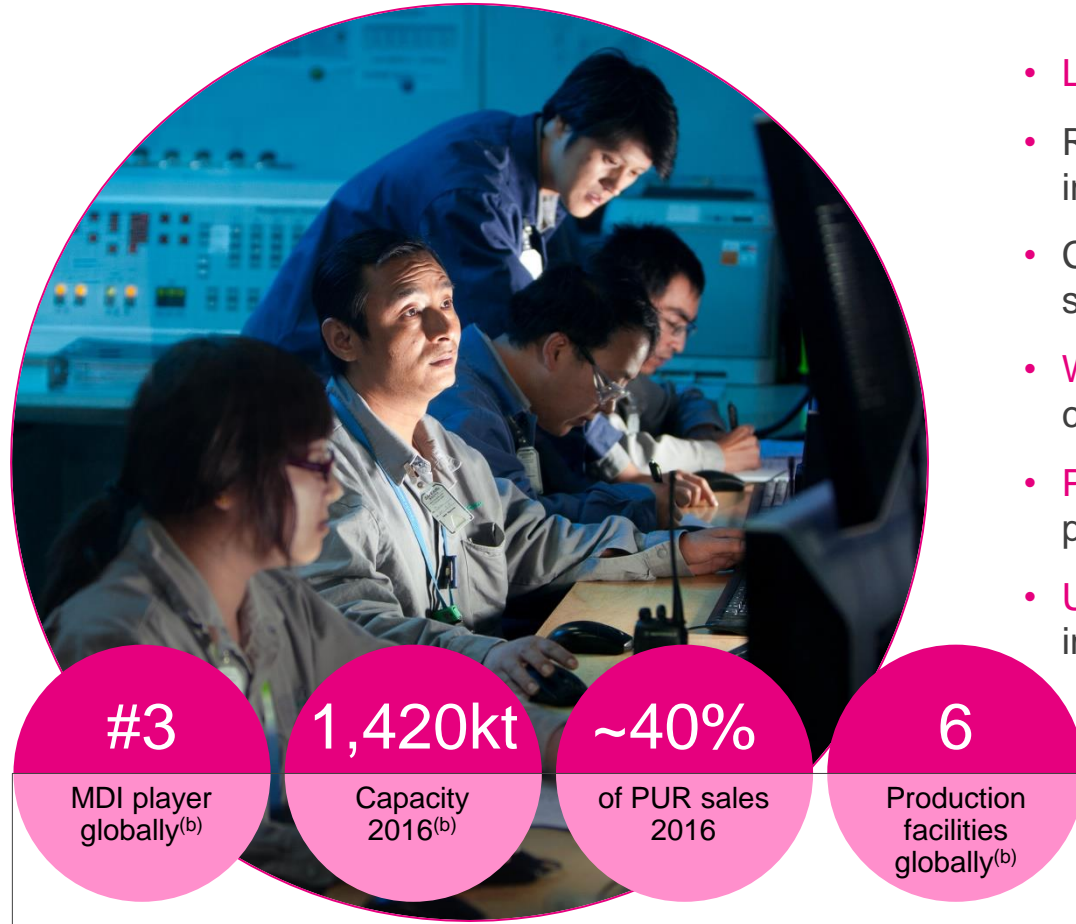
TDI

Polyether polyols

Leading global player in industry with growth 1-2pp above GDP



MDI at a glance



- **Leading supplier in all key regions** for MDI consuming industries
- Robust growth expectation of **1-2pp above GDP** support stable industry utilization / margin outlook
- Covestro to grow volumes **in-line with industry growth** based on smart capex approach
- **World-scale integrated production facilities** support competitive cost position^(a)
- **Proven track record of cost discipline** with asset restructuring potential in Europe to deliver further efficiency upsides
- **Uplift potential in EBITDA** due to volume growth and product mix improvements

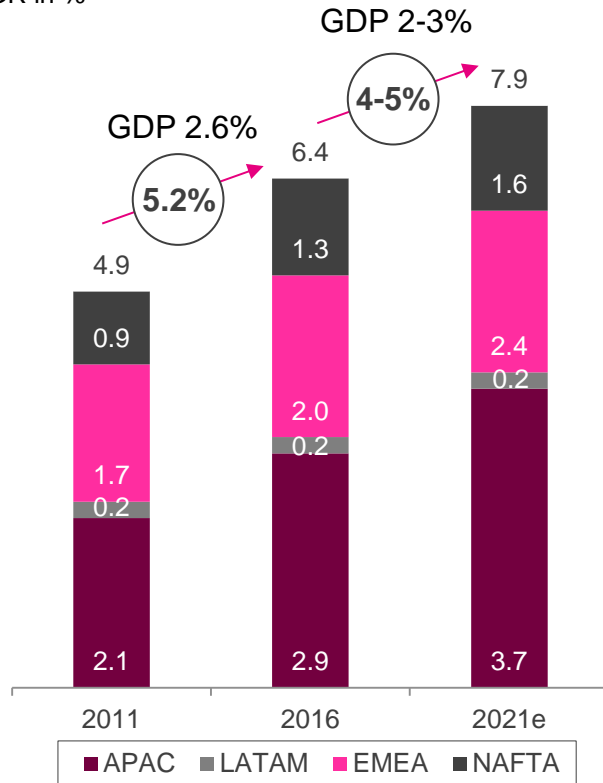
Diverse end-markets in all regions support robust growth



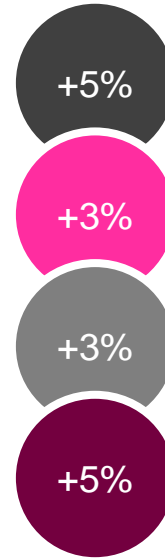
MDI industry demand outlook

MDI demand by region

Demand ('000kt)
CAGR in %



CAGR 2016 – 2021e



Underlying application growth driver^(a)

Construction	~5%
Appliances	~4-5%
CASE ^(b)	~4-5%
Diverse applications ^(c)	~4-5%

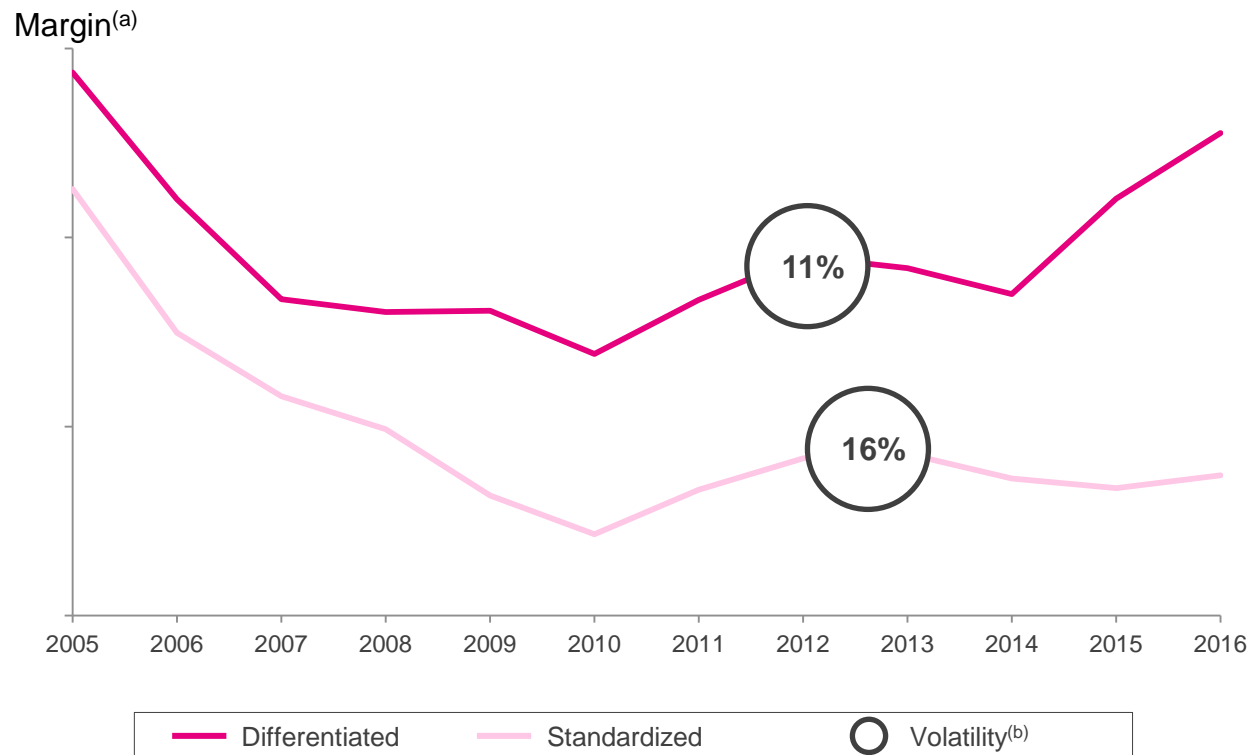
- Growing demand for insulation foam to comply with regional energy efficiency directives, particularly in developed economies
- Increase in global construction activity
 - broader macro upturn
 - high growth in emerging economies
- Higher consumption of appliances (refrigerators)
- Steady GDP-driven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

MDI product portfolio leads to increased resilience in earnings



MDI margin resilience

Differentiated grades account for ~30% of MDI sales in 2016



Differentiation potential beyond standardized products

Joint sales of polyols and MDI

- Examples: CASE^(c), soft furniture, automotive seating

Specialty or downstream products

- Examples: Selected MDI grades (pre-polymers, blends, monomeric), TPU

Formulations as market access requirement

- Examples: Automotive, appliances

Customized solutions

- Example: Window frames

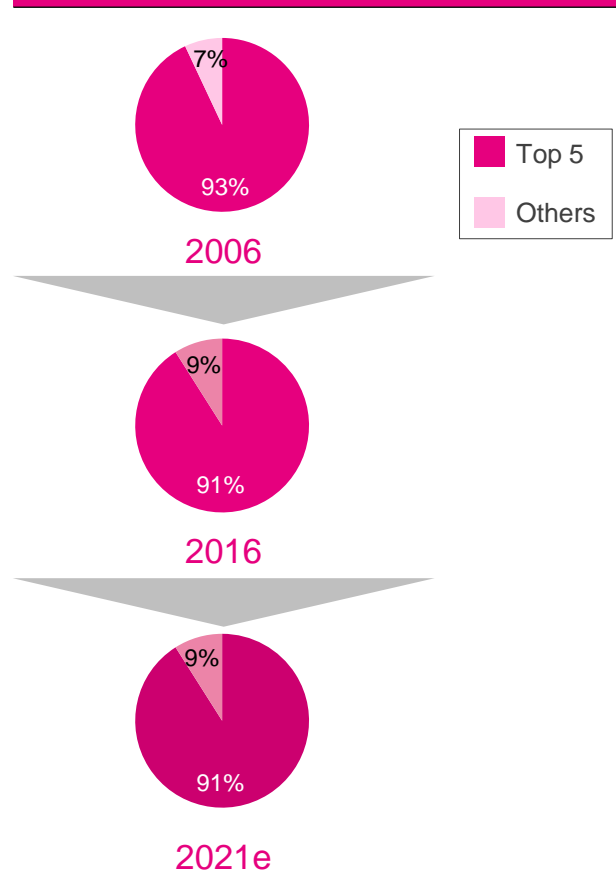
Differentiated business with ~0.25€/kg higher gross margin

Strong industry position supported by distinct entry requirements



MDI overview

Global capacity by producer

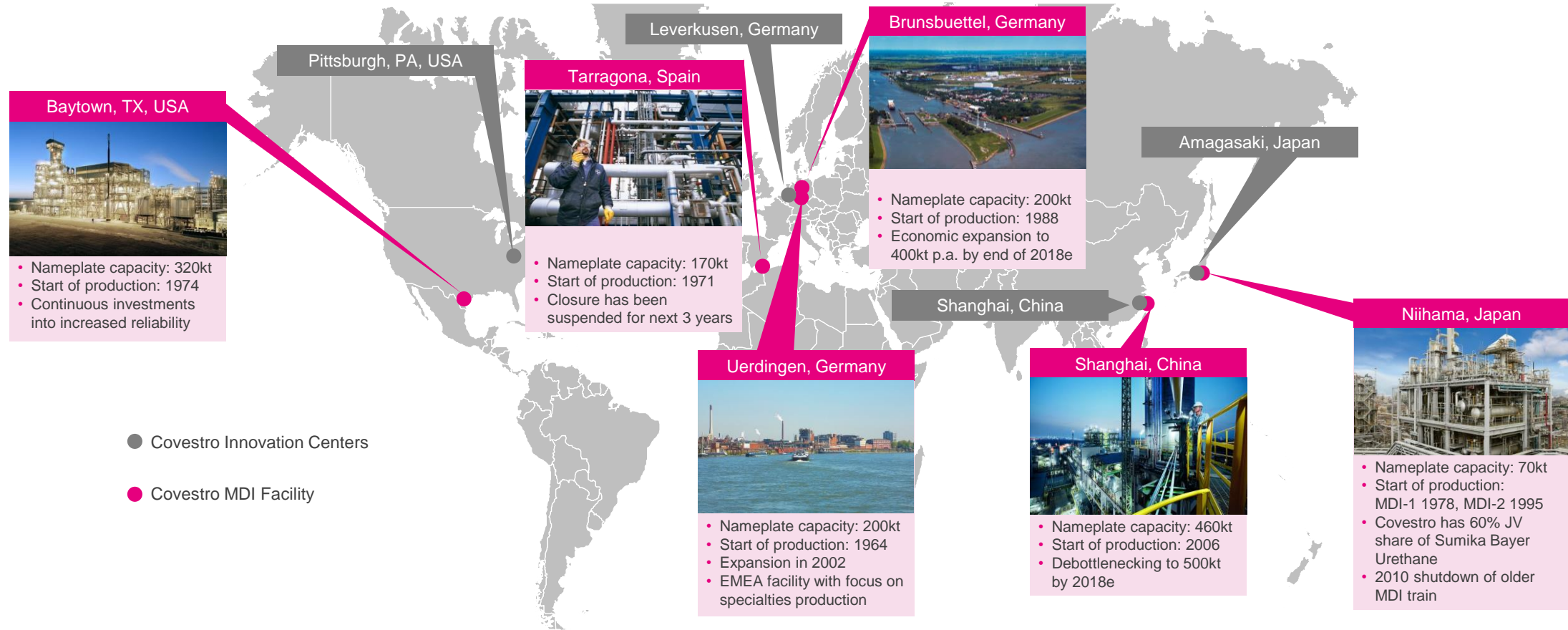


	Industry	Covestro position
Capital intensity	<ul style="list-style-type: none"> • Considerable investment required to develop world-scale plants^(a) <ul style="list-style-type: none"> – €1.1 – 1.4bn investment for full train – Approx. 5 years to full operation after completed environmental impact assessment 	<ul style="list-style-type: none"> • Well-invested, large- to world-scale asset base • Economies of scale • Total capacity 1,420kt^(b)
Process technology	<ul style="list-style-type: none"> • State-of-the-art technology along the process chain of high importance 	<ul style="list-style-type: none"> • Competitive process technology • Cost leader in NAFTA and advantageous position in Asia • Restructuring potential in EMLA
Feedstock integration	<ul style="list-style-type: none"> • Security of precursor supply essential • Backward-integration as major value lever 	<ul style="list-style-type: none"> • Favorable backward-integration • Long-term supply contracts for important precursors
Technical capabilities and expertise	<ul style="list-style-type: none"> • Systems demanding greater knowledge and expertise • Permits required to handle hazardous feedstock, e.g. phosgene 	<ul style="list-style-type: none"> • Superior expertise and know-how in application development and customer insight • Reputation cemented through 60+ years experience
Proximity to customer markets	<ul style="list-style-type: none"> • Importance of proximity to customer markets • Global asset base critical to support ambitions of global customer base 	<ul style="list-style-type: none"> • Diverse, global footprint • Plants in all core regions • Ability to service all key areas of demand

Well-positioned production network to supply customers globally



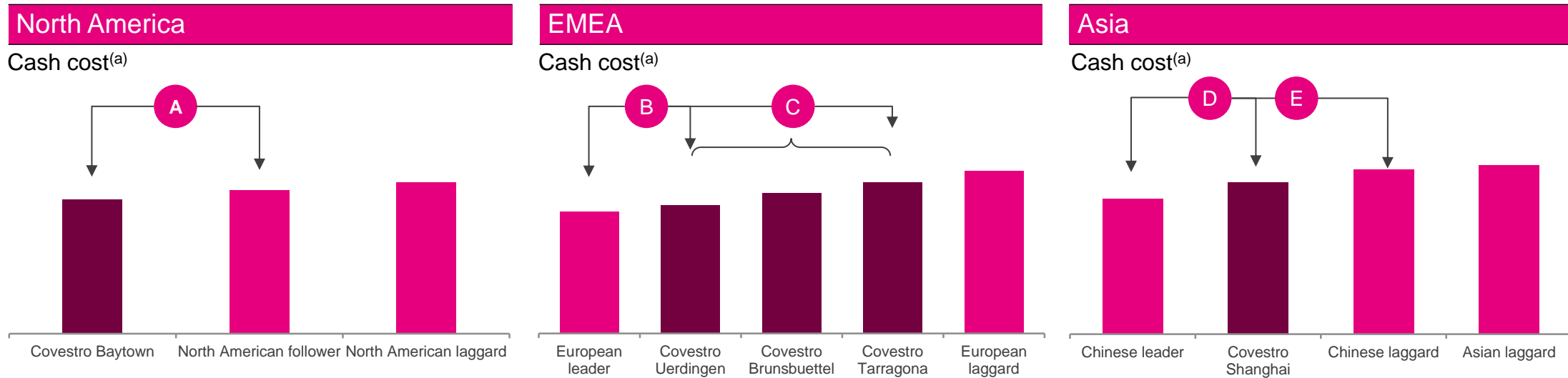
Covestro MDI operations



Leading cost position in US, efficiency potential in other regions



MDI regional industry cost curves



- A** Covestro cost leadership through backward-integration
- B** European leader with large and energy efficient MDI capacity plus cost efficient raw material supply
- C** Uerdingen more cost efficient relative to other Covestro facilities in Europe due to level of backward-integration
- D** Chinese leader with larger backward-integration including energy supply
- E** Covestro ahead due to larger MDI train capacity and energy efficiency

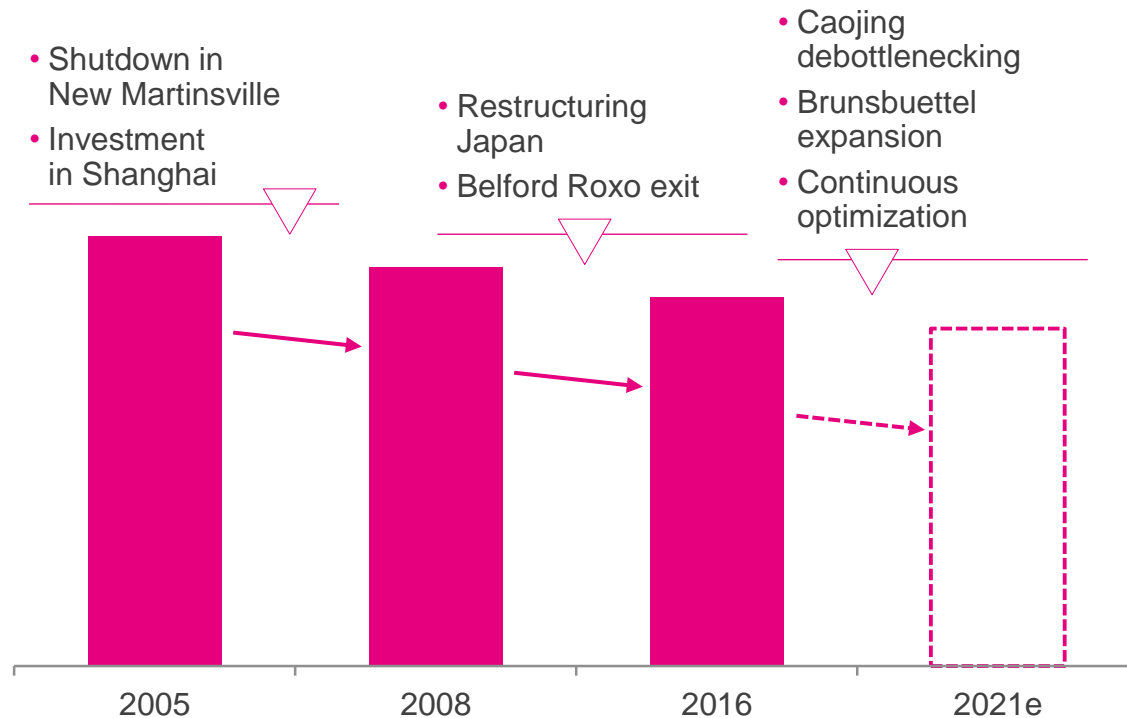
Competitive cost position through continuous improvements



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)



Closure of Belford Roxo, Brazil

- Operations discontinued since July 2015
- Decision driven by relative cost competitiveness vs. other production sites

Continuous optimization of global production set-up

- Caojing capacity to be debottlenecked to 500kt p.a. by 2018e
- Brunsbuettel expansion to 400kt p.a. in H2 2018e to leverage existing site-infrastructure

Smart capex approach to secure growth



Covestro plans for capacity expansions



Brunsbüttel expansion of 200kt p.a.

- Possible re-usage of idle TDI infrastructure and precursors in Brunsbüttel enable economic doubling of MDI capacity by 200kt p.a.
- Expected on stream by end of 2018

Shanghai debottlenecking of 40kt p.a.

- World-scale plant in Caojing to reach targeted capacity of 500kt p.a. in 2018e
- Mid-single digit m€ investment backed by additional market demand

Various options for additional MDI growth will be investigated

- New world-scale plant investments operational approx. 5 years after completed environmental impact assessment
- Debottlenecking can be realized with approx. 3 years lead time

Polyurethanes (PUR)

MDI

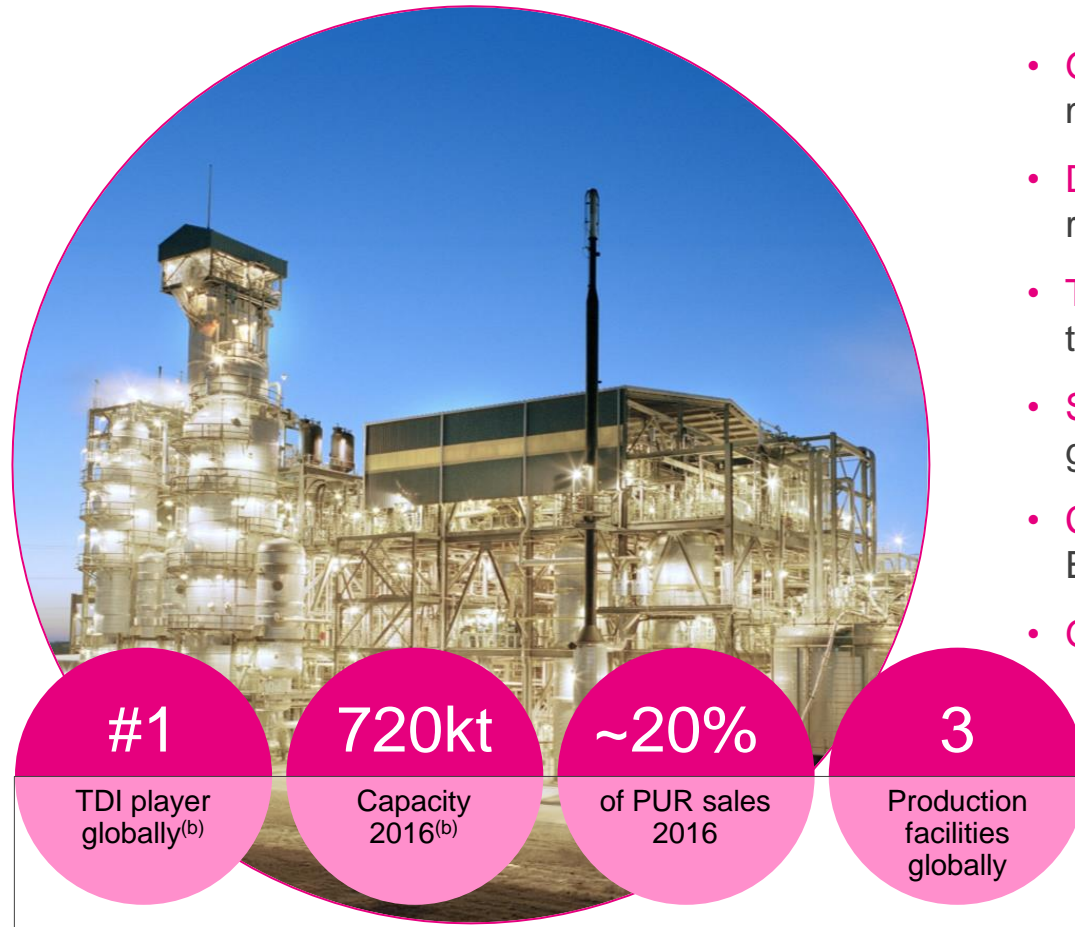
TDI

Polyether polyols

Global leader in long-term growth industry



TDI at a glance



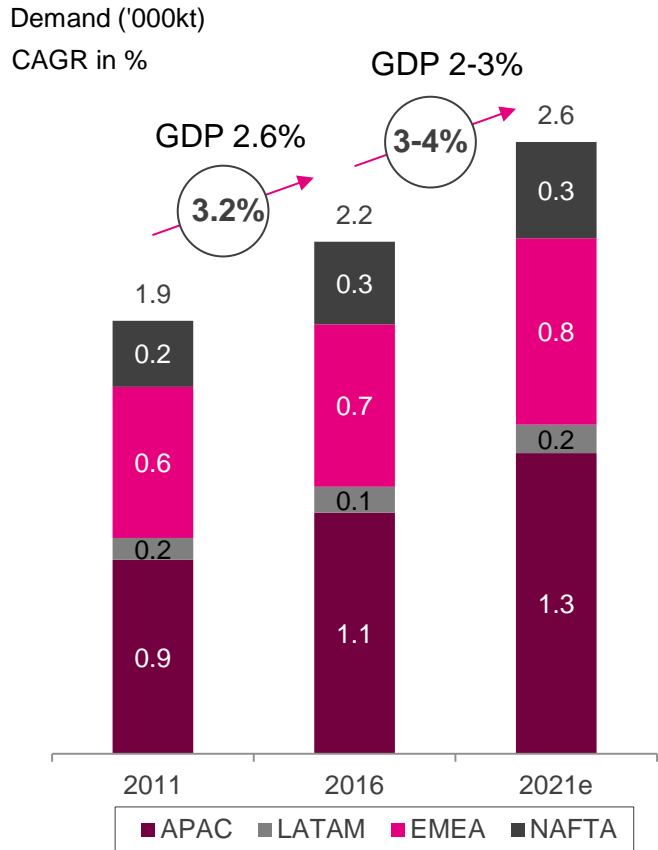
- **Globally leading producer of TDI** with number one positions in all major regions
- **Demand growth around GDP** driven by all key end-markets and regions, particularly APAC
- **TDI margins volatile and currently above sustainable level** due to temporary capacity constraints
- **Superior cost position** through backward-integration, proprietary gas-phase technology and integrated, world-scale asset base^(a)
- **Cost savings and increased profitability** out of restructuring of European asset base
- **Growth into recently expanded world-scale asset base**

Diverse end-markets across all regions support robust growth

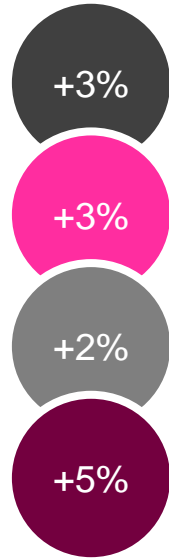


TDI industry demand

TDI demand by region



CAGR 2016 – 2021e



Underlying application growth driver^(a)

Bedding	~3-4%
Furniture	~3-4%
Automotive	~3%
CASE ^(b)	~4-5%

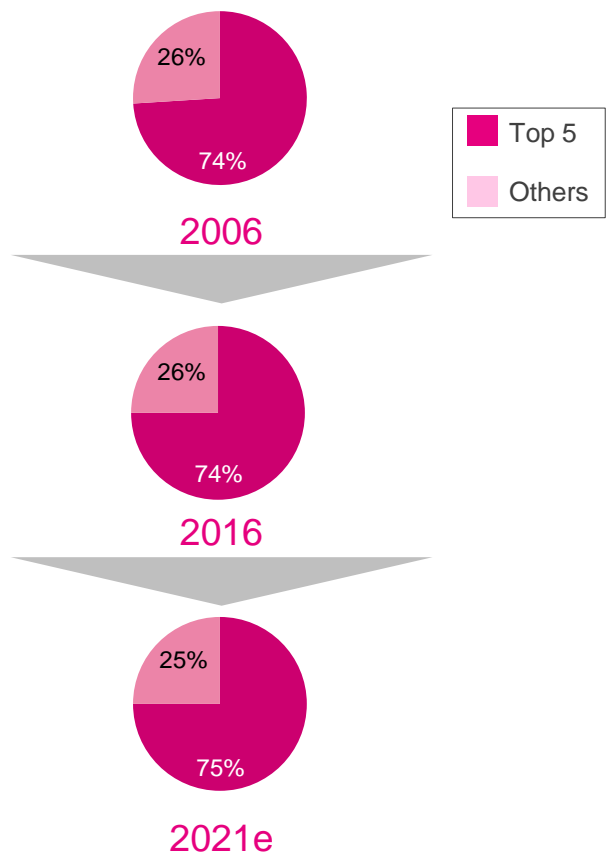
- Solid growth across all major end-uses
- Higher consumption of mattresses and furniture by emerging middle class in developing economies
- Favorable substitution trends in CASE^(b) owing to relative advantages vs. competing materials

Strong industry position supported by distinct entry requirements



TDI overview

Global capacity by producer

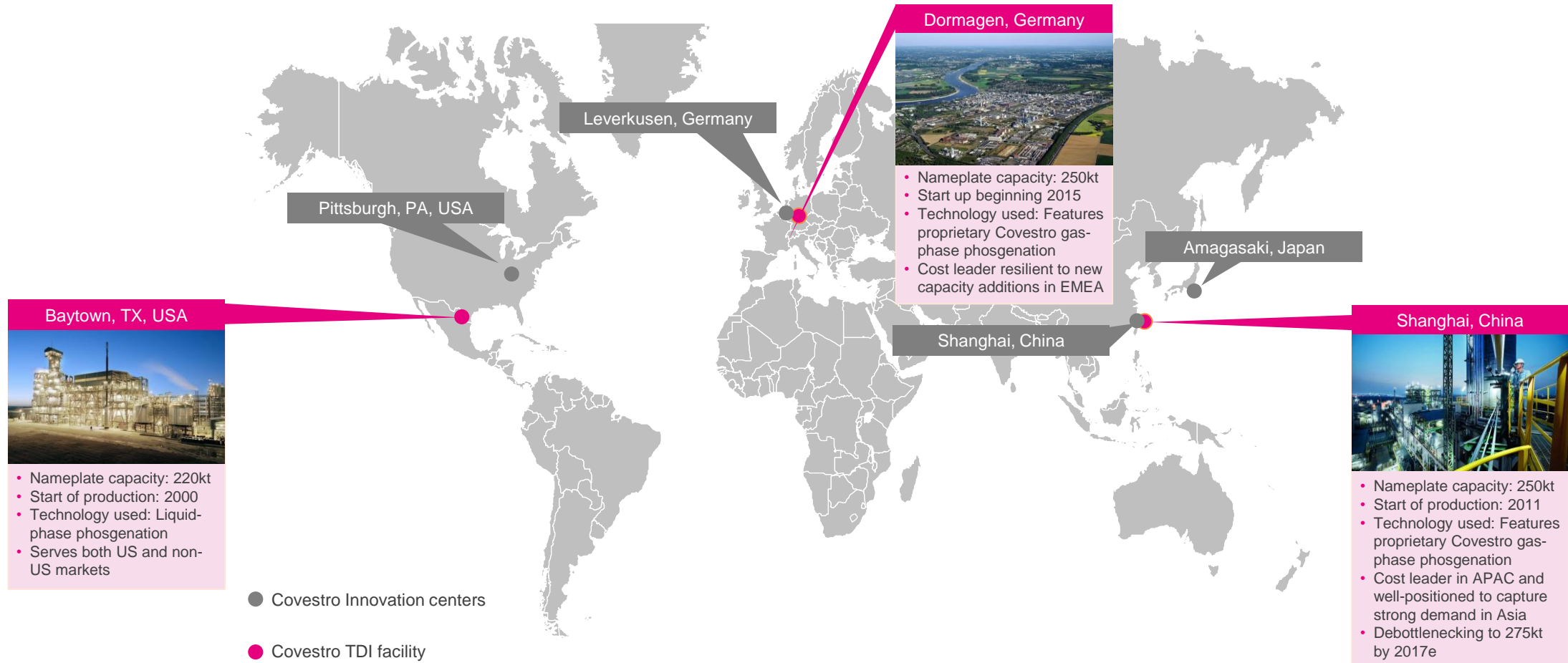


	Industry	Covestro position
Capital intensity	<ul style="list-style-type: none"> World-scale plant^(a) requires: <ul style="list-style-type: none"> €0.8-1.1bn investment for full train Approx. 5 years to full operation after completed environmental impact assessment 	<ul style="list-style-type: none"> 3 world-scale production facilities and total capacity of 720kt Benefits from economies of scale
Process technology	<ul style="list-style-type: none"> Advanced technology along the process chain important particularly in high cost locations Limited options for licensing 	<ul style="list-style-type: none"> State-of-the-art gas-phase phosgenation (GPP) technology leading to global cost leadership^(b) <ul style="list-style-type: none"> highly cost efficient and eco-friendly
Feedstock integration	<ul style="list-style-type: none"> Supply contracts as standard option Backward-integration advantageous 	<ul style="list-style-type: none"> Long-term supply contracts for important precursors Favorable backward-integration
Technical capabilities and expertise	<ul style="list-style-type: none"> Permits required to handle hazardous feedstock, e.g. phosgene Track record and suitable infrastructure important 	<ul style="list-style-type: none"> World-class expertise and know-how in customer-centric application development Proven reputation with 60+ years experience Impeccable safety record
Proximity to markets	<ul style="list-style-type: none"> Benefits for established global players Required to service large-scale multi-nationals with diverse operations 	<ul style="list-style-type: none"> Global footprint and customer insight Facilities in all core regions

Efficiency program to enhance quality of existing assets



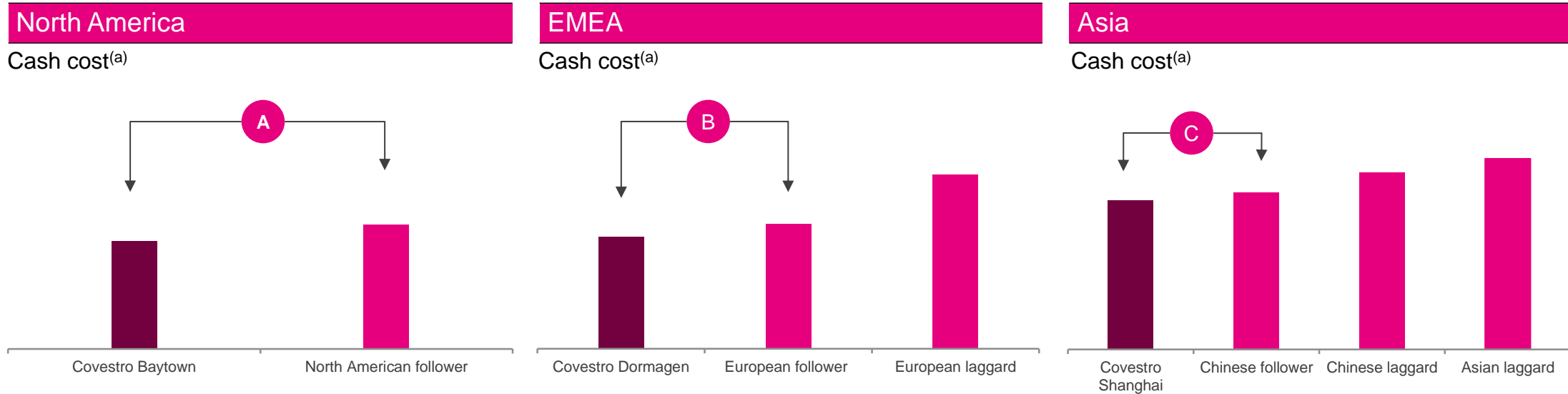
Covestro TDI operations



Global cost leadership by scale, integration and technology



TDI regional industry cost curves



- A** Covestro cost leadership through backward-integration
- B** Covestro advantages from superior process technology
- C** Process technology advantages and larger TDI train capacity driving superior cost position for Covestro

Polyurethanes (PUR)

MDI

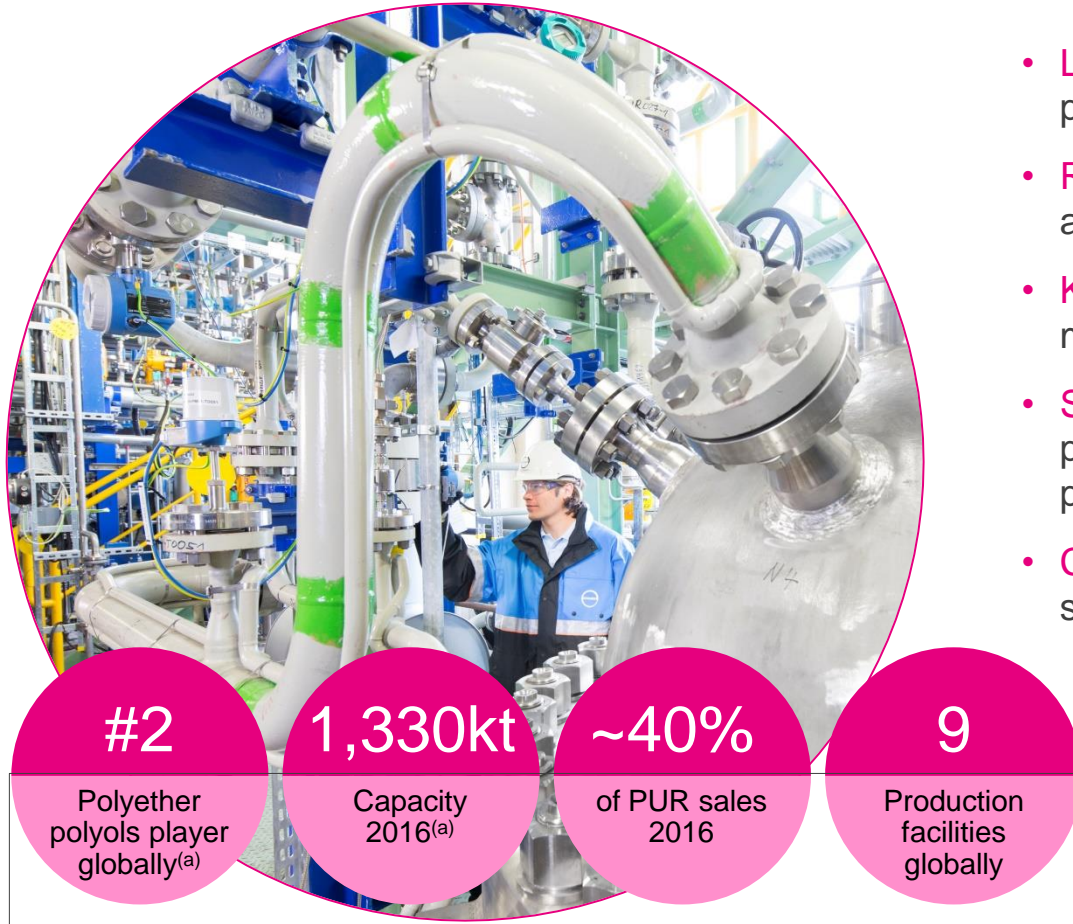
TDI

Polyether polyols

Leading position in polyether polyols as distinctive component



Polyether polyols at a glance



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

Polyether polyols drive innovation as competitive advantage



Role of polyether polyols in Covestro portfolio

Polyether polyols mixed with isocyanates lead to versatile applications

Rigid foam

Average mix = Molecular ratio: 1 **MDI** to ~0.7 polyether polyols



Building insulation

- space and energy efficient
- flexible processing



Cold chain

- affordable temperature preservation



Automotive parts

- strong, durable and light
- noise and heat insulation

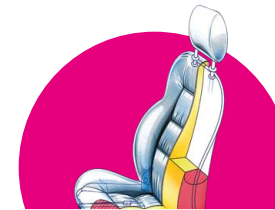
Flexible foam

Average mix = Molecular ratio: 1 **TDI** to ~2 polyether polyols



Furniture

- durable and supportive cushions



Automotive parts

- padding for auto seating



Bedding

- design and comfort driven mattress material

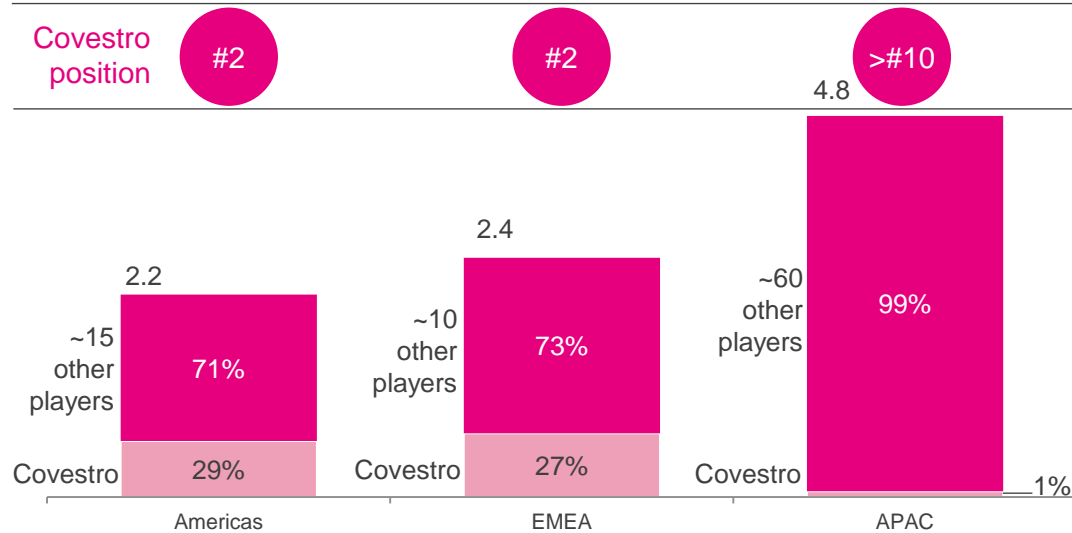
Global #2 producer with strong positions in NAFTA and EMEA



Polyether polyols position in the industry

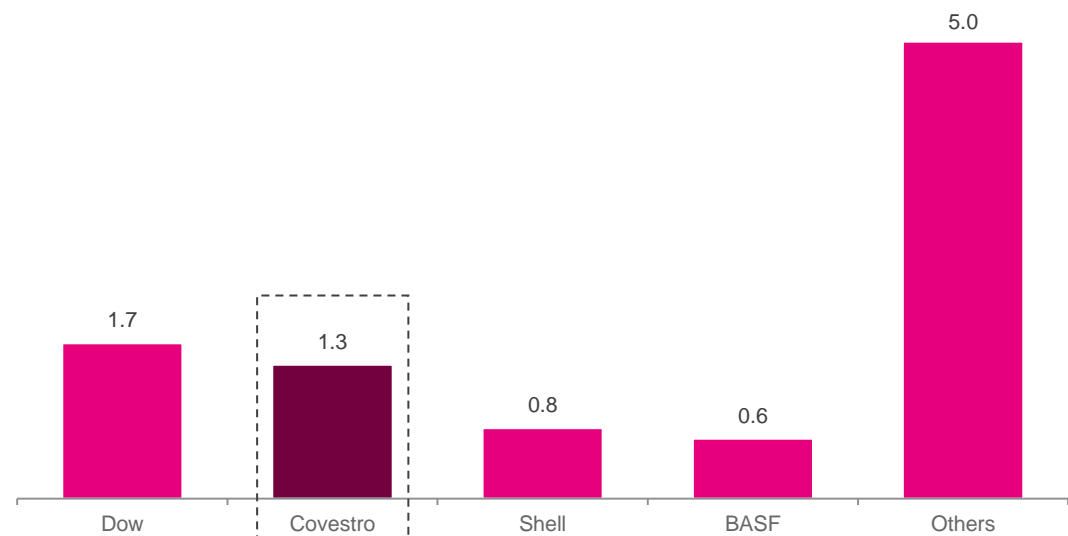
Polyether polyols industry capacity share by region^(a)

('000kt), 2016



Top polyether polyols producers globally by capacity^(a)

('000kt), 2016



- 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) account for ~20% share
- Higher margins and distinct entry requirements for the business model of propylene oxide backward-integrated polyols vs. stand-alone
- Distinct entry requirements: capital intensity, propylene oxide access, advanced polyols process technology, R&D and technical infrastructure

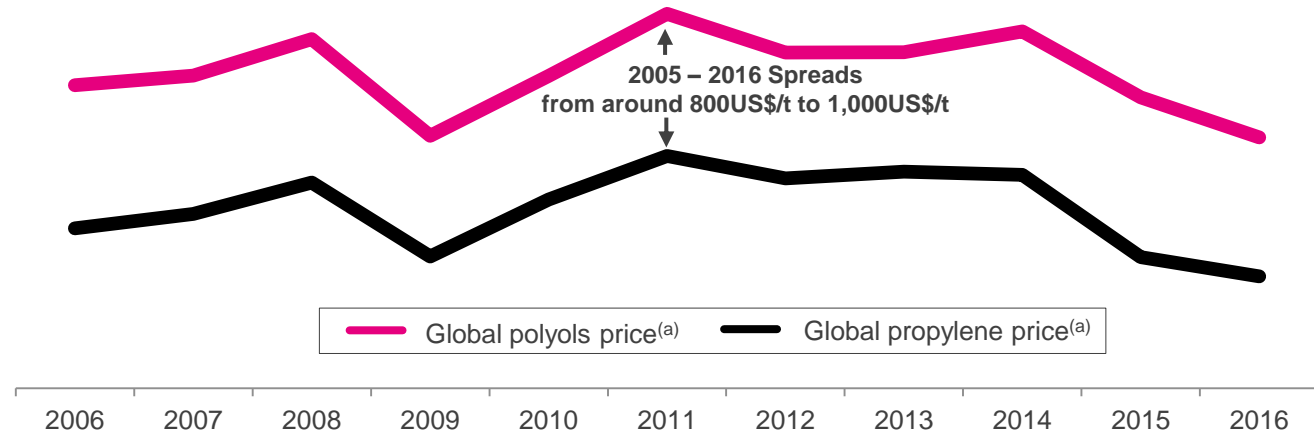
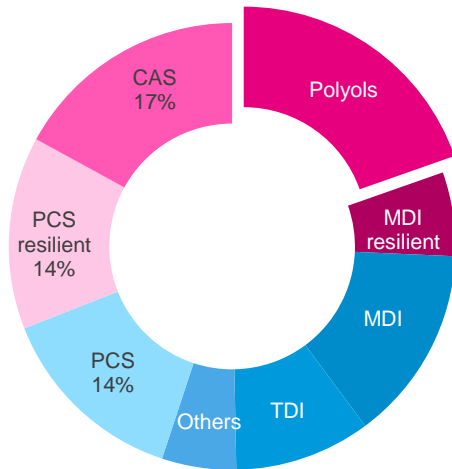
Polyols industry spreads



Polyether polyols demonstrate inherently stable margins

Resilience of polyether polyols business also confirmed in 2016, although at low end of historic band

% of 2016 group sales



- Non-integrated polyether polyols producers with limited competitiveness
- Single capacity addition with little influence on supply / demand dynamics
- Distinct 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

Competitive cost position through PO backward-integration



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
- Opportunity to explore debottlenecking options with LyondellBasell
- US propylene oxide JV not exposed to propylene oxide co-product volatility (TBA / MTBE or styrene monomer)
- Covestro responsible for certain styrene monomer sales from EMEA joint venture



Polycarbonates (PCS)

Michelle Jou
June 29, 2017

Well-positioned to capture global demand

PCS key investment highlights



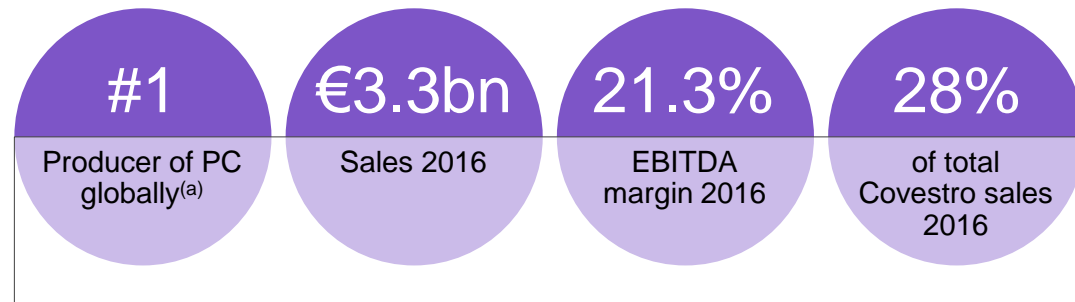
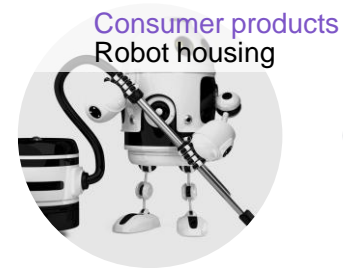
- 1 High-value, differentiated business**
with more than 1,000 different PC grades ranging from ~€1.5 to ~€15 per kg
- 2 Increasing earning resilience**
driven by continuous product mix improvements
- 3 Opportunity to outgrow the industry**
taking shares for three consecutive years, outgrowing in high value-added applications
- 4 Leading global player in an attractive industry**
with above GDP growth, driven by broad application range
- 5 Well-invested, young and highly efficient asset base**
based on low-cost production and smart capex approach

Global leading producer of polycarbonates

PCS serving key growth end-markets

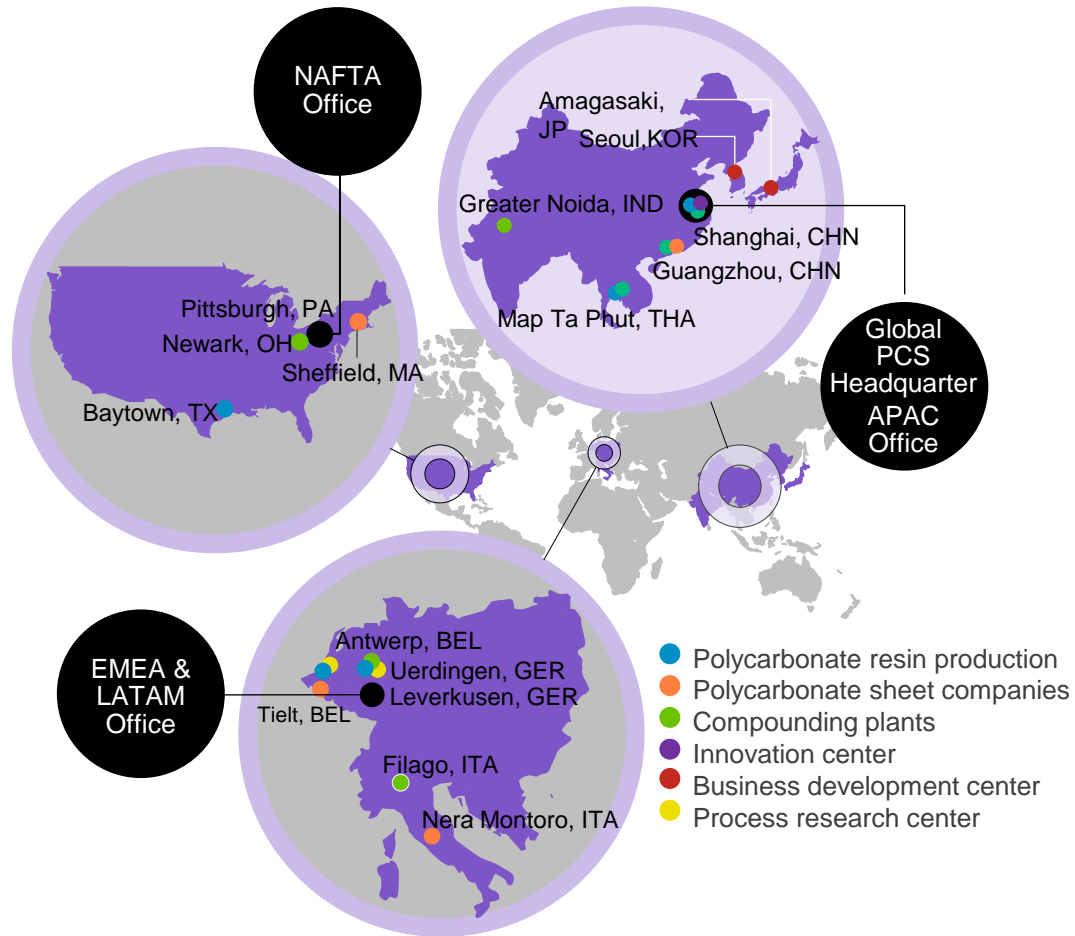


- Global leader and inventor of polycarbonates
- Offers products and solutions for a wide range of applications
- Integrated production processes along the value chain
- Global platform with 5 production sites, 5 R&D centers, 7 compounding centers and business unit headquarter in Shanghai, China
- Total production capacity of 1,480kt



Reach and access to customers is key competitive advantage

Global asset footprint with 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

Engineering thermoplastics

Serving numerous industries with a unique combination of properties



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



Windows
Conservatories
Roof structures
Partition walls



Medical devices
Robotics
Personal safety (helmets, headgear, eyewear)
Packaging (water bottles, pitchers)



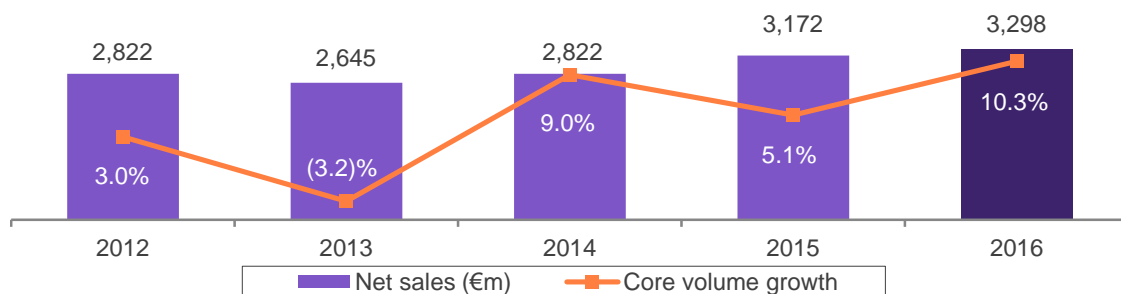
IT equipment
Housing for mobile devices & consumer electronics
Chargers
Switchbox and other electrical systems
Diffusion panel of LCD monitors
LED parts

Strong growth and margin improvement continuing in 2016

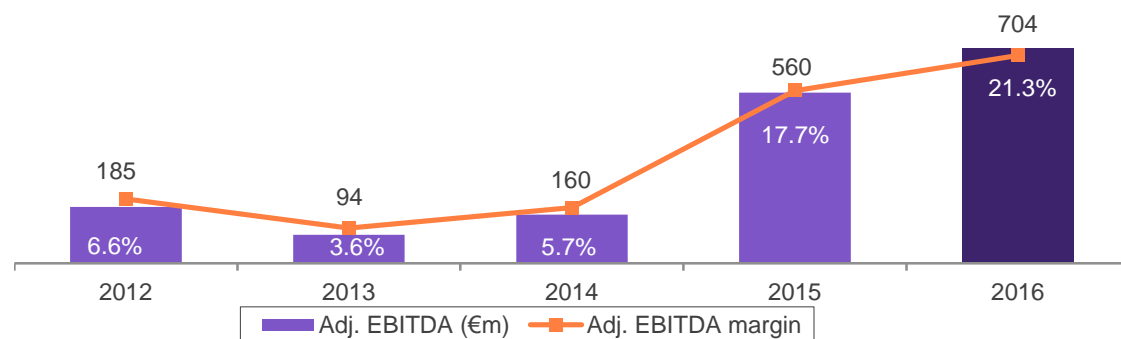


PCS historical financial performance

Net sales and core volume growth



Adj. EBITDA and margin



Highlights

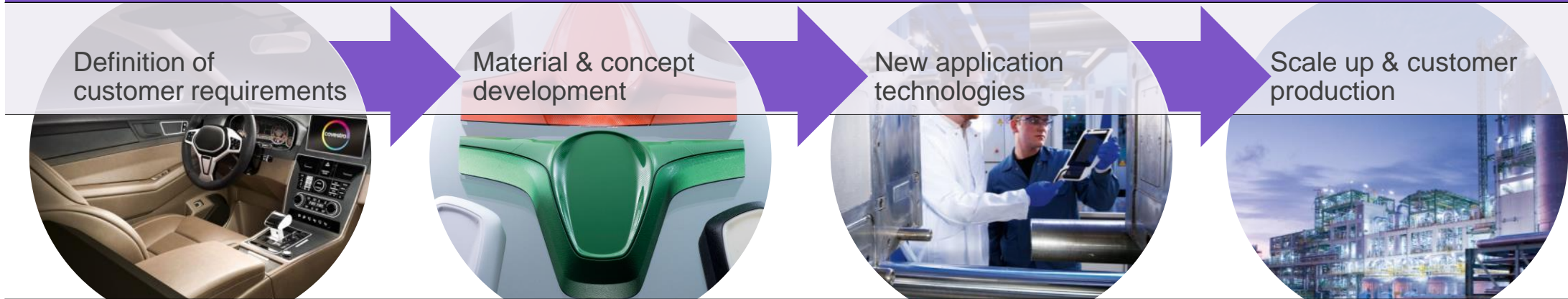
- Core volume CAGR of ~5% between 2011 and 2016
- Selling price declines below feedstock price benefits between 2012 and 2016
- Significant market share gains due to capacity expansions and innovative products
- Trough margin of 3.6% in 2013 driven by rapidly declining DVD / CD market
- Margins in 2015 and 2016 back to levels prior to DVD / CD boom and bust period

Supporting our customers in every step of the value chain



Material, application and production know-how ensure leading market access and development

Example of customer product development lifecycle



Customer needs

Distinctive and innovative automotive interior design

Specialized material solutions providing function integration and safety

Optimized and highly integrated manufacturing process

Global competitive offerings
Comprehensive and competent product support

Covestro solution

- ✓ High-end interior solutions with best-in-class product & technology portfolio
- ✓ Creative concepts based on profound understanding of materials and applications
- ✓ Support along the whole value chain

- ✓ Innovative polycarbonate grades, e.g. for infotainment display solutions
- ✓ New designs for lifestyle colors, surface finish and soft touch & feel
- ✓ Ductile materials for crash safety

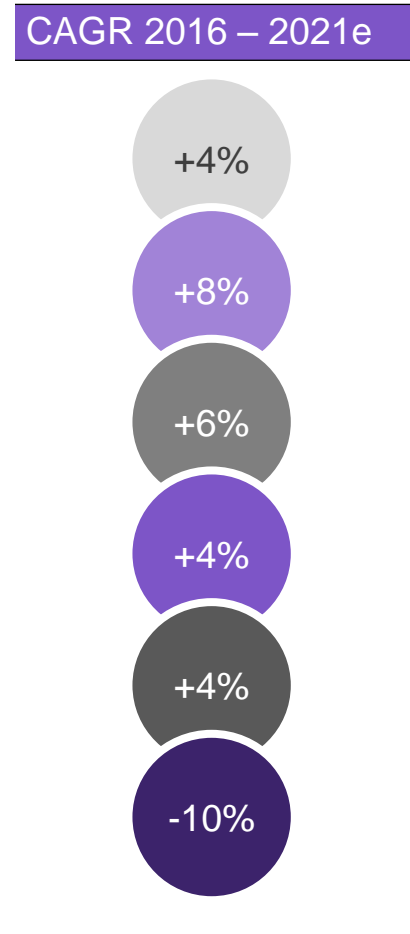
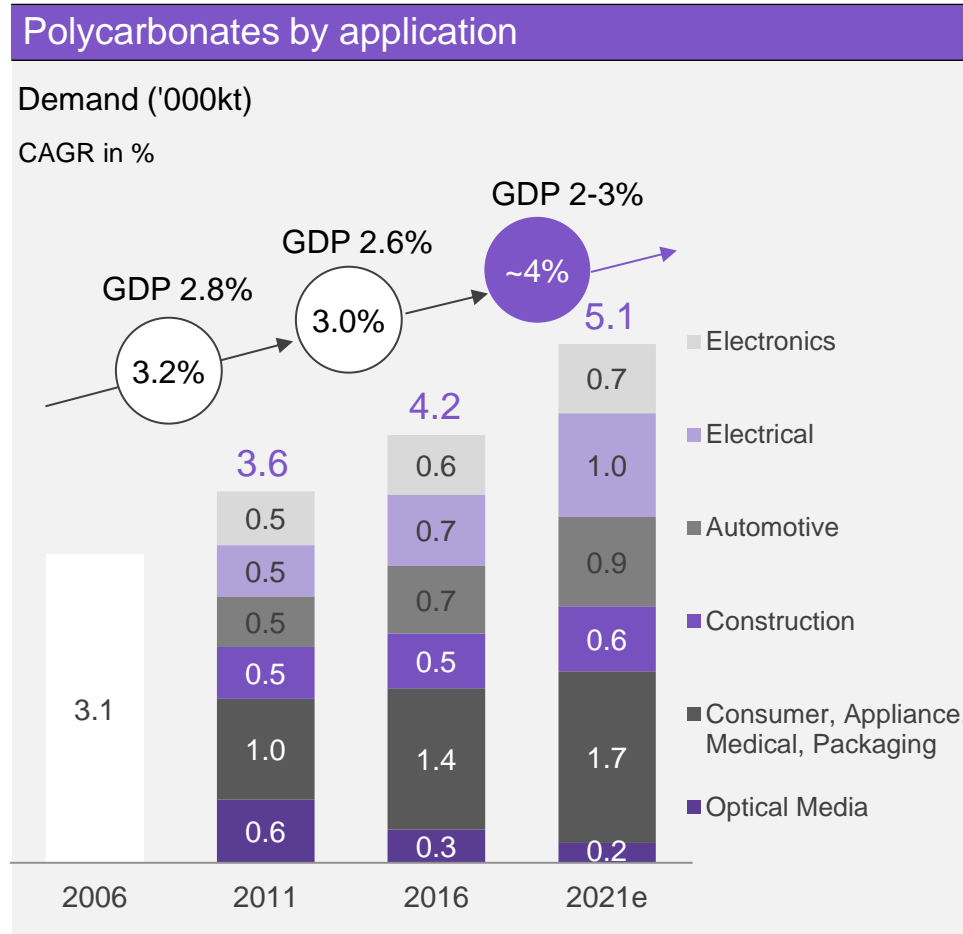
- ✓ Best-in-class expertise in thermoplastics and processing technologies
- ✓ Reduction of cost and complexity

- ✓ First choice development partner for leading OEM, component suppliers and design houses
- ✓ Cutting-edge material and process innovation
- ✓ Global manufacturing, supply and support network

Macro trends support above GDP demand growth



Polycarbonates industry demand across diverse customer industries and regions



Accelerated growth 2016-2021e

CAGR in %

APAC	~5%
EMEA	~3%
NAFTA	~3%

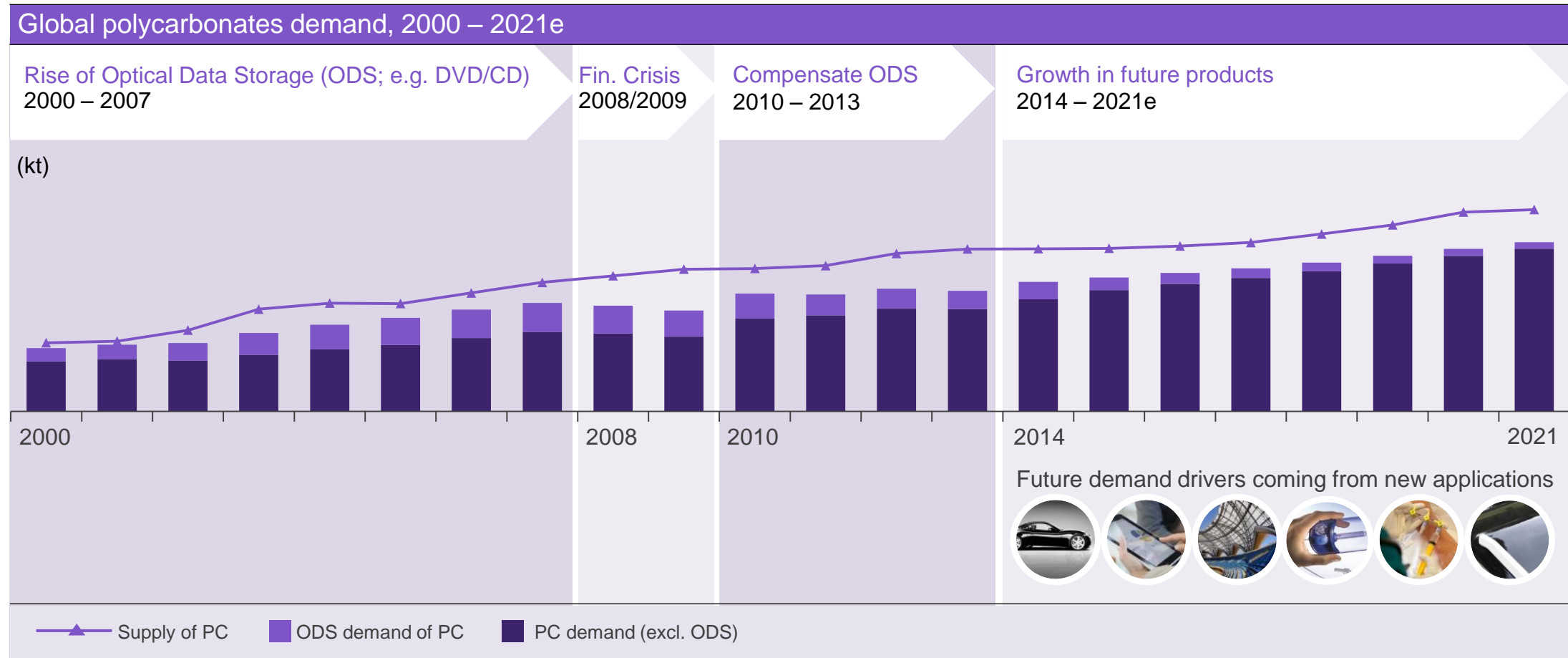
Continuous upgrades, substitution and new application development; selected examples:

- Upgrade to “smart” electronics and new device class, e.g. smartphones / TV
- New revolutionary technologies, e.g. wearables, audio devices, AR and VR, sensors, robotics, drones
- Penetration of LED luminaires
- E-mobility applications
- Medical housing and device applications

Development of diverse applications drives the demand of PC



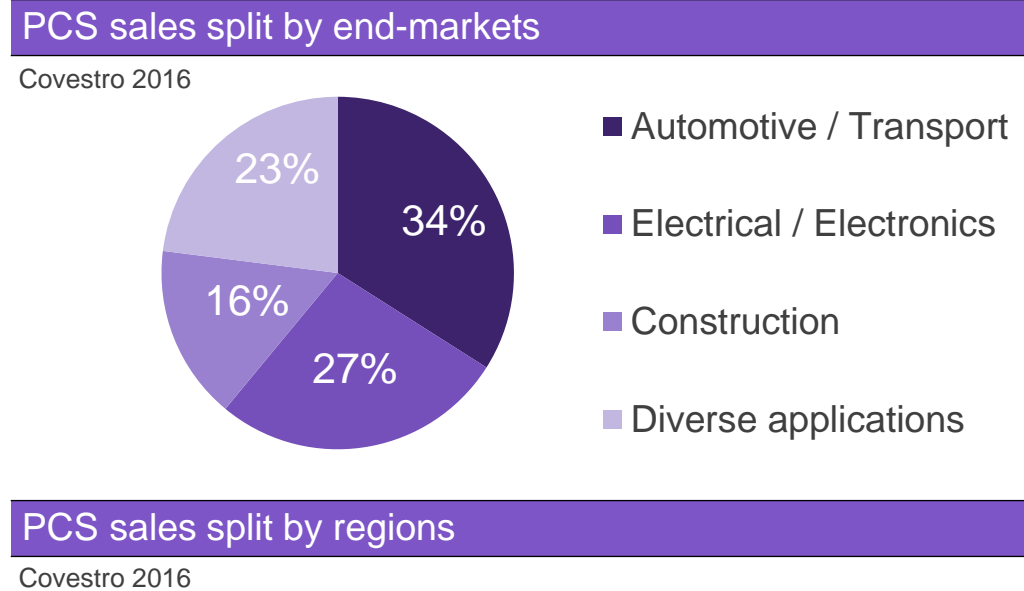
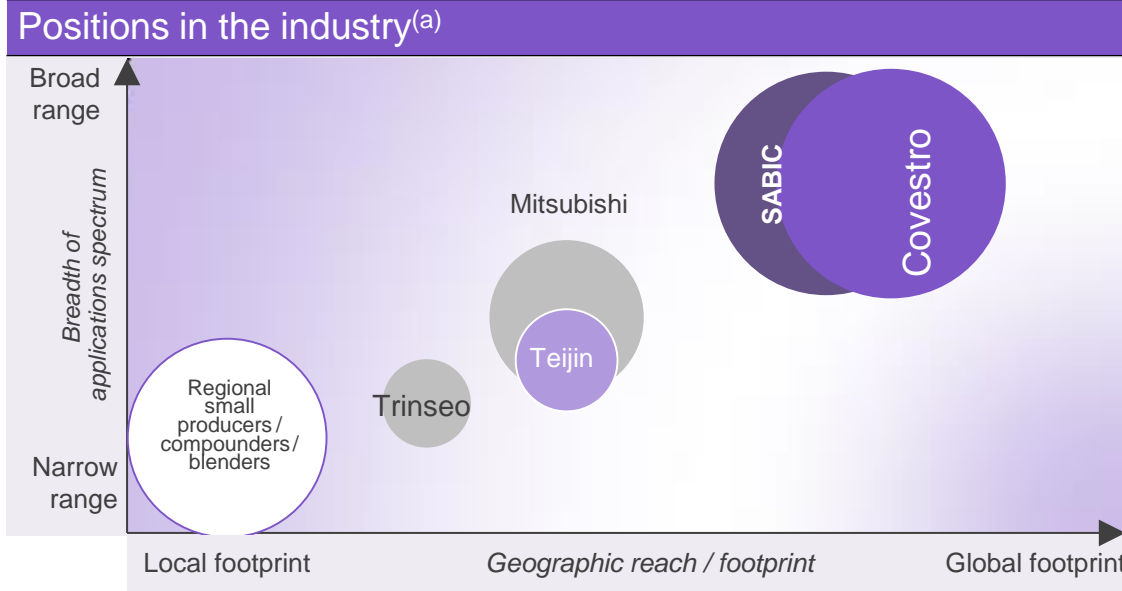
Polycarbonates industry demand



Broad access to customer applications and regions



Covestro position in the PC industry

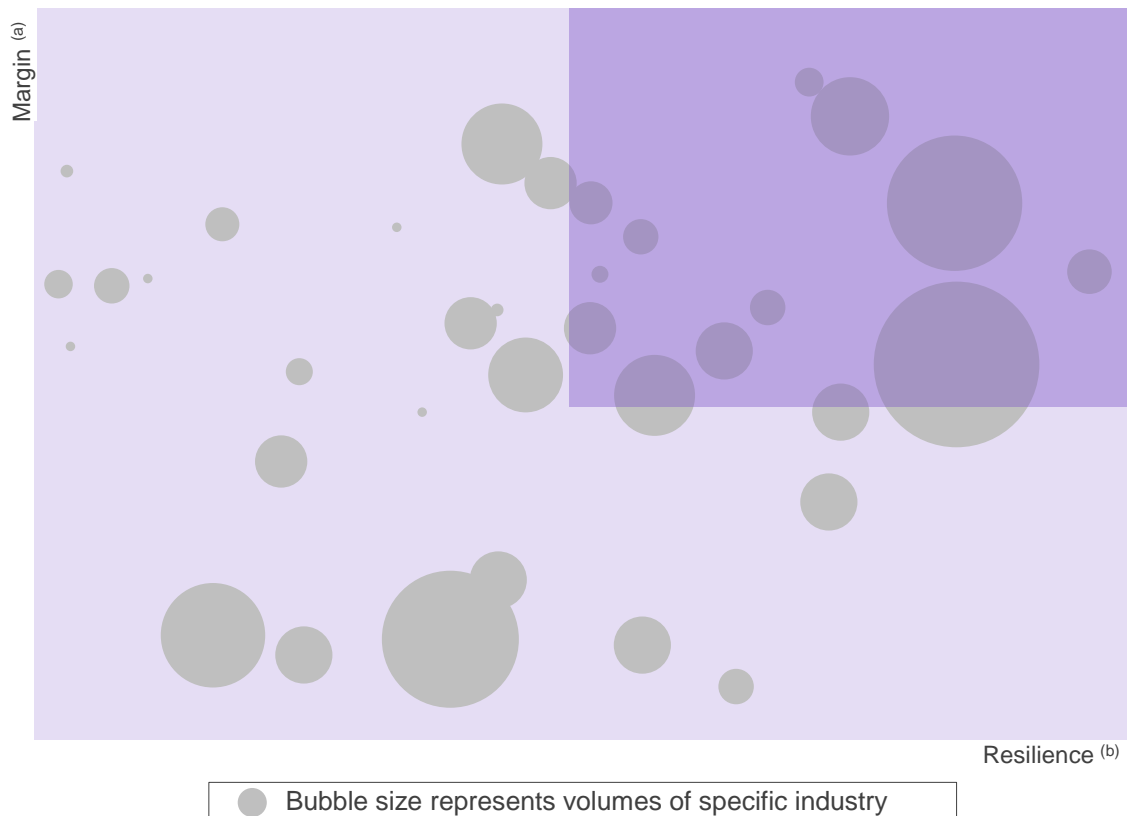


- ### Advantages of broad play
- Reduced exposure to cyclicity of single customer industries
 - Optimized risk distribution
 - Optimized asset utilization
 - Better flexibility in portfolio management

Excellent access to high-growth and resilient end-markets

Benefits from the combination of global market access, innovation capabilities and high quality product portfolio

Resilient portion of PCS volumes accounts for ~50% in 2016



High-value industry application (e.g. automotive, medical, electrical)

- Greater technical specification requirement
- Longer lifecycles, higher market growth
- Comprehensive innovation capabilities and technical service is key
- Premium pricing in selected segments

Limited disruptions from new capacity additions

- Niche applications with strong differentiation potential
- Customer intimacy and distinct industry entry requirements
- Investment need for material switch

Resilient portion of PCS volumes improved from ~40% to ~50% in the last 5 years, supported by continuous progress of innovative offerings

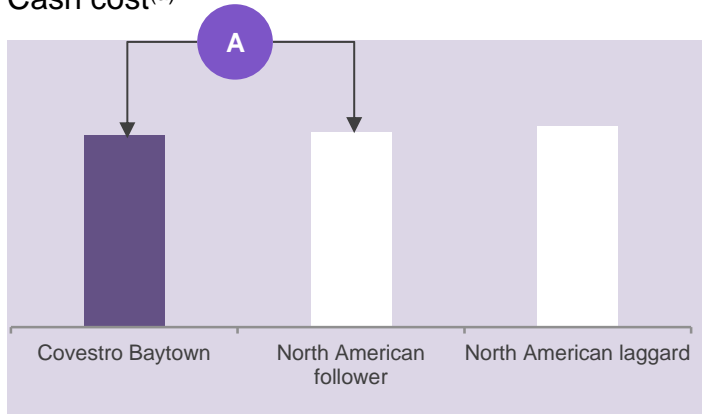
Leading cost positions in key regions

PCS regional industry cost curves



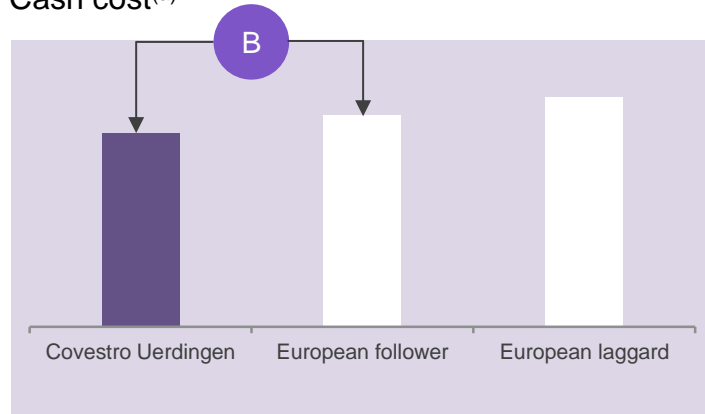
North America

Cash cost^(a)



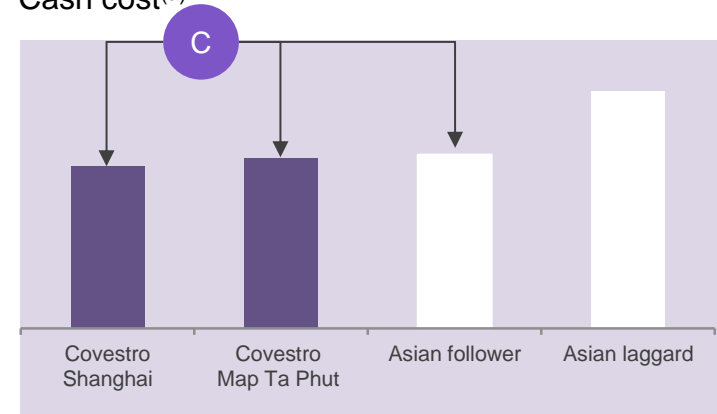
Europe

Cash cost^(a)



Asia

Cash cost^(a)



A	Covestro cost leader in North America
B	Covestro cost leader in Europe
C	Covestro's leading cost position in China due to integration and economies of scale

Market-driven innovation as key value driver

PCS R&D highlights



R&D project examples

Highly durable and chemical resistant housing materials



High-quality LED optical (transparent and translucent) and functional materials



(E-)mobility and transportation



Continuous fiber-reinforced thermoplastic composites



Highlights 2016

75 Mio €

R&D spend

18%

of PCS 2016 net sales with new products not older than 5 years

36

new grades in 2016

37

patent applications



Coatings, Adhesives, Specialties (CAS)

Daniel Meyer
June 29, 2017

Global industry leader with high and resilient profitability

CAS key investment highlights



- 1** High-end solution provider for value-add materials
serving intrinsically complex customer industries
- 2** Market-driven innovation capability and customer proximity
help create new application space and maintain leadership
- 3** Global leading and defensible position
in an industry with distinct entry requirements
- 4** Strong financial profile due to high margin resilience and low capex requirements
represent solid platform for future business expansion

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, ingredients to textiles / medical / 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

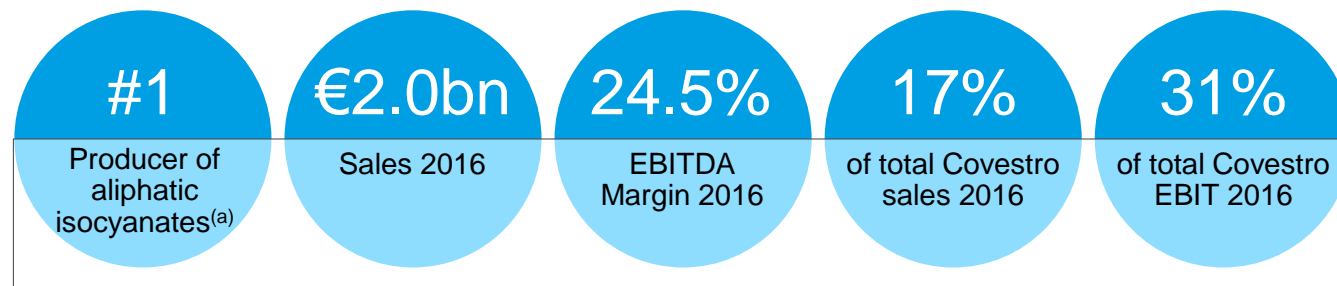
Active components for
surface coatings



Active components for
adhesives and sealants

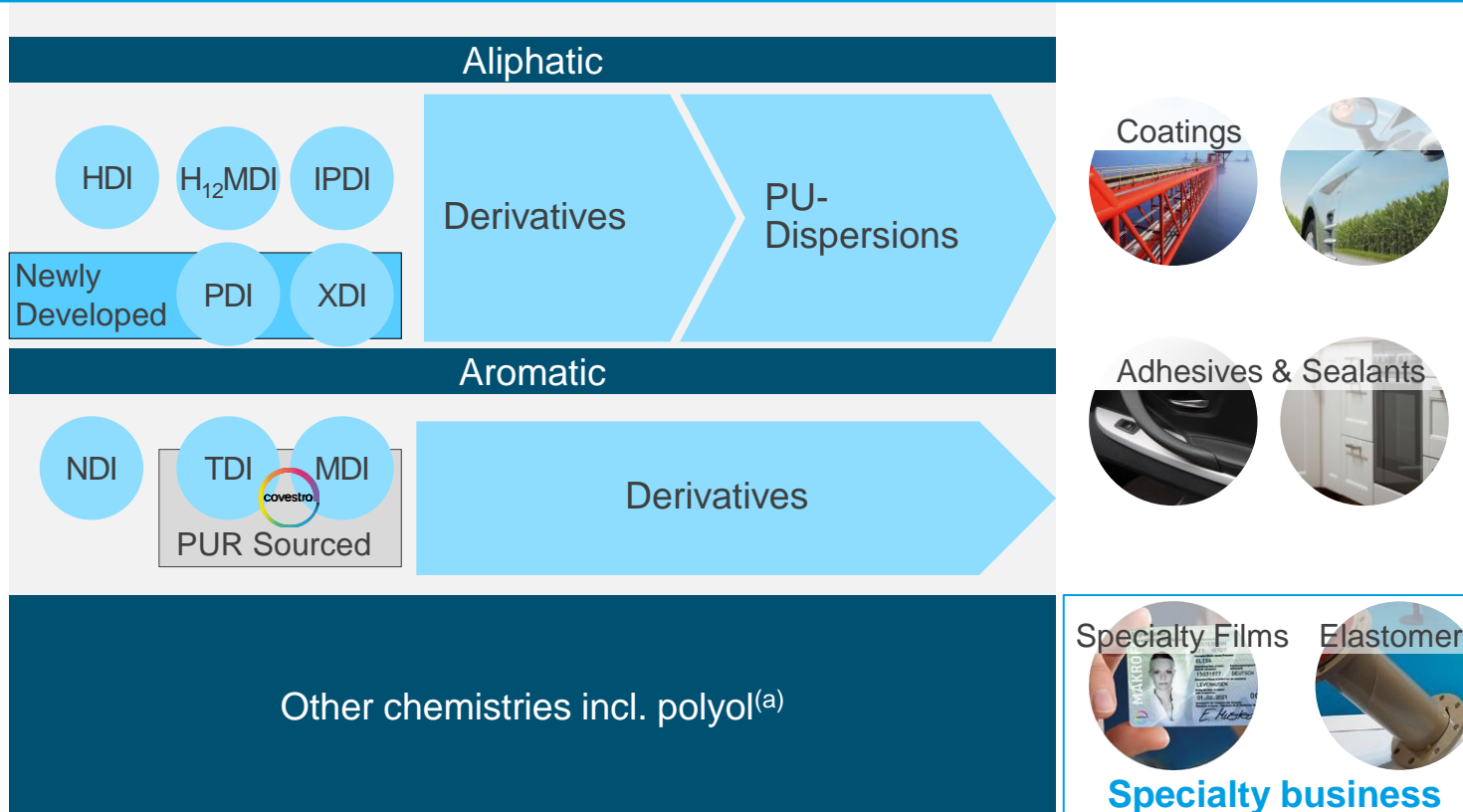
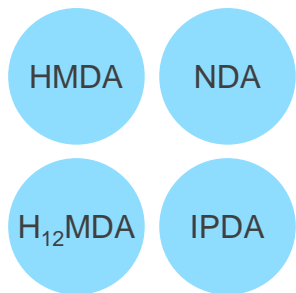


Active components for
specialties



Specialist in managing complexity and high-end applications

2,300+ products derived from 6+ monomers



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

Strong growth potential in specialty products



Overview of CAS product portfolio

Product groups

1

Aliphatic isocyanates and derivatives

- Polyurethane resins derived from aliphatic monomers including **HDI, IPDI, H₁₂MDI**
- Applied mainly to coatings

2

Specialty products^(a)

- Polyurethane- and polycarbonate-based specialty films, hot cast elastomers and other specialties

3

Polyurethane dispersions

- Polyurethane polymers dispersed in water and mainly used in coatings and adhesives

4

Aromatic isocyanate derivatives

- Polyurethane resins derived from aromatic monomers including **TDI and MDI**

Specialty products in detail

Specialty films:

- Globally leading producer of TPU and PC films
- Continuous stable cash flow and strong innovation pipeline

Elastomers:

- Leading producer in SCPU^(b) cast machines, innovation leader for SCPU^(b) Elastomers and machines
- Global production and sales network with dedicated legal entities in France, UK, China and a large global network of distributors

Textile:

- Specialty chemicals for the production of leather alternatives, technical and functionalized textiles for diverse industries (e.g. automotive, footwear)
- Comprehensive customer product development and services offering that is also delivered to downstream textile consuming companies

Medical:

- High OEM penetration generates market pull for differentiated PU-based materials for adhesives, foams and films
- Unique market position with broad tailor-made material offering in wound care

Cosmetics:

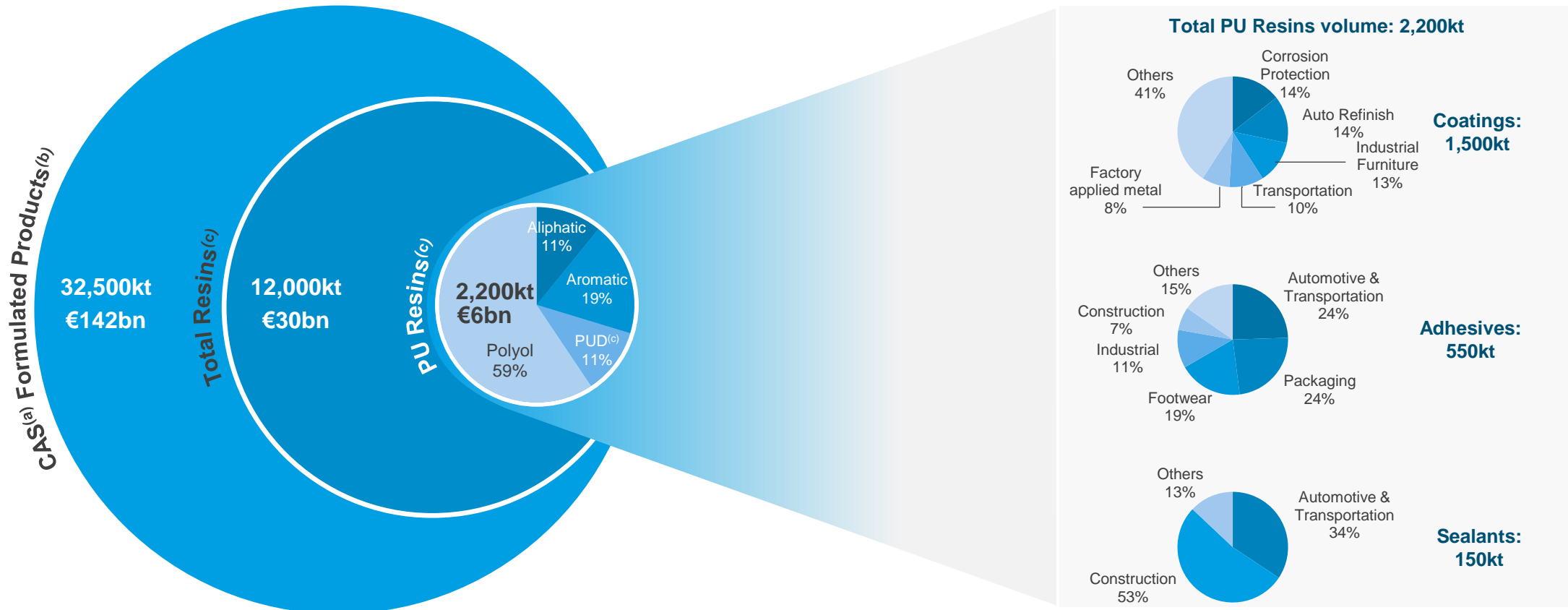
- Film formers and sensory additive for colour cosmetics, skin / sun and hair care
- PU-based solutions for innovative claims and high performance formulations

CAS present in high-value part of PU resins industry

Overview of total market and key industrial applications

Polyurethane resins = Isocyanates derivatives + polyols

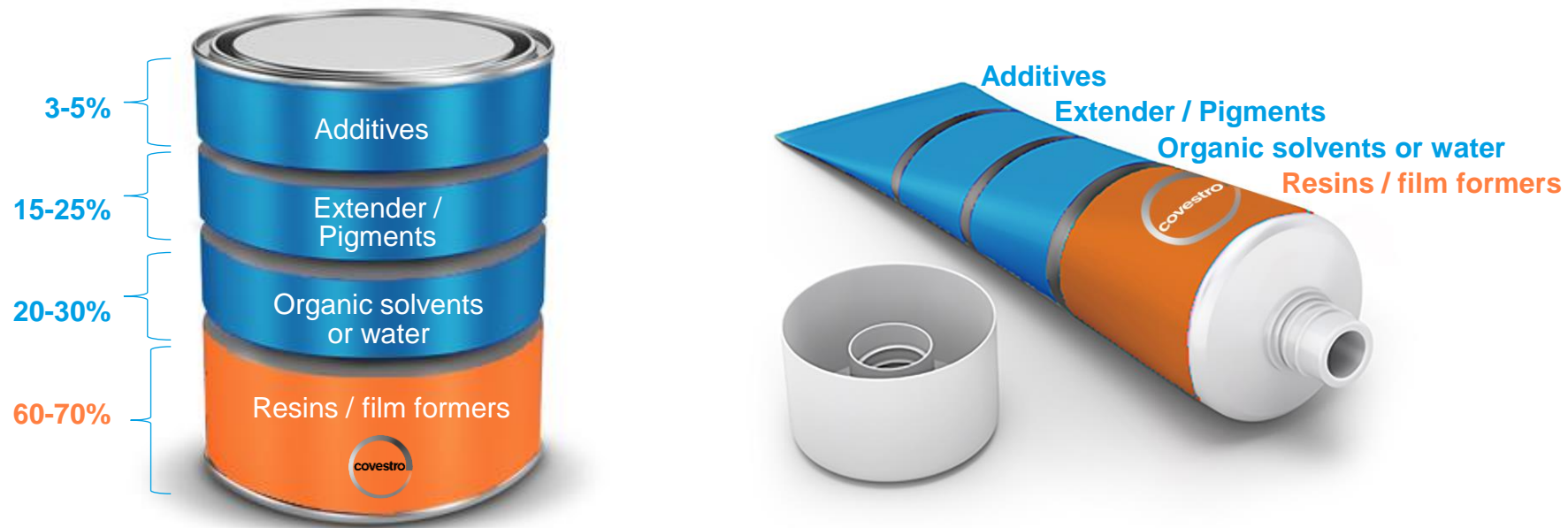
Key industrial applications



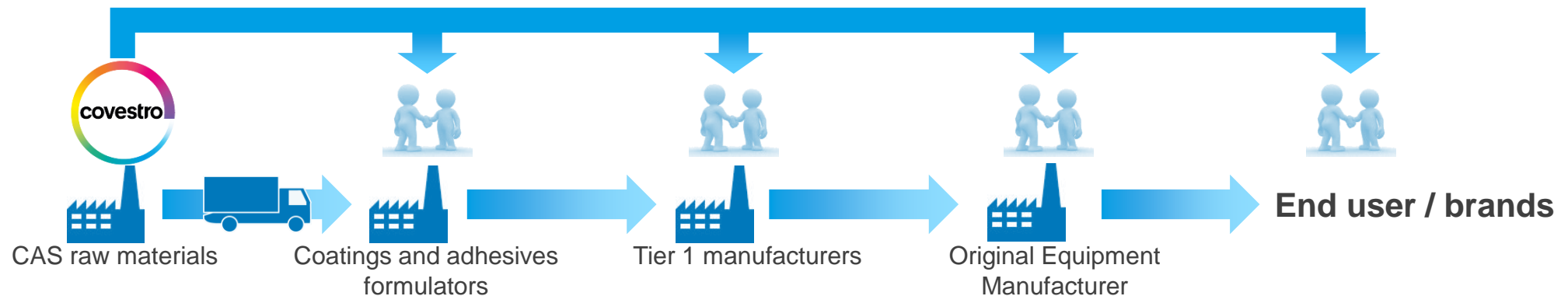
Formulation in diverse chemical environment through partnership



Resins and film formers impact performance of final product

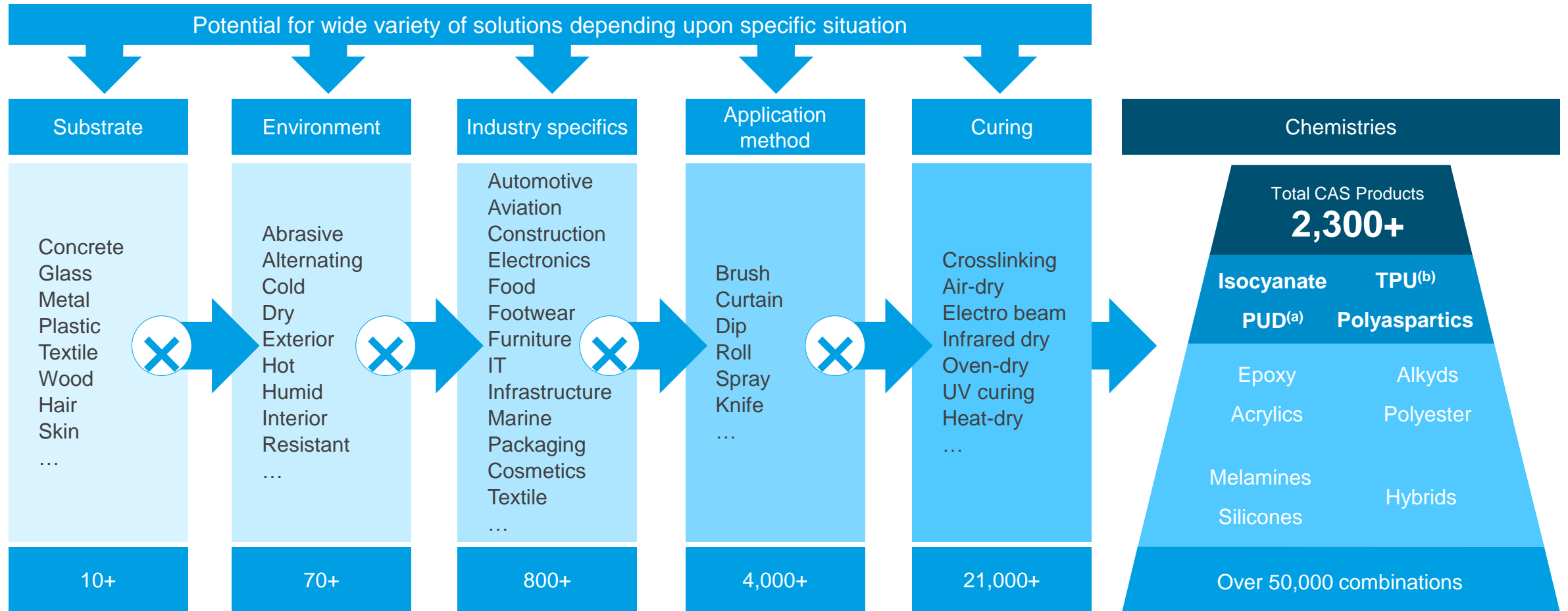


CAS delivers tailored solutions and has contact to all partners in the value chain



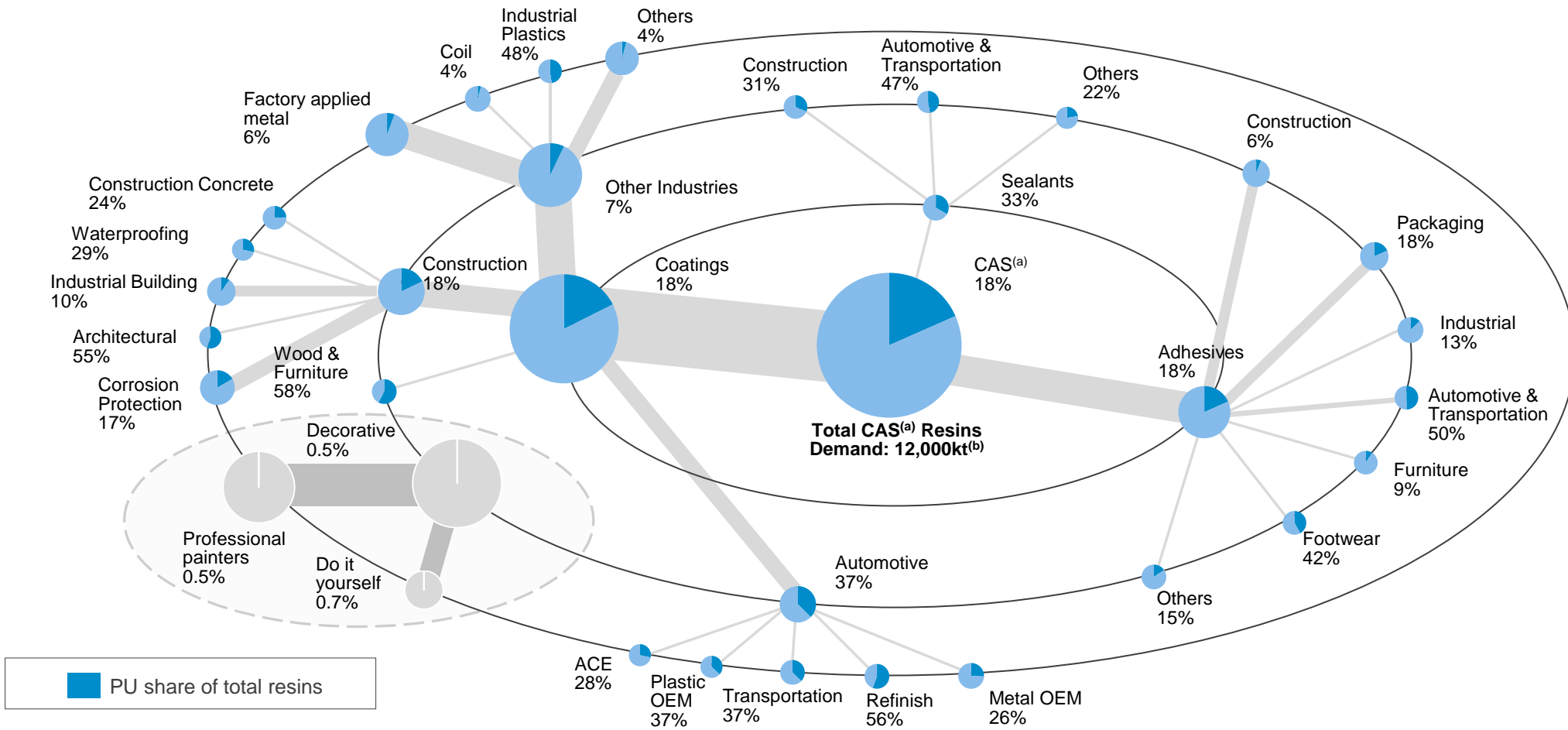
Diverse applications require multi-dimensional solutions

Covestro with widest offering



Covestro serves profitable niches in diverse end-markets

Competitive advantage through a diverse application portfolio



Technology substitution for growth and premium pricing

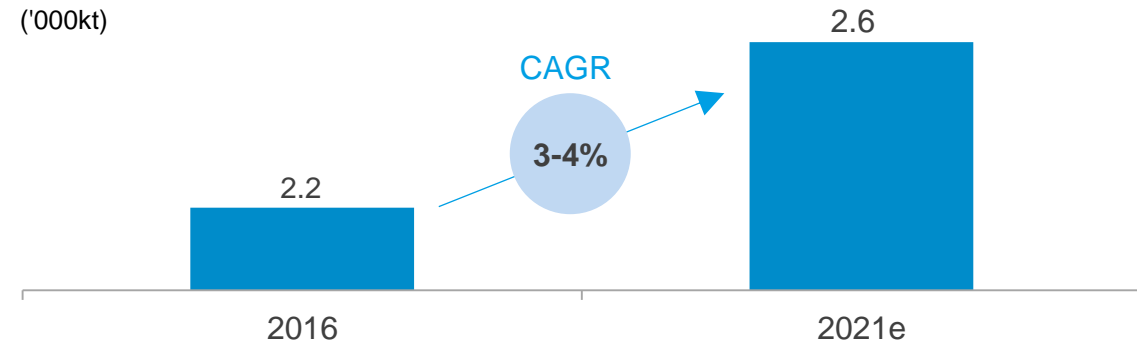
Leveraging unique characteristics of polyurethanes



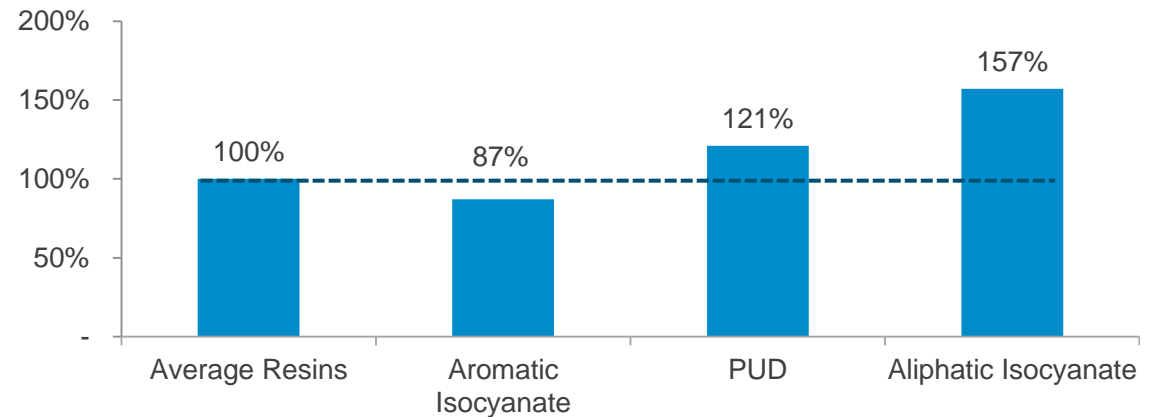
Characteristics of PU-based coatings / adhesives

- Highly versatile chemistry; allows tailor-made applications in formulations and solvent nature
- Unique characteristics include:
 - Abrasion resistance
 - Outdoor weathering
 - High flexibility
 - Low-temperature curing
 - Corrosion and chemical resistance
 - Durability
 - Gloss retention
 - Hydrolytic stability
- Offers solutions for environmental challenges (e.g. low VOC)
- Superior combination of performance and price

PU raw materials industry demand in CAS



Price index of resins within coatings

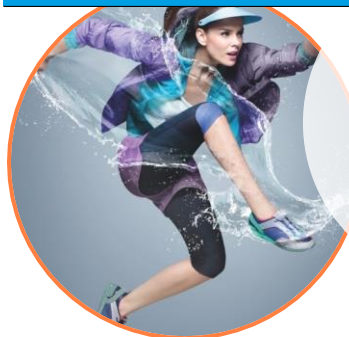


Finding above average growth niches in adjacent industries



Selected CAS applications

Textile coatings



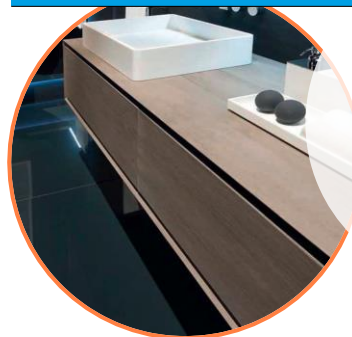
Waterborne solvent-free materials for functionalized textiles in diverse applications

- Better occupational safety, environmental protection, resource consumption
- Helps brand owners and manufacturers meet their sustainability goals, e.g. ~45% lower carbon footprint
- Enables new functionalities

Textile coating market¹
CAGR: ~6%

COV relevant textile coating market²
CAGR: ~11%

Furniture coatings



New bio-based hardener for water-based wood coatings

- Furniture surface protection in demanding environments like bathrooms and kitchens
- Biomass content of 66% and improved carbon footprint
- High hardness and chemical resistance

Coating industrial furniture market³
CAGR: ~3%

Waterbased industrial furniture market⁴
CAGR: ~5%

Wind energy



Novel components for wind power plants

- Rotor blades: Polyurethane resins for more stability and durability
- Towers: Polyurethane materials for anti-corrosion coatings
- Undersea cables: Elastomers for protection systems

Energy consumption⁵
CAGR: ~3%

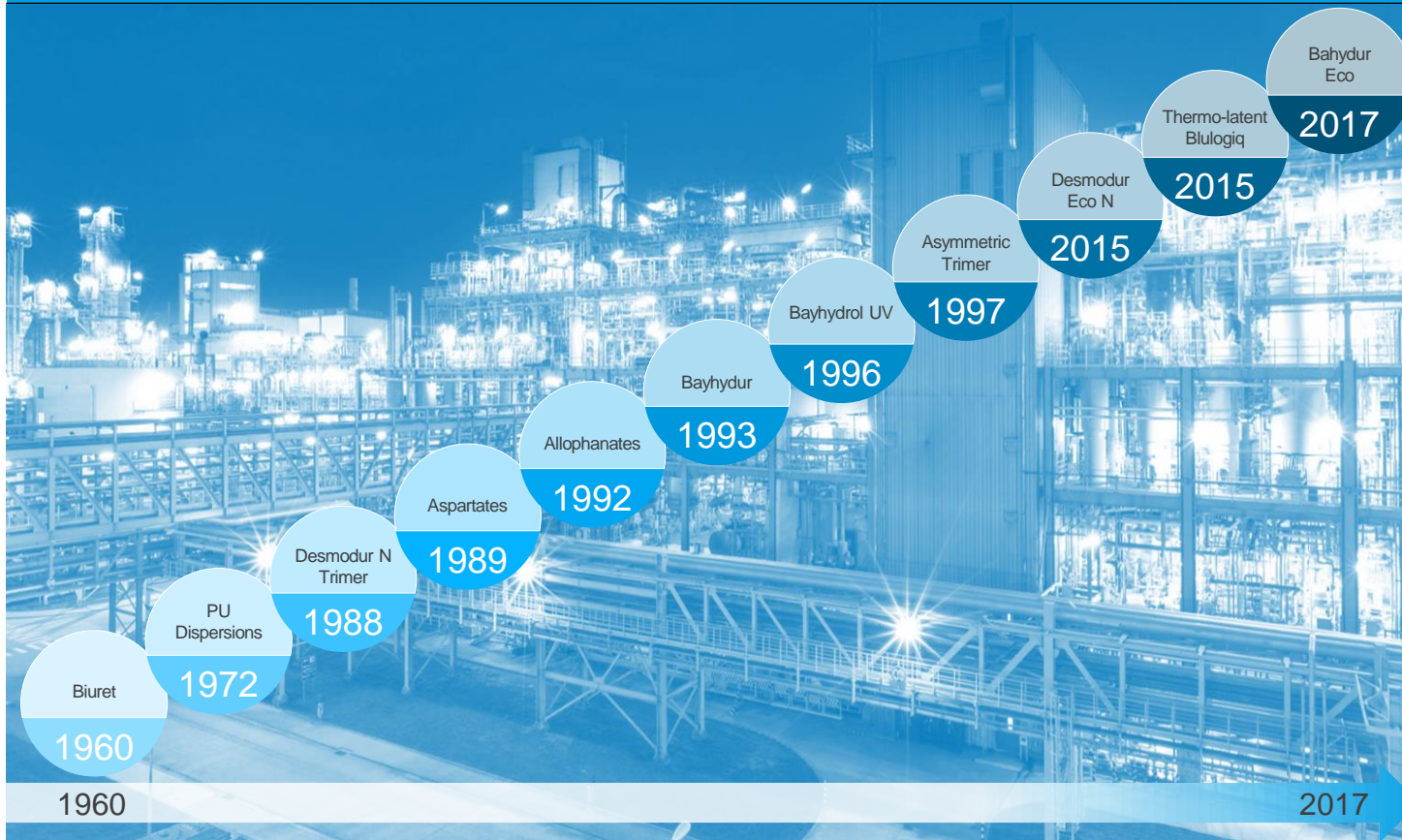
Offshore wind energy⁶
CAGR: ~19%

Strong track record of product innovation

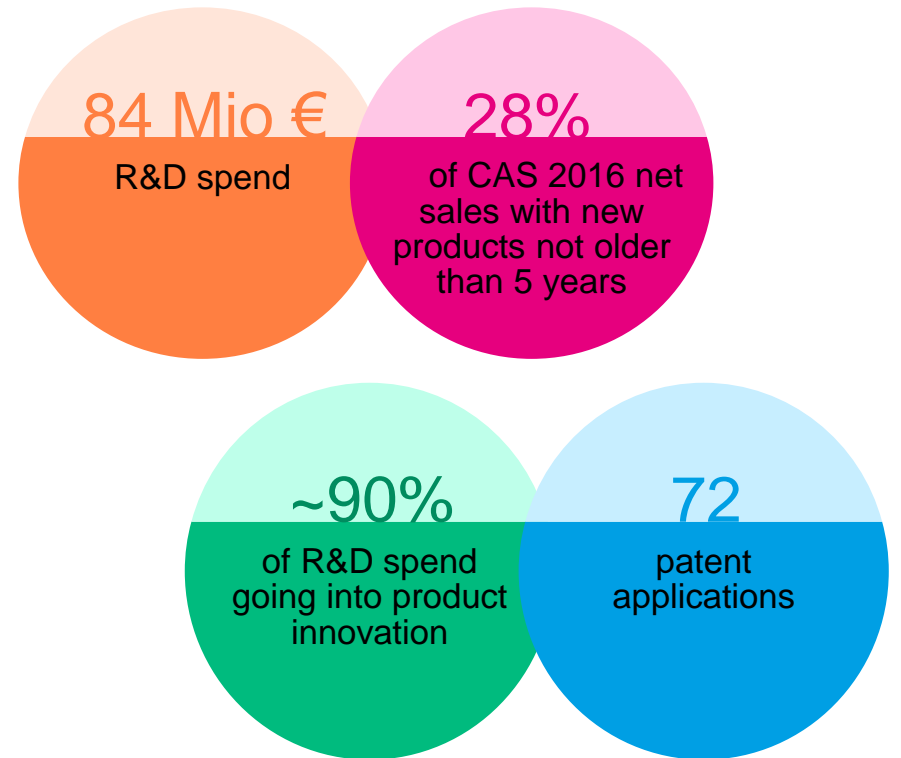
CAS innovation strategy leads to continued competitive differentiation



History of robust product innovations



Highlights 2016



Continued competitive differentiation through innovation



Selected CAS innovation examples

Desmodur® eco – PDI

- Covestro developed a coating hardener with ~70% carbon content from renewable raw materials
- Successful coating of Audi Q2 under near-series conditions
- Based on proven 2K PU technology fulfilling high performance standards
- Application on existing coating lines possible
- Helps customers to lower carbon footprint of their products



3D products / cast elastomers

- Latest 3D printing production technologies help core customers to innovate both products and business models
- Integrating of 3D printing with core technologies and high performance materials, beyond “prototyping” maturity
- Polyurethane foams elastomers in combination with 3D printed parts exhibit excellent mechanical properties



INSQIN® waterborne PU for textiles

- High-performance coating material for highly flexible materials e.g. Spandex
- Successfully commercialized in Puma, evoPOWER Vigor 1
- Latest top of the range football boot from Puma
- Technology transformed playing features, construction and design of the product, while being environmentally sustainable



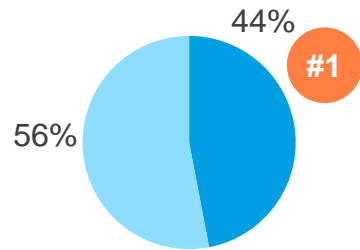
Global leadership positions across entire portfolio



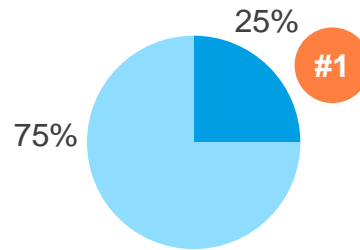
CAS competitive positions

Competitive global landscape in derivative products^(a)

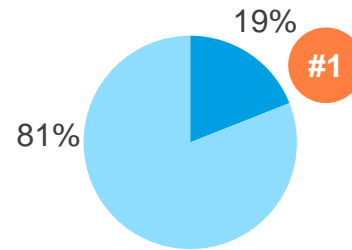
Aliphatic isocyanate derivatives



Aromatic isocyanate derivatives

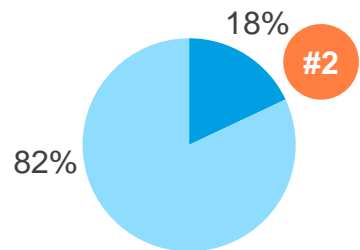


Polyurethane dispersions

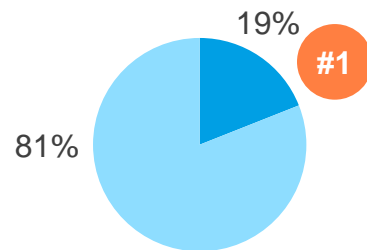


Specialties

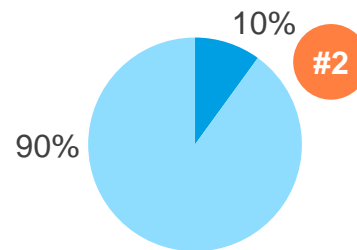
PC films



TPU films



Elastomers



Highlights

CAS is the inventor of aliphatic isocyanate derivatives for the CAS industry, and the global leader with 44% share in a consolidated environment, and #1 player in EMEA, NAFTA and APAC

- NAFTA and EMEA relatively consolidated with only 3 competitors in each region
- APAC relatively fragmented with only 5 key players with shares higher than 5% and multiple others

Industry of aromatic isocyanates is more fragmented

- Global players like CAS compete in the more specialized segment, while regional players compete in the lower value segments

CAS is also the leading player in the PUD industry

- 5 other global players account for 28% share
- Remaining industry is fragmented with smaller regional players that compete in the low-cost, commodity-type products where CAS does not compete

Industry for specialties is quite fragmented

- CAS is one of the two leaders in PC films
- TPU films can be viewed as a regional business rather than global
- 8 other major players in elastomers account for ~60% share

Critical success factors underpinning CAS unique position



Distinct entry requirements for derivative products

Entry requirements in derivatives	CAS position
Economies of scope	<ul style="list-style-type: none"> • Diversity of end-markets and products offered • Niche applications with customized solutions <ul style="list-style-type: none"> ✓ More than 2,300 products supplied to over 4,300 customers ✓ Focus on high value-add products ✓ Complementary product offering
Formulation know-how and technical expertise	<ul style="list-style-type: none"> • Expertise required to address customers needs with specific formulations <ul style="list-style-type: none"> ✓ Inventor of isocyanate derivative chemistry ✓ Unique formulation capabilities
Long-term customer relationships	<ul style="list-style-type: none"> • Long-term relationships with customers are key <ul style="list-style-type: none"> ✓ Solutions provider ✓ Proximity to customers ✓ Superior technical support
Market-driven innovation	<ul style="list-style-type: none"> • Innovation is key to continuously address customers' needs <ul style="list-style-type: none"> ✓ Leader in new product development ✓ Recently developed a new thermolatent hardener
Global platform	<ul style="list-style-type: none"> • Global network to supply customers on a reliable basis <ul style="list-style-type: none"> ✓ CAS has a strong international footprint with presence across all regions <ul style="list-style-type: none"> • 3 world-scale HDI production hubs • 11 other production units • 9 technical centers

Global leadership position for isocyanate derivatives

CAS value chain position in an attractive industry



Raw materials / amines

▶ Raw materials broadly available, both internally and externally

Monomers / isocyanate derivatives

▶ Distinct entry requirements in isocyanate monomers and derivatives production
▶ CAS is #1 player

Specialty products

▶ Well positioned in production of specialty products due to know-how

Coatings/adhesives makers

▶ Customers are fragmented, allowing positive pricing delta to derivative producers

End-consumer industries

▶ High-value applications

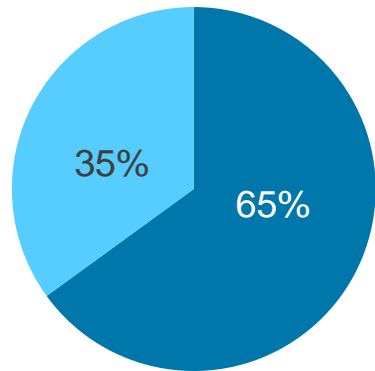
Best-in-class production technology

CAS backward-integration into monomers



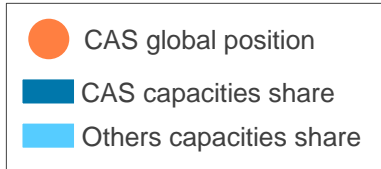
Global aliphatic monomer capacities

HDI, IPDI, H₁₂MDI, PDI^(a)



#1

in every aliphatic monomer



Entry requirements in monomers

Engineering capability to build monomer plant	<ul style="list-style-type: none"> Financial resources and know-how required to build efficient isocyanate monomer plants
Economies of scale	<ul style="list-style-type: none"> Cost efficiency achieved by benefitting from world-scale assets
Phosgene handling and environmental permits	<ul style="list-style-type: none"> Phosgene requires important know-how and legal permits before being handled
Technology and cost leadership	<ul style="list-style-type: none"> Technology know-how and capabilities to produce isocyanates
Innovation in launch of new monomers	<ul style="list-style-type: none"> Innovation is key to avoid commoditization

CAS position

<ul style="list-style-type: none"> ✓ CAS operates 3 world-scale HDI production hubs across NAFTA, EMEA, APAC at integrated CAS sites
<ul style="list-style-type: none"> ✓ CAS is the global capacity leader in HDI production
<ul style="list-style-type: none"> ✓ Unique expertise in handling phosgene ✓ One of the pioneers in phosgene industrial use
<ul style="list-style-type: none"> ✓ Proprietary gas-phase phosgenation technology ✓ On average 30%^(b) less expensive than competing technologies
<ul style="list-style-type: none"> ✓ Launch of Desmodur[®] eco based on biomass raw materials

Unique global set-up for proximity to customers and markets



CAS global asset base

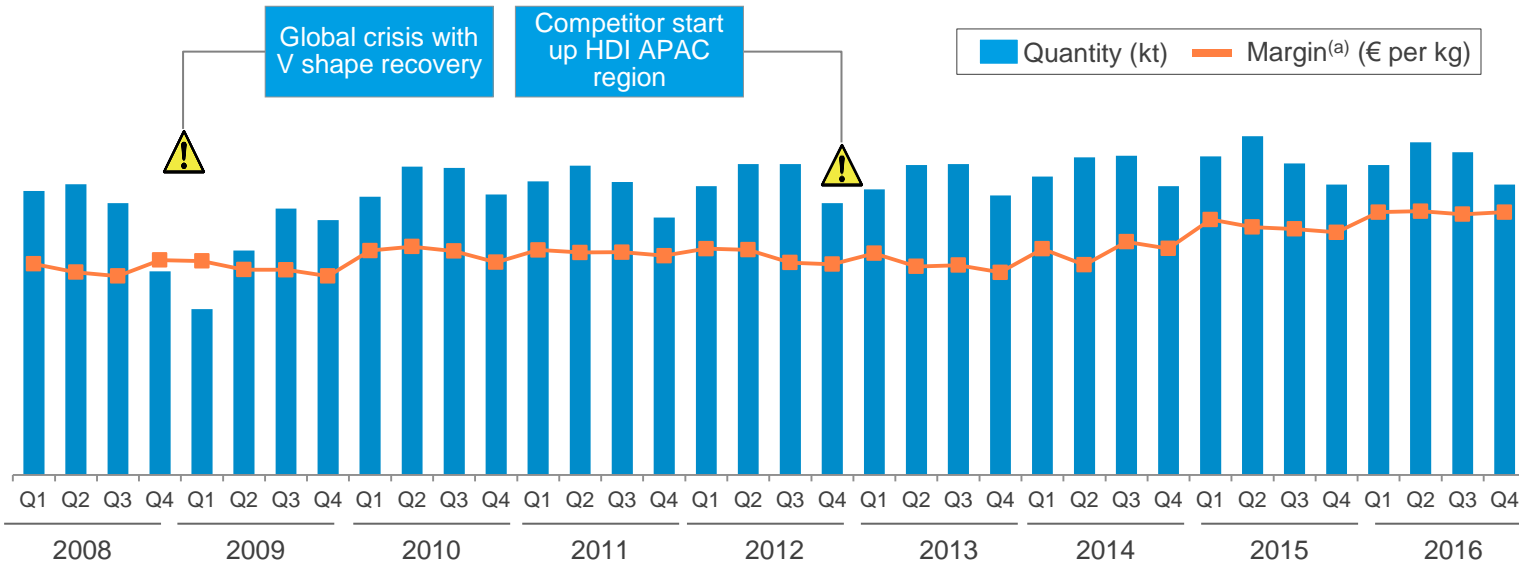
Selected customers	Comments	Production	Technical centers	Specialties
Development partners & Customers		<ul style="list-style-type: none"> • Three world-scale monomer production hubs in all key regions complemented by regional derivative plants • Efficient production processes benefitting from low cost technology and integration 	<ul style="list-style-type: none"> • Technical centers in all key regions ensure proximity to customers • Superior technical support capabilities help to build long-term relationships 	<ul style="list-style-type: none"> • Specialty films, elastomers and other specialties facilities allow to capture high growth in adjacent applications • Global footprint provides for leadership in a fragmented industry across regions
	<ul style="list-style-type: none"> • Active in selected countries or global asset base • Require global marketing and technical service 			
Distributors				
<p>Important channel to markets</p>				

High margin resilience reflects specialty character

CAS financial performance



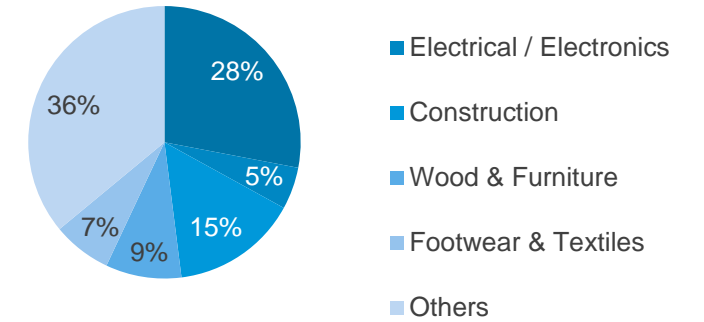
Resilient margin level in a volatile volume environment



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

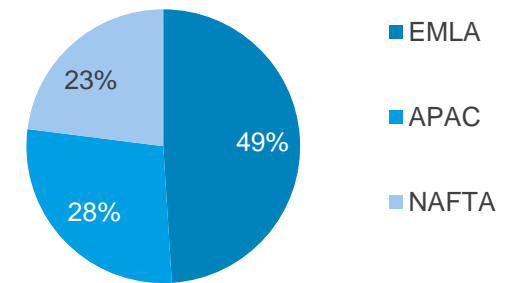
CAS sales split by end-markets

Covestro 2016



CAS sales split by regions

Covestro 2016

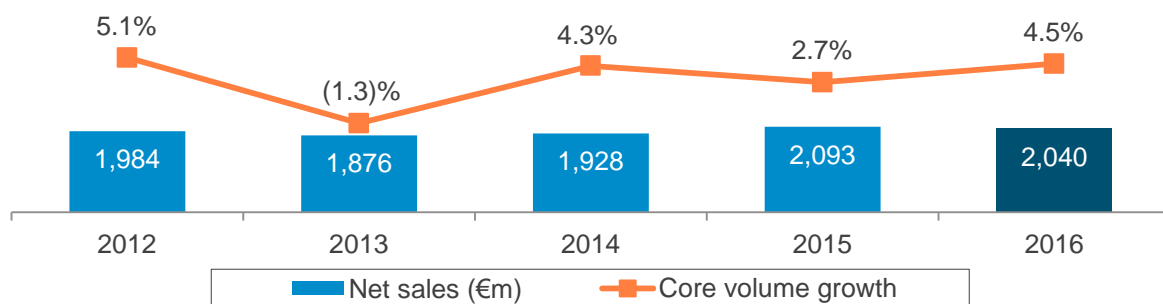


Growing portfolio-adjusted revenues and EBITDA margin

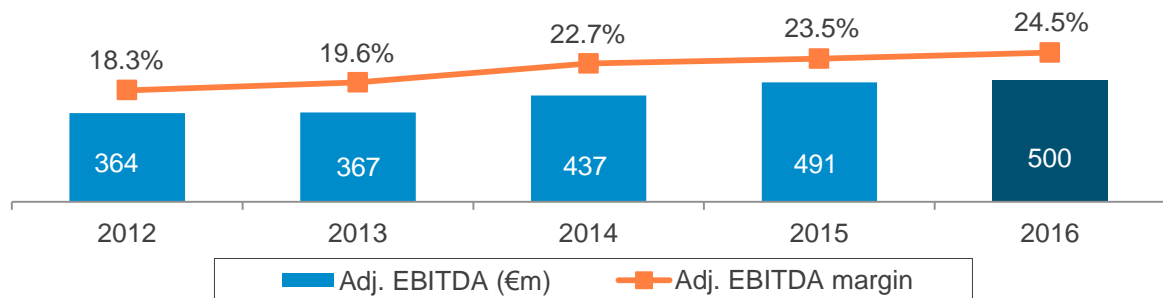


CAS historical financial performance

Net sales and core volume growth



Adj. EBITDA and margin



Highlights

- After very strong growth in 2012, CAS experienced market entry of a new competitor in a major product line
- In the following years CAS performed with a CAGR of 3.6%
- Due to divestment of trading products, core volume growth at -0.3% for 2016. Without divestment, growth would have been at 4.5%
- 2012-2014: Margin improvement mainly driven by disposal of low-margin business
- 2015-2016: Margin increase mainly driven by product mix improvements and lower raw material costs



Disclaimer

This presentation may contain forward-looking statements based on current assumptions and forecasts made by Covestro AG.

Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Covestro's public reports, which are available on the Covestro website at www.covestro.com.

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