ANNUAL REPORT

covestro

2017

Key Data
Covestro Group

	2016	2017	Change
	€ million	€ million	%
Core volume growth[1, 2]	**+7.5%**	**+3.4%**	
Sales	**11,904**	**14,138**	**+18.8**
Change in sales			
Volume	+5.0%	+4.3%	
Price	–5.2%	+16.1%	
Currency	–1.3%	–1.6%	
Portfolio	0.0%	0.0%	
Sales by region			
EMLA[3]	5,126	5,997	+17.0
NAFTA[4]	3,169	3,398	+7.2
APAC[5]	3,609	4,743	+31.4
EBITDA[6, 7]	**2,014**	**3,435**	**+70.6**
EBIT[8, 9]	**1,331**	**2,808**	**>100**
Financial result	**(196)**	**(150)**	**–23.5**
Net income[10]	**795**	**2,009**	**>100**
Operating cash flows[11]	**1,786**	**2,361**	**+32.2**
Cash outflows for additions to property, plant, equipment and intangible assets	**419**	**518**	**+23.6**
Free operating cash flow[12]	**1,367**	**1,843**	**+34.8**
Net financial debt[13, 16]	**1,499**	**283**	**–81.1**
ROCE[14]	**+14.2%**	**+33.4%**	
Employees (in FTE)[15, 16]	**15,579**	**16,176**	**+3.8**

1 Core volume growth refers to the core products in the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments. It is calculated as the percentage change in externally sold volumes in thousand tons compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example the sale of raw materials and by-products such as hydrochloric acid, sodium hydroxide solution and styrene. These transactions are not included in core volume growth.
2 Reference values calculated based on the definition of the core business effective March 31, 2017
3 EMLA: Europe, Middle East, Africa and Latin America (excl. Mexico) region
4 NAFTA: United States, Canada and Mexico region
5 APAC: Asia and Pacific region
6 EBITDA: EBIT plus depreciation and amortization
7 Adjusted EBITDA is not reported because no income or expense items were recognized as special items either in the reporting period or in the corresponding prior-year period.
8 EBIT: income after income taxes plus financial result and income taxes
9 Adjusted EBIT is not reported because no income or expense items were recognized as special items either in the reporting period or in the corresponding prior-year period.
10 Net income: income after income taxes attributable to the stockholders of Covestro AG
11 Operating cash flows: cash flows from operating activities according to IAS 7
12 Free operating cash flow: operating cash flows less cash outflows for additions to property, plant, equipment and intangible assets
13 Excluding obligations for pensions and other post-employment benefits
14 ROCE: The return on capital employed is calculated as the ratio of operating result after taxes to capital employed. The capital employed is the capital used by the company. It is the sum of noncurrent and current assets less noninterest-bearing liabilities such as trade accounts payable.
15 Employees calculated as full-time equivalents (FTE)
16 As of December 31, 2017 compared with December 31, 2016

» Nobody can turn 80 years of experience into new perspectives. «

» Why not? «


WHY
NOT?
With this spirit, we want
to push boundaries
to make the world
a brighter place –
every day and
for every customer,
in every single project.
#PushingBoundaries

CONTENTS

About This Report

Forward-Looking Statements

This Annual Report may contain forward-looking statements based on current assumptions and forecasts made by the management of 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 Group 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.** The Group assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

Nonfinancial Statement

The Covestro Group's nonfinancial statement in accordance with Section 315b of the German Commercial Code (HGB) is integrated into the Group management report. In the relevant sections, we outline the strategies we pursue in addressing environmental, labor, and social issues as well as protecting human rights and fighting corruption and bribery, including the due diligence processes followed and measures implemented as well as the results produced by these strategies. Nonfinancial performance indicators are reported only when these are important to the Covestro Group.

Material risks arising from business relationships, products and services and from Covestro's own business activities within the meaning of Section 315c (2) and Section 289c (3) Nos. 3 and 4 of the German Commercial Code (HGB), and how we manage these are presented, to the extent reporting is mandatory, in section 22 "Opportunities and Risks Report" of the management report.

In addition to this Annual Report, we provide supplementary sustainability information in a separate publication (GRI Supplementary Report) at **www.covestro.com.**

The management report and GRI supplementary report comprise our company's sustainability reporting, which is aligned with international standards and recommendations.

Our sustainability reporting complies with GRI core reporting in line with the Global Reporting Initiative's (GRI) Sustainability Reporting Standards (SRS).

Rounding

As the indicators in this report are stated in accordance with commercial rounding principles, totals and percentages may not always be exact.

Percentage Deviations

Percentage deviations are only calculated and reported if they are no more than 100%. Larger deviations are reported as >100%, >200%, etc. If a deviation changes from positive to negative or vice versa, or if it is greater than 1,000%, this is shown by a period.

Equal Treatment

We consider equal treatment to be important. To ensure legibility, this Annual Report avoids gender-specific wordings. All terms should be taken to apply equally to both genders.

Use of SDG Icons

Icons of the UN Sustainable Development Goals (SDGs) are used as an illustration element in the magazine. The allocation of these icons to individual articles can be regarded as an example and makes no claim to completeness. We are aware that the SDGs as such are closely connected to each other and that indeed several SDGs could be of simultaneous relevance for our activities.

Key

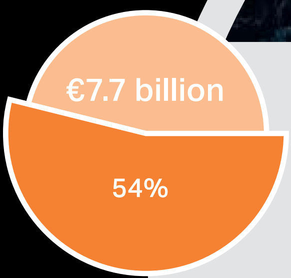
References to websites

Cross-references within the Annual Report
or to the GRI Supplementary Report

This Annual Report was published in German and English on February 20, 2018. Only the German version is binding.

AT A GLANCE 2017

Covestro's high-tech materials are simply indispensable in many areas. They not only make the little things in life easier, but on a grander scale, they provide solutions to today's challenges. We are always working on innovations to move our business forward and ensure greater sustainability – with the aim of making the world a brighter place.



The PUR segment achieved sales of around €7.7 billion in 2017, making up 54% of the Group total.

Efficiency

The Polyurethanes (PUR) segment

Polyurethane is in demand when it comes to saving power: rigid polyurethane foam is one of the best insulating materials, delivering great energy efficiency in refrigerators in refrigerators and buildings. Covestro develops and produces the components of this versatile material. As flexible foam, it is used primarily to improve comfort in products such as mattresses, car seats and upholstered furniture. Thermoplastic urethanes can be found, for example, in electronic devices and sports equipment.

- **Polyurethanes were invented by a Covestro predecessor in 1937.**
- **The global market in polyurethanes is likely to grow in the medium term at an average of four percent per year.**

Polyurethanes are normally derived from fossil resources such as crude oil. In 2017, however, Covestro succeeded in using pure plant materials to manufacture a key chemical in the production of rigid foam – an important step towards a more sustainable supply of raw materials.
See page 28 for details.

In many cases, we are already contributing to the achievement of the UN Sustainable Development Goals (SDGs) through our core products. You can find additional details about this in section 3.2 of our GRI Supplementary Report.

Strength

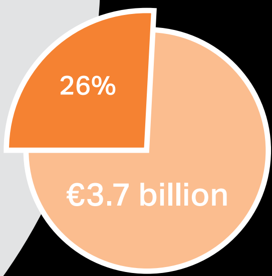
The Polycarbonates (PCS) segment

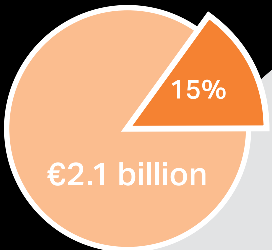
The combination of a number of valuable properties makes the high-tech plastic polycarbonate particularly effective: not only is it extremely robust, break-resistant and light, it can also be molded into any shape and processed with ease. It can be crystal clear and is available in all colors as an excellent substitute for traditional materials such as glass and metal. Its application areas are consequently many and varied, ranging from cars, smartphones and laptops to eyeglass lenses, large-area roofs and medical equipment.

- **Polycarbonate has been around for 65 years. It was invented by Covestro's predecessors in 1953.**
- **Worldwide demand for polycarbonates is likely to grow in the medium term at an average of four percent per year.**

Recently, polycarbonate has even been deployed in areas where it is almost unknown – in rural regions of developing and emerging countries. In India, for example, this UV-resistant plastic is used in innovative solar greenhouses to prevent food spoilage, thus helping carve out a new business model.
See page 36 for details.

The PCS segment achieved sales in 2017 of around €3.7 billion – amounting to approximately 26% of the Group's total.





The CAS segment's sales in 2017 came to around €2.1 billion, which made up approximately 15% of the the Group's total.

Beauty

The Coatings, Adhesives, Specialties (CAS) segment

Cars, bridges, houses, floors, furniture... The applications for the wide range of coatings made from Covestro's polyurethane raw materials can be found almost everywhere we look. Their job? Protection and decoration. The company also manufactures precursors for adhesives and sealants, as well as high-quality films. Materials for cosmetics, textiles and the medical industry are also part of the portfolio.

- **Curing agents for lightfast polyurethane coatings were invented by a Covestro predecessor in 1954.**
- **The global market for CAS is expected to grow in the medium term by an average of three to four percent.**

Covestro's CAS raw materials are characterized by high environmental standards. A particularly sustainable coating hardener proved its worth in 2017 under extreme conditions in a solar-powered car race through the Australian outback.
See page 32 for details.

Patrick Thomas
Chief Executive Officer Covestro AG

Dear Stockholders, dear Employees,

The global challenges of our times are diverse and multifaceted – but so are their solutions: a new irrigation system that protects agricultural land, or small-scale facilities capable of turning waste into biogas. These are just two examples of sustainable ideas from young people who were honored last year by the United Nations. Covestro supports the commitment of these "Young Champions of the Earth" (see page 24 for details). After all, they embody determination and unconventional thinking, and this is precisely the approach that is needed in today's world, helping society move forward.

It is an approach that also shapes our thinking and action at Covestro. However great our challenges may be, they always offer opportunities. We work unceasingly to find new, unconventional solutions based on high-quality materials. We don't ask: **"Why?" – We say: "Why not?"** With this attitude, our company created innovative products and processes in 2017, underscoring our goal: we want to push boundaries to make the world a brighter place in keeping with the **United Nations Sustainable Development Goals (SDGs).**

SUSTAINABLE DEVELOPMENT GOALS

www.un.org/sustainabledevelopment/sustainable-development-goals

What's more, our approach has resulted in economic return: Covestro had an **excellent fiscal year,** achieving record levels across all key indicators. Our core volume rose by 3.4 percent. This is proof of the vitality of demand in the most important industries we supply. Our EBITDA also increased over the prior-year period by 70.6 percent to €3.4 billion.

The company was once again **highly profitable.** Return on capital employed (ROCE) amounted to 33.4 percent, significantly higher than the value in 2016. In addition, we achieved a clear boost in free operating cash flow as proof of our ability to generate a cash surplus, which increased by 34.8 percent to €1.8 billion.

We are using our extraordinarily high liquid assets to buy back our own shares in an amount of up to ten percent or €1.5 billion of the capital stock. We started with acquiring the first tranche around the end of last year, and we want our shareholders to participate in the profits. Covestro's share price was €86.03 at the end of 2017 – 32 percent higher than at close of trading the previous year. This means the stock has more than tripled compared to our initial public offering in October 2015.

We also want our investors to share in our economic success by providing them with **attractive dividends.** They are to receive €2.20 per share for the reporting year – €0.85 higher than in 2016.

We also foresee further, highly positive economic development at Covestro. **In the years to come, we want to continue achieving profitable growth above that of the global economy.** We particularly expect stimuli from global trends such as climate change, increasing urbanization and mobility as well as population growth. These developments and the UN Sustainable Development Goals that are based on them are likely to lead to above-average growth in many of the key industries that need our products, and Covestro intends to be a part of that.

During 2017 we **adapted our long-term strategy** in keeping with these particular business opportunities. Six new strategic pillars include increased overall investment: In the coming years, we want to **significantly expand our production base** to optimally accompany the strong growth that we expect in our customer markets, and in this regard we pursued numerous projects in 2017. In addition, as part of our new strategy we are very open to expanding our portfolio through value-creating acquisitions, and are systematically looking for such opportunities.

Covestro is strengthening its production base – for instance, here at its Chinese site in Shanghai.

We are also pushing the boundaries through **our research and development, which we will orient even more towards the UN Sustainable Development Goals.** In the process, we will strongly rely on cooperations, primarily with other companies and scientific institutions. After all, dialog and partnership are becoming increasingly important in an age of both progressive globalization and division in the world.

With this philosophy, Covestro once again **achieved successful research results.** For the first time ever, in 2017 we created aniline – a chemical important for the entire industry – completely from plants, instead of with crude oil, as was the case until now. This opens up even further promise for the viable and sustainable production of polyurethane, 80 years after its invention by Covestro's predecessor. Our polycarbonates also offer great potential for innovation. For example, when combined with carbon fiber, they form an extremely light and robust composite material that looks and sounds like metal – a highly attractive development for many industries, not just IT.

Most recent research success: aniline can now also be manufactured from plants instead of crude oil.

www.cfrtp.covestro.com

However, we are supporting continued digitalization with more than just innovative materials for electronic devices; we want to **make increased use of opportunities posed by the digital age** for ourselves as well. Within the scope of a comprehensive program established in 2017, we are incorporating digital technology into our processes and all points of contact with our customers in addition to working on a new digital business model.

Our approximately 16,000 employees play a vital role in all these efforts and successes. On behalf of the Board of Management, I would like to sincerely thank all of you for the outstanding work you did once again in 2017.

We will continue to do everything to unlock our employees' full potential and enhance their creativity. To this end, we will **further develop our corporate culture.** We place great importance on making sure Covestro's three key values – curious, courageous and colorful – are truly adhered to. The Covestro Start-up Challenge represents a further step in this direction and is a unique Group-wide competition aimed at identifying the best business ideas initiated last year. The winners can act as company founders for twelve months, during which time they can transform their concepts into marketable products – a promising project for 2018.

"WE WILL CONTINUE TO DO EVERYTHING TO UNLOCK OUR EMPLOYEES' FULL POTENTIAL AND DEVELOP THEIR CREATIVITY."

We also have **positive expectations for the coming year** with respect to Covestro as a whole. For our core volume, we expect an increase in the low- to-mid-single-digit percentage range. Our target for free operating cash flow is significantly above the average of the last three years. We expect ROCE to approach the 2017 level.

After more than ten years as Covestro's Chief Executive Officer, I will be saying farewell in 2018. I would like to thank you for your trust and support, and I wish my designated successor Dr. Markus Steilemann and the entire Board of Management continued good luck and great success.

Warmest regards,

Patrick Thomas

“SUSTAINABLE MATERIALS, BOLD IDEAS: THIS IS HOW WE WANT TO MAKE THE WORLD A BRIGHTER PLACE.”

Patrick Thomas
Chief Executive Officer,
Acting Chief Financial Officer

Born in 1957 in Portsmouth, Great Britain. Degree in engineering. Chief Executive Officer (CEO) of Covestro and its predecessor, Bayer MaterialScience, since 2007. Acting Chief Financial Officer since June 2017. Position will be permanently filled on April 1, 2018.

"WE INVEST IN STATE-OF-THE-ART PLANTS – SAFE, EFFICIENT AND ENVIRONMENTALLY CONSCIOUS."

Dr. Klaus Schäfer
Board of Management member responsible for production and technology

Born in 1962 in Brühl, Germany. Holder of a Ph.D. in physics. Member of the Board of Management since 2015. As Chief Technology Officer (CTO), he oversees production and technology as well as the company's main production sites.
Has been Labor Director at Covestro in Germany since July 2017.

"WE FUEL INNOVATION – FOR OUR CUSTOMERS AND OUR OWN BUSINESS SUCCESS."

Dr. Markus Steilemann
Board of Management member responsible for innovation, marketing and sales

Born in 1970 in Geilenkirchen, Germany. Holder of a Ph.D. in chemistry. Member of the Board of Management since 2015. As Chief Commercial Officer (CCO), he oversees innovation and all commercial functions, including Covestro's three operative segments.

Pushing the boundaries of what is possible

WE SAY:

WHY NOT?

Ultra-light, extremely robust plastics
that look like metal – and sound like it too?
The environmentally sustainable manufacture
of chemicals from plants alone?

Impossible? Not in the least!
Covestro leaves no stone unturned in pushing
the boundaries of what is possible.

We don't ask: "Why?"
We say: "Why not?"

This is how we develop innovative solutions –
efficiently, economically, sustainably.
For the great challenges of our age,
in line with the Sustainable Development Goals
(SDGs) of the United Nations.

To make the world a brighter place.

SPIRIT

» A whole company as a source of inspiration. That's hardly possible! «

An entrepreneurial spirit matters: employees are generating new business ideas for the market in the Covestro Start-up Challenge. A team that includes Steven Daelemans, Crisa Chen and Christine Mendoza-Frohn (left to right) has been working on one of six ideas to be presented to the Board of Management.

Start-up spirit: for Jason Tsai, Christopher Stillings, Edward Zhou, Kayla Wu, Roy Cheung and Maciej Dobrzyński (left to right), the Covestro Start-up Challenge is about cooperating across boundaries.

THE **MILLION**-EURO IDEA

Working in an international company as the founder of a start-up? This unusual combination is now possible at Covestro, where employees have been encouraged to develop innovative business ideas as part of the Start-up Challenge. In 2018, a wonderful prize awaits the best of the 600 or so ideas submitted: the winning team will be given twelve months to bring its idea to market – plus seed capital of one million euros.

Sustainable Development Goal (SDG)

Innovations – not just a promise at Covestro, but a reality we experience every day.

It's like the British TV show "Dragons' Den", in which entrepreneurs pitch their business ideas to a critical panel of venture capitalists. "It's a good idea – but do you really know what your end customers want and if they will actually purchase the product?" one of the 30 aspiring founders asks the members of the "Upcycling" team. "And how do you expect to make money from it?" The team members exchange glances, nod and note the questions down. They have just presented their "Upcycling" idea in a three-minute pitch at the Covestro start-up boot camp, a training ground for new business concepts. The project name alludes to a modern recycling concept aimed at using waste from the manufacture of fiber composite plastics to make new, high-quality products. The team members, led by Christopher Schirwitz, are grateful for every critical comment: the potential start-up is still in its infancy and could use every bit of help available. "We want to leave this boot camp as a real start-up team with the crucial ideas and contacts required to develop our concept," says Schirwitz.

The presentations and subsequent interrogation by colleagues at the boot camp in November 2017 are intended as a dry run for the grand finale of the Covestro Start-up Challenge in February 2018, where the final six teams will pitch their innovative business concepts to the company's Board of Management. In the end, only one team will be successful.

New paths to a start-up

Covestro is forging new paths with its ideas contest, aimed at unleashing the creativity and entrepreneurial thinking of its employees. Every member of the workforce around the globe was invited to submit promising business and project ideas. The members of the winning team will be released from their jobs for twelve months in order to work on their idea as start-up founders, and will receive funding of one million euros. Conditions like this are ordinarily only available to start-ups in major support programs. In offering them, Covestro is setting standards commensurate with the young company's identity in line with the corporate motto: "We make the world a brighter place."

"The name Covestro stands for courage, diversity and creativity. With this in mind, we want to use the Start-up Challenge to promote a pioneering spirit and entrepreneurship within the company," says patron and sponsor Dr. Markus Steilemann, who is responsible for innovation, marketing and sales on the Board of Management. Covestro's understanding of innovation goes beyond conventional research and development. The Board of Management sees great potential for creativity throughout the company and considers innovation to be an important aim for every single employee.

Overwhelming response

The Challenge has generated great enthusiasm: around 600 entries were submitted, and 5,000 ratings and more than 1,200 comments on the ideas were posted by employees via the internationally accessible online platform "idea.lounge." "We're overwhelmed by the positive response. Our expectations have been greatly exceeded, with around 600 submissions from all parts of the globe," says project manager Dr. Lorenz Kramer. "Enthusiastic use has also been made of the rating and comment function on our online platform. I believe we've hit on a successful formula with the Start-up Challenge."

Rocket launch marks start of global challenge

As the project's patron, Steilemann got the ideas contest under way at the start of July 2017 during the "Innovation Celebration" held in Cologne with some 500 employees to honor successful innovative projects from Europe and South America. A loud bang and bright shower of confetti simulated a rocket launch, the symbol of the Start-up Challenge. The message "Launch your idea with us" went out to the company's sites all over the globe. In a bid to motivate the workforce, separate events were held in Germany, Belgium, China, Thailand, Japan, India, the USA and Mexico. And these tactics paid off: within just a few weeks, a significant number of employees had submitted their business ideas on the online platform, with colleagues around the globe showing their support by posting suggestions for improvement and rating the ideas, 25 of which were subsequently shortlisted.

The developers of the 25 shortlisted ideas assembled their teams in a professional manner according to key criteria: they formed collaborative working →

"WE WANT TO PROMOTE A PIONEERING SPIRIT AND ENTREPRENEURSHIP WITHIN THE COMPANY." Dr. Markus Steilemann, responsible for innovation, marketing and sales on the Board of Management, Covestro

Ideas workshop: the final six teams learn how founders work at the Start-Up Challenge boot camp.

Sensitivity and good instincts are required: Annika Stute, Justus Kaiser and Pascal Kornfuehrer practice genuine teamwork.

The six start-up ideas:

1. "Upcycling" of a special kind – Waste from the manufacture of composite plastics is recycled to form new, high-quality products.
2. Increased efficiency for the coating professions – Using a newly developed technology, coaters should be able to work faster and more efficiently, especially in the automobile industry.
3. Design consulting by experts – A separate consulting company will help customers develop new plastic products, aided by the efficient testing of materials, color matching and processing options.
4. Cleaning with the waste gas CO_2 – Cleaning products are daily-use products. The use of CO_2 should help reduce the share of fossil-based components in cleaning solutions.
5. Color intelligence – The use of artificial intelligence will enable plastics designers to experiment with colors quickly and accurately. A digital platform for designers will include algorithms for plastics color formulations.
6. Sustainable gas production using waste gas – Covestro and partners demonstrate that gas mixtures for the chemical industry can be produced from CO_2 and renewable energies instead of fossil raw materials. This is a breakthrough for the entire chemical industry.

577

Business ideas were submitted from all parts of the company.

groups, filling various positions such as Chief Executive Officer, Chief Technology Officer, Chief Marketing Officer and Chief Financial Officer with a view to refining their projects. An internal jury selected the six most promising teams in October 2017. During November's boot camp and in the run-up to the final, they were supported by coaches – experienced managers from all areas of the company.

Coaches help participants develop ideas

One of the coaches is Michael Friede, head of the Coatings, Adhesives, Specialties segment, who is lending his support to a team working on the sustainable production of synthesis gases and looking for new ways of utilizing the waste gas CO_2. "I firmly believe in the ideas of our Covestro colleagues. The Challenge has given them the opportunity to achieve real results via our unique global platform." Friede, who recently visited start-ups and scientists in Silicon Valley, is impressed by the strength of the signal sent out by the Challenge: "We've always had a strong innovative spirit at the company. Now we're giving this spirit even more scope to develop. The teams should seize this opportunity to test their business ideas on customers more quickly, just like other start-ups do."

Four-time company founder Currie Crookston, Covestro's head of innovation management for the American market, is also a firm advocate of consumer power. "My advice to all the teams is: your new product must be much better than you think at first – only then will the customer actually buy it." Crookston is advising another team in the contest: "It's really exciting to establish a start-up from within Covestro."

A founder's life is the ultimate prize

When the teams pitch their ideas to the Covestro Board of Management in February 2018, the consumer perspective will have a key role to play. The members of the winning team will be given the opportunity to spend a year working with customers to turn their business idea into a marketable product in a start-up environment. During this twelve-month period, they will remain on the Covestro payroll, and they can continue to pursue their projects even afterwards. This combination of entrepreneurial risk and job security is unique in the world of start-ups: "The prospect of being able to develop our idea independently without any financial worries has given me the motivation to devote myself 100 percent to the project while performing my demanding normal job," says Anna-Leona Breidbach, who is in charge of strategy and marketing on the "Increased efficiency for the coating professions" team.

Breidbach was one of the team members noting down their colleagues' questions on the product following the boot camp pitch. "We're being confronted with new aspects that we hadn't considered before," says the former member of the field sales force. The team hopes to have settled all outstanding issues by the time of the final, assisted by the "Dragons' Den" dry run. ■

Covestro Start-up Challenge 2017

At a glance

1,204 comments

4,959 votes

26 countries

efficiency energy
business digital polyurethanes
innovation sustainability PCS
sustainable customer CAS foam

Interview

"INNOVATION IS TEAMWORK – AND IT'S EVERYBODY'S BUSINESS"

Hermann Bach heads innovation management at Covestro. The company is home to diverse ideas from employees around the globe, and Bach is giving them space to develop with the "Start-up Challenge" contest, the "Innovation Celebration" festivals and the online platform "idea.lounge."

Mr. Bach, which business idea would you pursue as a founder?
That's easy: the manufacture and further development of bio aniline. In commercial terms, aniline is an absolutely critical component of an entire range of important plastics – so there's a vast market for this product. One of our teams of experts has recently succeeded, in collaboration with well-known partners, in manufacturing plant-based aniline on a laboratory scale. This is an important first. Aniline is currently produced from fossil raw materials such as crude oil. Since the new process reduces our dependence on crude oil, it's an attractive proposition from both economic and ecological perspectives. It's truly pioneering research – and would have been a worthy Start-up Challenge candidate if we hadn't already been working on it at the time of the contest.

The first Start-up Challenge has produced numerous good business ideas from Covestro employees all over the globe. How do you arouse so much founding spirit?
That spirit already exists at the company – all we did was provide the framework for ideas to be developed in a collaborative process. Innovation is teamwork – and it's everybody's business, so the compliment goes to the entire workforce. The founding of Covestro as a standalone company in 2015 was associated with a clear commitment to innovation and sustainability, and that created a spirit of change. The ideas contest created fresh impetus at just the right time to enable us to tap and successfully exploit the great creative diversity of all our employees.

What other tools help foster the innovative spirit of the workforce?
We have established the internet-based ideas platform "idea.lounge" to enable all our employees around the globe to share ideas and search for solutions. Beyond that, our corporate culture takes the firm position that creative solutions and new ideas should be recognized. We're celebrating that with the "Innovation Celebration", a yearly idea festival in our three regions North America, Europe and Asia. The innovation prizes we award at this event cover all areas of the company: products and applications, processes and production, internal work processes and services, new business models and sales, and even patent applications. That's because innovation is a matter for the entire workforce – all over the world.

HELLO DIVERSITY!

He left school at age 15, and was only accepted to the Polytechnic Institute in Zurich following his second attempt, after having failed the French exam the first time around. Years later he made history with his theory of relativity – Albert Einstein. Good grades aren't everything. And that's true at Covestro as well. The company is taking an unconventional approach to awarding traineeships in Germany. This example illustrates just how attractive the company is as an international employer.

Sustainable Development Goal (SDG)

Decent working conditions and compliance with the applicable laws: these things are self-evident for Covestro.

Albert Einstein's genius proved, among other things, that school grades are not everything, and that more unconventional paths can also lead to success. However, the reality in today's Germany is often very different: school graduates who want to be admitted right away to study medicine at a German university need to achieve the top "Abitur" examination grade of 1.0 in order to avoid a long wait before beginning their studies. A merely average grade in sports or art can be enough to destroy their dreams. It should be perfectly obvious that outstanding grades are no guarantee of future professional success. Isn't a good balance of personal skills and professional expertise much more important? This is a good reason why the Federal Constitutional Court investigated whether the "numerus clausus" regulation for the study of medicine complies with the German constitution.

Treating applicants as equals

This perception may be slow to filter down through society at large, but it is already accepted at Covestro. Since last year, applicants for vocational training and dual degree programs have undergone a new recruitment process that differs significantly from the conventional procedure. The main difference is that the candidates' grades are initially of no interest to the company. "We try to treat our applicants as equals and to make the application process as pleasant for them as possible. We're far more interested in the individual skill set than the grades of each candidate," says Philipp Aschmann, Head of Employer Branding and Recruiting at Covestro. "This means that candidates who wouldn't have stood a chance before may now be taken on for vocational training programs." Aschmann helped redesign the application system and knows what he's talking about: many companies would also regard his own career path as far from conventional. There were certainly a couple of departures from the norm: long years of study and an interim basketball career before an internship led to a permanent job.

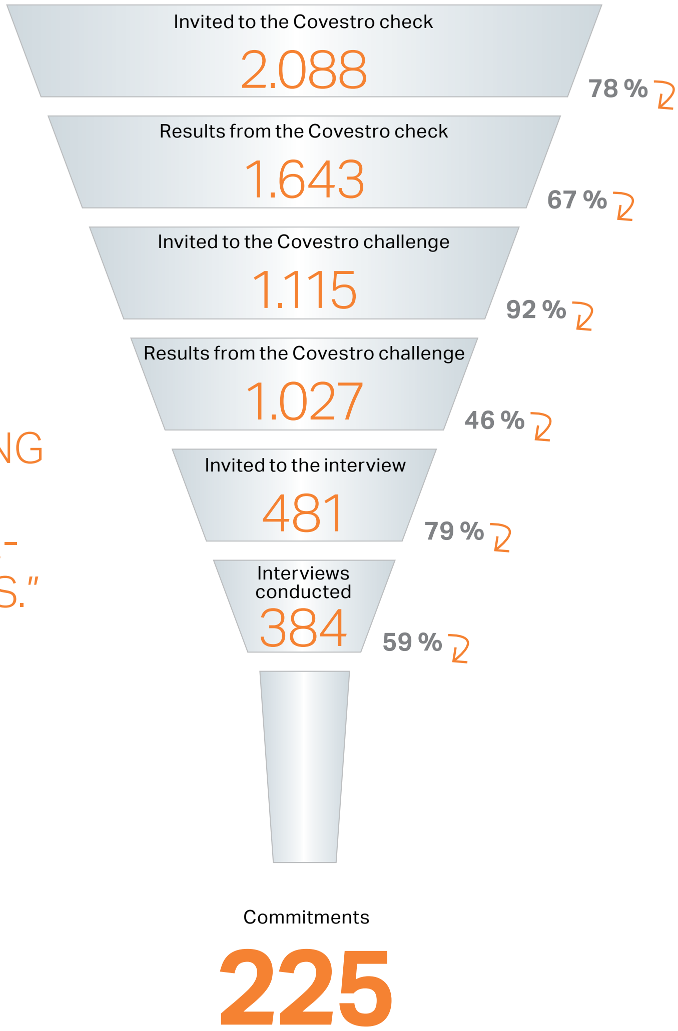
This once again illustrates that everything does not have proceed the according to plan. "We want to remain

Looking for courageous talent: the Covestro team on the road at recruiting fairs

"WE WANT TO ENCOURAGE YOUNG PEOPLE TO THINK OUTSIDE THE BOX, TO BE OPEN FOR NEW EXPE-RIENCES, PEOPLE AND CULTURES."

Stephan Busbach,
Head of Apprenticeship and Training in Germany, Covestro

From application to vocational training position



true to our values – curious, courageous, and colorful – in our recruitment policy too," explains Stephan Busbach, Head of Apprenticeship and Training at Covestro in Germany. "In practical terms, this means that we want to find the right employee for every vocational training position – both personally and professionally. We're looking for somebody who has the skills for the position in question and for a future at Covestro, but also for somebody we can relate to as a person and who shares our mindset."

Digital, individual, efficient

Applicants for vocational training or dual degree programs at Covestro first have to create a profile in a virtual application space. They are then all invited to participate in the Covestro Check, which they can complete online at home and is designed to test their cognitive skills in particular. Successful candidates then go on to tackle the Covestro Challenge, which takes place at the company. This is a test of both knowledge and personality, in addition to cognitive skills. Only candidates who proceed to the final stage – an interview at the company – have to save all their application documents, including proof of qualifications, in their online profiles.

Covestro has established a recruitment process that is not only more digital and individual, but also more efficient and transparent than its predecessor. "We respond with individual feedback within three days at all stages of the application process. That's twice as fast as before. In addition, candidates are offered a range of dates to choose from, giving them some input as to the speed of application processing," says Busbach. This process is unique in Germany.

Unlimited opportunities for trainees

Covestro operates on a global scale and therefore attaches great importance to its career program. Young professionals, who, for example, decide to take part in a traineeship in the Innovation department, have the opportunity to become acquainted with different countries, departments and forms of corporate culture. To this end, the locations collaborate on a global scale – ranging from Leverkusen to New York and even Shanghai. Throughout the entire time, the focus is clearly on Covestro's values: "We want to encourage young people to think outside the box, to be open for new experiences, people and cultures," explains Busbach. "This is becoming increasingly important in an international environment and our globalized world."

In addition to exciting projects, a career at Covestro also offers great opportunities. Last year, 2,088 candidates applied to be trainees in Germany, and around ten percent of them were taken on. Maybe the next Einstein is among them? There will be at least one or two hidden talents, of that there is no doubt. ■

Big goals: Englishman Adam Dixon wants to make sure that around the world, less land is needed for the cultivation of food crops. He developed a new kind of irrigation system for this purpose – a prize winning innovation.

IMAGINATIVE AND VISIONARY

Covestro supports the United Nations' Young Champions of the Earth prize and its groundbreaking environmental protection ideas.

Sustainable Development Goal (SDG)

Covestro is committed to sustainable consumption – not only in Europe, but throughout the entire world.

It was while helping his mother in the garden as a child that Adam Dixon developed his love of plants. Only later in life did he realize that their natural habitat is increasingly being lost. After all, a tremendous amount of agricultural land is required to feed the growing global population. That's something Dixon wants to change. And he knows how: the 25-year-old British engineer has invented an irrigation system that uses ten times less land and water than conventional horticulture, thanks to the development of a 100-percent recyclable polymer film. In just one year, Dixon has established a thriving company and is supplying Europe's second largest producer of rocket salad.

Dixon's groundbreaking idea could make even bigger waves than it has already, because he has been selected as one of six Young Champions of the Earth of 2017, a prize awarded by United Nations Environment. "It's a huge boost for me, and will help me achieve my vision of sustainability and food security," says a delighted Dixon. He and the other worldwide winners of this very first prize will receive access to valuable contacts, training and mentors in addition to financial seed funding.

These talented youngsters are also being supported by Covestro, which sponsors the UN Environment initiative and helped select the prizewinners. Over 600 entries were submitted from various parts of the globe. "The quality of the entries far exceeded my expectations," said Covestro CEO and jury member Patrick Thomas. "It's becoming very clear how committed young people in particular are to finding innovative solutions for the good of our planet, and that gives us great hope for the future."

As Thomas says, the Young Champions initiative is consistent with Covestro's vision of making the world a

Good ideas, happy faces: The "Young Champions of the Earth" at the award ceremony in Kenya's capital, Nairobi.

brighter place. “We aim to achieve this objective not only through our own products and technologies, but also by spreading outstanding ideas for greater sustainability.” The young people’s commitment has certainly resonated among the workforce, with hundreds of Covestro employees volunteering to mentor the Young Champions.

A wide range of ideas

The award-winning ideas are as diverse as the award-winners themselves. For example, Mariama Mamane from Niger wants to use water hyacinths, which clog rivers and lakes all over Africa, as a source of clean energy and environmentally compatible fertilizers. And Eritai Kateibwi from Kiribati, who – like Adam Dixon – is working on an irrigation system, wants to promote the cultivation of healthy food crops on his home islands in the Pacific. Ecuadorian Liliana Jaramillo Pazmiño is encouraging greater use of native plants on the green rooftops of Ecuador’s capital city, Quito.

Another prizewinner, Canada’s Kaya Dorey, wants to introduce closed-loop production in her apparel business, among other things with a view to avoiding waste. Omer Badokhon’s project is geared to waste recycling: the engineer from Yemen aims to help the rural population by deploying small-scale plants to turn organic waste into biogas for energy production.

“Fighters for a better future”

At the award celebration as part of the UN Environment General Assembly in the Kenyan capital Nairobi, pop star Ellie Goulding (“Love Me Like You Do”) had words of encouragement for the winners: “These Young Champions are a reminder that – despite the cynics and doubters – the world will always have people, especially young people, who are willing to fight for a better future.”

The involvement of UN Environment and its supporters has not ended with the awards ceremony: in 2018 the winners will attend a one-week entrepreneurship course in Europe designed to help them polish their entrepreneurial skills. They will also be invited on a tour of the Covestro laboratories to see for themselves how innovations are created in a major company. This may provide Adam Dixon with further inspiration for his irrigation system project. After all, he has big plans: to help ensure that, by 2050, only ten percent of the planet’s fertile land is under cultivation. ■

Web | web.unep.org/youngchampions

Interview

ERIK SOLHEIM
Executive Director of UN Environment

"ENVIRONMENTAL ISSUES ARE OPPORTUNITIES"

Mr. Solheim, what is the ultimate goal of UN Environment’s “Young Champions of the Earth” program and your expectation of the young people?

There is not one single environmental problem that we cannot innovate our way out of. That applies to dealing with climate change, protecting wildlife or stopping our oceans from being turned into a rubbish dump. The key is to create the conditions in which young entrepreneurs can flourish. For that to happen we need to build better access to networks, capital and training.

With Covestro, we’ve found a fantastic partner that shares our passion for youth, innovation and environmental sustainability – and the result is the Young Champions of the Earth program. The plan is to help big ideas flourish and turn them into actions.

“COVESTRO SHARES OUR PASSION FOR YOUTH, INNOVATION AND ENVIRONMENTAL SUSTAINABILITY.”

What remains to be done in order to really realize groundbreaking new ideas on a large scale?

It’s imperative that we help create more space for innovation, and that also means demonstrating that there is a huge market and enormous potential for entrepreneurs working on sustainable solutions. It’s about showing that environmental issues are not problems, but opportunities.

This also shows why the private sector is so crucial for the future of the planet. Through investing in the new sustainable economy, companies help break down barriers and can also push for a stable regulatory framework. Any company who fails to do this will be left behind.

How can high-tech polymers contribute to preserving our environment and shaping the future of our planet?

One misconception is that we at UN Environment are against plastics: quite the contrary. Plastics and polymers are, and will be, at the very heart of an inclusive, healthy and low carbon economy. The sector is where some of the most exciting green innovations are taking place.

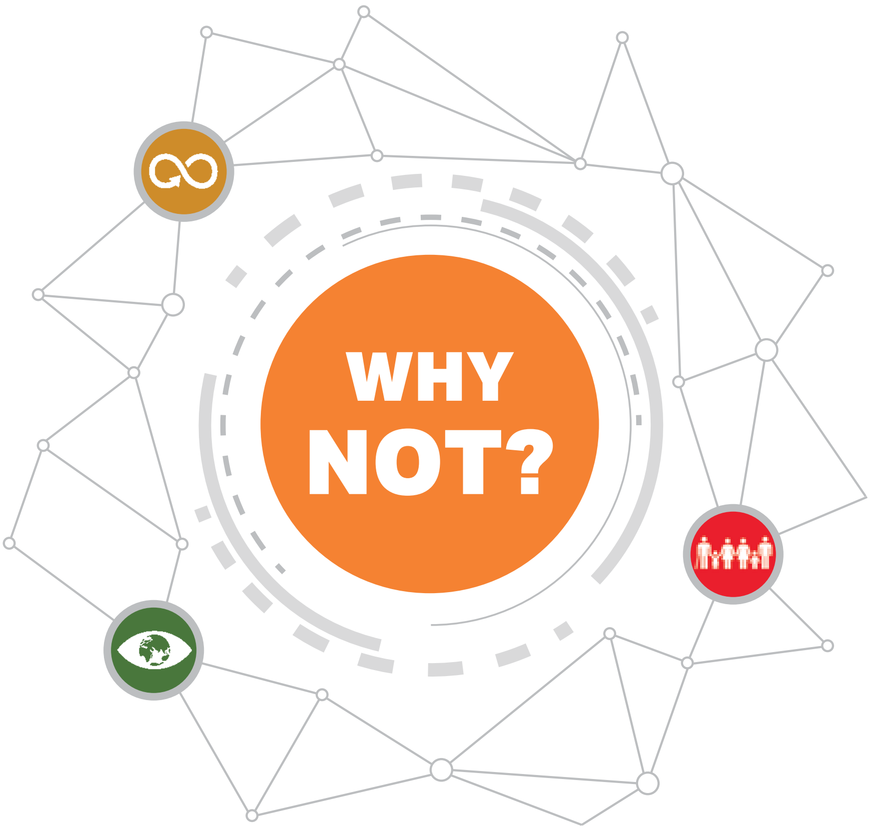
While we are against single-use plastics and the enormous waste that comes as a result of that, the problem is not plastic, but what you do with it. The potential for good use is enormous: just look at the growth of solar and wind energy over such a short period of time. The innovation taking place on solar panel efficiency or wind turbine blade design will make clean energy a decisive winner. Likewise, carbon fiber composites can help steer us away from planned obsolescence and a throwaway culture, and drive a more circular economy where waste can be practically eliminated.

Building for sustainability:

buildings consume a lot of energy and consequently need good insulating materials. Covestro manufactures the components for them, and is working to make their production particularly sustainable.

PRODUCTS

» Working to benefit society, to protect the environment and to create value. «



A new branch: alternative raw materials such as plant biomass are playing an increasingly important role in plastics production. Covestro is leading the way with its latest award-winning research breakthrough: the manufacture of aniline without the use of fossil resources

PLANTS REPLACE CRUDE OIL

Covestro is a pioneer in sustainable plastics production

Sustainable Development Goal (SDG)

Covestro promotes sustainable production methods in line with the UN Sustainable Development Goals.

The drawing on the table is covered with arrows, boxes and abbreviations. At first glance, it could be almost anything, from a depiction of the London Tube system to the blueprint for a rocket. But Dr. Gernot Jäger knows exactly what it all means: "What we have here," says the biotechnologist, "is a picture of a completely new plastics production process. And the product that we hope to be able to manufacture in a few years would also be the first on the market."

According to Jäger, who works at the company's Leverkusen headquarters, this research breakthrough could give the chemical industry another significant boost in its efforts to achieve greater environmental compatibility. Covestro has set itself the goal of revolutionizing the production of what is a significant chemical for the entire industry: plant-based aniline (also known as bio aniline) to replace aniline derived from limited fossil resources such as crude oil. "The industry is increasingly focusing its attention on this renewable and sustainable raw material that is both readily available and climate-friendly," says Jäger of this exciting new approach.

He has already managed to convince others of its merits: the Technology Review, a periodical published by the prestigious Massachusetts Institute of Technology (MIT), named Covestro as one of the 50 most innovative companies of 2017 for its successful research into bio aniline.

Important basic chemical

Every year, five million metric tons of aniline – depicted in hexagonal form in Jäger's complex diagram – are used to manufacture rubber, paints and medicines around the globe. At Covestro, aniline is also used as a raw material for plastics: the company is one of the world's leading aniline producers, with an output of one million metric tons per annum.

Covestro uses aniline to manufacture MDI, or methylene diphenyl isocyanate, a key component in the production of rigid polyurethane foam. This foam is used as an insulating material for buildings and refrigeration appliances with a view to improving energy efficiency and boosting their eco-balance. And this carbon footprint could improve even further in the future if aniline – the basis for MDI – can be manufactured from biomass in large quantities.

The use of plants to replace crude oil in production is no longer a mere dream. Covestro can already offer a number of innovations in this field, such as bio-based

20 percent less crude oil: plastics made from **carbon dioxide**

Covestro has been manufacturing polyols from carbon dioxide since 2016. Prior to this, manufacture of this important foam component was based entirely on crude oil. But since 2016, up to 20 percent of the crude oil has been replaced by CO_2 that is chemically bound and cannot leak out. This is a particularly sustainable method of producing flexible polyurethane foam for use in mattresses and upholstered furniture, and research on other applications is ongoing. The CO_2-rich precursor, known as cardyon™, is produced at a new facility at the Dormagen site in Germany.

components for automotive finishes or furniture coatings. But the company is also exploring other ways of replacing conventional fossil raw materials with those from alternative sources, and has recently started using carbon dioxide, to name just one example.

"The market is extremely interested in environmentally friendly products based on alternative raw materials," says Dr. Markus Steilemann, who is responsible for innovation, marketing and sales on the Covestro Board of Management. "We take the topic of sustainability extremely seriously and also bear it in mind when it comes to product development and production – in line with our vision of making the world a brighter place. Sustainability is playing an increasingly important role for our customers and end consumers too." By expanding its raw material base, the chemical and plastics industry can reduce its consumption of fossil resources and become less dependent on associated market fluctuations, according to Steilemann. "Manufacturing aniline from biomass is another significant step in this direction."

Sophisticated new process

And it's already possible on a laboratory scale. "This is a notable success, especially when you consider that we started out four years ago with just a blank sheet of paper," says Jäger. Now it's a question of developing the new process further and testing it. A team of 40 biochemists, chemists, process and other engineers and specialists from other disciplines is working hard toward this goal under Jäger's direction. They have been recruited from Covestro and Bayer AG, the University of Stuttgart and the CAT Catalytic Center (a research facility at RWTH Aachen University) to form a highly specialized team for an extremely sophisticated process that combines biotechnology with conventional chemistry.

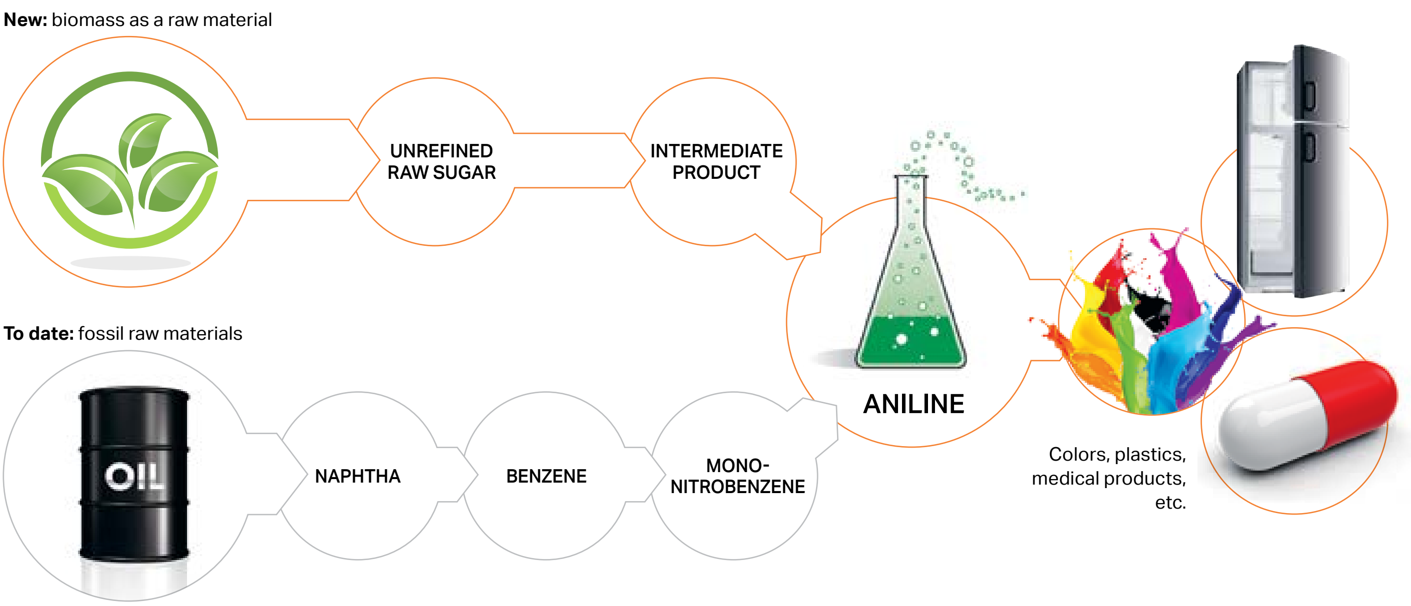
40 percent less crude oil: plastics made from **paraformaldehyde**

Covestro and its partners are also exploring another avenue to find alternative means of producing polyol: pFA, or paraformaldehyde, likewise appears to be a suitable substitute for the crude oil used to date. Research is being conducted by a consortium of business and scientific partners led by Covestro. According to project manager Dr. Annika Stute, "Paraformaldehyde has a better climate footprint than traditional raw materials made of polyol." The goal is to replace up to 40 percent of crude oil, with the idea that the new polyols can be used in the manufacture of sports gear such as ski boots, or maybe even insulating material for buildings.

The focus is on catalysts – important substances that precipitate chemical reactions and steer them in the right direction. "We're combining two innovative catalytic stages," explains Jäger. First of all, unrefined raw sugar is transformed into an intermediate product via biocatalysis with the help of a newly developed microorganism. In a second stage, a chemical catalyst is used to turn this into aniline in a highly efficient process.

The raw sugar used can stem from various plant sources such as fodder maize, straw or wood. However, the production of bio aniline does not result in food shortages, as Jäger emphasizes, because the amounts of plant-based raw material required are relatively low: an average farm in the United States would produce enough to make 100,000 metric tons of bio aniline a year. "This is currently equivalent to less than 0.001 percent of the world's arable land." But production on an industrial scale is still some way off. Jäger expects it to begin in the mid-2020s at the earliest, if all goes as planned. →

Innovative process in plastics production



70 percent less crude oil: plastics made from **plants**

Environmentally friendly cars should not emit any CO_2 whatsoever. Manufacturers have an increasing interest in making the product as a whole, including all its components, as sustainable as possible, and this also applies to the coating process. Audi has recently achieved a new milestone in this field by testing the application of a particularly environmentally compatible clearcoat on a vehicle from its Q2 series. The coating hardener is 70 percent biomass-based – a Covestro innovation that can significantly reduce the use of crude oil, the conventional raw material. A similar product has already been launched on the market for the furniture industry in the form of a Covestro hardener for wood coatings with a 66-percent biomass content.

Even though this and other projects are still in their infancy, it is becoming very clear that the future belongs to alternative resources. Last year, participants in a summit at the Technical University of Berlin, organized by the university in conjunction with the German Society for Chemical Engineering and Biotechnology (DECHEMA) (see page 31) and Covestro, called for greater efforts in this field. "There are any number of promising approaches when it comes to producing chemicals largely without the use of crude oil," says Professor Reinhard Schomäcker from the Institute for Technical Chemistry at the TU Berlin. "Close collaboration between research-oriented companies and application-oriented science is vital in this regard."

A broad consortium is working at European level to this end. It has been formed by 14 partners from seven countries with the objective of exploring how carbon dioxide and other emissions from the steel industry can be put to particularly efficient and sustainable use in the manufacture of plastics. "The carbon footprint of precursors produced in this way can be 20 to 60 percent lower," says Covestro's Dorota Pawlucka, coordinator of the research project funded by the European Commission.

Unparalleled cooperation

Cooperation along the value chain, from the originator of the emissions all the way to the plastics processor, is unparalleled in this form and particularly synergetic for good measure: one potential site for a production facility is in the south of France, close to the ArcelorMittal steelworks as well as to a Covestro plant.

Covestro already uses carbon dioxide in plastics production: in 2017, the company supplied selected customers with polyols based on CO_2 that were specially formulated for the manufacture of flexible polyurethane foam for use in mattresses and the like.

At the same time, research is continuing intensively. Covestro and its business and scientific partners are setting their sights on numerous other applications for CO_2 polyols, from car seats all the way to more sustainable and more readily degradable detergents.

Or, indeed, polyurethane insulating foam – the material whose second component, namely MDI, will be produced from biomass in the future if Jäger and his team have their way. It's an exciting prospect. "Maybe in the future we'll be able to produce this insulating material from both plants and CO_2," says Jäger. "That would give us twice as many options when it comes to dispensing with the use of crude oil in plastics production."

Manufacture of bio aniline: following successful laboratory trials, project manager Dr. Gernot Jäger (center) and his team are working hard to upscale the new process. Production on an industrial scale is their long-term goal.

Bylined Article

PROF. DR. KURT WAGEMANN,
Executive Director DECHEMA e. V., Frankfurt/M.

THE RAW MATERIAL BASE OF THE FUTURE – NOT A QUESTION OF EITHER/OR

CO_2 pioneer: Covestro is leading the way and inspiring many other companies to follow its example, says Professor Wagemann.

Substituting biomass for coal, electricity and CO_2 for crude oil, biogas for natural gas – the current raw materials debate seems to center on replacing one type of fossil raw material with a renewable resource wherever possible. But this creates a distorted picture of the scale of the challenge ahead: it is extremely unlikely that the value chains in ten, 30 or 50 years' time will be the same as those we know today. Given that acetylene chemistry found an excellent raw material in coal, but not in crude oil, it may also prove suitable for the production of chemicals based on (bio-)methane using electricity. In other words: raw materials, chemical processes – including the associated energy resources – and products must always be considered in relation to one another.

"IT'S WORTH PURSUING UNUSUAL APPROACHES AND FOLLOWING DREAMS."

A "road map" for molecules

Has nature already created chemical structures in biomass that can be exploited? If so, biomass is the right raw material for detergents, lubricants and the like, but possibly also for new high-performance materials that we haven't even invented yet. Or do we want to build the monomers required for the manufacture of polymers from synthesis gas as typical high-volume chemical products? If a heavy construction machine needs to be deployed, or a large passenger aircraft has to fly transcontinental routes, then it's worth creating high-energy-density synthetic fuels from water, CO_2 and electricity, or from biomass via synthesis gas. Ultimately, we can manufacture many chemicals this way. DECHEMA presented a detailed analysis of these options in mid-2017, submitting figures on (renewable) electricity requirements, CO_2 availability and transformation costs for future chemical production in Europe that dispenses with the use of fossil raw materials wherever possible.

From today's mix to tomorrow's

The chemical industry already relies on a raw material mix that differs according to region as well as product portfolio. And it is already using the synthesizing power of nature to produce, among other things, fibers and surfactants that are just as good as their synthetic equivalents – and sometimes even better. On the other hand, the percentage of renewable raw materials used by the chemical industry in Germany has remained static at around 13 percent for a number of years. More breakthroughs are required to meet the EU's objective of increasing this figure to 30 percent by 2030.

The other raw material of the future has an even longer way to go. The use of CO_2 is not really new – methods of obtaining salicylic acid and urea are ancient processes – but very little progress has been made since then. Yet it could well be worth exploring similar avenues today: Covestro has taken on a pioneering role with the manufacture of a new foam component based on CO_2, and will hopefully inspire many other companies to follow its example.

When dreams come true

So, what is the raw material of the future? The only possible answer is: it all depends. The chemical industry and chemical research are both working concurrently on all kinds of different projects, and this can only be a good thing – because today's science and industry have to work out how to manage the raw material mix intelligently and identify the right synthesis route for specific applications. For this reason, it makes sense to pursue a wide range of different research approaches, compare results and link them in an intelligent fashion. And it's also worth pursuing unusual approaches and following dreams – because sometimes that dream reaction really does happen.

ON THE ROAD – INNOVATIVELY

A team from Aachen battled its way thousands of kilometers through the Australian outback in the world's most difficult solar-powered car race. On board were ample solar power, plenty of fighting spirit – and innovative products from Covestro. How high-tech materials support the mobility of the future.

13 CLIMATE ACTION

Sustainable Development Goal (SDG)

Climate protection – an important topic and one that Covestro is promoting with a number of projects and innovations.

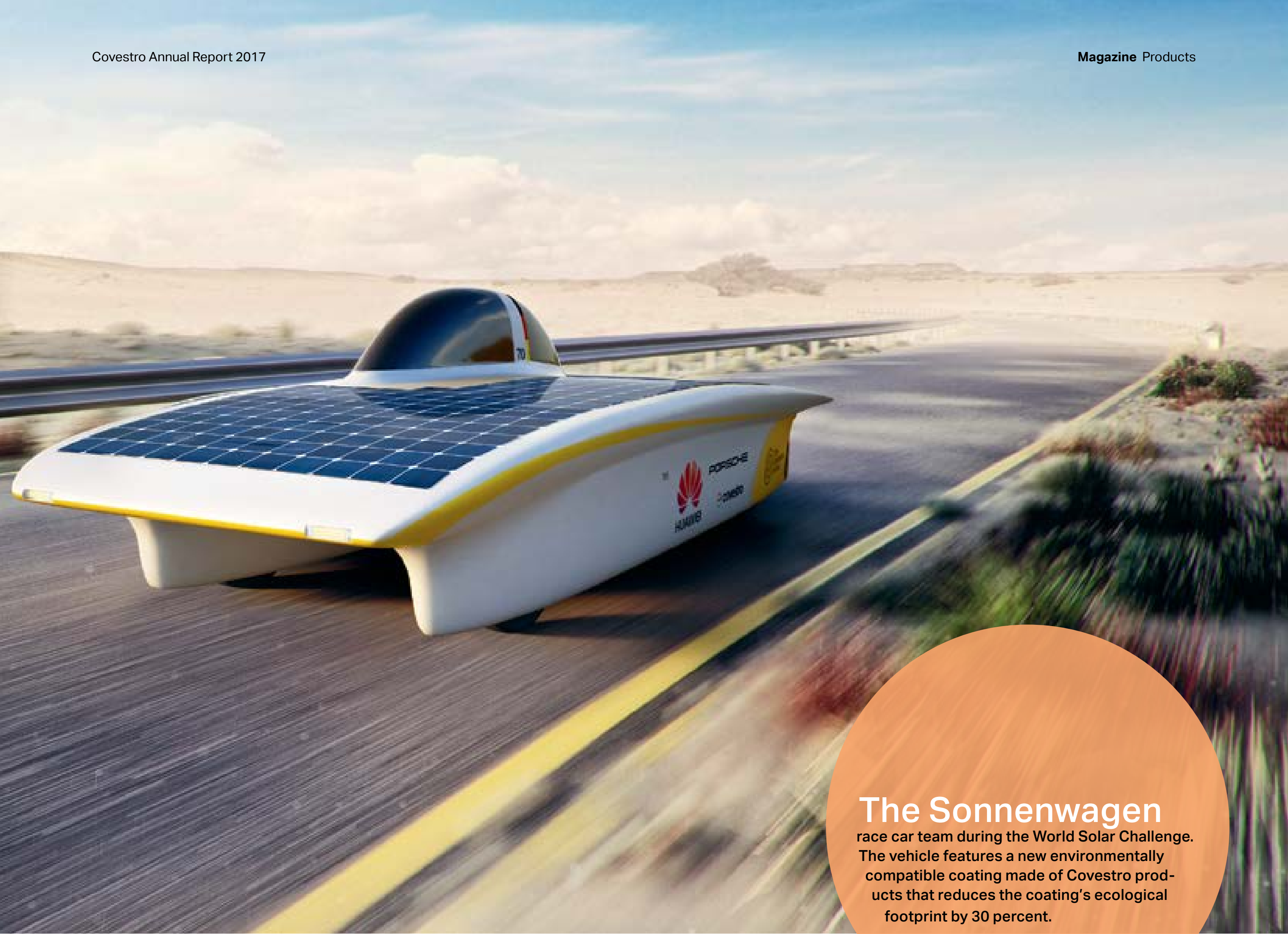
Scorching heat followed by thunderstorms. Then rain and wind, then back to sweltering conditions. Endless roads through the inhospitable expanse of the Australian outback. This is the setting of the rigorous World Solar Challenge, a zero-emission race for solar-powered cars. The approximately 50 participants in 2017 included a team of students from Aachen (Germany) with their "Sonnenwagen": a self-built, 200-kg vehicle capable of braving any wind or weather – not to mention the threat of dead batteries. The car fought its way through the lonely outback from Darwin in the north all the way to Adelaide on Australia's southern coast, traveling seven days and 3,022 kilometers in a vehicle powered by 296 square solar cells and not a single drop of fuel.

Utterly focused: the Sonnenwagen team puts the finishing touches to its driving tactics before the World Solar Challenge gets under way.

"Sustainable mobility concepts and solar technology are the future. We're convinced of that," says Hendrik Löbberding, who heads the team. "We hope that our Sonnenwagen will help drive these technologies forward." As the team's leader, Löbberding was in Australia himself and experienced all the highs and lows of the competition first-hand: "We had the worst weather conditions that a World Solar Challenge has ever experienced, but we didn't let that get us down." This fighting spirit paid off, with the students from Aachen eventually crossing the finish line as the best newcomers.

The endurance test for Covestro's coating

Covestro was on board in the form of a particularly environmentally friendly new vehicle repair coating. The company is responsible for a key component of this coating, made predominantly from plant-based raw materials (see "Plants instead of crude oil," page 28). This saves on the use of traditional fossil resources and reduces the ecological footprint of the product by some 30 percent. Just like the team of the Sonnenwagen, this



The Sonnenwagen

race car team during the World Solar Challenge. The vehicle features a new environmentally compatible coating made of Covestro products that reduces the coating's ecological footprint by 30 percent.

Web | www.sonnenwagen.org

The course takes contestants 3,022 kilometers through the Australian outback, and the team must withstand extreme heat, storms and dust.

3,000 kilometers

without a single drop of fuel: the Sonnenwagen with Covestro materials on board.

new coating was tested under the most extreme climatic conditions. And it passed with flying colors, withstanding every type of weather, from temperatures of up to 45 degrees to intensive UV radiation and high levels of dust.

The Sonnenwagen project is a prime example of what is already possible today and of how high-tech materials are helping shape future mobility. Requirements are growing all the time, and we can follow every stage of the mobility revolution: increasing digitalization means that new technologies such as autonomous driving are forcing their way into the market, while car-sharing offers ever greater flexibility, especially in metropolitan areas. We also have rising expectations of the safety, efficiency and environmental compatibility of our transportation. →

The Covestro concept car illustrates how Covestro products can help shape the mobility concepts of the future.

Plans call for more than

10,000,000

e-cars and hybrid vehicles to be in use in China by 2030

Covestro is helping drive these developments forward with unconventional ideas and innovative products. "High-tech plastics offer a whole host of new opportunities in the mobility sector," says Covestro's automotive expert Jochen Hardt. "Our materials contribute to lightweight construction, which reduces fuel requirements. They ensure optimum heat management, which especially helps protect the batteries in electric vehicles. They also enable state-of-the-art holographic lighting technology and support autonomous driving." This requires, among other things, the seamless and invisible integration in the vehicle of a wide range of camera, radar and LiDAR sensor systems. "And for that you need materials such as polycarbonate that are permeable to sensors," explains Hardt.

Electromobility is gaining ground in China

In China in particular, the new mobility trends are being bundled and intensified – as if they were under a microscope. In recent years, the country has become the largest automobile market in the world, and that goes for electromobility too. Owing to China's air pollution and other environmental problems, its government is picking up the pace here in particular, with purchase incentives, manufacturer quotas and the promotion of innovative start-ups. The goal is to have more than five million new energy vehicles (NEVs) – that is, pure e-cars and hybrid vehicles, which combine electric drives with combustion engines – on China's roads by 2025. This amounts to over 15 percent of the country's total vehicle base. "And we're expecting a further rise to 40 percent by 2030," says Professor Zaimin Zhong from the School of Automotive Studies at Tongji University in Shanghai. In that case, the number of NEVs would rise to more than ten million.

"HIGH-TECH PLASTICS OFFER A WHOLE HOST OF NEW OPPORTUNITIES IN THE MOBILITY SECTOR."

Automotive expert Jochen Hardt, Covestro

1) Christian Haessler, Head of innovation for Asia, explains the newest material development: a composite material made of carbon fiber and polycarbonate.

2) Always in motion: China offers the best conditions for innovation and is setting new trends in electromobility, too.

3) Covestro pursues innovative product ideas in its research center in Shanghai.

At the same time, the trend towards car sharing and car pooling is particularly strong in China, which is the world's most heavily populated country. Statistically speaking, half the population has mobile internet access – the perfect condition for innovative services. These include non-stationary and cashless bike rental systems, which are booming in China as an environmentally friendly means of transportation in its smog-filled, overcrowded megacities.

Smart bike rental, electric vehicles, autonomous driving – Covestro is supporting all of these developments and driving them forward with its innovative materials and solutions. In a loft in the research center in Shanghai, employees are working on fields of application for the most recent technical innovation: a composite material made of carbon fiber and polycarbonate. It's ultralight, extremely stable, and revolutionary in its design possibilities. "What is really special is that the material looks and feels like metal," says Dr. Christian Haessler, Head of Innovation for Covestro in the Asia-Pacific Region. "It even sounds like metal."

For a better life: small and marginal farmers such as Mallappan from India must be integrated in the value chain in order to combat poverty and hunger in developing and emerging countries.

Sustainable Development Goal (SDG)

Fighting poverty and helping people help themselves – putting Covestro's innovations to concrete use.

How Covestro products help people in underserved markets

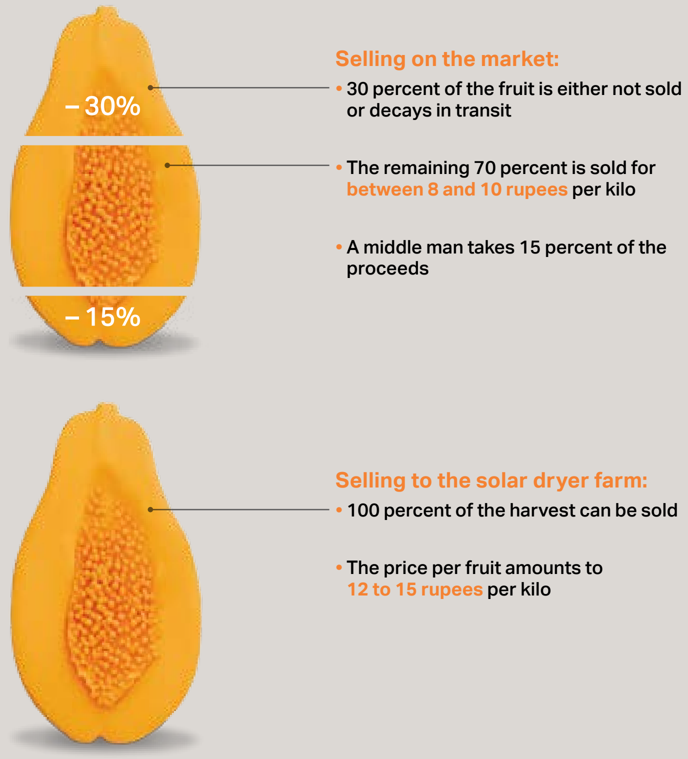
IDEAS THAT BEAR **FRUIT**

Covestro's "integrative business" approach is aimed at forcing the pace of social progress made by people at the lower end of the income pyramid. The company aims to provide ten million people in underserved markets such as Indonesia, Thailand and India with sustainable products and solutions by 2025.

Mallappan grasps the handles of his plow tightly. Thirty years of farm work have strengthened his grip and general physique. He looks up at the burning sun shining brightly above his home village of Kathappa Nagar in the south of India and wipes his forehead with the back of his hand to prevent the sweat from pouring into his eyes. The farmer has been hard at work all day long – he knows no other way of life. The 1.2 hectares of land left to him by his father need to be tended to. Not only does this land feed Mallappan, his wife and his two children, but it represents his only source of income – if the weather is kind. "Droughts make our life difficult," he says, briefly stopping his work. He leans on the handles of the plow; the years of back-breaking work have taken their toll. "Because water is in short supply, I often have to grow crops that don't need much, such as maize, millet and peanuts." Although these are sturdy enough, they bring in less money. He can just about make ends meet – but a future away from the fields is still a pipe dream for his kids.

Crops such as papaya and mango would be much more profitable – not just in terms of his current existence, but perhaps for the future too. Mallappan recently sowed mangoes on two-thirds of his land to provide for the future. His day-to-day expenses are covered by the papayas that he is growing on the remainder of his plot. At least, that's the plan. The reality, however, is often different. The local weekly market that has always been

More profit per fruit in India



his only point of sale has often proved a disappointment: "After long hours of work in the fields and at the market, one third of my yield went to waste, either because it decayed in transit or because there were no takers. What's more, a chunk of my takings was passed on to a middle man," he says.

But he's using the past tense for a reason: his situation recently took a massive turn for the better when he heard about a new source of income for the region's farmers – solar dryers.

These parabolic devices have been made from a material Mallappan has never heard of, one that is manufactured by a company based on another continent. The material is polycarbonate, and the company manufacturing this high-tech plastic is called Covestro. Polycarbonate is transparent, provides protection from UV radiation, is robust, light and can be molded into any shape, making it the ideal material for use in these solar dryers which resemble greenhouses in appearance. They allow fruit to be dried both hygienically and efficiently. This means that farmers don't have to worry about crop spoilage – be it at the market or because of contamination by pests, parasites, dust or fungus when drying in the open air or in unsuitable storage facilities.

Even better, drying the fruit preserves it and increases its value significantly. One kilo of papaya sells for between eight and ten rupees at the weekly market, around ten to 13 cents in European currency. These prices can also fluctuate considerably. By contrast, one kilo of dried papaya or mango from the solar dryer sells for 500 rupees, or around 6.60 euros. This increase in value can make all the difference between poverty and wealth, dependence and independent living. Numbers like these are enormously significant when applied across a country like India, the majority of whose 1.3 billion-strong population make a living from agriculture.

Helping the farmers means helping the entire country

India is also the world's second-largest producer of fruit and vegetables. But around 40 percent of the 83 million metric tons of crops grown every year never reaches the consumer due to poor infrastructure, a lack of storage facilities or outdated post-harvest technologies.

Around half of the country's population relies on agriculture to make a living. Boosting the profit from their crops makes a huge difference to these small and marginal farmers, the majority of whom, like Mallappan, have to earn their livelihood from less than 1.25 hectares of land. Their average monthly income of just 6,500 rupees – around 85 euros – is barely enough to survive on.

This hasn't gone unnoticed by government and organizations, who have been seeking to break through the vicious cycle of poverty for some time now. Helping the farmers can help the entire country. →

For a long time, the local market in Krishnagiri, a district in southern India, was the only place where Mallappan could sell his crop. But one third remained unsold or decayed in transit, which was a frustrating experience for a farmer who was already facing hardship.

Collaborative ventures are the key: **dried fruit manufacturer H.M. Sathyamurthy supports the farmers while improving his own lot.**

From papaya to snack

From 15 rupees per kilo for the fresh fruit …

+ 3,233%

… to 500 rupees per kilo of the dried snack.*

Drying significantly increases the value of the fruit and benefits the entire value chain.

* Sample calculation for the farmer H.M. Sathyamurthy, who benefits from drying the fruits.

And Covestro has found a way to provide the help required. The company has been following an approach that, after several years in the making, is now beginning to bear fruit – not just in India, but the world over. As part of its “inclusive business” approach, it is developing solutions aimed at providing affordable housing, improved hygiene, food preservation and state-of-the-art processing methods to support people at the lower end of the income pyramid. In the Middle East, as well as in the South and Southeast Asian countries of Vietnam, Thailand, Myanmar, Indonesia and India, Covestro is establishing unconventional cooperative ventures, such as partnerships between the public and private sector, and creating new value chains. The solar dryers used in India have also been established in Southeast Asia. They are the brainchild of Dr. Serm Janjai, a professor at Nakhon Pathom’s Silpakorn University who shares Covestro’s vision (see interview on page 41) and has found the optimum material for his invention in polycarbonate. Thus, the seeds of this groundbreaking discovery were sown in Thailand. The solar dryers also help farmers and dozens of communities in Southeast Asia to dry fruit, vegetables, meat and other foodstuffs.

The solar dryers made from polycarbonate can also be purchased individually by farmers or communities. The revenue then goes directly to the farmers.

Cooperative ventures create new value chains

Covestro aims to help improve the living conditions of ten million people in underserved markets, primarily in developing and emerging countries, by 2025. “We want to contribute to and strengthen local economic development, alleviate poverty and support social progress by integrating low-income communities in the value chain,” says Richard Northcote, Head of Sustainability at Covestro. "We intend to cooperate with local partners with a view to developing self-sustaining models that allow people from the lower end of the pyramid to put themselves on course for a better life. We call this "inclusive business" – by which we mean business that has a positive social impact."

Cooperative ventures with local business partners are key to this endeavor. Over 550 of the large parabolic solar dryers are already being deployed in Thailand to the benefit of large numbers of people: productivity among small and marginal farmers has increased considerably. Impack Pratama, a leading supplier of materials for the Indonesian construction sector and one of Covestro's biggest polycarbonate customers in Southeast Asia, was immediately impressed by the solution. The company is now cooperating closely with Covestro and lending its enthusiastic support to the solar dryer cause. "We have been working with Covestro for 25 years," says Haryanto Tjiptodihardjo, CEO of Impack Pratama. "Over time we have learned to trust one another and have built a strong relationship. We're firmly convinced that a positive attitude and the intelligent use of high-tech materials will enable us to work together to improve the living conditions of people in underserved communities. We are treading this path alongside Covestro."

This is just one example of how unconventional business models can help integrate people on low incomes in the value chain. "We're delighted that our idea has been so readily accepted," says Richard Northcote. "We need this type of partnership in order to tap into new markets and find practical ways of satisfying people's needs." This approach also paves the way for new business opportunities for Covestro. Starting with the manufacture of high-tech materials used predominantly in developed markets, the company is now forging partnerships and creating new value chains in developing and emerging countries. Northcote: "We are thus implementing the two pillars of our company, sustainability and innovation, even more vigorously than before."

Creating new markets

Another example of this unconventional approach to helping people in need is Covestro's involvement in a German refugee camp at Bergisch Gladbach, North Rhine-Westphalia. Here, the company has joined forces with French construction company Logelis and the local authorities to provide refugees from war-ravaged countries with high-quality accommodation. The rigid polyurethane foam walls of the housing facilities have been manufactured from raw materials produced by Covestro. The polyurethane foam is extremely stable and has great insulating properties, making it an excellent substitute for concrete. Not only does this enable buildings to be erected at low cost and extremely quickly, but it also ensures that they are particularly energy-efficient. This makes a difference even in developed markets such as Germany, where affordable and energy-efficient accommodation is in short supply, especially in the major cities.

Rigid polyurethane foam made from Covestro's raw materials can also be used to build affordable housing – such as here in Bergisch-Gladbach, Germany, or in developing and emerging countries.

Covestro materials are also used to make solar-powered cooling units that require hardly any energy and extend the shelf life of food, which is particularly important in arid and humid regions.

But back to India, where Covestro has provided the materials for over 1,200 small solar dryers, over 200 parabolic solar dryers and more than 80 solar-powered refrigerators to date. The latter are also insulated with rigid polyurethane foam. In the Indian region of Krishnagiri, where Mallappan lives, Covestro has brought together local polycarbonate manufacturer Vivunes, dried fruit manufacturer MCI Agro Technologies and the National Bank for Agriculture & Rural Development (NABARD) with a view to supporting farmers. With their help, 70 small and marginal farmers can now benefit from solar dryers and get the most out of their crops.

MCI engineer H.M. Sathyamurthy and his company aim to support farmers by showing them new or alternative harvesting methods: "We want to join forces with the farmers to help them produce local foodstuffs at a fair price and boost their crop yield as well as energy- and cost-efficiency. The ultimate aim is to provide healthy food that benefits society as a whole." ➔

"WE WANT TO INTEGRATE PEOPLE ON LOW INCOMES N THE VALUE CHAIN."

Richard Northcote, Chief Sustainability Officer, Covestro

It was while researching new drying technologies that Sathyamurthy got to know a team from Covestro. This team subsequently created a prototype of the solar dryer made from polycarbonate for him to test using the crops produced by the local community's cluster of farmers. "We started off with one solar dryer with an output of roughly 100 kg of dried fruit per day," he says, with a glance at his facility surrounded by green fields in this extremely arid and mountainous region of India. "We could tell almost immediately that it was going to work, and went on to set up six large dryers here in Krishnagiri with a capacity of five metric tons of fruit per day. We'll be looking to expand further soon."

Higher quality, higher output

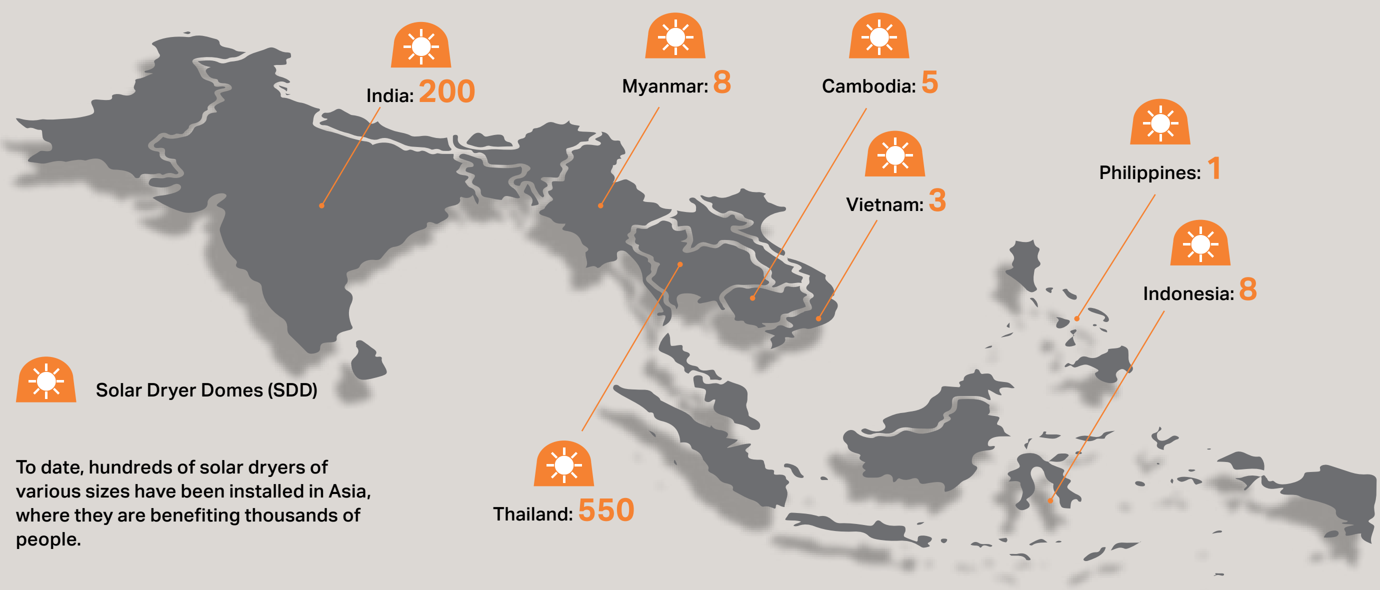
The main advantage of Covestro's solution is its efficiency. The small amount of energy required for the ventilation system, among other things, is provided exclusively by solar power. Most important of all, the polycarbonate makes for highly efficient insulation. The sun's rays are able to penetrate the unique structure of the material, allowing the dryer to heat up quickly. If the sun shines down from dawn till dusk, temperatures inside the dryer can climb to 60 degrees Celsius, thus halving the drying time. At the same time, the material filters ultra-violet rays. This allows the products' natural color to be retained for the most part – a major advantage when selling the dried snacks. "We can now produce better-quality products in half the time," says Sathyamurthy. Other solar dryers are heated with diesel or other fossil fuels, using so much energy as to account for 25 percent of the operating costs.

Among the 70 farmers selling their crops to MCI is Mallappan, who heard about the dryers from a friend. His curiosity aroused, he visited the facility and met Sathyamurthy, and everything else just fell into place. MCI pays between 12 and 15 rupees for a papaya such as those harvested by Mallappan, amounting to up to 20 cents per kilo. On the weekly market he would get between eight and ten rupees per fruit, while 30% of his crop would become unsellable either en route to the market or in the course of the day. That makes the solar drying facility an absolutely sound and reliable source of income for Mallappan and the other local farmers.

Once Mallappan spotted the opportunity, he didn't hesitate. "I knew at once that it was the best solution for my produce; I didn't need any time to consider it." And he was quickly proved right: "There are no quantity restrictions and I can sell my entire crop. There's absolutely no waste as I can deliver and sell both ripe and unripe fruit." Not only does he save the costs of transport to the market, but he earns more and is paid directly, not via a middle man. "The solar dryers have improved my life and that of my family significantly."

When we meet Mallappan again on his land, he is smiling broadly. Thanks to the efforts of a German materials provider, his life has taken a massive turn for the better after years in the doldrums. He will continue to take his crop to MCI's solar dryers, and has told friends and neighbors about this new means of doing business, so that they can improve their lives too. This hasn't reduced his workload in the fields, however: and so the farmer from southern India gets back to his plow without further ado. ■

The "inclusive business" approach bears fruit in India and Southeast Asia



To date, hundreds of solar dryers of various sizes have been installed in Asia, where they are benefiting thousands of people.

Interview

"INNOVATION HELPS PEOPLE"

Professor Dr. Serm Janjai invented the parabolic solar dryers that are helping thousands of small and marginal farmers increase their crop yields. The materials he used are made by Covestro.

Dr. Serm Janjai, Professor of Physics at Silpakorn University, Nakhon Pathom, Thailand.

"WE ARE ENTERING A NEW ERA OF CROP PROCESSING."

How did you come up with the idea of developing solar dryers?
When I graduated from university almost 40 years ago, I was fascinated by the idea of using the power of the sun. Solar cells were cutting-edge technology at the time. When I looked at my home country and its limited resources, I realized that we had to develop ideas and product solutions that could easily be tested and further developed in Thailand. And so I started to focus on solar drying as a promising crop processing solution early on in my career.

Why is processing so important in developing and emerging countries such as Thailand?
Thailand's traditional practice of drying directly in the fields or at the roadside was unhygienic; but the main reason is that the tropical climate is so unpredictable, with torrential rainfall at times. Crops have also fallen victim to insects or mold in the past. By preventing these problems, we can boost agricultural productivity in general, create value and generate higher returns for the farmers.

Why did you decide to use polycarbonate for the dryers?
The first dryers were on the small side. We used glass because we needed a strong, transparent material with good insulating properties. But as time went on, we realized that if we wanted to make a real difference to farmers, we had to find a larger-scale solution capable of drying several hundred kilos of fruit and vegetables. The sun's rays can be harnessed most efficiently by using a parabolic structure. This couldn't be achieved with glass for both practical and economic reasons. But one day I spied a modern roof that was evidently stable and transparent, as well as having an unconventional shape. I proceeded to test the same material for the dryers. It was a great discovery! We've been using polycarbonate for our dryers ever since – including for the latest version, which has a capacity of up to 1,500 kg.

What are the advantages of polycarbonate?
The UV protection coating in the polycarbonate ensures that the products keep their natural color, which often has a positive impact on the retail price. Polycarbonate is also lightweight and has good insulating properties. This ensures that the temperature inside the dryer remains high, resulting in shorter drying times and less waste. It also increases the quality of the end product and the yield rate – sometimes significantly in the latter case.

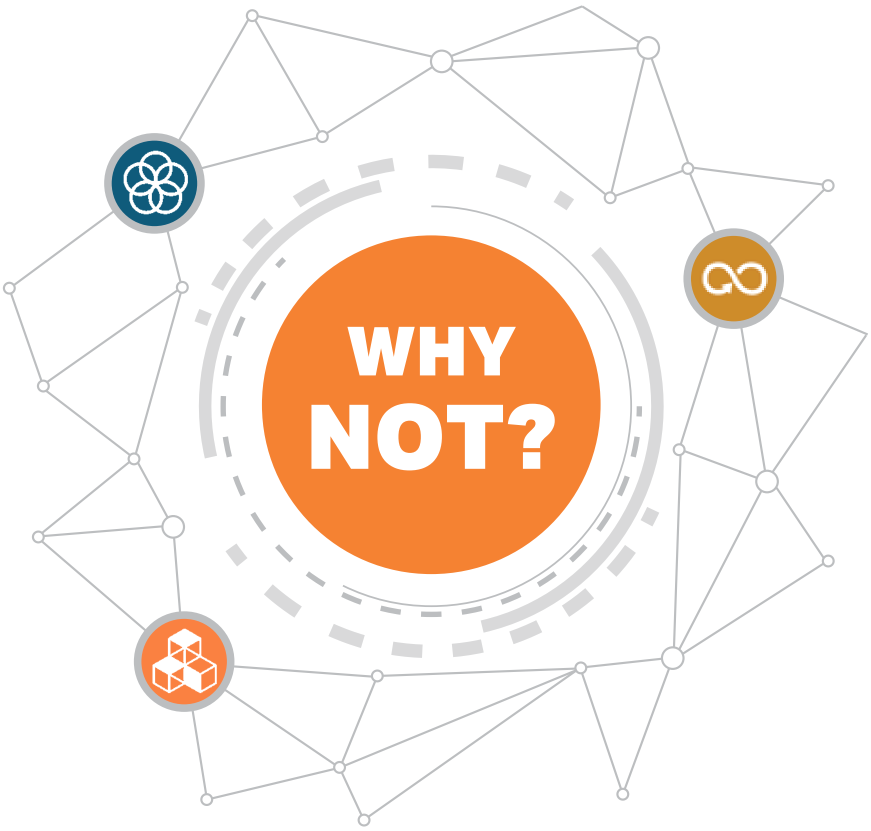
What is your view of the "inclusive business" approach?
My life has been dedicated to science for over 40 years, and I have now collaborated with Covestro for many of them. I'm delighted that the solar dryers have become such a success story and that people are benefiting from them. Covestro has had a key role to play. I'm not just impressed by the quality of the high-tech materials used, but also by our ongoing collaboration and our mutual objective to extend the solar dryer program. Together, we have already been able to help improve the lives of thousands of people on low incomes and I hope that our collaboration will continue for many years to come.

What's next?
Covestro plans to expand its "inclusive business" approach and provide more solar dryers in India, Indonesia, Vietnam, the Philippines, Myanmar and other countries in which they can generate added value. I'm all in favor of this scheme. The technology also has the potential to support farmers in South America, Africa and Central Asia.

What are your personal objectives?
The solar dryers could herald a new era of processing in agriculture. It's been a long time coming, but the effort has been worth it. I'm delighted to have been able to help improve the quality of life of my fellow men. Now we must focus on extending the solar dryer program with partners like Covestro – in regions around the globe!

DIGITALIZATION

» Virtual worlds
and the real economy
just aren't compatible. «



Driving digitalization forward:

Covestro sets standards for innovative solutions in production, research, sales and new business models.

THE DIGITAL OFFENSIVE

A NEW CUSTOMER JOURNEY THROUGH THE PRODUCT LANDSCAPE

A click here, a search there – and in just a few seconds, the user receives a list with the desired products. What is long since common practice in retail is now set to become standard procedure in industry, too: more and more professional purchasers are looking to the internet for new product inspiration and making purchasing decisions online. This is why Covestro is pursuing the digital customer journey and leading the way in the sector.

Sustainable Development Goal (SDG)

Covestro is targeting the optimum use of existing and new infrastructures.

This is where Andreas Baur comes in. He's an application technology engineer at a company that produces foam. And he's on a mission: "I want to optimize our products so efficiently that they represent state-of-the-art technology." For this purpose, Baur regularly combs the internet for information on the chemical components required to manufacture the new products. Although he uses search engines and follows up on web links emailed by colleagues, he often ends up phoning the respective manufacturer simply because there is hardly any data available online. As a result, prototypes made from new foam components often take much longer to produce than planned – in some cases the market launch even has to be delayed. It would be an enormous help if technical information were more accessible online, and his questions could be answered more easily.

The quintessential customer

Andreas Baur doesn't really exist: he's the archetype of a specific group of Covestro customers, a figure who represents consumer requirements in the digital age. This quintessential customer, created on the basis of customer interviews, serves as the inspiration for the

The digital customer journey:

the internet and social media will be used to interest customers in new product worlds.

company's new digital customer journey. "With the help of digitalization experts, we have identified six customer personality types that interest us," explains Dr. Karsten Malsch, the responsible manager at Covestro. In addition to purchasing and supply chain managers, who are typical of established customers at Covestro, they include customers, they include designers, innovation scouts from start-ups (see interview on page 47), product developers and application engineers. "They all have different views of our company and our product range: a designer is looking for inspiration, but a product developer might be hoping to find more specific information on materials. The purchasing manager of an existing customer needs to be able to compare products or wants to place an order, while the supply chain manager might also be looking at customer support following a sale."

"Our job is to unterstand the needs of the different customer groups and then create the right touchpoints for them," says Malsch. This applies to both national and international markets – and in the latter case, regional characteristics also have to be taken into account. "We want to take customers on a digital tour of our entire product landscape and provide them with optimum support in selecting the right products for their needs – and that means being there for them at every step of their digital customer journeys," says Malsch.

Efficiency gains thanks to digitalization

Covestro's customers are always at the heart of all the company's activities, and listening to them means rethinking the digital offering. Digitalization harbors great economic potential for the entire chemical industry, as the German Chemical Industry Association (Verband der Chemischen Industrie, VCI) and consultants Deloitte attested in a recent study, according to which it can result in efficiency gains of up to 40 percent, particularly in chemical companies' sales and marketing operations. ➔

Potential efficiency gains of

40%

from digitalization in sales and marketing.

"The new digital technologies have resulted in completely new ways of reaching our customers – and of intuitively offering them solutions that save time and are easy to understand," says Malsch. "Like most people nowadays, our customers have become accustomed to using smartphones and laptops both at work and in their private lives." The digital concept, part of the Digital@Covestro program, is a Group-wide challenge that is to be implemented by 2019 in a global and interdisciplinary team. The digital customer journey is intended to create as many touchpoints with Covestro's brands and products as possible, with the core element being the global website, which is gradually being transformed into a multichannel platform. It will serve as the central customer information hub, offering personalized services, campaigns and interaction options. At the same time, the company will be making much greater use than before of digital communication channels – such as YouTube or LinkedIn in Europe and America, or WeChat in China.

Strategic content marketing will help in the presentation of new ideas and noteworthy product stories tailored to each target group, which may be inspirational for designers and innovators in particular. The online trading platform and services for existing customers will also be expanded on an ongoing basis. This could include, for instance, chat functions that open new windows of communication outside normal service hours.

"Factory" listens to customers

Covestro has established a Customer Experience Factory to help launch these services and satisfy customer expectations in the future as well as today. This "factory" gives customers a voice in the development of new digital offers throughout the development process, with employees constantly receiving feedback through their ongoing contact with selected customers. What's more, conclusions about the use of digital channels are increasingly being drawn from actual customer behavior.

Of course, there are still many analog touchpoints in the customer journey too, and they will remain significant. Catalogs and haptic elements will still be important, as will technical customer service and individual on-site consultation. "Personal customer contact will continue to be a key aspect of our sales activities," explains Malsch. However, Covestro wants to seize the opportunity offered by the new digital technologies to develop customer relationships, for example by providing individual solutions across all the company's communication channels. "If we can do that, we can become the digital leader in our industry." ■

In search of information: founders Christoph Göller, Julia Römer, Arno Zimmermann and Kilian Mähne (from left to right) would like to see faster access to market data for their start-up Coolar.

Interview

"USEFUL TIPS VIA DIGITAL PLATFORMS"

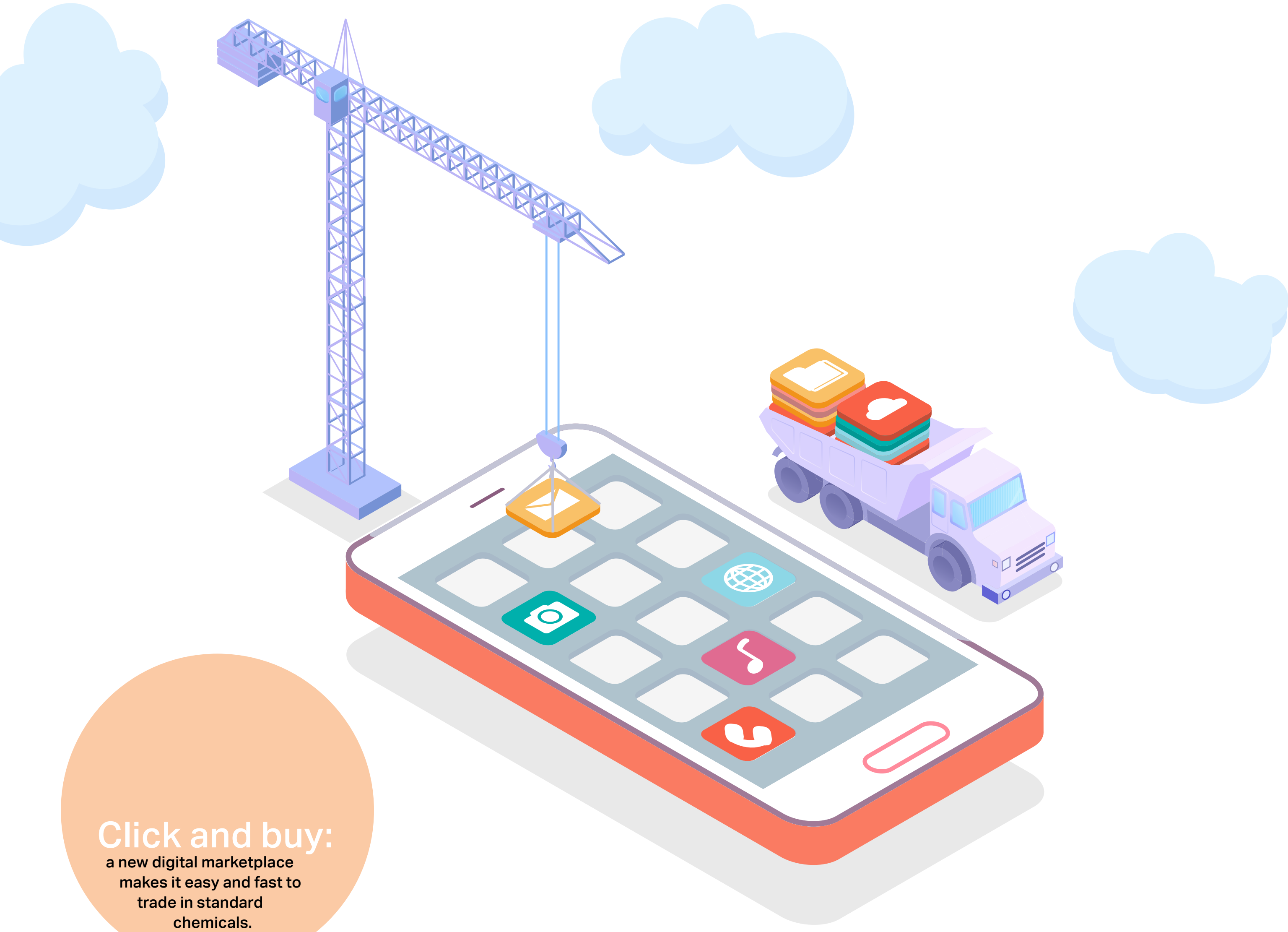
Arno Zimmermann and Kilian Mähne are co-founders of Coolar, a Berlin-based start-up that makes innovative refrigerators with a nearly neutral carbon footprint. This young company is constantly searching for new materials to use in advancing its own product development. Digital communication channels help the founders find just what they are looking for.

What is the business idea behind Coolar?
Zimmermann: We manufacture refrigerators that run without electricity. These are of particularly interest in regions where there is plenty of solar energy but little access to electricity. Our appliances don't require batteries because batteries are expensive and have to be replaced at relatively frequent intervals. Instead, we use water heated with solar energy, which is stored in sturdy tanks and cooled for use in small cooling systems. This robust system enables us to make more reliable refrigerators, for example for hospitals in Africa or Southeast Asia.

What next steps are you planning to move Coolar forward?
Zimmermann: We're a start-up that relies heavily on the use of innovative materials in development and production, unlike many other start-ups that offer services, for instance, or smartphone apps. Our idea is difficult to implement using conventional technology, so it's really important for us to always find the optimum combination of materials to suit our needs. For this reason, every part of our complex cooling system has been designed separately – the cooling system, housing and insulation are all developed individually. We are currently in the process of comparing suitable polyurethane systems for insulating purposes. They have to be usable in production and later in operation, too. We also value the use of renewable materials. For example, we are looking for materials with outstanding insulating properties that can be processed by our manufacturer and guarantee long-term use of the appliance by our customers. From the point of view of sustainability, it would also be good if end users could repair the finished system themselves.

How do you manage to find all the information you need?
Mähne: It's important for us to familiarize ourselves with the individual product properties and prioritize them. We go through data sheets and order samples for this purpose. But selecting the right products is complicated, since we don't have the equipment we need to test materials at our company headquarters in Berlin. We search the internet to find the right providers, pick up information from online discussion forums and gather useful recommendations via digital platforms and networks such as Twitter and LinkedIn.

What would an improved digital customer journey look like?
Mähne: In other commercial sectors such as the electronics industry, online platforms already enable the download of data sheets and provide sophisticated search and filter functions. It would add a lot value for us if this were possible in the chemical industry, too, especially when it comes to selecting reliable providers and comparing the material properties of products. We'd like to see a big digital marketplace that allows us to find all the information we need. We also value personal contacts, since individual consulting and recommendations from other purchasers of chemical products still play an important role in helping us make decisions.



Click and buy:
a new digital marketplace makes it easy and fast to trade in standard chemicals.

CUSTOMERS WANT CONVENIENT ONLINE PURCHASING

Sustainable Development Goal (SDG)

Good partnerships characterized by trust are self-evident for Covestro.

Trading materials online around the globe? It has been almost impossible to date, but a digital trading platform will soon change all that, simplifying the sale of standard chemical products from various manufacturers. A Covestro team is working to establish this innovative digital marketplace in collaboration with selected test customers in Asia and Europe.

It's our billion-euro challenge," says Thorsten Lampe. The innovation manager is responsible for establishing Covestro's new e-commerce platform. Furthermore, the platform, combined with other digital solutions, should sell products valued at up to one billion euros by the end of 2019.

The platform has been continually tested, improved and expanded since April 2017 and was launched in the beginning of 2018. "It's like learning how to walk," says Lampe. After all, no comparable digital offer from reputable material producers has existed to date. But customers are eager for simple, fast solutions of this kind: companies around the globe already spend 20 percent of their purchasing budgets on online transactions. Over half of the international purchasers surveyed by McKinsey said they would prefer to place orders digitally if manufacturers could enable this.

Focus on customers

The focus is on close collaboration with selected customers whose feedback and requirements are integrated in platform development. They come from Western Europe, China, India and the Middle East. "We have initially concentrated on owner-managed companies, and in particular on those that are open to trying new ideas," says Lampe. With more than ten years of business experience and the support of his colleagues, he has been working meticulously on a new digital tool and has incorporated an enormous amount of pioneering spirit into its creation. He and his team are now gradually working out which features are likely to be of most use to buyers. "We're an internal start-up that always thinks and acts from a customer perspective," says the project manager. This involves working with what are called agile methods, which enable changes and new functions to be introduced within just a few weeks.

"The first priority is to introduce additional product quantities quickly for our customers – via a convenient digital channel, without the need for countless phone calls," explains Lampe. The platform offers online auctions to this end. Test customer S.C. Chen from Taiwan explains: "The online platform displays the available offer clearly, showing detailed information on price and volume. Its structure is simple and orders can be placed with just a few clicks," says the General Manager of the DVD manufacturer Ritek. "It's a really innovative solution for sourcing materials via a digital sales channel."

Expectations surpassed

The goal for the future is to create a real marketplace that can offer existing customers and new purchasers complementary products and product information from Covestro and other providers. "We test marketplace mechanisms whenever the opportunity presents itself," says Lampe. The new digital platform has already proven its value in his eyes – partly because it has customers coming back, and the revenue generated by the auctions has exceeded all expectations, and partly because the project has offered scope for the integration of new ideas and suggestions from all kinds of different quarters. Lampe: "More and more enthusiastic supporters are joining in and helping us of their own accord." The team is benefiting from its already sound contacts with customers as well as from its strengths in logistics and IT, with new offers created by combining and adding features. "We're generating a great deal of enthusiasm with the new opportunities offered by the platform, both inside and outside Covestro." If the billion-euro challenge is to succeed, more and more enthusiasm has to be elicited among customers throughout the globe in 2018. So the race is on.

"THE NEW PLATFORM OFFERS INSPIRATION AND A HOST OF NEW OPPORTUNITIES."

Thorsten Lampe, Innovation Venture Manager, Covestro

of B2B buyers **search** for offerings **online.**

of B2B **budgets** are already **spent online.**

of B2B buyers rate **individualized solutions** as a primary reason for B2B purchasing online.

Source: McKinsey

NO MORE **PAPER LISTS**

The tablet computer is finding its way into daily production operations with Mobile Maintenance – one of Covestro's biggest digitalization projects and a milestone for the chemical industry. The end of document files and paper trails is now in sight.

The click of a shutter button and swipe of a tablet screen will soon be typical hand movements for maintenance technicians at Covestro's production plants. That's because Mobile Maintenance is one of Covestro's first global subprojects in the company's efforts to digitalize its production facilities. Daily maintenance via tablet has already been tested at several production sites, with other sites around the globe now set to follow suit.

"We are currently launching mobile data acquisition systems in production and maintenance. This makes for much more efficient plant maintenance," says Stephan Krebber, who is in charge of OSI2020, the comprehensive digitalization program for production. The program includes twelve initiatives at the interface between IT and production, one of which is maintenance via tablet to replace written records and document folders.

"We want to get rid of all those paper files and loose sheets and establish a uniform electronic filing system instead," explains Bodo Peters, who is responsible for the global launch of Mobile Maintenance.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Sustainable Development Goal (SDG)

Covestro stands for sustainable production across the entire value chain.

“MOBILE DATA ENTRY SYSTEMS MAKE FOR MUCH MORE EFFICIENT PLANT MAINTENANCE.”

Stephan Krebber,
Global Project Engineering,
Covestro

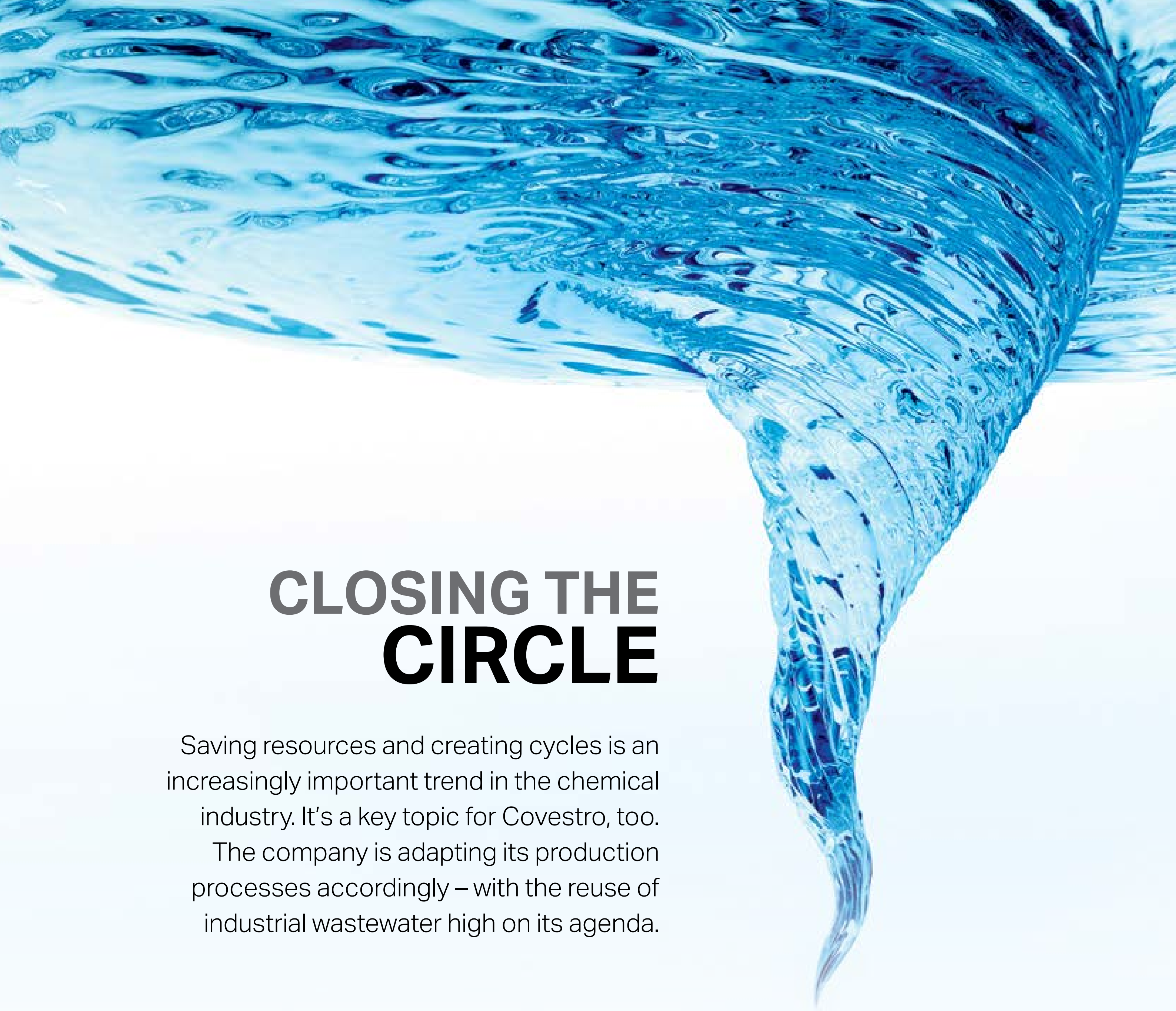
Covestro is setting standards in the chemical industry with this project. What is already routine in manufacturing has yet to establish itself in multinational chemical corporations. With this digitalization program, Krebber is pursuing an important goal. His paperless vision involves displaying all the required information on every system and every machine on the tablet with just a few swipes or clicks. His paperless vision involves displaying all the required information on the tablet with just a few swipes or clicks. ■

Rafael Raschka uses mobile data acquisition while performing maintenance work at the production site in Krefeld-Uerdingen.

Always state of the art: Covestro has around 30 locations in America, Asia and Europe. The company wants to use its production systems to set high standards for quality, efficiency and safety.

PRODUCTION

» Safe and efficient manufacturing that is also environmentally sustainable and future-oriented. «



CLOSING THE CIRCLE

Saving resources and creating cycles is an increasingly important trend in the chemical industry. It's a key topic for Covestro, too. The company is adapting its production processes accordingly – with the reuse of industrial wastewater high on its agenda.

Sustainable Development Goal (SDG)

Clean water – Covestro wants to help reach this UN goal for sustainable development.

"Water is the principle of all things," said Greek philosopher Thales of Miletus over 2,500 years ago. What he could not have foreseen at the time was how scarce this natural resource would one day become. According to United Nations forecasts, global demand will rise by more than 50 percent over the first half of this century as the population continues to soar. It is therefore abundantly clear that the problem of our water usage has to be addressed as a matter of urgency.

One option is to reduce and reuse wastewater – and this was the theme of World Water Day 2017. It isn't difficult to see why effective wastewater reduction is so meaningful: currently, over 80 percent of the wastewater generated around the globe is released into our rivers, seas and oceans without being treated or reused. There is consequently plenty of scope for action, especially on the part of industry, which is responsible for around one quarter of global water consumption.

Covestro, too, uses water in its production facilities: process wastewater is generated in the manufacture of many products, including the high-performance plastic polycarbonate. This wastewater has a high salt content and, once treated, has generally traditionally been released into local waterways. All this could now change, because Covestro and its partners have developed a method of reusing process wastewater in the production of chlorine – a key chemical for the manufacture of polycarbonate. The electrolysis processes used to produce chlorine require large quantities of common salt, and this is what Covestro now intends to recycle.

The company's hopes are high: "This new technology serves as a model for things to come," says Jürgen Meyn, Covestro's Head of Production in Krefeld-Uerdingen (Germany), one of the biggest polycarbonate production sites. "In the future, we want to recycle this salt as far as possible." The long-term goal is to save tens of thousands of metric tons of common salt and hundreds of thousands of metric tons of fully desalinated water around the globe every year.

Innovations for the recycling economy

Covestro is leading the way when it comes to approaches like these. The recycling economy is assuming increasing importance in the chemical industry, as consultants Deloitte and the German Chemical Industry Association pointed out in a study published in the fall of 2017. "We want to develop innovative circular

Over **80%**
of the wastewater worldwide is released into our rivers, seas and oceans without being treated or reused. This offers much scope for action, especially for industry.

economy solutions," says Dr. Achim Ilzhöfer, the responsible manager at Covestro. "Our approach is holistic and considers products as well as business models and processes."

Covestro can already point to concrete successes as far as the saltwater cycle is concerned. A pilot plant at Krefeld-Uerdingen is testing the new process, initially recycling a small percentage of the total wastewater – 30 cubic meters an hour. Even on this modest scale, over 200,000 metric tons of fully desalinated water and around 19,000 metric tons of salt can be saved every year. A similar plant is operating at the Chinese site in Shanghai with a throughput of 20 cubic meters per hour.

Successful test project

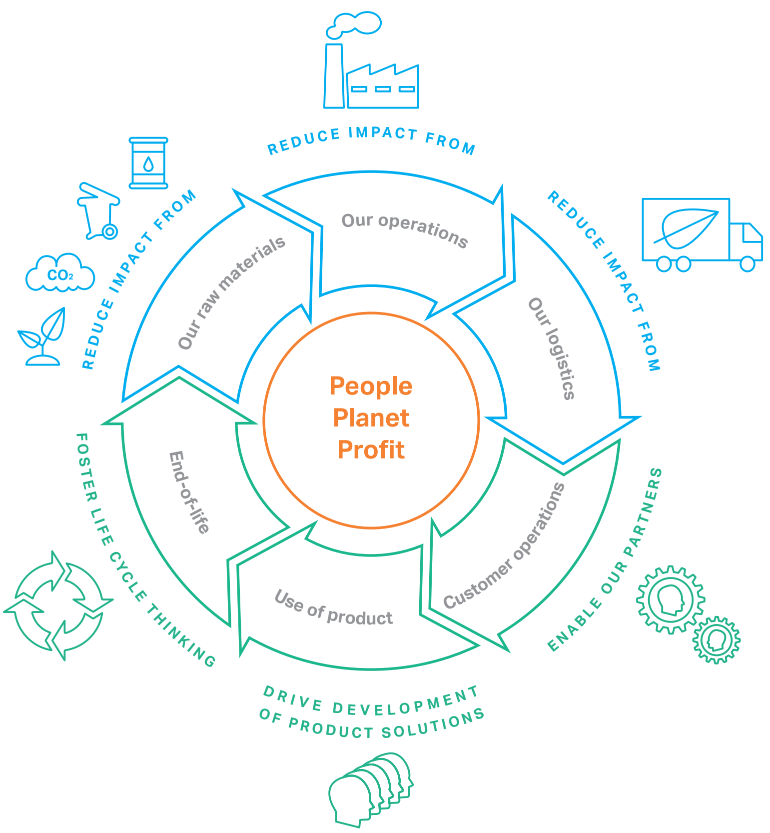
But one major challenge has yet to be faced: the treated process water has a salt content of just seven percent – too low for immediate reuse in electrolysis, which requires a salt solution with a 25-percent common salt content. This means that extra salt has to be added. However, a solution to the problem is in sight, as Covestro researcher Dr. Yuliya Schiesser explains: "We want to increase the salt content of the salt solution by extracting water from it as sustainably and efficiently as possible."

Innovative methods of water extraction are being developed in a research project that builds on the current process. Led by Covestro and supported by the German government, it also involves a number of other companies and scientific institutions. Many different aspects have to be taken into consideration, as Schiesser, who is responsible for coordinating the project from the company's Leverkusen headquarters, explains.

Researchers still have to come up with a number of solutions – the salt used, for instance, has to comply with stringent requirements. The membranes of the chlorine electrolysis systems into which the recycled wastewater is fed back are extremely sensitive to impurities. "Sediments can damage the membranes and increase their resistance," says Schiesser. This would, in turn, increase electricity consumption, rendering the process less efficient."

Although the treatment and enrichment of wastewater is still a relatively elaborate and expensive process, the project partners are optimistic that this and other hurdles can be overcome. As Schiesser says, they have big plans for the future: "Our ultimate goal is to develop a process that benefits not just the plastics industry, but other industry segments as well." ■

Covestro keeps an eye on the entire product life cycle



INVESTING WITH A VIEW TO GROWTH

A further milestone: the planned increase in production capacity in Tarragona is part of Covestro's long-term investment strategy, and is intended as a response to the further growth it expects among its customers.

8 DECENT WORK AND ECONOMIC GROWTH

Sustainable Development Goal (SDG)

Covestro is pursuing a consistent investment strategy therefore making a decisive contribution to economic growth.

50,000 more metric tons are being produced in Tarragona. And at the Shanghai site capacity is increasing by as much as 200,000 metric tons. Examples of how Covestro is expanding its production base.

Tarragona in eastern Spain, a major Mediterranean port, has been a Covestro production site for decades. Trucks and rail freight wagons regularly leave the plant laden with their sought-after cargo – MDI, a chemical used in the manufacture of highly efficient insulating material for buildings and refrigeration appliances. And they may need to schedule additional transports in the future: Covestro plans to increase its MDI production capacity in Tarragona by almost one third. The move is part of the Group's new strategy to expand its global facilities for this and other precursors to keep pace with the significant growth that is expected in many important customer industries.

At the end of 2017, Covestro made the decision to increase its MDI production capacity in Tarragona by 50,000 metric tons to 220,000 metric tons per year. At the same time, the company will build its own production facility for the chlorine needed to manufacture MDI.

The company's MDI capacity will be expanded even further at the Brunsbüttel site on Germany's North Sea coast, where a new plant will double production volume to a total of 400,000 metric tons of MDI per year. This is currently Covestro's biggest building project, with a total investment volume in the low hundreds of millions of euros. The topping-out ceremony took place in the fall of 2017 and commissioning is scheduled for late 2018.

This project is certainly setting standards – and not just with regard to size: "The MDI plant complex is a milestone in terms of energy efficiency, environmental compatibility and productivity, while also meeting the

Covestro intends to increase production capacity of the foam component MDI by

50,000

metric tons at its Spanish facility in Tarragona.

highest safety standards," says site and production manager Dr. Steffen Kühling. It will use between 10 and 20 percent less energy than conventional production.

Covestro has good reason for expanding its MDI capacities on such a grand scale: demand for this precursor is high, with the market expected to grow by an average of 4.6 percent a year by 2026 on the back of global trends such as the continued growth of the world's population, which is expected to soar from today's around 7.5 billion to almost 10 billion by 2050. Feeding so many people is a major challenge, and one that calls for functioning refrigeration chains.

Significant increase in demand

This is where MDI and polyurethane insulating foam come in. Demand for the insulating material is expected to rise by around 8.0 percent per annum in the years to come, compared with growth of between two and three percent for the global economy as a whole. And the market for insulation products isn't the only one in which Covestro is expecting continued structural growth on a significant scale, driven by the demand for sustainable products. "We intend to participate in this growth, so expanding our production base is a key aspect of our new strategy," says Chief Technology Officer Dr. Klaus Schäfer.

Capacity expansions for MDI are consequently not the only ones in the pipeline. In 2017, a new production facility for aqueous polyurethane dispersions was commissioned at Covestro's Dormagen site in Germany. Along with its current expansion of production in Barcelona (Spain), the company is boosting its capacities in Europe significantly. In order to meet rising global demand, Covestro is also building a new facility in China and is planning to resume production in the USA while modernizing and expanding its facilities there. The new capacity is primarily needed to satisfy growing demand for polyurethane dispersions from the coatings and adhesives industry.

Covestro is also expanding its business in high-quality films that are used in security cards, automotive interiors, medical devices and displays, and for this purpose a new production facility for multilayered flat films began operation in Dormagen in 2017.

Other projects are underway in Asia, too. For instance, another significant increase in production of high-performance plastic polycarbonate to 600,000 metric tons per year is taking place at its biggest site in Shanghai, China, where capacity was recently doubled to 400,000 metric tons. Thanks to a special technology, production at this site is over 20 percent more cost-efficient than at comparable facilities.

"There is a rapidly growing demand for polycarbonate resins and blends in Asia, especially in China," says Michelle Jou, Head of Covestro's Polycarbonates segment. "Electronics, healthcare and automotive are some of our key customer industries in this region. Extensions to our capacity enable us to react even better to the changing needs of our customers and guarantee sustainable supply."

FEWER ACCIDENTS, MORE STRINGENT SAFETY STANDARDS

Safety @ Forklift Operations wins 2017 Safety Award

Towards zero accidents” – the motto of the 2017 Covestro Safety Day is also the company’s declared objective when it comes to accident statistics. The accident rate was brought down to the second lowest everlast year, and the focus is now on raising safety awareness among the workforce further in a bid to eliminate incidents completely.

This year’s candidates for the CEO Safety Award demonstrated total commitment to this objective with their creative ideas and innovative projects. The Safety @ Forklift Operations initiative, a joint project involving all the global sites responsible for the manufacturing of polycarbonate compounds or sheets, was ultimately named the winner. It was represented at the awards ceremony by Covestro employees from the Filago site in Italy and from Markt Bibart, in southern Germany. “Our goals are to reduce the number of accidents involving forklift trucks and to harmonize the various global safety standards at a high level,” explains Gianluca Burini, who is an engineer in Filago. “Over 200 forklift incidents have been reported in the last five years alone, a number of which have involved pedestrians. We want to change all that.”

With all eyes firmly fixed on this objective, the team, including Norbert Kock, who is responsible for safety in Markt Bibart, as well as Burini, has developed a number of solutions. Measures include the optimum arrangement of storage areas with a view to minimizing forklift traffic, and the provision of safety markings for pedestrians and forklift drivers to ensure that they keep out of each other’s ways as much as possible. Finally, the forklift trucks have also been equipped with safety systems that include warning lights for better visibility, warning signals and rear-view cameras to increase the passive safety of a truck.

“Every member of our safety teams around the globe is involved in the project. All the employees in the sites accept the program to work more safely,” reports Norbert Kock. “It’s very rewarding to work in a company that gives its workforce scope for innovative ideas – and with colleagues who have the courage to pursue them.”

3 GOOD HEALTH AND WELL-BEING

Sustainable Development Goal (SDG)

Health and safety – at Covestro, everyone pulls together.

RAINBOW-COLORED RECORDS

World-scale production plants, highly efficient processes and the strictest safety standards: although all this stands for excellent quality, it often sounds pretty dull and uninspiring too. However, the chemical industry can be so much more than people think. Covestro is curious, courageous, diverse – and, above all else, colorful. Which is why the company joined forces with Martin Heuwold, a graffiti artist from Wuppertal (Germany), to launch its Artwork@Covestro campaign to transform bleakly utilitarian buildings at a number of locations into colorful works of art. The purpose of the campaign is to underscore Covestro's own corporate values and, at the same time, shift the boundaries between industry and art.

Mobile graffiti

The letters of the company's name, each one almost three meters high, stretch 25 meters along the wall – and behind them is an explosion of color. Martin Heuwold's graffiti wall, created in 2015, was the first of Covestro's artwork projects. Heuwold and his team worked on the piece for two days solid, using 100 cans of spray paint in the process. Since its creation, the mobile wall has gone on tour: from the Chempark site in Leverkusen, it went on to Krefeld-Uerdingen and is currently in Dormagen, where it will brighten up the working lives of the local workforce over the coming months.

Industrial art on an XXL scale

From one world record to the next: at the company's Dormagen site, 694 Covestro employees launched another attempt at a Guinness World Record™ – and came out winners. They formed the world's largest forklift made up entirely of people. The successful attempt took place at the official opening of the revamped high-bay warehouse in October 2017 to coincide with the 100th anniversary of the Dormagen Chempark. The new warehouse is already the third Artwork@Covestro project: 1,800 kg of paint were used to embellish its façade with a pattern of 328 vibrantly colored circles, triangles and squares, the largest measuring ten square meters. An area of 4,500 sqm. or the equivalent of 23 tennis courts now shines in six different colors. And it goes without saying that the paints used were based on Covestro's own raw materials, making them particularly durable, colorfast and weather-resistant.

A 130-meter puzzle

Heuwold also helped decorate the Brunsbüttel Industrial Park by covering a 132-meter chimney with gigantic jigsaw puzzle shapes in Covestro's colors. The dull industrial green has now been replaced by a work of art that epitomizes the corporate values: curious, courageous and colorful. The puzzle shapes are intended to symbolize collaboration, solidarity and unity. After a gestation period of three months, the chimney puzzle was inaugurated in the fall of 2016 with an exceptional event: 548 Covestro employees set a Guinness World Record by forming the largest human jigsaw puzzle piece.

Dr. Richard Pott
Chairman of the Supervisory Board of Covestro AG

Dear Stockholders,

During the reporting period, the Supervisory Board of Covestro AG performed its duties with due care in accordance with the law, the Articles of Incorporation, and the rules of procedure. During fiscal 2017, it monitored the conduct of the company's business by the Board of Management with regular frequency based on detailed written and oral reports received from the Board of Management, and also acted in an advisory capacity. The discussions between the Supervisory Board and Board of Management were always constructive and were conducted in the spirit of openness and trust.

The Supervisory Board Chair was in regular contact with the Board of Management outside of Supervisory Board meetings and remained informed about current developments in the company's business performance and material transactions. In addition, the Chair of the Supervisory Board was in close contact with the Board of Management Chair to discuss important questions and decisions one on one. The full Supervisory Board was informed in detail about the content of these discussions no later than during the next meeting. In this way the Supervisory Board was kept continuously and fully informed about the company's intended business strategy, corporate planning (including financial, investment, and human resources planning), earnings performance, the state of the business, and the situation of the Company and the Group (including the risk situation, risk management, and the compliance situation).

Where Board of Management decisions or actions required the approval of the Supervisory Board during the reporting period, whether by law, or under the Articles of Incorporation or the rules of procedure, the draft resolutions were inspected and thoroughly discussed by the members at the meetings of the full Supervisory Board, sometimes after preparatory work by the responsible committees, or approved on the basis of documents circulated to the members. The Supervisory Board was always directly involved in decisions of material importance to the company. It discussed at length the business

The Supervisory Board of Covestro AG (from left to right): Irena Küstner, Prof. Dr. Rolf Nonnenmacher, Petra Kronen, Dr.-Ing. Thomas Fischer, Dr. Richard Pott, Ferdinando Falco Beccalli, Johannes Dietsch, Frank Werth, Regine Stachelhaus, Marc Stothfang, Peter Hausmann and Dr. Christine Bortenländer

trends described in the reports from the Board of Management and the prospects for the development of the Covestro Group as a whole, the individual business areas, and the regions. The Supervisory Board also assured itself that the actions of the Board of Management were lawful, due and proper, and appropriate.

Changes to the composition of the Supervisory Board during the fiscal year

Sabine Wirtz's term of office ended after February 10, 2017, when the election of employee representatives to the Supervisory Board of Covestro AG was completed. Marc Stothfang was elected as her successor effective February 11, 2017. In addition, Dr.-Ing. Thomas Fischer stepped down from the Supervisory Board and the Human Resources Committee of Covestro AG effective December 31, 2017. He will be replaced by Dr. Ulrich Liman as of January 1, 2018.

Meetings of the full Supervisory Board and member attendance

In fiscal year 2017, the Supervisory Board held a total of six regular meetings, all of which were also attended by at least one member of the Board of Management except where issues were discussed that required them to be absent.

The average attendance rate by Supervisory Board members at the 2017 meetings of the full Supervisory Board and of its committees was nearly 99%. No member of the Supervisory Board attended fewer than half of the meetings of the full Supervisory Board and of the committees to which he or she belonged.

Specifically, attendance at the meetings of the Supervisory Board and its committees by the members of the Supervisory Board was as follows:

Name	Meeting attendance (including committee meetings)	Attendance rate (%)
Dr. Richard Pott (Chair)	15/15	100
Ferdinando Falco Beccalli	6/6	100
Dr. Christine Bortenlänger	6/6	100
Johannes Dietsch	13/14	92.6
Dr.-Ing. Thomas Fischer	10/10	100
Peter Hausmann	9/10	90
Petra Kronen (Vice Chair)	14/14	100
Irena Küstner	10/10	100
Prof. Dr. Rolf Nonnenmacher	10/10	100
Regine Stachelhaus	7/7	100
Marc Stothfang (since February 11, 2017)	6/6	100
Frank Werth	6/6	100
Average attendance rate		**98.6**

There was only one regular meeting of the Supervisory Board at which a member was absent; that member submitted written votes on the resolutions in advance.

In addition to the aforementioned meetings of the Supervisory Board and its committees, some of its members met as the “Effectiveness and Efficiency of Supervisory Board Activities” working group at two special meetings in order to discuss the results of the efficiency review conducted in 2017.

Based on its composition, the Supervisory Board as a whole has in-depth industry expertise in the polymer sector in which Covestro operates.

Personal continuing education was a key component of the activities of the Supervisory Board and its members once again in the 2017 reporting period. A highlight was an all-day workshop on the foundations and key elements of the new Group strategy as well as training on corporate governance and compliance to address the material changes in the German Corporate Governance Code as amended on February 7, 2017, and guidelines for the future dialog between investors and the Chair of the Supervisory Board.

Principal topics discussed by the Supervisory Board

The deliberations of the Supervisory Board focused on the Board of Management's regular reports on business activities, which contained detailed information on the development of the sales and earnings, both for the Group and its business areas, on the company's opportunities and risks, as well as on Covestro's strategy and personnel matters. The Supervisory Board also concentrated on the following topics in its individual meetings:

In its meeting on February 17, 2017, the Supervisory Board considered the changes to its rules of procedure required as a result of changes to existing laws and the reassignment of responsibilities in the four Board of Management portfolios. Moreover, the Supervisory Board discussed the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group for fiscal 2016, the proposal for the use of the distributable profit, and the agenda for the 2017 Annual General Meeting. In addition, the Supervisory Board reviewed the risk report, which sets out the material risks for the Group and current developments in this regard as well as the relevant countermeasures. Furthermore, the organization, statistics, training efforts and processes relating to the Group's compliance management system and its effectiveness were reviewed in depth. The Supervisory Board additionally deliberated on the background and business rationale for the sale of Covestro LLC's polyurethane spray foam systems house in North America. The Board also extensively discussed possible options for the implementation of the planned closure of the MDI production facility in Tarragona (Spain). Lastly, the Supervisory Board determined the specific variable compensation components for the members of the Board of Management based on the targets set and achieved in fiscal 2017, and was given a comprehensive overview of the status of the project to develop the future strategy for the Group.

The Supervisory Board meeting on May 3, 2017, focused mainly on the topics for the upcoming Annual General Meeting of Covestro AG.

Succession planning with a view to appointing the next Chief Executive Officer (CEO) was the main topic of the May 24, 2017, Supervisory Board meeting. After extensive deliberations, the Supervisory Board unanimously selected Dr. Markus Steilemann, the current Chief Commercial Officer (CCO), who is the Board of Management member responsible for innovation, marketing and sales.

On June 30, 2017, Chief Technology Officer (CTO) Dr. Klaus Schäfer, who is responsible for production and technology on the Board of Management, was named Covestro's new Labor Director by way of a resolution passed unanimously in writing.

In its meeting on September 29, 2017, the Supervisory Board specified a target of 40% women for the composition of Covestro AG's Board of Management to be implemented by June 30, 2022. Additionally, the Supervisory Board discussed the skill profile developed for the Board as a whole and the status of the selection process with regard to filling the positions of Chief Financial Officer (CFO) and CCO. Moreover, the Group's future strategic plan was a topic of intense debate by the board in view of the discussions and deliberations during the strategy workshop completed the day before.

In its meeting on November 17, 2017, the Supervisory Board unanimously appointed Dr. Thomas Toepfer as a new member of the Board of Management and CFO of Covestro AG effective April 1, 2018. In addition, the full Supervisory Board considered changing the cap on Board of Management compensation.

At its meeting on December 6, 2017, the Supervisory Board reviewed in depth the appropriateness of Board of Management compensation, including long-term compensation for the period from 2018 to 2021. Furthermore, the Supervisory Board talked over the details of the Board of Management contracts as a result of the appointment of Dr. Markus Steilemann as the future CEO and the contract extension for

CTO Dr. Klaus Schäfer. The Supervisory Board again deliberated on specific targets for its future composition and skill profile. Further discussions focused on the Group's MDI investment program, including the long-term continuation of production at the MDI facility in Tarragona (Spain). The Supervisory Board dealt with the 2018 financial plan proposed by the Board of Management as well as the medium- and long-term outlook, both of which were presented in detail. The Supervisory Board additionally approved the proposed financial framework for fiscal 2018. Moreover, the Supervisory Board voted to issue an unqualified declaration of conformity with the German Corporate Governance Code as amended on February 7, 2017. Lastly, the Board added more detail to the possible improvement potential regarding its future working methods, which was developed as part of the efficiency review by a six-person working group during two meetings in 2017. Key results in this context included the introduction of a fifth regular Supervisory Board meeting with focus on strategy and an increase in the number of members and meetings of the Nominations Committee.
The Supervisory Board was fundamentally open to the option of subjecting its activities to an external efficiency review regarding its working methods in due time.

Committees of the Supervisory Board

In the past fiscal year, the Supervisory Board once again had four committees set up for the purpose of exercising its duties efficiently. The committees prepared resolutions by the full Supervisory Board and provided information on other topics to be discussed by this body. Moreover, certain decision-making powers of the Supervisory Board were assigned to the committees to the extent legally permissible. The Supervisory Board currently has a Presidial Committee, an Audit Committee, a Human Resources Committee and a Nominations Committee. The tasks and responsibilities of the committees are described in greater detail in section 24 "Corporate Governance" under "Committees of the Supervisory Board". The current composition is shown at the end of this report.

The meetings and decisions of the committees, and especially the meetings of the Audit Committee, were prepared on the basis of reports and other information provided by the Board of Management. The committee chairs regularly provided comprehensive reports on the work of the committees to the full Supervisory Board.

In 2017, the **Presidial Committee** was not required to convene in its capacity as the mediation committee.

The **Audit Committee** met four times in the reporting year on February 16, April 24, July 24 and October 23, 2017, with the (interim) CFO present at all four meetings, and the auditor attending two of them. The committee conducted a preparatory review for the Supervisory Board of the financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, the combined management report, the proposal for the use of the distributable profit, and the related parties report. Additionally, it also thoroughly discussed, in particular, the audit report and the oral report by the auditor on the material findings of the audit. The management report also included the Group's nonfinancial statement. In conducting its review, the Audit Committee found no grounds for objections. In addition, the Audit Committee discussed with the Board of Management the half-year financial report in light of the results of the review by the auditor, and the Q1 and Q3 interim statements prior to their publication.

In monitoring the company's financial reporting, a particular focus of the committee's work in the reporting year was the presentation of the pension asset structure, including possible risks and protective mechanisms; the current status of implementation and the effects of the new International Financial Reporting Standards IFRS 15 (Revenue from Contracts with Customers) for 2018, and IFRS 16 (Leases) for 2019; and the requirements of the CSR Directive Implementation Act (CSR-RUG) and the associated controls for nonfinancial reporting.

The Audit Committee monitored the accounting and financial reporting process and the effectiveness of the internal control system and the risk management system based on reporting by the head of the internal audit department and the auditor of the financial statements. No material weaknesses were identified by the auditor in the internal control system applicable to the accounting and financial reporting process or the risk early warning system.

During the fiscal year, external audits were conducted of the internal audit system in accordance with Audit Standard 983 of the Institute of Public Auditors in Germany (IDW) and the requirements of the DIIR guidelines (Deutsches Institut für interne Revision e. V.) and of the compliance management system in accordance with IDW Audit Standard 980 for the areas antitrust law, corruption and export control. These audits provided unqualified confirmation of the effectiveness of both systems. At the request of the Audit Committee, the Board of Management also reported on the strategy and implementation plan for cybersecurity.

The Audit Committee additionally undertook preparations for the Supervisory Board's proposal for the appointment of the financial statement auditor by the Annual General Meeting, the engagement of the auditor and agreement on the auditor's fee. It monitored the effectiveness of the audit and the independence of the auditor as well as the supplementary non-audit services provided by the auditor in addition to the financial statement audit.

The Audit Committee continually exchanged information with the auditor about the material audit risks and the necessary focus of the audit. It developed an internal regulation governing services provided by the auditor but not related to the audit itself, and was informed regularly by the auditor and the Board of Management about corresponding services and the fees incurred.

Furthermore, the Audit Committee obtained information on an ongoing basis on enhancements to the compliance management system, the handling of suspected compliance violations, legal and regulatory risks, and the risk situation, risk tracking and risk monitoring at the company. The internal audit department provided regular reports about risk assessments, its resources and audit planning.

The heads of the relevant departments also participated in meetings of the Audit Committee on selected agenda items, reported on these and answered questions. In addition, the Chair of the Audit Committee discussed important matters between meetings, particularly with the Supervisory Board Chair, the (interim) CFO and the auditor. The key results of these discussions were reported regularly to the Audit Committee and the Supervisory Board.

The **Human Resources Committee** held a total of four meetings in the reporting year, on February 17, May 16, September 28 and December 6, 2017. The first two meetings dealt primarily with the achievement of targets set for Board of Management members, the reassignment of responsibilities in the individual Board of Management portfolios, and succession planning for the position of CEO. In the next two meetings, the Human Resources Committee mainly deliberated on filling the vacant position of CFO, determining the new target and implementation date for the proportion of women on the Board of Management, reviewing Board of Management compensation, and going over the details of the Board of Management contracts in connection with the nomination of the future CEO Dr. Markus Steilemann and the contract extension for CTO Dr. Klaus Schäfer.

The **Nominations Committee** met once in the reporting year, on July 19, 2017. At that meeting, the Committee thoroughly considered the specific composition of the current Supervisory Board and subsequently developed a basic list of qualifications for future Supervisory Board members, taking into account the Articles of Incorporation, the rules of procedure, the German Corporate Governance Code, best practice criteria and the special circumstances of the Covestro Group's business activities and strategy. Moreover, the Committee discussed relaxing the rules on the term of office of stockholder representatives to enable the Board to react in a suitable and timely manner to possible changes in the qualifications required for Covestro AG Supervisory Board members.

Financial statements / audits

The financial statements of Covestro AG were prepared according to the requirements of the German Commercial Code (HGB) and German Stock Corporation Act (AktG). The consolidated financial statements of the Covestro Group were prepared according to the German Commercial Code and the International Financial Reporting Standards (IFRSs) as adopted by the European Union (EU). The combined management report including the Group's nonfinancial statement was prepared according to the German Commercial Code. The auditor, PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Essen, audited the financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, and the combined management report. The conduct and results of the audit are explained in the Auditor's Reports. According to the auditor's findings, Covestro has complied with the German Commercial Code, the German Stock Corporation Act and/or the IFRS regulations as adopted by the EU, and issues unqualified opinions on the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group. The financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, the combined management report and the audit reports were submitted to all members of the Supervisory Board. They were discussed in detail by the Audit Committee and at a meeting of the full Supervisory Board. The auditor submitted a report on both occasions and was present during the discussions.

The Supervisory Board examined the financial statements of Covestro AG, the proposal for the use of the distributable profit, the consolidated financial statements of the Covestro Group, and the combined management report including the Group's nonfinancial statement. It had no objections and thus concurred with the result of the audit.

The Supervisory Board approved the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group prepared by the Board of Management. The financial statements of Covestro AG are thus confirmed. The Supervisory Board is in agreement with the combined management report and, in particular, with the assessment of the future development of the enterprise. It also concurs with the dividend policy and the decisions concerning earnings retention by the company. It assents to the proposal for the use of the distributable profit, which provides for payment of a dividend of 2.20 euro per share.

Audit of the related parties report by the Board of Management

As of the end of fiscal 2017, Bayer AG directly held 24.6% of the shares of Covestro AG. In addition, Bayer Pension Trust e. V. held 8.9% of Covestro shares. Bayer AG and Covestro AG entered into an agreement on the non-exercise of control effective September 30, 2017, under which Bayer AG is obligated to waive the right to exercise certain voting rights at Covestro's Annual General Meeting. As of September 30, 2017, Covestro AG is no longer included in full as a subsidiary in the consolidated financial statements of Bayer AG.

For this reason, the Board of Management prepared a report on the company's relationships with related companies for the period from January to September 2017 in accordance with Section 312 of the German Stock Corporation Act (related parties report) and submitted this to the Supervisory Board in a timely manner. The related parties report was audited by the Company's auditor, which issued the following report in accordance with Section 313, Paragraph 3 of the German Stock Corporation Act:

“In accordance with our mandate, we have audited the report by the Board of Management pursuant to Section 312 of the German Stock Corporation Act in respect of the relationships with related companies in accordance with Section 313 of the German Stock Corporation Act for the period from January 1 to September 30, 2017. Since the definitive result of our audit led to no reservations, we hereby issue the following report in accordance with Section 313, Paragraph 3, Sentence 1 of the German Stock Corporation Act: After due consideration and assessment, we confirm that

1. the actual information in the report is correct, and
2. the company’s consideration in the legal transactions described in the report was not inappropriately high.”

The related parties report and the Auditor’s Report were submitted to the Audit Committee and the Supervisory Board for their review. No objections were raised as a result. There were also no objections to the declaration by the Board of Management at the end of the related parties report. The Supervisory Board concurred with the result of the audit of the related parties report conducted by the auditor.

Corporate governance and declaration of conformity

During the reporting year, the Supervisory Board again addressed the German Corporate Governance Code in depth and, together with the Board of Management, submitted an unqualified declaration of conformity in accordance with Section 161 of the German Stock Corporation Act in December 2017 based on the Code as amended on February 7, 2017. The declaration of conformity was subsequently made permanently available to stockholders on the company’s website.

Expression of appreciation for the Board of Management and employees

The Supervisory Board would like to thank the Board of Management and all of Covestro's employees for their dedication and achievements in the 2017 fiscal year. We wish you all every success in implementing our strategic goals.

Leverkusen (Germany), February 19, 2018

For the Supervisory Board

Dr. Richard Pott

Chairman

Governance Bodies

Supervisory Board

The Supervisory Board comprises the following members:

Name/ Function	Membership in the Supervisory Board	Position	Memberships on other Supervisory Boards and memberships in comparable supervising bodies of German or foreign corporations
Dr. Richard Pott (Chair)	Member of the Supervisory Board since August 2015	• Former Member of the Board of Management and Labor Director of Bayer AG	• Chair of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Freudenberg SE • Member of the Supervisory Board of SCHOTT AG
Petra Kronen (Vice Chair)	Member of the Supervisory Board since October 2015	• Chair of the Works Council of Covestro at the Uerdingen site • Chair of the General Works Council of Covestro • Vice Chair of Covestro-European Forum • Employee of Covestro Deutschland AG	• Vice Chair of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Bayer AG (until September 2017) • Member of the Supervisory Board of Bayer Beistandskasse VVaG
Ferdinando Falco Beccalli	Member of the Supervisory Board since October 2015	• Chair of the Board of Falco Enterprises AG	• Member of the Supervisory Board of Covestro Deutschland AG • Chair of the Supervisory Board of ENAV S.p.A. (until June 2017)
Dr. Christine Bortenlänger	Member of the Supervisory Board since October 2015	• Executive Member of the Board of Deutsches Aktieninstitut e. V.	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of OSRAM GmbH • Member of the Supervisory Board of OSRAM Licht AG • Member of the Supervisory Board of SGL Carbon SE • Member of the Supervisory Board of TUV SÜD AG
Johannes Dietsch	Member of the Supervisory Board since August 2015	• Member of the Board of Management of Bayer AG	• Member of the Supervisory Board of Covestro Deutschland AG • Chair of the Supervisory Board of Bayer Business Services GmbH • Chair of the Supervisory Board of Bayer CropScience AG (until February 2017)
Dr.-Ing. Thomas Fischer	Member of the Supervisory Board until December 2017	• Chair of the Managerial Employees' Committee of Covestro Deutschland AG (until June 2017) • Manager of Covestro Deutschland AG (retired since January 2018)	• Member of the Supervisory Board of Covestro Deutschland AG (until December 2017) • Member of the Supervisory Board of Bayer AG (until May 2017) • Member of the Supervisory Board of Bayer-Pensionskasse VVaG (until June 2017)
Peter Hausmann	Member of the Supervisory Board since October 2015	• Member of the Executive Committee of the German Mining, Chemical and Energy Industrial Union (IG BCE) (until October 2017)	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Henkel AG & Co. KGaA • Member of the Supervisory Board of Continental AG • Vice Chair of the Supervisory Board of 50Hertz Transmission GmbH • Vice Chair of the Supervisory Board of Vivawest GmbH • Vice Chair of the Supervisory Board of Vivawest Wohnen GmbH

Name/ Function	Membership in the Supervisory Board	Position	Memberships on other Supervisory Boards and memberships in comparable supervising bodies of German or foreign corporations
Irena Küstner	Member of the Supervisory Board since October 2015	• Chair of the Works Council of Covestro at the Leverkusen site • Chair of the Group Works Council of Covestro • Vice Chair of the General Works Council of Covestro • Employee of Covestro Deutschland AG	• Member of the Supervisory Board of Covestro Deutschland AG
Prof. Dr. Rolf Nonnenmacher	Member of the Supervisory Board since August 2015	• Certified Accountant	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of Continental AG • Member of the Supervisory Board of ProSiebenSat.1 Media SE
Regine Stachelhaus	Member of the Supervisory Board since October 2015	• Former Member of the Board of Management and Labor Director of E.ON AG	• Member of the Supervisory Board of Covestro Deutschland AG • Member of the Supervisory Board of CECONOMY AG (for the first time elected as member of the Supervisory Board of METRO AG in February 2017) • Member of the Supervisory Board of SPIE GmbH (until December 2017) • Member of the Supervisory Board of SPIE SAG GmbH (until December 2017) • Member of the Supervisory Board of SPIE Deutschland und Zentraleuropa GmbH (since December 2017) • Director of SPIE SA, France • Non-executive director of ComputaCenter plc, United Kingdom
Marc Stothfang	Member of the Supervisory Board since February 2017	• Chair of the Works Council of Covestro at the Brunsbüttel site • Chair of Covestro-European Forum • Employee of Covestro Deutschland AG	
Frank Werth	Member of the Supervisory Board since September 2016	• District Manager of the German Mining, Chemical and Energy Industrial Union (IG BCE) – district Leverkusen	• Member of the Supervisory Board of Covestro Deutschland AG
Sabine Wirtz	Member of the Supervisory Board until February 2017	• Substitute Member of the Works Council of Covestro at the Leverkusen site • Chemical Laboratory Technician of Covestro Deutschland AG	• Member of the Supervisory Board of Covestro Deutschland AG (until February 2017)
Dr. Ulrich Liman	Member of the Supervisory Board since January 2018	• Chair of the Managerial Employees' Committee of Covestro Deutschland AG (since June 2017) • Manager of Covestro Deutschland AG	• Member of the Supervisory Board of Covestro Deutschland AG (since January 2018)

Members of Committees

The committees of the Supervisory Board of Covestro AG as of December 31, 2017

Presidial Committee/ Mediation Committee	Nominations Committee	Audit Committee	Human Resources Committee
Dr. Richard Pott (Chair)	**Dr. Richard Pott** (Chair)	**Prof. Dr. Rolf Nonnenmacher** (Chair)	**Dr. Richard Pott** (Chair)
Peter Hausmann	**Regine Stachelhaus**	**Johannes Dietsch**	**Johannes Dietsch**
Petra Kronen	**Ferdinando Falco Beccalli** (since December 2017)	**Peter Hausmann**	**Dr.-Ing. Thomas Fischer**
Regine Stachelhaus		**Petra Kronen**	**Petra Kronen**
		Irena Küstner	
		Dr. Richard Pott	

Board of Management

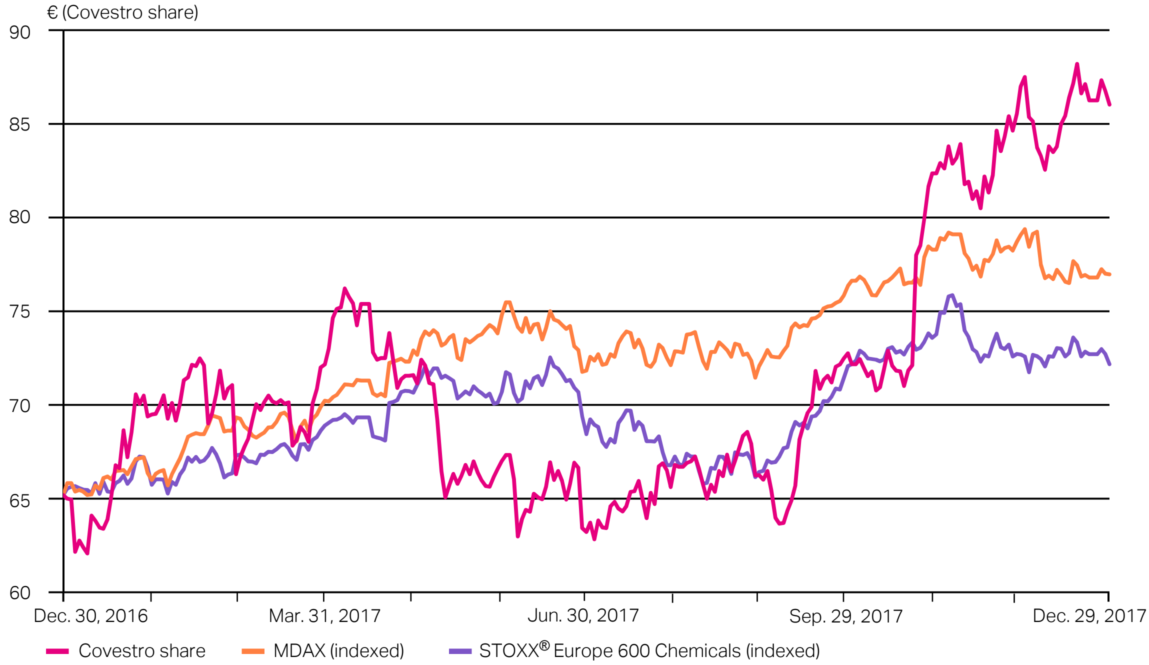
The Board of Management of Covestro AG as of December 31, 2017

Name	Position	Areas of responsibility	Memberships on other supervisory boards
Patrick Thomas	Chair of the Board of Management Chief Executive Officer	• Corporate Office • Communications • Corporate Audit • Human Resources • Sustainability	• Member of the Supervisory Board of Akzo Nobel N.V. (since November 2017)
Frank H. Lutz (until June 2017) **Patrick Thomas** (provisionally since June 2017)	Chief Financial Officer Labor Director Chief Financial Officer	• Accounting • Controlling • Finance • Information Technology • Investor Relations • Law, Intellectual Property & Compliance • Portfolio Development • Taxes	
Dr. Klaus Schäfer	Chief Technology Officer Labor Director (since July 2017)	• Global Project Engineering • Health, Safety, Environment & Quality • Production & Technology • Procurement • Site Management NRW • Site Management Baytown • Site Management Shanghai	
Dr. Markus Steilemann	Chief Commercial Officer	• Polyurethanes • Polycarbonates • Coatings, Adhesives, Specialties • Innovation Management & Commercial Services • Strategy • Supply Chain Center EMLA • Supply Chain Center NAFTA • Supply Chain Center APAC	

COVESTRO ON THE CAPITAL MARKET

Covestro on the Capital Market

Performance of Covestro Stock Versus Market in Fiscal Year 2017



Covestro closing prices Xetra®; source: Bloomberg

Stock price at historical high

Major stock indices such as Germany's leading DAX index or the EURO STOXX 50® performed well in 2017 as a whole. At the end of 2017, the MDAX, which is relevant for Covestro, gained 18.1% over its 2016 year-end close, whereas the STOXX® Europe 600 Chemicals index rose 10.7% in the same period.

In this positive environment, Covestro was again among the winners on the MDAX. The closing price of Covestro's stock was €86.03 on Xetra® at the end of 2017. The high price for the year of €88.20 – also the record in Covestro's capital market history until now – was reached on December 19, 2017. The low for the year was a closing price of €62.07 on January 9, 2017. Compared with the closing price for 2016 of €65.18, this represents a stock price appreciation of +32.0% for 2017 as a whole. Including the dividend of €1.35 per share paid out in May 2017, Covestro's stock performance (with dividend reinvestment) was +34.5%.

At the end of the reporting year, Covestro's market capitalization stood at €17.4 billion. The average daily trading volume was around 0.6 million shares. In the MDAX ranking, the company therefore came in 1st in terms of trading volume and 3rd in terms of market capitalization at year-end 2017. At the close of 2016, Covestro ranked 6th and 11th in the respective ranking categories.

The Board of Management and the Supervisory Board of Covestro AG will propose a dividend of €2.20 per share carrying dividend rights to the Annual General Meeting on April 13, 2018. This represents a dividend yield of 2.6% based on the closing price for Covestro stock on December 29, 2017.

Covestro Share at a Glance

	2016	2017
Year-end closing price	€65.18	€86.03
High	€67.50	€88.20
Low	€25.48	€62.07
Market capitalization (closing date)	€13.2 billion	€17.4 billion
Average daily turnover (millions of shares)	0.5	0.6
Stock price development	93.8%	32.0%
Stock price performance (with dividend reinvestment)	97.7%	34.5%
Dividend per share	€1.35	€2.20

Covestro closing prices Xetra®; source: Bloomberg

Free float of around 86% – Bayer cedes control of Covestro

On March 1, 2017, Bayer AG reduced its majority interest in Covestro from 64.2% to 53.3%. The 22 million shares offered were sold to institutional investors. Bayer AG sold an additional 17.25 million Covestro shares from its own holdings to institutional investors on June 7, 2017. An additional 8 million shares were transferred to Bayer Pension Trust e. V. Consequently, Bayer AG's majority interest in Covestro decreased to 40.9%, Bayer Pension Trust e. V.'s interest increased to 8.9%. The third share placement of the year took place on September 13, 2017. Bayer AG sold another 19 million shares to institutional investors, thereby slashing its direct interest in Covestro to 31.5%. The sale of another 14 million Covestro shares, or 6.9% of the company's capital stock, to institutional investors took place on September 29, 2017, and reduced Bayer AG's direct interest in Covestro to 24.6%. At the beginning of 2018, Bayer AG sold another 21 million shares, thus further reducing its direct interest in Covestro to 14.2%. Therefore, since January 11, 2018, 85.8% of Covestro's shares are in free float.

Covestro AG and Bayer AG signed a control termination agreement effective September 30, 2017, according to which Bayer cedes all control of Covestro. The agreement stipulates a binding commitment by Bayer AG to refrain from exercising certain voting rights at Covestro's Annual General Meeting. The company thereby cedes its voting majority and thus its control over Covestro. When the agreement enters into force, Covestro will no longer be included in Bayer's consolidated financial statements as a subsidiary.

Successful first year for American Depositary Receipt (ADR) program

Since December 1, 2016, Covestro's Level 1 sponsored ADR program has made it easier for Covestro to provide global investors access to Covestro stock. The Covestro ADR was launched successfully and has now been traded over the counter in the United States under the COVTY ticker symbol for a full year. The total number of outstanding depositary receipts reached approximately 191,000 with high monthly growth rates.

Share buy-back program launched

On October 24, 2017, Covestro AG's Board of Management resolved to buy back treasury shares totaling up to €1.5 billion, or up to 10% of the company's capital stock, whichever comes first. The Board of Management was authorized to buy back shares by way of a resolution of the Annual General Meeting on September 1, 2015. Through the share buy-back, cash generated as a result of high operating cash flow can, in part, be returned to the shareholders.

The share buy-back is executed in Xetra® trading on the Frankfurt Stock Exchange in line with the requirements for share buy-back programs set forth in Article 5 of the Market Abuse Regulation and the associated EU Commission Implementing Regulation. The buy-back began on November 21, 2017 and will end no later than mid-2019. By the end of 2017, around 1.7 million shares, or 0.8% of the capital stock, had been bought back.

Moody's lifts Baa2 rating outlook from stable to positive

London-based rating firm Moody's Investors Service confirmed Covestro's long-term issuer rating of Baa2 with a stable outlook in a regular review on June 23, 2017.

On December 19, 2017, Moody's lifted Covestro's credit rating outlook from stable to positive. This reflects the consistently strong operating results and cash flows that Covestro has generated since its stock market listing in October 2015, according to the rating analysts. This led to a faster paydown of debt than originally expected and to financials that further improved Covestro AG's positioning in its current rating category.

The investment-grade rating with a positive outlook continues to put Covestro in a good position for obtaining financing, particularly on the international debt market.

Buy recommendation from ten analysts

At the end of the year 2017, Covestro stock was covered by 17 financial analysts, with ten issuing a buy recommendation, and seven giving neutral assessments. No sell recommendations were issued. The average share price target was €91 at year end.

Basic Covestro Share Information

Capital stock	€202,500,000
Outstanding shares (year-end)	200,831,488
Share class	No-par ordinary bearer shares
ISIN	DE0006062144
WKN	606214
Ticker symbol	1COV
Reuters symbol	1COV.DE
Bloomberg symbol	1COV GY
Market segment	Regulated market
Transparency level	Prime standard
Sector	Chemicals
Index	MDAX

Combined Management Report
of the Covestro Group and Covestro AG
as of December 31, 2017

COMBINED MANAGEMENT REPORT

Fundamental Information about the Group

1. Structure

Business model

Covestro is one of the largest and leading global suppliers of high-tech polymer materials and application solutions developed for these materials. With their often superior capabilities, these materials are increasingly taking the place of other, lower performing varieties and are therefore used in many areas of modern life. We produce precursors for polyurethane foams and the high-performance plastic polycarbonate in addition to raw materials for coatings, adhesives and sealants as well as specialty products, including high-quality films. Other precursors such as chlorine and by-products like styrene are part of Covestro's range of products. Covestro's products are used in numerous industries around the world, particularly in the automotive, construction, wood processing and furniture industries, and also in the electrical and electronics industries. They are also used in sectors such as sports and leisure, cosmetics and health, as well as in the chemical industry itself. Covestro's innovative strength is the foundation of this success.

We closely monitor the developments in our sales and consumer markets and support the growth of our customers. We work continuously with our customers and with our business and scientific partners to develop our products, technologies, and application solutions. The needs of our society are continually changing alongside global challenges which are subsequently also impacting the development of the polymer industry. Climate change, increasing mobility, and continued urbanization are changing the lives of billions of people. The focus is on renewable energy sources, energy-efficient means of transportation, and sustainable yet affordable living. Our aim is to pave the way and support these trends with our materials. By replacing traditional materials such as steel and glass with durable, light, environmentally-compatible, and cost-effective materials, we contribute to lightweight construction in the automotive industry, increase the energy efficiency of living spaces through the use of new insulating materials, and increase the shelf-life of food through improvements in insulation through the entire refrigeration chain.

Organization and sites

The Covestro Group has been legally and financially independent since September 1, 2015. Covestro AG, the parent company of the Covestro Group, is headquartered in Leverkusen (Germany), and has been listed at the stock exchange in Germany since October 6, 2015. In 2017, Bayer AG further reduced its interest in Covestro, directly holding around 25% of Covestro's shares as of December 31, 2017. The free float was approximately 75%. In addition, Covestro AG and Bayer AG entered into an agreement on the non-exercise of control effective September 30, 2017, under which Bayer is obligated to waive certain voting rights at Covestro's Annual General Meeting. As a result, Covestro is no longer included in the consolidated financial statements of Bayer as a subsidiary.

See section 7 "Production"

Worldwide, Covestro has around 30 production facilities and some 16,200 employees as of the end of 2017[1]. The eight largest sites with world-scale production facilities are located in Germany, Belgium, China, Thailand and the United States. Additionally, there are a number of smaller sites providing tailor-made solutions and services to customers. The company also operates research laboratories, technical service centers and sales offices.

See note 6.1 "Scope of Consolidation and Investments" in the Notes to the Consolidated Financial Statements

As of December 31, 2017, the Covestro Group comprised 49 consolidated companies in 24 countries in addition to Covestro AG.

In line with its product portfolio, Covestro is divided into three operational reporting segments: Polyurethanes (PUR), Polycarbonates (PCS), and Coatings, Adhesives, Specialties (CAS). Central units in addition to these segments are home to the administrative functions. Chemical by-products, such as sodium hydroxide solution, are marketed outside of the operational reporting segments, but certain by-products, such as styrene, are also marketed within these segments.

[1] The number of employees on either permanent or temporary contracts refers to full-time equivalents (FTE). Part-time employees are included on a pro-rated basis in line with their contractual working hours.

The Board of Management of Covestro AG manages the operational businesses and defines and monitors corporate targets. Since the resignation of Chief Financial Officer Frank H. Lutz in June 2017, the Board of Management comprises three members. Patrick Thomas has temporarily assumed the responsibilities of the Chief Financial Officer in addition to his role as Chief Executive Officer. In November 2017, Dr. Thomas Toepfer was appointed as the new Chief Financial Officer effective on April 1, 2018. In May 2017, the Supervisory Board also named Dr. Markus Steilemann, the Chief Commercial Officer, as the successor to Patrick Thomas, whose contract is expiring at the end of September 2018. The twelve-member Supervisory Board advises and oversees the Board of Management.

See section 24 "Governance"

Segments

Polyurethanes

In the PUR segment, Covestro primarily develops, produces, and markets three chemical precursors for the manufacture of polyurethane foams and thermoplastic polyurethanes. These precursors are toluene diisocyanate (TDI), diphenylmethane diisocyanate (MDI), and polyether polyols. Flexible polyurethane foam is used in products such as mattresses, upholstered furniture and car seats, thus making day-to-day life more comfortable. Rigid polyurethane foam is used mostly as an efficient insulating material for buildings and refrigeration appliances. It thus contributes to reducing energy consumption. Thermoplastic polyurethanes are used in diverse product groups such as clothing, mobile electronic devices and sports equipment.

Covestro was one of the top suppliers in the global polyurethane industry once again in 2017. Production is spread across facilities in Europe, North America and Asia. Some of these are world-scale production facilities.

Polycarbonates

The PCS segment develops, manufactures and markets the high-performance plastic of the same name. Polycarbonates are extremely light, transparent, unbreakable, and are easily molded. Available as granules, composite materials and semi-finished products, this versatile material is used in a wide variety of products such as vehicles (e.g. passenger compartment and vehicle lighting), buildings (e.g. roof structures), electrical and electronic devices (e.g. cords, laptop cases), and medical equipment.

In 2017, Covestro was again one of the world's top suppliers of polycarbonate. The segment produces polycarbonate at several sites and has world-scale production facilities in Europe, North America and Asia. Furthermore, polycarbonate-based blends and composite materials are manufactured at additional sites around the world.

Coatings, Adhesives, Specialties

The CAS segment is among the world's leading suppliers of aliphatic and aromatic isocyanates and their derivatives as well as polyurethane dispersions. These are required for the production of coatings, adhesives, sealants and specialty products. The latter comprise elastomers, high-quality films and raw materials for cosmetics, textiles and medical products. These materials serve to protect, bond, seal or functionalize a wide variety of surfaces. The main areas of application are automotive and transportation, infrastructure and construction, wood processing and furniture.

CAS production sites are located in Europe, North America and Asia. In addition, the segment operates technical service centers around the world supplying customized solutions.

2. Strategy

Corporate values

Covestro's corporate culture is based on three key values, or C³, which guide all of the Group's employees and are reflected in their thoughts and actions:

Curious

We are proud of our past, but we are not defined by it. We are never comfortable with the status quo or with how we have always done things. Our curiosity drives us to listen to our customers and suppliers and respond with creative and unexpected solutions.

We are responsive to what is happening around us and believe that speed and flexibility will give us an advantage over our competitors. We are open to new ideas and hungry for progress.

Curiosity is the engine that drives us.

Courageous

We look toward the future and see opportunities where others see limitations. Where others ask "why?" we reply "why not?" Our courage permeates our entire business – from partnerships to business models.

We stand on a foundation of knowledge and experience that allows us to act courageously and push the boundaries of innovation.

We have courage and integrity. We do what is right, not just what is convenient.

Colorful

In a corporate world that can often be dull and uninspiring, we are colorful. We are optimistic and resourceful and use every color in our palette to create solutions that inspire our customers and partners.

We believe diversity drives creativity and multiple viewpoints allow us to solve problems in innovative ways.

We value strong customer, supplier and employee relationships and believe that humanity helps us to create a rainbow of opportunities.

Strategic goals and activities

Covestro pursues the overarching goal of making the world a brighter place. To this end, the company provides innovative products, technologies and solutions. In this way, we aim to contribute to finding answers to global challenges like climate change, increasing urbanization and mobility, and population growth. In particular, our activities are aligned with the UN Sustainable Development Goals (SDGs) in support of global progress at the ecological, economic and social levels. Experts agree that these goals have significant economic potential and could lead to profound changes and above-average growth in the industrial sectors important to Covestro.

In 2017, we further refined our long-term strategy with a view primarily to taking full advantage of business opportunities linked to global megatrends and sustainability issues. The main goal in the years to come is to continue generating profitable growth in excess of global economic growth rates. We intend to achieve this using six strategic pillars.

Invest in our core business

We will significantly expand our production capacities in the core lines of business in order to optimally share in the anticipated rapid growth in large parts of the markets we supply. To this end, we plan to make extensive investments at or in excess of the depreciation level over the next four years. As a rule, these investments will be for production facilities across all product groups and at all of the major sites. We will increase and utilize our skilled staff and resources to ensure optimal technical implementation of the corresponding projects.

Focus research on sustainability

Sustainability is a central concern, and it shapes our activities all along the entire value chain. We consider sustainability to represent an economic opportunity benefitting all interest groups. In the years to come, we therefore want to focus our research and development even more on sustainability issues such as electromobility as well as energy and cost-efficient construction. Accordingly, we plan to invest even more heavily in research and development projects oriented toward the SDGs. By 2025, the share of project-related expenditures for research and development associated with SDGs should amount to 80%.

See section 4 “Innovation”

Other long-term goals oriented toward sustainability can be found in sections 4 “Innovation”, 6 “Procurement”, and 11 “Environmental Protection”.

Expand portfolio through acquisitions

We are open to acquisitions in order to expand our portfolio. They represent another way to share in the rapid market growth that we anticipate in the years to come stemming from megatrends and sustainability issues. Potential acquisitions will be reviewed closely to determine whether they generate added value for our shareholders and other interest groups, and furthermore whether they suit our existing lines of business, our entire company, and our corporate culture.

Further improve performance

We aim to continually improve effectiveness and efficiency throughout the entire company and in this way to ensure competitive cost structures. In order to access and leverage further potential, the Group-wide performance program “Perspective” was announced in 2017. Building on previous efficiency measures, it will define new, binding goals and provide for their implementation.

Drive digitalization

With an extensive program, we aim to take advantage of the opportunities arising from digitalization and primarily to work with our customers in setting new standards. At the same time, all employees should benefit from digitalization. To achieve this goal, Covestro anchors digital technologies and work activities in production, along the supply chain, in research and development, and at all points of contact with the customer. We are also working on new digital business models we will use to transact a total of up to € 1 billion in sales by the end of 2019. Accordingly, the launch of a digital trading platform is planned for early 2018, where customers can purchase standard products from Covestro and other providers.

Develop the right culture

In order to tap into our internal potential to the fullest extent and to reach our business goals, we intend to improve our culture in such a way that it becomes the best fit for our entire company. The basis for this are our three key values: curious, courageous and colorful. These should serve as guiding principles for all employees and be reflected in their actions and thinking. We ultimately aim to put every employee in a position to be able to achieve their best performance.

Segments

Polyurethanes

In the years to come, demand for polyurethanes will grow at an above-average rate compared to the global economy. By supplying the required raw materials, our aim is to participate in this growth trend in the Polyurethanes (PUR) segment.

The construction industry is one of the strategic industries where we will expand our already strong presence while taking into account the growing demand for sustainable solutions. With our range of products, we aim to satisfy the demand for energy-efficient and affordable living spaces, mainly in the emerging economies. Our efforts to meet the SDGs are directed toward not yet fully developed segments like wind energy where we provide materials for production.

Beyond this, because the PUR segment manufactures largely standardized products, the focus is on increasing efficiency through cost management as well as product and process innovations, and on developing new business models and improving existing ones. To achieve this, we are continually evaluating the potential for optimizing facilities and sites as well as opportunities to cooperate with other companies.

Polycarbonates

New forms of mobility call for innovative solutions. In the Polycarbonates (PCS) segment, we are continually improving our product program in order to take this trend into account, as materials with a low weight, high-quality optics, and transparency are particularly in demand in the automotive industry, and specifically in the promising electromobility market.

We intend to further increase the share of the non-cyclical business by focusing on the applications with more stringent requirements in the automotive as well as in the health and electronics/LED areas. Furthermore, through innovations like fiber-reinforced composite materials, the technological position of PCS will be expanded and more growth generated in differentiated markets.

With its distinct application expertise and global alignment, the PCS segment also intends to achieve growth rates in excess of the global economic growth rates.

Coatings, Adhesives, Specialties
The production of raw materials for coatings and adhesives is our main area of business in the Coatings, Adhesives, Specialties (CAS) segment. In this segment, we supply the automotive, construction and furniture industries, among others. We aim to secure and further build on our strong position. Of particular importance in achieving this are the consistent cooperation along the entire value chain, the efficient expansion of our capacities, and product development close to the customers. Furthermore, we work on manufacturing procedures that are as environmentally-friendly as possible, without using solvents and utilizing alternative raw materials such as plant biomass.

As in past years, an above-average rate of growth will be achieved in the area of specialties. This is due to our superior technological knowledge and our expertise in formulations. We aim to achieve new profitable application areas for our raw materials in this way.

3. Management

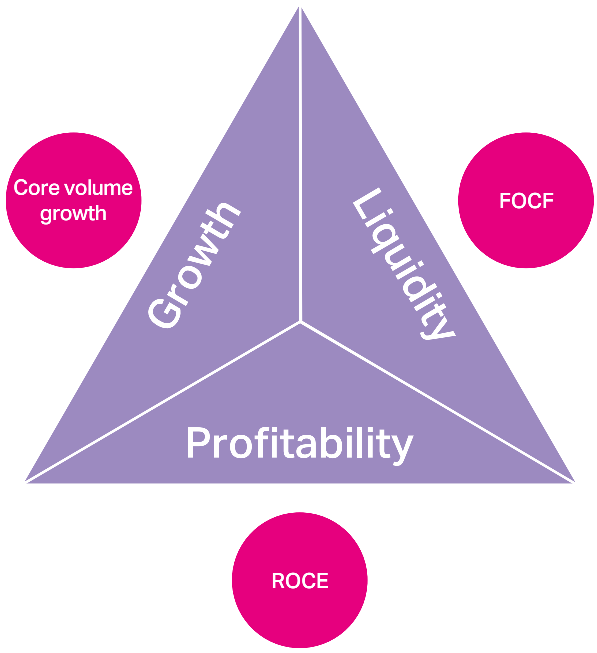
Covestro's management system is aligned with long-term, profitable growth and continuous value creation. The Board of Management, the main decision-maker for the company, is responsible for our global business and approving the planning derived from our corporate strategy. In order to plan, steer and monitor the development of our business, we use steering parameters which enable a comprehensive and holistic evaluation of the company's business performance.

Business performance

The Covestro Group assesses business performance using key management indicators in the areas of growth, profitability and liquidity. Growth of the Covestro Group is also measured in terms of core volume growth[2]. In contrast to sales, this indicator is less influenced by raw material prices or currency effects.

[2] Core volume growth refers to the core products in the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments. It is calculated as the percentage change in externally sold volumes in thousand metric tons compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example the sale of raw materials and by-products such as hydrochloric acid, sodium hydroxide solution and styrene. These transactions are not included in core volume growth.

Covestro's Key Management Indicators



The return on capital employed (ROCE) is the indicator used to assess the profitability of the Covestro Group, measuring the return the company achieves on the capital it uses. If ROCE exceeds the weighted average cost of capital (WACC), i.e. the minimum return expected by equity and debt capital providers, the company has created value.

Income after income taxes plus financial result, income tax expense, and depreciation and amortization (EBITDA) is the other indicator used to assess the operating profitability of Covestro and its reporting segments.

The ability to generate a cash surplus is measured by the free operating cash flow (FOCF). FOCF is an indicator of our company's capacity to finance itself and of its liquidity, and corresponds to the operating cash flow less the cash outflows for additions to property, plant, equipment and intangible assets. A positive FOCF serves in particular to pay dividends and interest and to repay debt.

These management metrics also come into play in the Group's bonus system which applies uniformly to all staff – from the Board of Management to employees under collective bargaining agreements. The three factors of growth, profitability and liquidity each account for one-third of the final assessment and bonus calculation formula. As a result, all employees whose personal efforts contribute to Covestro's overall positive performance can share in the company's success.

Sustainability management

Climate change along with increasing mobility and urban growth are global challenges of our time. Covestro has made it a goal to contribute to meeting these challenges with high-quality materials and application solutions. Sustainability is therefore an integral part of the Group's strategy and governance. We want to help advance society (people) and preserve the environment (planet), while at the same time creating economic value (profit). These three pillars of sustainable development – people, planet, profit – are the foundation of our entrepreneurial decisions and activities as well as of our relationship with our stakeholders.

Covestro underscores the significance of the topic of sustainability and its identity as a sustainably operating company through its membership in key sustainability initiatives and its voluntary commitment to apply the guidelines and principles of those initiatives. Upon gaining economic and legal autonomy in September 2015, Covestro immediately signed up to the UN Global Compact and adopted its ten internationally recognized principles. A progress report was submitted in June 2017. We are also committed to the industry-led Responsible Care initiative and are involved in global sustainability forums such as the World Business Council for Sustainable Development (WBCSD).

In addition to this Annual Report, we also issue a report each year in accordance with a recognized sustainability reporting standard by releasing supplementary sustainability information in a separate publication (GRI Supplementary Report).

Strategic alignment

Our mission is: We inspire innovation and drive growth through profitable products and technologies that benefit society and reduce the impact on the environment. Similarly, we aim to serve our customers, society, and the environment alike through our sustainability commitment, in accordance with our corporate vision of making the world a brighter place. In doing so, we aim to meet the economic, ecological, and social goals of sustainable development.

Since 2016, Covestro has been following its own sustainability program for the entire Group which defines ambitious goals to be achieved by 2025 and is consistent with the Group's own sustainability agenda and the corporate values. The individual goals address key matters from different areas ranging from procurement through production and marketing to innovation.

The goals through 2025 are:

- Our project portfolio for research and development reflects the UN Sustainable Development Goals. By 2025, our target is to allocate 80% of project expenditures for research and development toward the areas that contribute to reaching these goals.
- 100% of our suppliers comply to our sustainability requirements
- Reduce specific greenhouse gas emissions by 50% from the 2005 baseline figures.
- Our business solutions benefit 10 million people in underserved markets
- Get the maximum use from carbon. Increasing carbon productivity means creating more value with fewer carbon-based fossil resources. We work in a group of international organizations on projects such as developing a generally recognized method to evaluate carbon productivity and making it a tool for change.

For each of the health, safety, environment and quality (HSEQ) topics, targets are agreed and regularly reviewed using defined performance indicators. According to these, for instance, energy efficiency goals are defined which are to be met by 2030. Using the results achieved, existing action plans and measures are dynamically adapted to enable further improvements.

See section 22 "Opportunities and Risks Report"

As part of the materiality analyses, important sustainability issues are evaluated each year and prioritized according to their relevance for Covestro. This occurs by analyzing the interests, expectations and requirements of our key stakeholders and reflecting them in our sustainability program. Our external stakeholders evaluate the company not only in terms of financial and legal aspects but also with regard to behavior in line with sustainable and ethical principles. The stakeholders are our business partners, with whom we work closely on a daily basis; financial market participants, who judge our performance; regulators, with whom we discuss changes in our company and in the legal framework within which we operate; and societal stakeholders, whose acceptance and interest in the company is necessary for us. In order to identify and address current developments and sustainability-related opportunities and risks at an early stage, we also review whether there are any new findings relevant to opportunity and risk management. As part of this and in keeping with the risk mitigation measures, we also assessed whether there are still existing risks that are very likely to have serious adverse consequences on the aspects.

Covestro's Main Stakeholders

Partners	Financial market participants	Regulators	Social interest groups
Customers	Investors and creditors	Authorities	Media and the public
Suppliers	Rating agencies	Legislators	Neighboring communities
Employees	Analysts	Politicians and opinion leaders	Non-governmental organizations
Associations			
Scientific community			

The materiality analysis was updated in 2017. The following materiality matrix illustrates the result of the analysis.

Materiality Matrix 2017

Stakeholder relevance (external view) \ Relevance for Covestro (internal view)	Medium	High	Very high
Very high		• Partnering for scalable solutions • Circular economy solutions for a resource-efficient economy	• Innovative solutions for climate change mitigation • Innovative solutions that contribute toward the UN Sustainable Development Goals • Product stewardship
High		• Business ethics and transparency • Sustainable procurement	• Occupational health and safety in operations • Environmentally efficient operations
Medium	• Social engagement	• Employer attractiveness	

The materiality matrix visualizes the sustainability topics of key importance to Covestro and external stakeholders. Compared to last year, new topics such as "Circular economy solutions for a resource-efficient economy" and "Innovative solutions as a contribution to reaching the UN Sustainable Development Goals" have been added which we will work on to gradually integrate them into our day-to-day activities. Going forward, the topics with high or very high relevance for Covestro and the stakeholders overall will become more important and be more heavily integrated into our strategic and commercial business focus. These sustainability topics are also important as the foundation for selecting the main aspects and indicators as required for the GRI core reporting.

In accordance with the German Commercial Code (HGB) requirements, sustainability topics from the materiality matrix impacting business operations, performance of the business or the position of the Group that have material significance for the aspects are reported as part of the nonfinancial statement in the Group management report. The following table provides an overview of the classification of key sustainability topics according to the relevant aspects in accordance with the German Commercial Code requirements for the Group's nonfinancial statement and the corresponding references to the specific sections in this report.

Classification of Key Sustainability Topics

Sustainability topics of key importance to Covestro	Classification to aspects in accordance to the Group's nonfinancial statement (HGB)	Reference
Innovative solutions for climate change mitigation		Section 4 "Innovation"
Innovative solutions that contribute toward the UN Sustainable Development Goals	Environmental matters, social matters	Section 4 "Innovation"
Product stewardship	Social matters	Section 9 "Product Stewardship"
Circular economy solutions for a resource-efficient economy		Section 4 "Innovation"
Partnering for scalable solutions	Social matters	Section 12 "Dialog with the Neighboring Community, Social Engagement and Partnerships"
Occupational health and safety in operations	Employee matters	Section 10 "Safety"
Environmentally efficient operations	Environmental matters	Section 11 "Environmental Protection"
Business ethics and transparency	Fighting corruption and bribery	Section 6 "Procurement" Section 25 "Compliance"
Sustainable procurement	Respect for human rights	Section 6 "Procurement"
Social engagement	Social matters	Section 12 "Dialog with the Neighboring Community, Social Engagement and Partnerships"
Employer attractiveness	Employee matters	Section 5 "Employees"

Operational management

Our principles are anchored in updated internal Group policies which took effect in the spring of 2017. They provide concrete specifications on the important issues of value creation, sustainability, innovation, people, HSEQ and compliance. The six Group policies describe Covestro's goal of developing solutions that are of value for all stakeholders, promoting sustainable development, driving innovation, motivating employees, implementing our corporate vision, and creating an attractive workplace for talented employees. Moreover, we strive to continually improve our occupational safety and health, environmental performance, energy efficiency and quality activities while strictly adhering to all legal requirements as well as our more extensive voluntary commitments.

The integrated management system implemented throughout the Group combines the different requirements from the health, safety, environment and quality areas. The integrated management system ensures implementation of the specifications of the HSEQ Group guidelines in compliance with internationally recognized standards governing occupational safety (OHSAS 18001), the environment (ISO 14001), energy (ISO 50001), and quality (ISO 9001).

Binding, Group-wide directives that support meeting HSEQ targets are accessible to all employees in an internal Group database. Compliance with these directives is checked during internal audits conducted annually. In addition, issues and action plans as well as target achievement are monitored in a management review. Global and local operating procedures for the relevant processes implement the Group policies and directives at the operational level. Covestro's compliance management system is audited according to Auditing Standard 980 of the Institute of Public Auditors in Germany (IDW) for the areas antitrust law, corruption and export control. Binding ethical and legal principles are anchored in our Corporate Compliance Policy (Directive). This policy includes important guidelines on fair and respectful working conditions and for fighting corruption. Covestro has implemented a reporting process so that employees can report potential compliance violations anonymously. All suspected compliance incidents are recorded in a central database. Confirmed violations are evaluated. If necessary, organizational, disciplinary or legal measures are taken. The contents of the Corporate Compliance Policy are conveyed regularly through targeted communication measures and employee training sessions.

See section 12 "Dialog with the Neighboring Community, Social Engagement and Partnerships"

In addition to the intra-Group issues described above, social and societal matters are also of great significance to Covestro. We address our responsibility through our engagement to society and through the ongoing positive dialog with authorities, our neighboring communities, and other people and organizations interested in Covestro. In connection with this, we maintain a continuous contact with authorities, we operate neighborhood offices, and we conduct regular plant tours. Donations, support programs, and specific partnerships are further expressions of Covestro's engagement to society.

The high standards of sustainability that we hold ourselves to also apply to our suppliers. We have developed a Code of Conduct that generally all suppliers must observe. This applies regardless of where they are headquartered, where they do business, or the scope or size of their respective services. Covestro is a founding member of Together for Sustainability (TfS). The goal of this initiative is to standardize supplier assessments and audits worldwide, while applying high international standards. Requirements concerning ethics (including human rights and corruption), employee matters, health, safety and the environment are anchored in the TfS principles.

Sustainability Management at Covestro

	Sustainability community	HSEQ community
Direction and guidance for the sustainability agenda	• Chief Executive Officer • Sustainability department	• Chief Technology Officer • Central function HSEQ
Development and definition of targets and initiatives	Cross BU Meeting[1]	Global Caretaker Meeting Quality, Environment & Safety Manager Meeting Safety Council
Implementation and monitoring in functions and business segments	• Segment sustainability officers • Regional sustainability representatives	• Officers appointed by management for occupational safety, environmental, energy and quality mangement • HSEQ officers in business segments and regions

[1] Cross-segment meeting of sustainability functionaries

Sustainability management and the integrated management system complement each other and are an integral part of all functions and positions in the Group. The Sustainability Community and the HSEQ Community are the central coordinating bodies and comprise members of the Board of Management and central sustainability and HSEQ functions. All segments and the three regions in which Covestro operates (EMLA, NAFTA and APAC) are represented. They coordinate the relevant strategies and goals as well as update them on an ongoing basis. Committees are responsible for setting goals and developing action plans. These in turn work closely with employees in key positions in the departments and business units which coordinate and monitor implementation.

4. Innovation

For Covestro, innovation is a core element of strategy and part of our identity. Our understanding of innovation is broad, so we count on the great potential for creativity throughout the company beyond conventional research and development activities, and view innovation as something that should engage every employee.

In pursuing our goal to maintain and build on our position in global competition, we work tirelessly at all levels on innovation and improvements, not just regarding products, and manufacturing and processing procedures, but also with a view to our application areas, business models and business processes. We draw on decades of experience and demonstrable success in these endeavors.

Comprehensive innovation management

Managing innovation systematically throughout the Group ensures that our ongoing activities and our project pipeline always satisfy the needs of our customers, user industries and consumer markets. The Innovation Excellence department uses a variety of different tools such as the global digital platform "idea.lounge". In the company-wide Start-up Challenge, we actively seek out employees with entrepreneurial spirit within the company, and in this way aim to accelerate the implementation of creative ideas with strong business potential. We underscore the significance of innovation for Covestro through Innovation Celebrations held worldwide during which we recognize projects of employees in all categories of innovation.

We seek to systematically align our research and development portfolio with the UN Sustainable Development Goals (SDGs) – consistent with our corporate vision of making the world a brighter place. By 2025, our target is to have 80% of project expenditures for research and development go toward the areas that contribute to reaching these goals. The framework for the company-wide introduction of the evaluation process for existing and new innovation processes was completed over the course of 2017. Exploration and preparation of a next step toward an external review and validation of this process is currently ongoing.

In fiscal 2017, our research and development expenses amounted to €274 million after totaling €259 million in the previous year. As of December 31, 2017, Covestro had 1,072 employees[3]. working in research and development worldwide (previous year: 1,016), most of them at major innovation centers in Leverkusen (Germany), Pittsburgh (United States), and Shanghai (China). Its global presence allows Covestro to respond to regional market trends and customer requirements.

Alongside the company's close cooperation with customers, global collaboration with scientific institutions, start-ups and academic spin-offs according to the open innovation approach is also very important. Covestro's long-standing partners in Germany include RWTH Aachen University; in China, Covestro cooperates closely with Tongji University in Shanghai, among others, a cooperation which has been further strengthened in 2017. Covestro supports research activities at renowned universities in the United States as well.

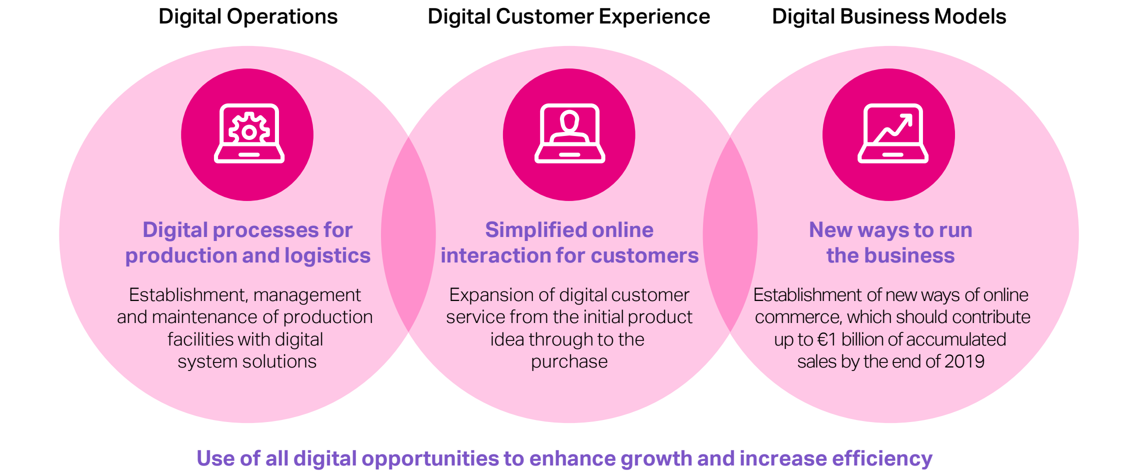
Focus on digitalization

Offering new opportunities for the entire chemical and plastic value chain, digitalization continues to be a focus of particular attention. Covestro utilizes the opportunities arising from digitalization with a comprehensive strategic program, setting new standards in cooperation with customers. To achieve this goal, we anchor digital technologies and work activities in production, along the supply chain, in research and development, and at all points of contact with customers as well as for developing new business models. The focus is on the specific benefit for our customers. At the same time, all of our employees should benefit from the opportunities of digitalization. In this way, digitalization will become a fixed component of our corporate strategy.

[3] Employees calculated as full-time equivalents (FTE)

Covestro is working on digital projects addressing three core topics:

Digitalization at Covestro



Circular solutions for a resource-efficient economy

Many process and product innovations developed with and for our customers contribute to strengthening a circular economy with greater resource efficiency (see innovation examples in the following section "Segments"). The goal of this is to reuse or recycle the materials used throughout the value chain without sacrificing quality and as a result to avoid waste and emissions as much as possible. We are also working in cross-industry consortiums on methods to make carbon dioxide and waste flows of other industrial sectors usable as raw materials for our products. In order to live up to the growing significance of circular business models and the need for more efficient use of resources, a central coordinating office for circular economy was established at Covestro in 2017 to approve cooperative projects within the entire value chain and validate future potential for process development projects across companies.

Our products are manufactured using carbon. We want to use carbon as intelligently as possible. Increasing carbon productivity means creating more value with fewer carbon-based fossil resources. We work with a group of international organizations in the Carbon Productivity Consortium to develop a generally recognized method for assessing carbon productivity and to make it a tool for change.

Segments

Polyurethanes

In the Polyurethanes (PUR) segment, one of our aims is to steadily improve the processing and costs associated with polyurethane manufacturing. The research focuses on developing insulating properties and lightweight applications as well as improving flame retardancy, reducing emissions, and seeking out low-cost, sustainable raw materials. Together with industrial partners, we are developing new processing technologies such as pultrusion, a process for the production of lighter-weight composite materials.

An example of the intelligent use of carbon dioxide can be found in the PUR segment. In the search for alternatives to petrochemical resources, we have succeeded in the industrial use of carbon dioxide as a raw material for the synthesis of polyols. Covestro developed a new type of polyol for use as a component in flexible polyurethane foam which contains up to 20% CO_2 and is produced on an industrial scale at our facility at the Dormagen site in Germany. At interzum, the world's leading trade fair for furniture production and interior design, Covestro was recognized with the Interzum Award for High Product Quality for this new product, which is marketed under the brand name cardyon™.

We are also looking for options to manufacture aniline, a crucial feedstock for plastics, from biobased raw materials such as industrial sugars rather than crude oil. After initial successes in catalysis of bio-aniline on a laboratory scale, Covestro seeks to work with partners to improve the new process. The goal is to produce biobased aniline on an industrial scale.

With our product and technological expertise, we are also developing new applications for familiar materials. In the field of wind energy, for instance, a polyurethane casting system is used for manufacturing innovative rotor blades which were previously produced from epoxy resins.

Polycarbonates

In the Polycarbonates (PCS) segment, we are developing products including new polycarbonate-based composite materials and customized products tailored to meet increasingly complex customer requirements in the automotive, health and electronics/LED areas. The key here is lowering the weight of materials while improving their energy efficiency and safety, and expanding design possibilities.

In connection with this, we supported more development on LED technology in the lighting market in 2017. In this area in particular, we succeeded in further improving the glass-like properties and the product safety of the polycarbonate product Makrolon™.

Our innovations in the medical technology field are also worth noting. We introduced innovative polycarbonate products for life-saving dialysis treatments to Asia's emerging industries. Furthermore, we developed high-tech polycarbonate materials for the next generation of medical instruments for administering medication.

We have broken new ground in terms of lightweight composite materials. Continuous Fiber-Reinforced Thermoplastic (CFRTP) composites combine the strength of carbon or glass fibers with the power and flexibility of thermoplastics to make products lighter, thinner and stronger, thus offering new design possibilities in key areas such as IT and mobility.

In addition, we aim to continuously improve technologies and manufacturing processes with a view to the environment and efficiency.

Coatings, Adhesives, Specialties

The Coatings, Adhesives, Specialties (CAS) segment serves numerous specialized industries where we have worked in cooperation with our customers and partners to introduce key innovations in 2017.

These include a new product line with biobased raw materials for coatings and adhesives. Alternatives to petrochemical raw materials help to conserve resources, improve the carbon balance, and enhance product performance. For the first time, Audi used an innovative clearcoat for automotive manufacturing made by BASF using a biobased hardener developed by Covestro as part of a pilot project. In a pilot project in the furniture industry, furniture manufacturer RiFRA counted on a waterborne coating from Sirca with a biobased hardener developed and produced by Covestro.

In addition, we are continually working on significant improvements to the properties of coatings in terms of flexibility and durability. In the field of films, we introduced new solutions with optical capabilities for use in the electronics and aviation industries.

In order to improve the process efficiency of our customers, we are also developing new solutions for 3D printing.

Our process innovation focus is on making production more flexible, lowering operating costs, and reducing the environmental impacts of our production.

5. Employees

Implementing strategies and goals

Fundamentally, responsibility for our employees is borne by our managers, who lead their staff in the spirit of our company goals and help them develop so that they can maximize their individual potential. In the process, managers receive guidance and implementation support from Human Resources (HR).

The HR strategy, too, is derived from Covestro's corporate strategy. The HR organization plays a key part in our company's success by addressing cross-functional issues such as demographics, digitalization, innovation and diversity management. It creates a framework for professional and innovative employee life cycle management, which involves providing proactive support to employees during their entire tenure at the company.

In order to ensure the agility of the HR function also in the future, we continually update our organization, and our process and system environment. A state-of-the-art personnel management system is currently being implemented. A state-of-the-art personnel management system is currently being implemented.

Shaping our corporate culture and values

The personal efforts and commitment of all employees are the key to Covestro's success. Every employee has both the freedom and a mandate to take a curious, courageous and colorful approach to doing business in line with our corporate values. This means using agile and unconventional thinking, effective communication, transparent and current information, and constructive and open feedback to push the boundaries of what is possible. Our overarching goal is to empower all employees to work to their full potential.

	Dec. 31, 2016	Dec. 31, 2017
	in FTE	in FTE
Production	9,830	10,115
Marketing and distribution	3,463	3,476
Research and development	1,016	1,072
General administration	1,270	1,513
Total	**15,579**	**16,176**
Employees in vocational training	457	505

[1] The number of employees on either permanent or temporary contracts is stated in full-time equivalents (FTE). Part-time employees are included on a pro-rated basis in line with their contractual working hours.

See notes 9 "Personnel Expenses and Employee Numbers" and 22 "Other Provisions" in the Notes to the Consolidated Financial Statements

As of December 31, 2017, Covestro had 16,176 employees worldwide (previous year: 15,579). At the reporting date, the Group also had 505 employees in vocational training worldwide (previous year: 457), 489 of whom were in Germany (previous year: 446).

Hiring and retaining highly qualified employees

We want to be known worldwide as an attractive employer so that our company can retain highly qualified employees as well as hire new talent in an increasingly challenging labor market. We engage in a wide variety of activities to keep our employer brand appealing and relevant. In all countries in which we are present, we actively conduct HR marketing with a view to attracting employees and we rely on direct interactions. To achieve this, we maintain close contacts with leading universities, we are involved in international networks of students, and we take part in a variety of career fairs. Furthermore, we hold career events, workshops and tours at various Covestro sites. In addition to the training options we offer in Germany, each year we bring in students to take part in numerous attractive professional internships worldwide. This gives them insight into our company's operations as well as personal experience with Covestro as an employer. One consistent success factor here is that we provide potential candidates with authentic, eye-to-eye insight and the support of our employees – both through real contact and in numerous online activities through our career channels (e.g. posts, blogs, and articles). For selected roles, we also actively approach candidates and present them with entry level options. In addition to professional internships, Covestro also offers interesting trainee programs for university graduates.

Our employer branding proposition "WE MAKE the world a brighter place" is based on the company's purpose and our C^3 values. As a company with a particular focus on innovation and sustainability operating around the world in a wide variety of industries, our efforts build on diverse, internationally staffed teams and offer attractive career opportunities. Among other things, this stance is reflected in the requirement to internally advertise certain positions globally and make them accessible to all employees. Our corporate culture dictates that our managers maintain a regular dialog with their employees in order to receive feedback on the personal satisfaction and Covestro's appeal as an employer and to discuss potential improvements. There are processes specified for this – annual and interim employee meetings. In addition, we draw attention to good performance through global competitions, awards ceremonies, and other special events. We also recognize outstanding performance in other ways, such as one-time cash bonuses.

Covestro supports employees in their personal and professional development and, in addition to attractive compensation, offers staff a respectful, collaborative and inspiring working environment together with a full range of health promotion activities.

Promoting employees and their development

Ensuring that our company can change and grow requires well-trained and motivated employees. We believe in the concept of lifelong learning, and we make sure that every employee receives continuing education and training in all phases of his or her career in order to remain up-to-date and to continuously expand his or her knowledge and skills. Our development programs and activities are guided by our corporate values: curious, courageous and colorful. Numerous in-person classes and virtual training session are offered worldwide under the name "Coversity" ("Covestro" plus "university").

Further broken down into a Functional Campus, a Project Campus and a Leadership Campus with a clear focus on the relevant target group, Coversity provides all employees throughout the world a variety of opportunities for professional and personal development. In 2017, we also introduced the virtual campus "iLearn" where all employees can engage in continuing education at their own pace and in accordance with their individual professional and personal needs – regardless of when or where. We additionally facilitate continuing education in the form of academic degrees through, for instance, work-study options, leaves of absence, and sabbatical regulations.

In the area of People Development, we have implemented a competency model with clearly defined core and leadership skills which serves as a reference for all employees. This is intended to ensure that managers and employees are using the same vocabulary and uniform criteria when assessing performance. Performance assessments run throughout the entire calendar year and are conducted as an ongoing dialog between supervisors and their direct reports. "Development Dialogues" are held regularly to discuss personal strengths and development needs as well as career perspectives.

Compensating employees transparently and competitively

Covestro combines a base salary reflecting the duties of a position with performance-related compensation components and extensive additional benefits into a fair and internationally competitive pay package about which employees are informed transparently. In all countries, the amount of the base salary depends on regional market conditions. An employee's base salary is determined on the basis of a job evaluation conducted without considering the individuals in the positions. For managerial roles, the base salary is determined on the basis of an internationally recognized evaluation method. Furthermore, we promptly recognize outstanding conduct, commitment, and performance by all employees with a view to our values.

See note 22 "Other Provisions" in the Notes to the Consolidated Financial Statements

Through the Group-wide bonus program "Covestro Profit Sharing Plan" (Covestro PSP), we enable our employees to participate in the success of the company each year with a uniformly calculated bonus payment. As in 2016, the stock participation program "Covestment" was offered again in 2017. Over 50% of all eligible employees purchased Covestro stock at a discount in Germany. This program was introduced in the United States in 2017. More than 40% of all eligible U.S. employees made use of it.

Simplifying strategy and processes

When Covestro began operating independently, the personnel structures and processes in place were tailored to its former corporate structure. The company is now transitioning into an organization with flat and flexible structures to streamline taking action and making decisions. Covestro's system environment is being simplified and modernized to adapt to the way our organization functions and to optimally support the work of our employees. One of the measures taken is our new personnel management system.

Establishing a new personnel reporting structure on the basis of systematic analysis of HR-related data allows us to optimize our decision-making processes.

Promoting diversity and inclusion

Diversity is at the heart of our corporate culture and is also expressed in our values. Covestro supports a working environment in which a wide variety of skills, talents, backgrounds and beliefs are welcomed and treated with respect. We promote unconventional thinking, creative ideas, and open-mindedness. As an important part of its corporate culture, Covestro is advancing the topic of “Diversity & Inclusion” by developing global action plans for the entire Group and for individual areas of responsibility.

Creating the best working conditions and work models

The health, safety, and professional and personal dedication of our employees are extremely important to us. Human resources management is supported by the areas of quality management, corporate security, legal, and internal audit. They assist Covestro in implementing the relevant compliance and labor standards.

In addition, we also offer our employees modern working conditions so they can always be successful in a changing working environment and balance their professional interests with personal interests such as family life. In many countries, we exceed our legal obligations, for instance by offering solutions such as flexible working hours, part-time working, and working from home if this is compatible with operational requirements.

A direct dialog with our employees is also particularly important to us. In this regard, we take into account national and international notification duties.

Our social responsibility as a company and an employer is based on our corporate values and our unreserved commitment to supporting and fostering human rights in our sphere of influence. At Covestro, social responsibility also includes ensuring safe working conditions and therefore creating an environment in which employees can work and move internationally safely and without fear. Our sustainable human resources policy also features a strong social safety net for our employees.

In addition, Covestro actively encourages awareness of healthy lifestyles. This is particularly true in regard to the challenges facing us as a result of demographic change and the raising of the retirement age in many countries.

Workplace health management is in place at all levels of the company and is expanding offerings in response to employee surveys. The intention is to ensure that employees have access to adequate and affordable health offerings such as sports programs, regular medical check-ups, help in overcoming illness, and on-site medical care. The nature and scope of the health promotion programs differ around the world with regard to the respective country-specific level of development and access to national health systems. In many places, the company’s voluntary social welfare provision includes measures to prevent illness, whereas in other locations this is required by law.

6. Procurement

Our procurement function ensures the timely, global supply of goods and services at suitable market conditions, in the required quality and in accordance with Covestro’s ethical and ecological standards. The principles of our procurement policy are set down in a directive that is binding on all employees throughout the Covestro Group. Procurement at Covestro is centrally steered and managed by the Procurement unit.

In 2017, goods and services were procured from some 15,400 (previous year: some 15,700) suppliers in 72 (previous year: 74) countries for approximately €9.3 billion (previous year: €8.1 billion).

Main procurement products

The main precursors for our products are petrochemical substances such as benzene, toluene, propylene/propylene oxide, phenol and acetone. In addition to such petrochemical feedstocks, the operation of our production facilities also requires large amounts of energy, mostly in the form of electricity and steam.

In 2017, petrochemicals substances accounted for a procurement spend of €3.7 billion (previous year: €2.5 billion). This is equivalent to approximately 55% of our total expenditures for raw materials and energies, which amounted to around €6.7 billion (previous year: €5.7 billion). Important raw materials are procured on the basis of long-term supply agreements and an active supplier management to minimize procurement risks such as supply shortages or substantial price fluctuations.

In steam and electricity generation, we aim for market-based price indexing, a diversification of fuels, and a mix of external procurement and captive production to minimize the price fluctuation risk for the energy supply. Regular sustainability and quality audits of our suppliers ensure compliance with internal and external standards.

Covestro procures critical raw materials such as chlorine and propylene oxide from within the Group or through joint ventures in order to reduce the dependency on external supply sources.

Sustainability in supplier management

Covestro regards adherence to sustainability standards within the supply chain as a crucial factor in value creation and also an important lever for minimizing risks. For this reason, we apply not only economic standards but also social, ethical and ecological standards, as well as those related to corporate responsibility when we select new suppliers and in our relationships with existing suppliers. These standards are defined in Covestro's Supplier Code of Conduct, which is available online in 13 languages and provides the basis for collaboration. The Code is derived from the principles of the UN Global Compact and our position on human rights. It is integrated across the Covestro Group into the electronic ordering systems and contracts. Furthermore, relevant new and renewed supply agreements generally contain special clauses requesting suppliers to observe the sustainability requirements contained in the Code of Conduct and entitling Covestro to monitor their compliance.

Covestro is a member of "Together for Sustainability" (TfS), a joint initiative undertaken by the chemical industry now numbering 20 companies. The non-profit organization founded in 2011 pursues the goal of establishing a program of global standards for responsibly sourcing goods and services and standardizing supplier evaluation methods worldwide. Covestro supports all TfS principles concerning the areas of ethics, employee rights, human rights, health and safety, and the environment, as well as the associated management systems.

Covestro has set ambitious and measurable targets to be reached by 2025 aimed at systematically promoting sustainability in supplier management. All suppliers accounting for a repeat purchasing value exceeding €100,000 are assessed and must comply with Covestro's sustainability standards. In the year under review, around 98% of our entire purchasing volume was attributable to these suppliers. All other suppliers must agree to comply with our Code of Conduct by accepting our contracts and orders. We work closely with our key suppliers to improve their sustainability performance. We have also incorporated this into our sustainability goals. At the end of 2017, 71% (previous year: 51%) of our purchasing value is attributable to suppliers with assessments meeting our requirements. Covestro thus exceeded its own intermediate goal of 65%. Furthermore, 66% of our most important suppliers improved their sustainability performance in a repeat assessment.

Evaluating the sustainability performance of our suppliers

Covestro regularly verifies compliance with the specified sustainability standards using online assessments and on-site audits. EcoVadis, an established provider accredited by TfS, conducts the online assessments. The goal is to assess the supplier's business practices in regard to the sustainable orientation of the company (Corporate Social Responsibility, or CSR). The questionnaire suppliers complete for the online assessment is based on internationally recognized sustainability standards and includes 21 criteria grouped into the categories environmental protection, working conditions and human rights, fair business practices, and sustainable procurement. The questionnaire also includes questions about the upstream suppliers pertaining to the criteria. This questionnaire is dynamically adapted depending on factors such as the industrial sector, company size and country risk. Supplier responses must be documented by submitting corresponding supporting documents. The CSR experts at EcoVadis analyze supplier responses according to international standards and consolidate them into a scorecard available online showing category results. Improvement areas and an overview of variances are shown in the detail. External, independent auditors accredited by TfS conduct on-site audits of selected companies – and follow-up audits, if needed – based on the TfS sustainability criteria.

In prioritizing the suppliers for these assessments, we consider a combination of country and material risks as well as strategic importance in accordance with our Group targets. The risk assessment for country and material groups that we use for our risk analysis is based on recognized external sources.

All online assessments and audits are comprehensively analyzed and documented so that – should results be unsatisfactory – specific improvement measures can be defined together with the suppliers.

The following table shows the results of the supplier assessments.

Key Data from the Sustainability Assessments of our Suppliers

	2016	2017
Share of purchasing volume from suppliers meeting Covestro's sustainability criteria[1,2]	**+51%**	**+71%**
Supplier assessments conducted in the reporting year[2]	**337**	**719**
of which through online assessments	308	690
of which through on-site audits	29	29
Total supplier assessments conducted[2]	**614**	**1,349**
of which through online assessments	529	1,215
of which through on-site audits	85	134
assessed suppliers meeting Covestro's sustainability criteria	409	870

[1] Only suppliers accounting for a repeat purchasing value exceeding €100,000 are taken into account.
[2] Audits of Covestro's suppliers initiated by Covestro plus online sustainability audits (conducted by external, independent, TfS-accredited provider EcoVadis) or on-site sustainability audits (conducted by external, accredited auditors) carried out under the TfS initiative are taken into account. Only assessments of active suppliers that are no more than three years old are taken into account.

Results of the audits and online assessments

In 2017, critical assessment results were recorded for 15 suppliers (corresponds to 2% of those assessed; previous year: 1%), prompting Covestro to respond with specific action plans. Appropriate corrective measures were required of the affected suppliers and follow-up audits were conducted to monitor their implementation.

As in the previous year, Covestro had no cause to terminate a supplier relationship in the reporting year because the assessment revealed an unsatisfactory sustainability performance or a serious sustainability deficit, e.g. human rights violations like child labor or forced labor.

Training measures and dialog on the issue of sustainability

Covestro maintains an ongoing dialog with its suppliers and supports them in implementing the sustainability requirements by providing Group-wide training. In the first quarter of 2017, workshops were held worldwide with our strategic procurement specialists aimed at strengthening cooperation with suppliers on the four strategic procurement topics of sustainability, innovation, cost transformation, and reliability.

Dialog and close collaboration are essential in enabling suppliers to successfully comply with Covestro's sustainability requirements. Therefore, we offer a range of training and dialog opportunities for them as the basis for building reliable relationships that enable us to identify and eliminate any obstacles to collaboration at an early stage.

Verification of management processes

Responsibility for sustainability in procurement is a component of the integrated management system and in this context is directly assumed by the Group's Board of Management. All the processes discussed here are described in standard operating procedures and are incorporated in Covestro's management system. They are subject to ongoing review and continuous improvement and are regularly verified and certified on a global basis by both internal and external audits.

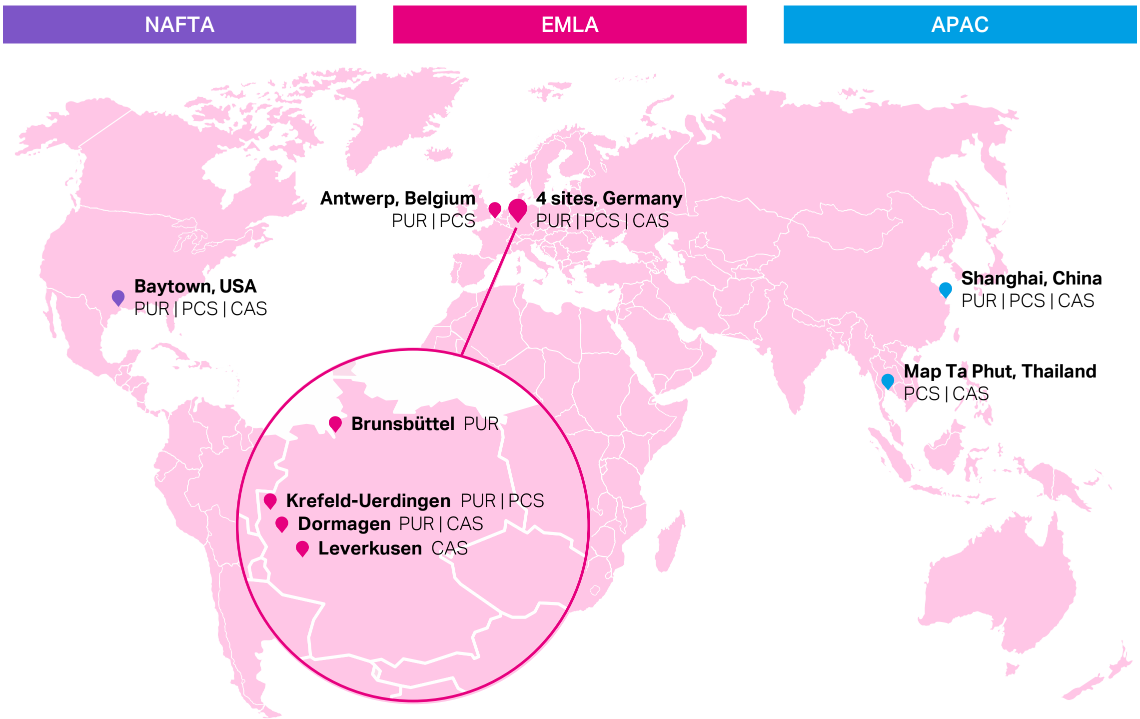
7. Production

Sites

Covestro operates around 30 production sites in Europe, America, and Asia, eight of which have world-scale facilities. The latter are large-capacity production facilities that serve particularly to ensure efficient and reliable supply to customers around the world. We additionally operate smaller production plants in selected countries where we compound polycarbonate granules to meet specific customer requirements or manufacture polycarbonate sheets. Additionally, the company operates regional production facilities for derivatives of the Coatings, Adhesives, Specialties segment, for elastomers, and for high-performance polycarbonate and thermoplastic polyurethane specialty films. This close proximity to the customers allows Covestro to deliver quickly, provide flexible customer service, and market products competitively.

The following illustration shows the eight Covestro sites with world-scale production facilities along with the segments represented at each site.

Production Sites of Covestro with World-Scale Facilities



Quality management

We have very high expectations when it comes to the quality of the raw materials we use and set standards for their processing into high-tech plastics and polyurethane precursors. A quality management system has been implemented for this purpose that is certified to the international standard ISO 9001. At the end of 2017, the management system was certified to the new ISO standard (ISO 9001:2015).

Capital expenditures for property, plant and equipment

We invest continuously in our global production network in order to maintain our production facilities and their infrastructure, to optimize manufacturing processes and to expand capacities in line with market developments. Innovative and environmentally-compatible production processes are employed to ensure ongoing technological optimization.

In recent years, Covestro has invested heavily in state-of-the-art production facilities, thus boosting the company's competitiveness on production volumes, quality, efficiency and safety for the long term. In the reporting year, cash outflows for capital expenditures totaled €507 million. These funds were primarily used for maintaining and optimizing production facilities and for expanding capacity in the Polyurethanes, Polycarbonates, and Coatings, Adhesives, Specialties segments. The strategically relevant capital expenditures for property, plant and equipment in the operational reporting segments during the past two years are listed in the following table:

Strategic Capital Expenditures by Segments

Segment	Description
Capital expenditures 2017:	
Polyurethanes	Continuation of capacity expansion of the MDI plant in Brunsbüttel (Germany) Capacity expansion of the TDI plant in Shanghai (China)
Polycarbonates	Commissioning of the new composite plant in Markt Bibart (Germany) Production capacity expansion for polycarbonates in Baytown (United States)
Coatings, Adhesives, Specialties	Commissioning of capacity expansion for specialty films in Dormagen (Germany) Commissioning of capacity expansion for acetone and melt dispersions in Dormagen (Germany)
Capital expenditures 2016:	
Polyurethanes	Capacity expansion of the MDI plant in Brunsbüttel (Germany) Commissioning of a production line for CO_2-based polyols in Dormagen (Germany)
Polycarbonates/ Coatings, Adhesives, Specialties	Continuation and finalization of capital investment projects from previous years – Doubling of polycarbonate production capacity in Shanghai (China) – Doubling of HDI (aliphatic isocyanate) production capacity in Shanghai (China)

8. Distribution and Logistics

Distribution

Covestro has a regional distribution and marketing structure. Each operational reporting segment manages the distribution and marketing of its products, both through its own distribution organization and through trading houses and local distributors. Major customers with global operations are serviced directly by our key account managers. The sale and marketing of certain chemical by-products, such as hydrochloric acid and sodium hydroxide solution, are managed centrally within the Covestro Group by a regional organization, whereas the sale of other by-products, like styrene, is the responsibility of the respective operational segment.

Three regional Supply Chain Centers for the EMLA, NAFTA and APAC regions support the offices mentioned above in marketing our products, help with customer management, and assist in handling information processes from order acceptance to dispatch planning, delivery, and complaint acceptance. This organization enables us to process orders particularly smoothly and swiftly. We make use of channels such as e-commerce platforms for handling orders. Our customers can place orders and check the status of their orders at any time through the Order@Covestro online shop. New digital sales channels, such as a digital trading platform that will account for substantial business volume in the coming years, are under development.

We keep a line open to our customers in the interest of continually improving our products and our services and further adapting them to meet customer needs. In order to ensure a high level of customer satisfaction, our foremost quality target is avoiding errors in all of our processes. Customer satisfaction is systematically gauged and analyzed worldwide. To this end, we regularly evaluate customer complaints that are entered and processed in a global management system. We also take into account customer satisfaction analyses and supplier assessments. Furthermore, we request feedback from our customers from which we derive corrective and preventive measures in order to further increase quality and customer satisfaction and thereby lower the error rate and the incidence of complaints.

Transportation and packaging

The transportation of our products to customers is handled by logistics service providers that are selected and evaluated according to stringent safety, environmental and quality criteria. Alongside the protection of people and the environment, delivery reliability is particularly important. The preferred mode of transportation is rail or intermodal – in other words using a combination of different modes of transportation. When selecting the mode of transportation, we also consider resource efficiency and seek to minimize associated CO_2 emissions. Customers are supplied from close-to-production warehouses, wherever permitted by transportation times and delivery reliability. In the case of longer distances, goods are temporarily stored in regional distribution centers and then dispatched at short notice.

Sustainable sourcing is also becoming increasingly important in packaging. The responsible unit has implemented measures to address this, including establishing a procedure in the packaging procurement process to review whether and to which extent used or refurbished packaging can be used in the place of newly produced packaging. An example of the application of this approach is the establishment of post-consumer regrind (PCR) plastic drums for waste transportation. Polyethylene (PE) drums from newly produced material are replaced by drums made of recycled PE. As a result, fewer raw materials are used and emissions are reduced.

9. Product Stewardship

Product stewardship for Covestro means the comprehensive evaluation of health, safety and environmental risks. We want to ensure that our products are safe throughout their life cycle – from research, production, marketing and use by the customer through to disposal.

Monitoring the quality of our products and their suitability for specific applications is anchored in the operational units. Safe transportation, training and marketability are centrally managed at Covestro. The obligation to report to the Board of Management is also allocated to these central offices.

The safe use and application of our products has high priority. It is therefore important that we fully and transparently convey product safety information. In addition to the legally required documentation, we also provide further information and offer corresponding training in line with the Global Product Strategy of the International Council of Chemical Associations (ICCA). Experts in all areas of the company also work closely with suppliers, customers, industry associations and the public. The aim is to ensure the effective communication and observance of health, safety and environmental information along the supply chain.

Management of product stewardship

Product stewardship involves both compliance with statutory requirements and voluntary commitment. Here, we also take into account the precautionary principle as explained in Principle 15 of the Rio Declaration of the United Nations and communication COM(2000) 1 of the European Commission.

The precautionary principle is an important means of protecting consumers and the environment within the context of risk management. It may be applicable if, according to an objective and comprehensive scientific evaluation, material or irreversible harm to people and the environment may occur, but the risk of this cannot be established with sufficient certainty. In this, we follow the general principles of the European Commission for application of the precautionary principle. These are especially the proportionality of the measures taken, examination of the benefits and costs of all relevant options, and review of the measures taken in light of new scientific developments.

In particular, arbitrary decisions cannot be justified by invoking the precautionary principle.

As a contribution to the safe handling of chemicals, risk assessments are carried out applying recognized scientific principles such as those described by the European Chemicals Agency (ECHA) in its Guidance on Information Requirements and Chemical Safety Assessment. A determination is made based on a hazard assessment and exposure estimation as to which additional information is required for the risk characterization of a product.

A product safety assessment at Covestro takes place in several steps. First, chemicals that are subject to statutory regulations are identified and the corresponding regulation documented. We then examine our products in terms of their risk potential.

Should the assessment or new findings reveal that it is not safe to use a certain chemical, we take the necessary steps to mitigate risks. Such steps can range from technical measures such as protective gear and revised application recommendations to the withdrawal of support for a certain application and substitution of a substance. In this case, an adequate replacement must be sought which can be produced in a technically and economically feasible way.

Finally, we produce the legally required material safety data sheets, technical information sheets and labeling for the chemicals. We also compile these documents for chemicals that are not subject to this legal obligation, whereby we go beyond the statutory requirements. This process is applied for all product groups.

All information about the safe and compliant use of our products is documented and analyzed, and thus provides a jumping-off point for further improvements. This includes product monitoring and reporting on product-related and compliance incidents. Our global regulations contain rules and guidance on when and how this information is to be used.

The optimization of products and processes is basically a continuous task of the chemical industry and is integral to our commitments as part of the Responsible Care initiative. We are also actively involved in the further development of scientific risk assessment through our work in associations and initiatives.

International associations such as the European Chemical Industry Council (CEFIC) and the International Council of Chemical Associations (ICCA) are working to improve the scientific assessment of chemicals, and research new testing methods. Moreover, they monitor implementation of legal regulations. Covestro is actively involved in industry association activities. We also endorse the initiatives of the World Health Organization (WHO) and the EU for improving health and the environment, for example with the further development of human biomonitoring through an alliance with the German Chemical Industry Association (Verband der Chemischen Industrie, VCI) and the German Federal Ministry of the Environment.

Implementation of regulations and voluntary programs pertaining to chemicals

Covestro adheres to the applicable regulations pertaining to chemicals, such as the regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) in Europe and the Toxic Substances Control Act (TSCA) in the United States. These regulations aimed at protecting human health and the environment from the risks posed by chemicals shape our activities as a manufacturer, importer and user of chemicals. We have established internal regulations to adequately address the scope and complexity of the relevant requirements.

Substances registered according to REACH are assessed by regulators. This can result, for example, in additional testing requirements, new risk management measures, or inclusion in the REACH authorization procedure. A number of Covestro substances are also affected by this procedure which restricts the use of particularly hazardous substances or can lead to their replacement or prohibition.

Covestro continues to pursue the goal of concluding the global assessment of hazard potential for all substances used in quantities exceeding one metric ton per annum by 2020. We have covered most of the relevant substances. In this way, we exceed statutory requirements and ensure that substance assessments comparable to those meeting the high standards of REACH or the TSCA will also be applied at Covestro sites that are not subject to these regulations. The relevant procedure is established in the Group Regulation “Product Stewardship – Substance Information and Availability”. When it comes to purchased substances, we are dependent on information provided by our suppliers. In this regard, however, we expect that in the future the availability of data will be limited.

Another example of our commitment to Responsible Care is the worldwide support we provide for customers for safely handling large quantities of reactive products through depot assessments.

Support for the Global Product Strategy

We support the Global Product Strategy (GPS), a voluntary commitment by the chemical industry initiated by the ICCA. Its objective is to improve knowledge about chemical products, especially in emerging and developing countries, and thus increase safety in the handling of these products. The ICCA has established an information portal through which summarized details on products (GPS Safety Summaries) are made available. GPS is accessible at Covestro through the Product Safety First internet portal and is available worldwide. On this website, we inform customers and other interest groups about our activities and Product Safety Summaries under the Product Assessments tab.

Substances that are the subject of public debate

Covestro is following the scientific discussion about the chemical bisphenol A (BPA), a main feedstock for various plastics. Critics, but also some authorities, are concerned that risks could result for users and the environment if traces of BPA are released from products. At this time, these concerns are primarily being addressed under the European chemical regulation REACH.

Based on numerous scientifically valid and high-quality studies, Covestro is confident that BPA can be safely used in its intended areas of application. In the case, for example, of food safety, this is supported by the latest evaluations from the responsible European and American authorities, namely the European Food Safety Authority (EFSA) and Food and Drug Administration (FDA). Reflecting this conviction, Covestro is working actively within the framework of regulatory processes to dispel uncertainties and answer open questions.

We continue working to make the discussion more objective based on all of the scientific data and in cooperation with the PlasticsEurope association, the American Chemistry Council (ACC) and the China Petroleum and Chemical Industry Federation (CPCIF). Covestro is itself involved in the debate, providing information to customers and the public through associations and the Covestro website.

10. Safety

Safety and the continual improvement of our safety culture are high priorities for Covestro and key aspects of corporate responsibility. Among our primary goals are preventing injuries, disruptions at plants, and accidents during transportation as well as safeguarding the health of all employees in the workplace and during work-related activities. Detailed rules and regular checks are instrumental in meeting these goals as are safe production processes, plants and transportation. The focus is equally on protecting the environment and the well-being of everyone who comes into contact with our products.

Integrated management system

Responsibility for health and safety is a component of the integrated management system and is directly assumed by the Group's Board of Management. Covestro's declared goal is taking preventive measures to protect employees, suppliers and service providers, and ensuring uninterrupted operations. To achieve this, globally applicable processes include detailed rules governing the safety of production facilities and manufacturing processes, the investigation of accidents and environmental and transportation incidents, health screening and occupational safety, and emergency management at Covestro. The rules regarding occupational health and safety stipulated by international standards such as Occupational Health and Safety Assessment Series (OHSAS) 18001 comprise the minimum requirements applicable worldwide and are supplemented with additional guidelines as needed. This is intended to prevent accidents and incidents during day-to-day business as well as during transportation that could affect people or the environment. Moreover, we offer support to our customers, for example by providing training on the safe handling of our products in and outside of our facilities.

Occupational health and safety

A harmonized reporting system implemented throughout the Group exists for reporting and processing work accidents and potential hazards. The reporting process complies with U.S. OSHA standard 1904 Recording and Reporting Occupational Injuries and Illness. After an accident is reported to the plant or site officer, the data is then consolidated in the Integrated Information Management System, a software developed by Covestro. This software makes it possible to identify both positive and negative developments and trends in the area of safety in real time and, if necessary, to implement corresponding short-term corrective and long-term improvement measures. Covestro's occupational safety experts, supported by external expertise if needed, analyze the background circumstances and the consequences of the accident. The results of the cause analysis conducted after an incident occurs and the corrective measures taken are published throughout the Group to improve employees' safety awareness.

Covestro documents workplace accidents involving the company's own staff and third-party employees (contractors) as part of the recordable incident rate (RIR), per the U.S. OSHA reporting methodology. This statistic measures the number of accidents per hours worked (worldwide standard of 200,000 hours). It takes into account all work accidents with injuries requiring medical treatment beyond first-aid measures.

Work-related Accidents

	2016	2017
Lost time recordable incident rate (LTRIR[1])		
in relation to Covestro employees	0.20	0.25
in relation to contractor employees[2]	0.16	0.21
Recordable incident rate (RIR[3])		
in relation to Covestro employees	0.31	0.34
in relation to contractor employees[2]	0.37	0.43
Fatal injuries (total)	0	0
of which Covestro employees	0	0
of which contractor employees[2]	0	0

[1] LTRIR: Number of workplace accidents resulting in at least one day of lost time per 200,000 working hours
[2] Employees working for third parties whose accidents occurred on our company premises and under Covestro supervision; the working hours needed to calculate the injury rates for these employees are based on data from 2016 and were partly estimated.
[3] RIR: Number of workplace accidents per 200,000 working hours

We are working continuously on keeping the accident figures as low as possible in the future as well. The accident rates were higher than in 2016 due to an unusual cluster of employee accidents in March 2017. This increase was successfully countered by the introduction of a "safety break", featuring an open exchange of information between employees and management representatives about possible hazards and risks in the respective work areas and the reduction thereof.

Since 2016, all near-misses are analyzed for the potential risk of a serious accident they pose. We record and classify all events, including very minor incidents and near-misses in addition to accidents and product leaks, according to a defined set of criteria in order to derive priority activities. In 2017, this resulted in priority activities focusing on protecting employees' hands at work and on the human–machine interaction. Promoting safety awareness among employees is essential for minimizing hazards during day-to-day operations. In 2017, for the ninth consecutive year, Covestro therefore called on all employees to submit suggestions for improving safety and apply for the annual internal CEO Safety Award. All of the ideas were evaluated by an expert jury from outside the company, and the winners were presented with their awards by the Chair of the Covestro Board of Management (CEO) Patrick Thomas. One example of the successful implementation of an employee suggestion is the "Spot the Hazard" initiative, which can be traced back to an idea recognized last year.

Process and plant safety

We aim to ensure the safety of our processes and plants in a way that avoids unacceptable risks to our employees, our neighbors and the environment. At regular intervals, we conduct extensive, systematic safety inspections. A globally standardized KPI, Loss of Primary Containment (LoPC), applies to all Covestro plants and is an early indicator integrated into Group-wide safety reporting. LoPC refers to, for example, chemicals in amounts above defined thresholds leaking from their primary containers, such as pipelines, pumps, tanks or drums. We use this LoPC Incident Rate (LoPC-IR) to determine the number of LoPC incidents per 200,000 working hours in areas relevant to plant safety.

Rate of Plant Safety Incidents

	2016	2017
LoPC IR	0.79	0.53

Every LoPC incident as well as minor and near-miss incidents are carefully analyzed to determine their causes, and the results and corrective actions taken are publicized throughout the Group. The criteria (e.g. very small threshold or nonhazardous material leaks) were selected so that even material and energy leaks that have no impact on employees, neighbors or the environment are systematically recorded. This contributes to maintaining the integrity of our facilities.

Environmental and transportation incidents

Side by side with continuous improvement of process and plant safety and safety in the workplace, we are constantly working on making the transportation of our products safer. We report all incidents at all sites operated by Covestro worldwide in line with our internal directives. These are documented according to defined criteria such as leaked load, hazardous material class, personal injury and blocked transportation routes. In the case of substances with a high hazard potential, we voluntarily record all leaks of 50 kilograms or more. It does not matter whether the substance was being transported by Covestro or by a third-party service provider. In the interest of evaluating and improving transportation safety, we have launched additional measures including a seven-point plan and tank farm assessments for unloading processes at the customer's location. The Group-wide "Transportation and Distribution Safety" directive valid until then was revised by a global team of experts in 2017. The new "Transportation and Logistics Safety" directive effective as of June 2017 stipulates the global minimum requirements for ensuring the safety of all transportation and logistics activities directly and indirectly supervised by Covestro.

In 2017, almost 900,000 documented transportation movements were initiated by Covestro via road, rail, waterways and air travel. Six transportation incidents were reported of which two were classified as environmental incidents. Two additional environmental incidents occurred at our sites.

11. Environmental Protection

Environmental protection and the efficient use of resources are fundamental drivers for Covestro's actions, both in terms of our own business activities and the development of innovative product solutions. We continually strive to use materials and energy more efficiently and to reduce emissions and waste generated. Our innovative products also support the efforts of our customers in many industries such as the automotive, construction, electronics, as well as the furniture, sports and textile industries, to improve their own resource efficiency and cut emissions.

Integrated management system

Among other efforts, we have established an integrated HSEQ (health, safety, environment, quality) management system to implement our ambitious resource efficiency and emission reduction plans. Global minimum standards were determined in the form of rules and regulations that comply with internationally recognized standards and rules such as ISO 9001 (quality management), ISO 14001 (environmental management) and ISO 50001 (energy management). Each year, we analyze and evaluate the effects of our activities on the environment. This is embedded in our HSEQ guideline. From our environmental performance assessment, we derive measures to reduce and minimize environmental impacts. Globally applicable process and workflow descriptions help us implement these throughout the Group.

Adherence to processes and workflows is regularly checked through internal audits and external certifications. The insights we gain from these are incorporated into our annual management assessment. Every process is thus subject to ongoing monitoring and is updated as required. In 2016, we began adapting our existing HSEQ management system to the updated requirements of the revised ISO 9001:2015 and ISO 14001:2015 standards. At the end of 2017, our integrated management system was certified to the new ISO standards.

In the year under review, the energy efficiency system we introduced in 2008 was recertified to ISO 50001 for the sixth time at the main German production sites. Specific targets in line with the aforementioned ISO standards have been defined and are regularly reviewed and assessed during audits.

Energy consumption

Covestro's energy consumption includes the primary energy used in production and during electricity and steam generation by the company as well as the purchase of additional electricity, steam and refrigeration energy and the use of process heat. It also comprises the energy lost during the generation and distribution of electricity and steam. All told, these figures make up Covestro's equivalent primary energy consumption.

The use of energy and materials and the level of greenhouse gases emitted are directly proportional to the quantity of materials we produce. In 2017, total energy consumption in the Group increased by 4.7% and equivalent primary energy consumption grew by 4.5%, with a 7.6% increase in production volumes. The equivalent primary energy consumption for a given production volume (energy efficiency) improved by 2.9%. This positive trend is attributable to factors including our ongoing efficiency improvement programs and the global energy efficiency system.

Energy Consumption in the Covestro Group

	2016	2017
Equivalent primary energy consumption[1] (in TJ)	71,981	75,202
Production volume[2] (in million metric tons)	13.92	14.97
Specific energy consumption (energy efficiency)[3] (in MWh per metric ton)	**1.44**	**1.40**

[1] Sum of all individual energy figures translated into primary energy at our main production sites, which account for more than 95% of our energy consumption
[2] Sum of the in-spec key products, which in addition to our core products also include products such as precursors and by-products, at our main production sites, which account for more than 95% of our energy consumption
[3] Quotient of equivalent primary energy and in-spec production volume at our main production sites

In addition to successfully implementing energy efficiency measures, it is of particular note that Covestro has continued its efforts to modernize the chlorine production facilities in the year under review. Greater energy efficiency will be achieved by retrofitting the facilities with the latest generation of electrolysis components. This is being accomplished during the regular repair and maintenance cycles.

After the modernization of chlorine production facilities was completed in Krefeld-Uerdingen in the previous year, a similar project was started in the year under review at the Dormagen site. These measures also have the medium-term goal of reducing the amount of electricity used specifically for electrolysis at the German sites in Leverkusen and Dormagen. This effort is expected to reduce the amount of electricity used specifically for electrolysis by about 5% in the medium term at the sites in Leverkusen, Dormagen and Krefeld-Uerdingen. This positive trend is due primarily to improved energy efficiency in production.

Greenhouse gas emissions

Along with governments, non-governmental organizations, and other private-sector companies, Covestro supports implementation of the results of the 21st UN Climate Change Conference, which took place in Paris at the end of 2015, and is committed to the UN Sustainable Development Goals (SDGs).

Covestro calculates greenhouse gas emissions according to internationally recognized standards (Greenhouse Gas Protocol, GHG Protocol). The calculations include both direct emissions from the burning of fossil fuels and indirect emissions from the procurement and consumption of energy generated outside the company such as electricity, heating or refrigeration energy. In addition to CO_2, all other relevant greenhouse gases are documented as well.

Covestro's goal is to reduce specific greenhouse gas emissions, i.e. the CO_2 equivalent emissions per metric ton of product manufactured, by 50% by 2025 compared with 2005 benchmarks. In 2017, these specific emissions totaled 0.386 metric tons of CO_2 equivalents per metric ton of product (previous year: 0.406). This figure is down 43.8% from 2005 and 4.9% lower than previous year.

Group Greenhouse Gas Emissions

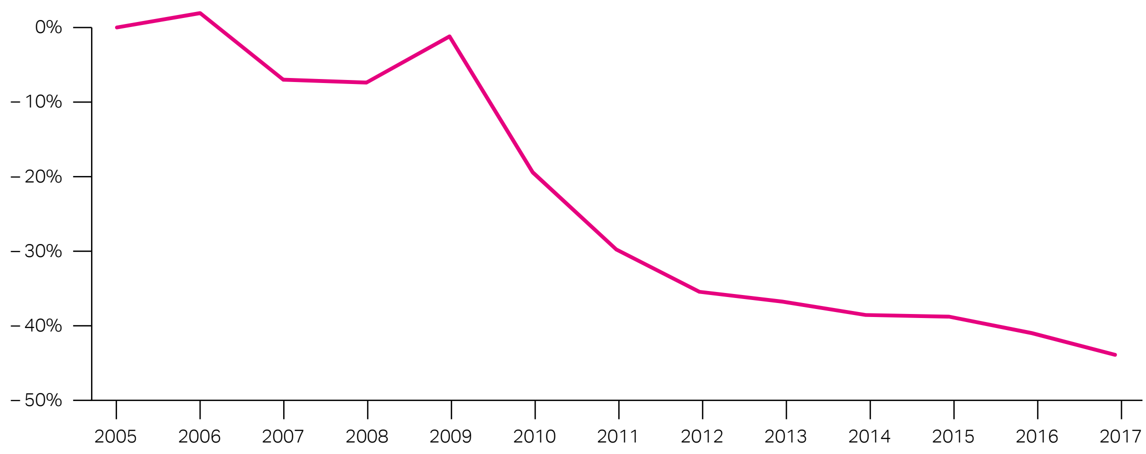
	2005	2016	2017
Specific greenhouse gas emissions (metric tons of CO_2 equivalents per metric ton of production volume[1])	0.687	0.406	0.386

[1] Total greenhouse gas emissions (Scope 1 and 2, GHG Protocol) at the main production sites, which are responsible for more than 95% of our energy consumption (total of 5.78 million metric tons of CO_2 equivalents in 2017) divided by the in-spec production volume for key products

This positive development is largely due to improved energy efficiency in production. With the measures aimed at reducing emissions already successfully implemented, Covestro is well on its way to reaching the reduction goal it has set by the year 2025.

Development of Specific Greenhouse Gas Emissions

(Changes of the specific greenhouse gas emissions per metric ton of product, compared with the baseline year)[1], in %



[1] (greenhouse gas emissions/production volume) / (greenhouse gas emissions 2005/production volume 2005) -1

It is worth noting that the use of improved catalysts in the area of waste gas purification at the nitric acid production facility in Shanghai (China) reduced the specific nitrous oxide (N_2O) emissions per metric ton of nitric acid produced by half in 2017. This measure reduced the absolute emissions of this facility by 110,000 metric tons of CO_2 equivalents in 2017. At the same time, intersectional heat integration in this facility makes it possible to eliminate the need to source 14,000 metric tons of steam from the local power plant, equivalent to approximately 2,030 metric tons of CO_2.

Moreover, Covestro develops products whose manufacture results in lower CO_2 emissions than that of conventional products. For example, since 2016 Covestro operates a plant at the Dormagen site for producing a new type of foam component that makes it possible to replace one-fifth of the petrochemical raw materials required with a corresponding volume of CO_2, thereby improving the facility's carbon footprint.

Water, effluents and waste

Covestro takes a holistic view of water as a resource. We not only take our water consumption and the related problems of water scarcity and water quality into consideration but also the wastewater we generate and the growing concern of plastic waste in the oceans. As part of this, we initiated a risk assessment of our production sites to examine water availability, quality and accessibility. In our production activities, we endeavor to use water several times and to recycle it. Covestro primarily generates wastewater from once-through cooling systems and production. All wastewater is subject to strict monitoring and analysis according to the applicable legal regulations before it is discharged into disposal channels.

For economic considerations alone, Covestro's manufacturing processes are already as efficient as possible when it comes to the use of materials, so only relatively little waste is produced as a result. Ongoing observation and evaluation of the manufacturing processes additionally minimize material consumption and disposal volumes as much as possible. Safe disposal channels with separation according to the type of waste and economically expedient recycling processes serve this purpose. Production fluctuations, building demolition and refurbishment, and land remediation also influence waste volumes and recycling paths.

Covestro also supports the reuse and treatment of its materials in accordance with economic and environmental criteria. Some of the waste created by our production processes with a high heating value can, for example, be burned as fuel to generate steam for our production facilities.

Covestro endeavors to improve the longevity of its products. This is accomplished by means including participation in associations such as PlasticsEurope. We embrace initiatives like Operation Clean Sweep® (OCS), (formerly called Zero Pellet Loss), which pursues the goal of preventing the loss of plastic pellets on the way from production to the finished article at our customers' locations. At the relevant Covestro sites, measures preventing the loss of pellets are put into place and overseen by employees tasked with this job. Last year, we also began involving customers and logistics contractors around the world in this initiative. In order to guarantee the progress of the program, OCS was defined as an additional area of focus to be considered for internal audits in 2017.

12. Dialog with the Neighboring Community, Social Engagement and Partnerships

Dialog with the neighboring community

As a company, Covestro is part of society and public life. Therefore, a continuous and systematic dialog with our stakeholders is particularly important to us.

An open exchange is the foundation for mutual understanding and for social acceptance of our entrepreneurial decisions. At the same time, these conversations provide us with new inspiration and crucial input. We therefore engage in an ongoing dialog with our stakeholders.

Regulators

We maintain a regular exchange with authorities, ministries, politicians and important opinion leaders regarding regulatory matters at the local, regional, national and international levels, because, in essence, these groups design the framework conditions within which our company operates. The dialog takes place by way of contributions to public consultations, involvement in specialized workshops, association activities, and targeted meetings with political opinion leaders. In its code of conduct for responsible lobbying, Covestro defined clear and binding rules for involvement in the political sphere.

Public, neighbors, non-governmental organizations

At our sites around the world, we pay close attention to the impacts our activities have on the directly neighboring communities and on society in general, and we take these into account in making operational and strategic decisions. This involves an active, open and constructive dialog in order to be recognized as a reliable and trustworthy partner who demonstrates social responsibility.

The dialog with neighbors, the public, and non-governmental organizations (NGOs) is initiated on an ad-hoc basis. In doing so, we adhere to national and local guidelines, often even exceeding them. In the case of investment projects, the neighboring community is actively informed and involved. In the United States, for instance, the dialog takes place through neighborhood forums (community advisory panels, or CAPs). These panels meet regularly with local governments and/or neighborhood representatives to learn about current issues. In Germany, Chempark neighborhood offices are used to host the dialog with the neighboring community. We engage in an active dialog with social interest groups particularly when new facilities are commissioned.

Social engagement and partnerships

As a global enterprise, we are aware of our social responsibility. We demonstrate responsibility for our decisions and our actions, for our products and services, toward our customers and investors, and toward the environment and the society in which we live. We are committed to compliance with all applicable tax laws. Furthermore, we feel committed to the principle that, in each case, our tax payments in all of the countries where we operate are in line with the value we create there. We also want to increase access to education, technology and a better life. In doing so, we are using our social commitment as a catalyst to rapidly reach the UN Sustainable Development Goals (SDGs), which are aimed at creating a world with greater justice, resilience and well-being for humans and the planet by 2030. As one of the world's largest polymer companies, Covestro would like to use its position to work with different organizations in numerous regions in the world to advance projects for protecting the environment, improving the welfare of society, and stimulating the economy. To achieve this, a central unit in the company supports Group-wide efforts to plan and implement cooperative efforts with partners and award donations in order to work toward reaching the SDGs. Donations are allocated on the basis of an annual forecast which is approved by the Board of Management and implemented in accordance with a Group directive.

Examples for Covestro's global social engagement are detailed below:

In Taiwan, Covestro is involved in the field of early learning with its MagicMaterial initiative targeting early scientific education for children. Using experiments and games suitable for children, around 200 schoolchildren from the Taichung Special Education School for the Deaf in Taipei and the National University of Tainan's Affiliated Hearing Impaired School gained insight into the world of science.

In Germany, Covestro runs the Covestro Science Lab. There, schoolchildren and students learn the step-by-step process for creating a product from plastic and how a modern company operates.

Covestro provides funding for sports associations, schools, and cultural events at the German sites in Brunsbüttel, Dormagen, Krefeld-Uerdingen, Leverkusen and Markt Bibart.

In Pittsburgh (United States), Covestro provides financial support for the Greater Pittsburgh Community Food Bank which will go toward expanding its Backpack Program for the region over the next three years.

In partnership with the charitable organization United Way, Covestro collected donations in fundraising campaigns conducted at its American sites. The funds consist of personal donations made by employees, income from benefit events, and a financial corporate donation.

Funding was also provided to the Habitat for Humanity project "Raise the Roof" in Kanawha and Putnam County in the United States in support of building safe and affordable housing. In addition to the financial support, Covestro employees were also involved in the construction of the homes.

Covestro also partners with betterplace.org, a charitable organization supporting over 20,000 projects worldwide through donations and volunteer work. The projects range from aid for children, through environmental and animal protection to education and development aid projects.

In August 2017, Hurricane Harvey hit the southeastern part of the U.S. state of Texas. In addition to providing financial support to the U.S. Red Cross, Covestro and charity organization United Way put together activity kits for the children of employees at the Baytown site.

With our innovative technologies and solutions, we also pursue the goal of reaching 10 million people in underserved markets with Covestro products by 2025. This involves working with customers, government agencies and non-governmental organizations to develop affordable solutions to provide new business models and solutions based on our technologies and products aimed at improving the economic and social situation in these regions. Our focus in these efforts is on affordable living spaces, sanitary facilities and food security. All of these solutions must be scalable, i.e. they must be economically viable in the foreseeable future and cannot remain dependent on donations or subsidies over the long term.

Under the SunRise Initiative, for instance, there is a partnership with the German investment corporation, Deutsche Investitions- und Entwicklungsgesellschaft mbH (DEG). This sustainable business model makes it possible to contribute innovative solutions in a way that benefits people in developing and emerging economies.

In 2017, a process was developed and introduced to allow quantitative data tracking on the solutions implemented which are directly related to products from Covestro. A verification procedure for solutions indirectly related to Covestro is still in development.

Sample partnerships and cooperations of Covestro are provided below.

Since 2008, Covestro and RWTH Aachen University have operated the CAT Catalytic Center which conducts basic research in the field of catalysis. The partnership has already enjoyed success in making carbon dioxide usable as a new raw material in plastic production.

In October 2017, a group of highly motivated students from RWTH Aachen University and FH Aachen – University of Applied Sciences participated in the World Solar Challenge 2017, a solar vehicle race in Australia, and was recognized as the best new team. Covestro contributed to this accomplishment with an innovative automotive refinish clearcoat by the company PPG containing a sustainable hardener developed by Covestro. A total of 70% of the biobased hardener's content is sourced from renewable materials, thus helping to improve the CO_2 footprint. Covestro is using the solar-powered vehicle project to test various materials under the racecourse's harsh climate conditions.

In Asia, Covestro is involved in cooperations with the Institute of Environment for Sustainable Development (IESD), an initiative of Tongji University in Shanghai (China) and the United Nations Environment Programme (UNEP), among others, and supports it with a financial contribution for the planning and development of sustainable cities and communities.

In Australia, Covestro joined the Soft Landing product stewardship scheme which is designed to reduce the negative impacts of mattresses by implementing a closed recycling loop. Furthermore, the program creates jobs and training opportunities for people who have difficulty finding work in the open labor market.

Covestro has made a direct contribution to the UN sustainability goal "Affordable and clean energy" (UN SDG No. 7) by joining the World Alliance for Efficient Solutions, an organization aimed at initiating cooperations between start-ups, established companies, institutions and organizations in producing, implementing and using clean technologies. Covestro is a strategic committee member of the organization.

Report on Economic Position

13. Economic Environment

In 2017, the global economy grew at a pace of 3.2%, significantly faster than in 2016. U.S. economic performance came in well above the previous year. Key factors were the rise in consumer spending and booming foreign trade. The European Union's economy benefited from the sunny global economic climate and increase in exports as well as the positive effects of low interest rates and the associated investment opportunities. Other favorable influences were an overall reduction in the unemployment rate and dissipation of the strain on the economy brought about by budget-tightening measures in many European countries. Chinese economic growth continued, reaching 6.8% year over year, and was driven primarily by consumption. The reduction in the flow of liquidity and lending has to date failed to be a noticeable damper on the pace of expansion.

Economic Environment

	Growth[1] 2016	Growth[1] 2017
	%	%
World	**+2.5**	**+3.2**
European Union	+1.9	+2.5
of which Germany	+1.9	+2.6
NAFTA	+1.5	+2.3
of which United States	+1.5	+2.2
Asia-Pacific	+4.8	+5.0
of which China	+6.7	+6.8

[1] Real growth of gross domestic product, source: IHS (Global Insight), as of January 2018

Main customer industries[4]

In fiscal 2017, automotive production worldwide was up more than 2%. Although China cut tax incentives, putting a strong brake on growth, the country remains the most important sales market for the automotive industry. The NAFTA region followed its 2016 sales record with a noticeable decline, whereas Latin America and Eastern Europe experienced robust turnarounds.

The global construction sector once again performed much better in 2017 than the year before. Growth of over 3% was attributable chiefly to the ongoing recovery in Western and Eastern Europe and positive performance in China. The investment climate remained stable, encouraging growth in North America. In contrast, the construction industry in Latin America shrank further.

The global electrical/electronics industry expanded by some 4% in 2017. At a 5% average rate of growth, the emerging economies continued their positive performance in contrast with much weaker growth of 2% on average in the industrialized countries. In 2017, the global furniture industry grew by 3% year over year. Whereas Asia, North America and Europe again saw positive growth rates, the industry in South America continued to decline, although not as rapidly as in previous years.

[4] Covestro's estimate, based on the following sources: LMC Automotive Limited, B+L, CSIL (Centre for Industrial Studies), ZVEI (Zentralverband Elektrotechnik- und Elektronikindustrie e.V.)

14. Business Development Covestro Group

Covestro Group Key Data

	4th quarter 2016	4th quarter 2017	Change	2016	2017	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[1]	**+4.8%**	**+4.1%**		**+7.5%**	**+3.4%**	
Sales	**3,017**	**3,522**	**+16.7**	**11,904**	**14,138**	**+18.8**
Change in sales						
Volume	+3.8%	+4.6%		+5.0%	+4.3%	
Price	+4.6%	+17.4%		–5.2%	+16.1%	
Currency	–0.6%	–5.3%		–1.3%	–1.6%	
Portfolio	0.0%	0.0%		0.0%	0.0%	
Sales by region						
EMLA	1,197	1,475	+23.2	5,126	5,997	+17.0
NAFTA	784	801	+2.2	3,169	3,398	+7.2
APAC	1,036	1,246	+20.3	3,609	4,743	+31.4
EBITDA	**390**	**879**	**>100**	**2,014**	**3,435**	**+70.6**
Depreciation and amortization	**169**	**151**	**–10.7**	**683**	**627**	**–8.2**
EBIT	**221**	**728**	**>200**	**1,331**	**2,808**	**>100**
Financial result	**(32)**	**(27)**	**–15.6**	**(196)**	**(150)**	**–23.5**
Net income	**124**	**566**	**>300**	**795**	**2,009**	**>100**
Operating cash flows	**610**	**890**	**+45.9**	**1,786**	**2,361**	**+32.2**
Cash outflows for additions to property, plant, equipment and intangible assets	**203**	**235**	**+15.8**	**419**	**518**	**+23.6**
Free operating cash flow	**407**	**655**	**+60.9**	**1,367**	**1,843**	**+34.8**
Net financial debt[2]	**1,499**	**283**	**–81.1**	**1,499**	**283**	**–81.1**
ROCE				**+14.2%**	**+33.4%**	

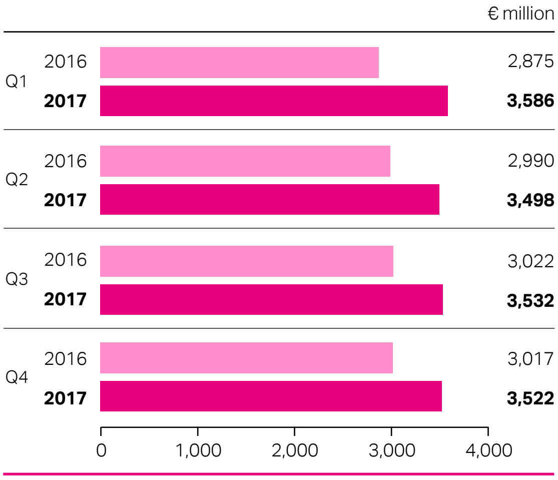
[1] Reference values calculated based on the definition of the core business effective March 31, 2017
[2] As of December 31, 2017, compared with December 31, 2016

The Group's core volumes (in kilotons) in 2017 as a whole rose over the prior-year period, by 3.4%. Contributing to this increase were the Polycarbonates and Polyurethanes segments with growth rates of 5.0% and 3.4%, respectively, while core volumes in Coatings, Adhesives, Specialties changed little from the previous year.

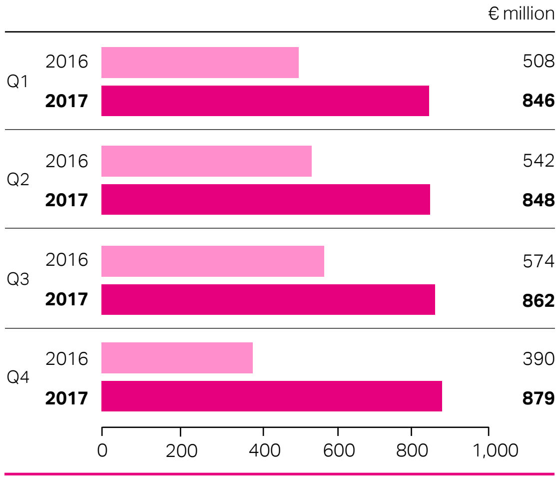
In fiscal 2017, Group sales rose 18.8% period over period to €14,138 million (previous year: €11,904 million). This is largely due to higher selling prices, which were up 16.1% on average. The increase in total volumes sold had a positive effect of 4.3% on sales. In contrast, the effect of exchange rate developments on sales was mildly negative.

In 2017, the expansion in Group sales was driven chiefly by the Polyurethanes segment. Sales here rose 29.2% to €7,660 million (previous year: €5,927 million). The Polycarbonates segment's sales climbed 13.3% to €3,737 million (previous year: €3,298 million). At €2,053 million, sales in the Coatings, Adhesives, Specialties segment remained stable at the previous year's level of €2,040 million.

**Covestro Group
Quarterly Sales**



**Covestro Group
Quarterly EBITDA**



The Group's EBITDA in 2017 as a whole increased 70.6% over the prior-year period to €3,435 million (previous year: €2,014 million). Above all, the improved earnings figure was due to significantly higher margins.

In the Polyurethanes segment, EBITDA grew by 151.1% to €2,212 million (previous year: €881 million). The Polycarbonates segment's EBITDA rose 21.2% to €853 million (previous year: €704 million). At €453 million, EBITDA in the Coatings, Adhesives, Specialties segment was down 9.4% on the prior-year figure (previous year: €500 million).

The resolution taken in the reporting year to continue the MDI production at the Tarragona site in Spain led to reversals of provisions, producing a positive effect on EBITDA of €72 million in the Polyurethanes segment.

Depreciation, amortization and impairments for 2017 as a whole decreased 8.2% to €627 million (previous year: €683 million). They comprised €602 million (previous year: €641 million) in depreciation and impairments of property, plant and equipment and €25 million (previous year: €42 million) in amortization and impairments of intangible assets. Included were impairment losses of €6 million (previous year: €14 million) and impairment loss reversals totaling €18 million (previous year: €0 million). Impairment loss reversals resulted basically from the decision to continue the MDI production at the site in Tarragona (Spain).

At €2,808 million, the Covestro Group's EBIT more than doubled in fiscal 2017 (previous year: €1,331 million).

Taking into account a financial result of minus €150 million (previous year: minus €196 million), income before income taxes more than doubled over the prior-year period to €2,658 million (previous year: €1,135 million). After tax expense of €641 million (previous year: €329 million), income after income taxes was €2,017 million (previous year: €806 million). The tax expense included a non-recurring effect of €87 million from the U.S. tax reform. After noncontrolling interests, net income amounted to €2,009 million (previous year: €795 million).

In fiscal 2017, operating cash flow was up 32.2% to €2,361 million (previous year: €1,786 million). The key reason for the boost was a significant improvement in EBITDA. This contrasted with a rise in funds tied up in working capital and higher income tax payments resulting from increased earnings.

Driven by improved operating cash flow, free operating cash flow grew by 34.8% to €1,843 million in the reporting period (previous year: €1,367 million). Cash outflows for additions to property, plant, equipment and intangible assets increased to €518 million (previous year: €419 million).

In the 2017 fiscal year, Covestro earned a substantial premium on its capital costs. The ROCE of 33.4% (previous year: 14.2%) was well over the weighted average cost of capital (WACC) of 6.6% (previous year: 6.9%). The resulting value contribution is positive at €1,710 million and more than tripled from the previous year's figure of €487 million.

14.1 Target Attainment

The Covestro Group had a very successful fiscal year. Thanks to robust demand in the main customer industries, core volumes again grew year over year. The Polyurethanes and Polycarbonates segments were the main drivers of this trend. Free operating cash flow reached €1,843 million, a new record high. In view of this development, the Board of Management of Covestro AG decided in October 2017 to return available cash to stockholders earlier than originally planned by way of a share buy-back program. At 33.4%, ROCE more than doubled from the previous year's figure and reflects the substantial value generated in the reporting period.

Target Attainment 2017

	2016	Forecast 2017[1]	Adjusted forecast[2]	Target attainment 2017
Core volume growth	+7.5%	Low-to-mid-single-digit-percentage range	Low-to-mid-single-digit-percentage range	+3.4%
Free operating cash flow	€1,367 million	Slightly above the average of the last three years	Significantly above the average of the last three years	€1,843 million
ROCE	+14.2%	Slightly above the 2016 level	Significantly above the 2016 level	+33.4%

[1] Published on February 20, 2017 (2016 Annual Report)
[2] Published on October 24, 2017 (Quarterly Statement as of September 30, 2017)

See section 21.2 "Forecast for Key Data" for projections of key data.

At 3.4%, core volume growth met our forecast target. The Polyurethanes and Polycarbonates segments in particular saw further core volume growth in all three regions on top of the already successful previous year. Core volumes in the Coatings, Adhesives, Specialties segment remained mostly at the previous year's level. In the course of 2017, this positive performance led us to adjust our forecasts for free operating cash flow and ROCE. As most recently projected, free operating cash flow came in well over the average of the last three years. This development was spurred especially by the Polyurethanes segment's considerable growth. ROCE also greatly exceeded the previous year's level. As a result, the premium on Covestro's capital costs, which had already increased substantially in the previous year, more than tripled in 2017.

14.2 Return on Capital Employed

Value management

The foremost objective of the Covestro Group is to steadily increase enterprise value. Value is generated if Group earnings exceed the cost of capital. Covestro uses return on capital employed (ROCE) as the central value-based management metric.

See section 19 “Alternative Performance Measures”

Calculation of the return on capital employed and value contribution

ROCE measures profitability and is calculated as the ratio of the operating result (EBIT) after taxes (NOPAT = net operating profit after taxes) to the average capital employed. Taxes are determined by multiplying the effective tax rate by EBIT. If ROCE exceeds the weighted average cost of capital (WACC), the company is earning a premium on its cost of capital.

The absolute value generation of the company is measured by the metric value contribution. This is the difference between NOPAT and the cost of capital. The latter is calculated by multiplying the average capital employed by WACC. A positive value contribution means that value has been generated.

Covestro Value Management Indicators at a Glance

	2016	2017
	€ million	€ million
NOPAT	945	2,131
Average capital employed	6,641	6,378
WACC	+6.9%	+6.6%
ROCE	+14.2%	+33.4%
Value contribution	487	1,710

15. Business Development by Segment

15.1 Polyurethanes

Polyurethanes Key Data

	4th quarter 2016	4th quarter 2017	Change	2016	2017	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[1]	**+2.4%**	**+5.1%**		**+7.7%**	**+3.4%**	
Sales	**1,540**	**1,939**	**+25.9**	**5,927**	**7,660**	**+29.2**
Change in sales						
Volume	+0.3%	+6.5%		+5.2%	+4.1%	
Price	+11.6%	+25.2%		–6.4%	+26.9%	
Currency	–0.7%	–5.8%		–1.4%	–1.8%	
Portfolio	0.0%	0.0%		0.0%	0.0%	
Sales by region						
EMLA	576	805	+39.8	2,477	3,227	+30.3
NAFTA	442	458	+3.6	1,810	1,935	+6.9
APAC	522	676	+29.5	1,640	2,498	+52.3
EBITDA	**176**	**618**	**>200**	**881**	**2,212**	**>100**
EBIT	**80**	**534**	**>500**	**489**	**1,856**	**>200**
Operating cash flows	**403**	**598**	**+48.4**	**842**	**1,369**	**+62.6**
Cash outflows for additions to property, plant, equipment and intangible assets	**96**	**132**	**+37.5**	**211**	**287**	**+36.0**
Free operating cash flow	**307**	**466**	**+51.8**	**631**	**1,082**	**+71.5**

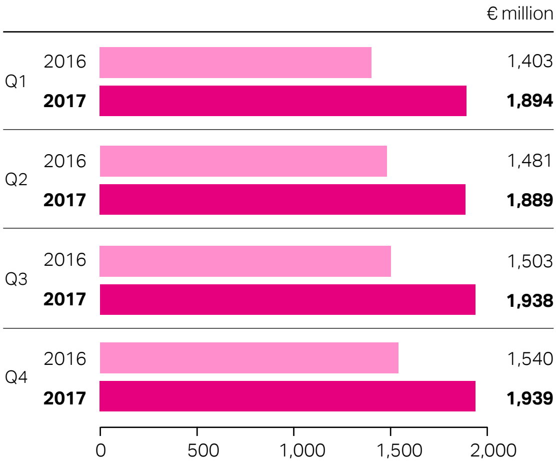
[1] Reference values calculated based on the definition of the core business effective March 31, 2017

In 2017 as a whole, core volumes in Polyurethanes rose by 3.4% over the prior-year period. Core volumes in all product groups grew, with the TDI product group especially registering a significant increase.

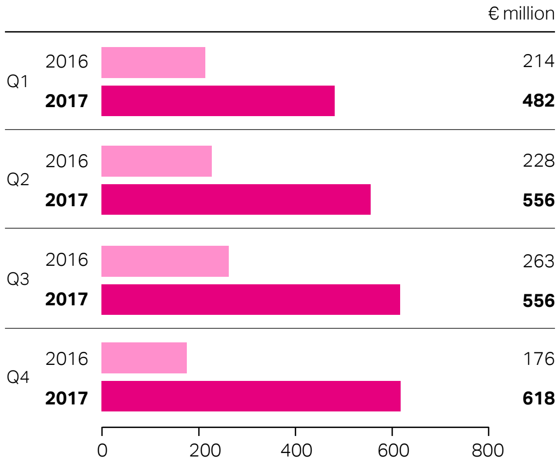
Sales in the Polyurethanes segment were up 29.2% year over year to €7,660 million (previous year: €5,927 million). Thanks to an altogether advantageous supply/demand situation, higher selling prices in Polyurethanes resulted in sales growth of 26.9%. The performance of total volumes sold had a positive effect of 4.1% on sales, whereas exchange rate movements reduced sales somewhat.

In the EMLA region, sales surged 30.3% to €3,227 million (previous year: €2,477 million), principally due to a sharp rise in selling prices and slightly higher volumes. In the NAFTA region, sales grew 6.9% to €1,935 million (previous year: €1,810 million). A significant upturn in selling prices amid stable sales volumes stood in contrast to a marginally negative effect from exchange rate changes. Sales in the APAC region were up by 52.3% to €2,498 million (previous year: €1,640 million). Key drivers here were a considerable increase in selling prices, which coupled with higher sales volumes more than offset the slightly negative currency effects.

Polyurethanes Quarterly Sales



Polyurethanes Quarterly EBITDA



EBITDA increased 151.1% over the prior-year period, growing to €2,212 million (previous year: €881 million). This growth was primarily the result of significant improvements in margins in the MDI and TDI product groups. Moreover, the increased sales volume, gains from the sale of a systems business in North America (€39 million), and an insurance reimbursement for a loss from the previous year (€35 million) all had a positive effect on earnings.

Additionally, the resolution to continue the MDI production at the Tarragona site in Spain led to reversals of provisions and to impairment loss reversals for noncurrent assets. In fiscal 2017, this had a positive effect of €72 million on EBITDA and of €87 million on EBIT.

EBIT advanced to €1,856 million (previous year: €489 million).

Free operating cash flow totaled €1,082 million, up 71.5% from the prior-year period (previous year: €631 million). The improvement in EBITDA stood in contrast to a higher level of funds tied up in working capital and greater cash outflows for additions to property, plant and equipment.

15.2 Polycarbonates

Polycarbonates Key Data

	4th quarter 2016	4th quarter 2017	Change	2016	2017	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[1]	**+12.8%**	**+3.7%**		**+10.4%**	**+5.0%**	
Sales	**833**	**939**	**+12.7**	**3,298**	**3,737**	**+13.3**
Change in sales						
Volume	+13.2%	+5.2%		+10.0%	+7.1%	
Price	–2.6%	+13.1%		–4.3%	+8.0%	
Currency	–0.9%	–5.6%		–1.7%	–1.8%	
Portfolio	0.0%	0.0%		0.0%	0.0%	
Sales by region						
EMLA	270	315	+16.7	1,137	1,241	+9.1
NAFTA	207	206	–0.5	788	874	+10.9
APAC	356	418	+17.4	1,373	1,622	+18.1
EBITDA	**142**	**213**	**+50.0**	**704**	**853**	**+21.2**
EBIT	**93**	**169**	**+81.7**	**507**	**672**	**+32.5**
Operating cash flows	**178**	**245**	**+37.6**	**570**	**476**	**–16.5**
Cash outflows for additions to property, plant, equipment and intangible assets	**70**	**74**	**+5.7**	**128**	**155**	**+21.1**
Free operating cash flow	**108**	**171**	**+58.3**	**442**	**321**	**–27.4**

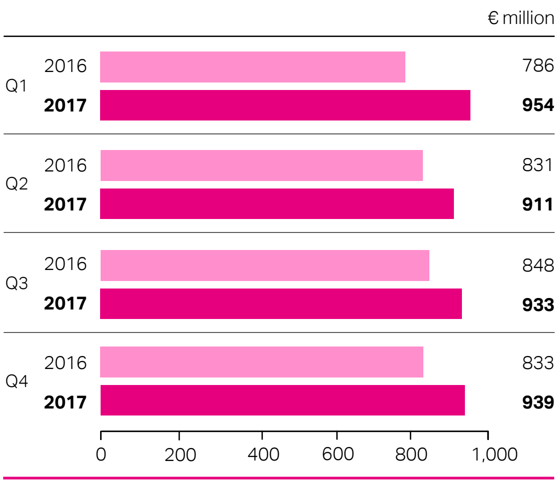
[1] Reference values calculated based on the definition of the core business effective March 31, 2017

In 2017 as a whole, core volumes in the Polycarbonates segment were up 5.0% over the prior-year period.

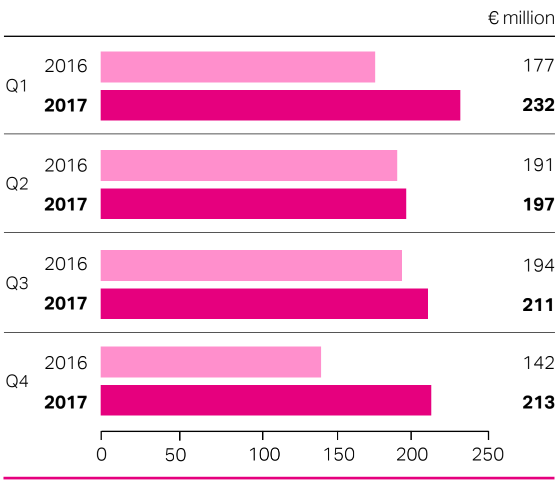
Sales in the Polycarbonates segment rose 13.3% to €3,737 million in fiscal 2017 (previous year: €3,298 million). The increase in total volumes sold had a positive effect of 7.1% on sales, supported by a sustained improvement in the product mix in the portfolio. Selling prices had the overall effect of increasing sales by 8.0%, driven by a favorable supply/demand situation. Exchange rate developments also had a slightly negative impact on sales.

In the EMLA region, sales grew by 9.1% to €1,241 million (previous year: €1,137 million). Marginally higher volumes and selling prices positively affected sales. The NAFTA region's sales climbed 10.9% to €874 million (previous year: €788 million). A significant rise in volumes and a somewhat positive change in selling prices were able to more than balance out the minimally negative currency effects in the region. The APAC region grew sales by 18.1% to €1,622 million (previous year: €1,373 million). Much higher volumes and selling prices also outweighed this region's slightly negative currency effects.

Polycarbonates Quarterly Sales



Polycarbonates Quarterly EBITDA



EBITDA in the Polycarbonates segment grew 21.2% over the prior-year period, rising to €853 million in fiscal 2017 (previous year: €704 million). During the year, higher raw material costs were more than offset by the overall positive trend in selling prices. Higher volumes also had a positive effect on earnings.

EBIT rose by 32.5% to €672 million (previous year: €507 million).

Free operating cash flow totaled €321 million, down 27.4% from the prior-year period (previous year: €442 million). While EBITDA improved, a larger amount of cash was tied up in working capital, particularly in inventories.

15.3 Coatings, Adhesives, Specialties

Coatings, Adhesives, Specialties Key Data

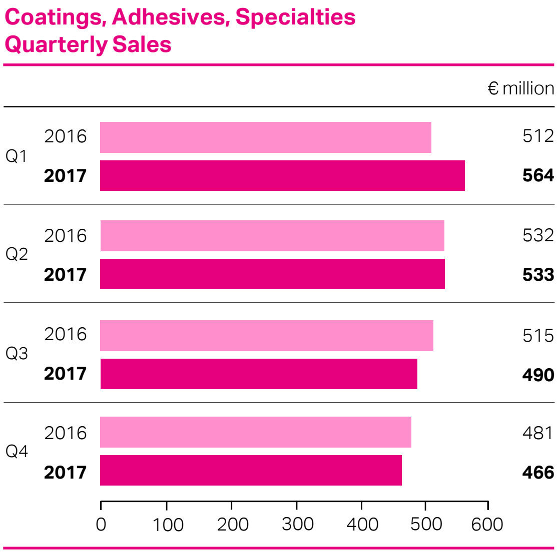
	4th quarter 2016	4th quarter 2017	Change	2016	2017	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[1]	**0.0%**	**–1.0%**		**–0.3%**	**–0.3%**	
Sales	**481**	**466**	**–3.1**	**2,040**	**2,053**	**+0.6**
Change in sales						
Volume	+2.4%	–2.1%		+0.6%	–0.1%	
Price	–1.7%	+3.2%		–2.4%	+1.8%	
Currency	+0.1%	–4.2%		–0.7%	–1.1%	
Portfolio	0.0%	0.0%		0.0%	0.0%	
Sales by region						
EMLA	217	223	+2.8	1,006	1,005	–0.1
NAFTA	109	95	–12.8	456	443	–2.9
APAC	155	148	–4.5	578	605	+4.7
EBITDA	**83**	**74**	**–10.8**	**500**	**453**	**–9.4**
EBIT	**59**	**51**	**–13.6**	**411**	**366**	**–10.9**
Operating cash flows	**126**	**139**	**+10.3**	**420**	**319**	**–24.0**
Cash outflows for additions to property, plant, equipment and intangible assets	**36**	**31**	**–13.9**	**79**	**76**	**–3.8**
Free operating cash flow	**90**	**108**	**+20.0**	**341**	**243**	**–28.7**

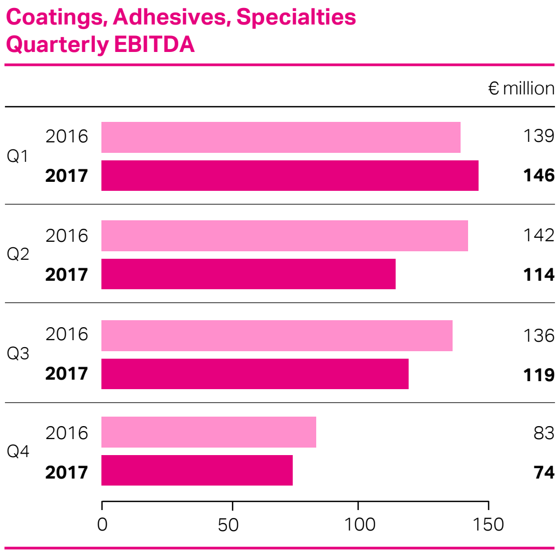
[1] Reference values calculated based on the definition of the core business effective March 31, 2017

In 2017 as a whole, core volumes in the Coatings, Adhesives, Specialties segment remained mostly stable compared with the previous year despite a challenging competitive environment.

All told, sales of Coatings, Adhesives, Specialties amounted to €2,053 million, which was near the previous year's level of €2,040 million. Total volumes were almost unchanged from the prior year. In all regions, selling prices rose and increased sales by 1.8%. Exchange rate developments had a mildly negative effect on sales.

In the EMLA region, sales were at the prior-year level, with €1,005 million (previous year: €1,006 million). A minimal decline in total volumes was offset by a slight increase in average selling prices. The NAFTA region's sales decreased by 2.9% to €443 million (previous year: €456 million). The reason for this was a small drop in volumes and slightly negative currency effects with a simultaneous increase in average selling prices. The APAC region saw a boost in sales by 4.7% to €605 million (previous year: €578 million). Total volumes and average selling prices were up somewhat from the previous year here, whereas exchange rate movements had a marginally negative effect on sales.





EBITDA was down 9.4% from the previous year's figure, dropping to €453 million (previous year: €500 million). Increased selling prices on average were not able to fully offset the higher cost of goods sold.

EBIT slid 10.9% to €366 million (previous year: €411 million).

Free operating cash flow decreased 28.7% to €243 million (previous year: €341 million). This was chiefly due to lower EBITDA and an increase in cash tied up in working capital.

16. Results of Operations

Covestro Group Summary Income Statements

	2016	2017	Change
	€ million	€ million	%
Sales	11,904	14,138	+18.8
Cost of goods sold	(8,611)	(9,308)	+8.1
Selling expenses	(1,323)	(1,352)	+2.2
Research and development expenses	(259)	(274)	+5.8
General administration expenses	(451)	(481)	+6.7
Other operating expenses (–) and income (+)	71	85	+19.7
EBIT	**1,331**	**2,808**	**>100**
Financial result	**(196)**	**(150)**	**–23.5**
Income before income taxes	**1,135**	**2,658**	**>100**
Income taxes	(329)	(641)	+94.8
Income after income taxes	**806**	**2,017**	**>100**
of which attributable to noncontrolling interest	11	8	–27.3
of which attributable to Covestro AG stockholders (net income)	**795**	**2,009**	**>100**

Group sales in the reporting year rose 18.8% to €14,138 million (previous year: €11,904 million).

There was an 8.1% increase in the cost of goods sold to €9,308 million (previous year: €8,611 million) due to higher raw material costs. The ratio of the cost of goods sold to sales decreased to 65.8% (previous year: 72.3%).

Selling expenses were up by 2.2% to €1,352 million (previous year: €1,323 million), yielding a ratio of selling expenses to sales of 9.6% (previous year: 11.1%). Research and development (R&D) expenses of €274 million exceeded the prior-year level by 5.8% (previous year: €259 million). The ratio of research and development expenses to sales was 1.9% (previous year: 2.2%). The assets were used mainly for developing new application solutions for our products and improving products and process technologies. The R&D projects are aligned to sustainability aspects.

General administration expenses saw an increase of 6.7% to €481 million (previous year: €451 million). Other operating income exceeded other operating expenses by €85 million (previous year: €71 million). The key drivers here were gains from the sale of a systems business in North America and an insurance reimbursement for a loss from the previous year.

At €2,808 million, EBIT more than doubled in the reporting period (previous year: €1,331 million) and therefore increased proportionally at a much higher rate than sales. As a consequence, Covestro achieved an EBIT margin of 19.9% (previous year: 11.2%). The resolution to continue the MDI production at the Tarragona site in Spain had a positive effect on EBIT of €87 million.

The financial result of minus €150 million (previous year: minus €196 million) was influenced mainly by the net interest expense of minus €99 million (previous year: minus €114 million). Including the financial result, income before income taxes jumped 134.2% to €2,658 million (previous year: €1,135 million). The increased income tax expense of €641 million (previous year: €329 million) due to higher earnings includes a non-recurring effect of €87 million in income from the remeasurement of deferred tax items of the U.S. companies resulting from the tax reform in the United States. After taxes and noncontrolling interests, net income was up 152.7% and amounted to €2,009 million (previous year: €795 million).

17. Financial Position

Covestro Group Summary Statement of Cash Flows

	4th quarter 2016	4th quarter 2017	2016	2017
	€ million	€ million	€ million	€ million
EBITDA	**390**	**879**	**2,014**	**3,435**
Income taxes paid	(159)	(241)	(418)	(510)
Change in pension provisions	11	4	8	17
(Gains) losses on retirements of noncurrent assets	–	–	1	(45)
Change in working capital/other noncash items	368	248	181	(536)
Cash flows from operating activities	**610**	**890**	**1,786**	**2,361**
Cash outflows for additions to property, plant, equipment and intangible assets	(203)	(235)	(419)	(518)
Free operating cash flow	**407**	**655**	**1,367**	**1,843**
Cash flows from investing activities[1]	**(355)**	**(72)**	**(958)**	**(747)**
Cash flows from financing activities[1]	**(169)**	**(219)**	**(1,206)**	**(634)**
Change in cash and cash equivalents due to business activities	**86**	**599**	**(378)**	**980**
Cash and cash equivalents at beginning of period	**175**	**637**	**642**	**267**
Change in cash and cash equivalents due to exchange rate movements	6	(4)	3	(15)
Cash and cash equivalents at end of period	**267**	**1,232**	**267**	**1,232**

[1] The previous year's figures were adjusted retroactively to reflect the change in the accounting treatment of forward exchange contracts.

Operating cash flow climbed 32.2% to €2,361 million (previous year: €1,786 million). A sharp rise in EBITDA was the main factor in the improvement. A year-on-year increase in funds tied up in working capital and higher income tax payments had the opposite effect from the increase in EBITDA. After deduction of cash outflows for additions to property, plant, equipment and intangible assets, free operating cash flow totaled €1,843 million (previous year: €1,367 million).

Net cash outflow for investing activities in 2017 totaled €747 million (previous year: €958 million). This figure mainly comprises cash outflows for additions to property, plant, equipment and intangible assets of €518 million (previous year: €419 million) and outflows of cash invested in government bonds with a nominal volume of €250 million that were transferred to pension plan assets (Metzler Trust e. V.) in a noncash transaction in October 2017.

Net cash outflow for the Covestro Group's financing activities in 2017 amounted to €634 million (previous year: €1,206 million). Borrowings of €244 million (previous year: €1,793 million) stood in contrast to repaid debt of €330 million (previous year: €2,727 million) and a dividend distribution by Covestro AG in May 2017 amounting to €273 million. In addition, the share buy-back program launched in November 2017 led to cash outflows of €143 million.

Net Financial Debt[1]

	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million
Bonds	1,494	1,495
Liabilities to banks	133	69
Liabilities under finance leases	265	223
Liabilities from derivatives	33	9
Other financial liabilities	6	–
Receivables from derivatives	(15)	(15)
Financial liabilities	**1,916**	**1,781**
Cash and cash equivalents	(267)	(1,232)
Current financial assets	(150)	(266)
Net financial debt	**1,499**	**283**

[1] Net financial debt is not defined in the International Financial Reporting Standards and is calculated as shown in this table.

Net financial debt decreased by €1,216 million in fiscal 2017 to €283 million (previous year: €1,499 million). Net cash provided by operations exceeded the cash outflows from the investing and financing activities mentioned above, and therefore increased cash and cash equivalents.

Financial Management

The main purpose of financial management is to ensure solvency at all times, continuously optimize capital costs and reduce the risks of financing measures. Financial management for the Covestro Group is performed centrally by Covestro AG.

Covestro AG currently holds a Baa2 investment-grade rating with a positive outlook from rating agency Moody's Investors Service, London (United Kingdom).

In the first quarter of 2016, Covestro AG established a Debt Issuance Program with a total volume of €5,000 million as a framework to facilitate obtaining flexible financing from the capital market. The company is thus in the position to issue fixed- and variable-rate bonds as well as to undertake private placements.

Under the program, Covestro AG successfully placed three bonds with a total volume of €1,500 million on March 3, 2016. The bonds comprise two fixed-rate tranches with terms until October 2021 (a coupon of 1.00% and a volume of €500 million) and September 2024 (a coupon of 1.75% and a volume of €500 million), and a variable-rate tranche with a volume of €500 million, a term until March 2018 and a coupon of 0.60 percentage points above the three-month Euribor. All three bonds also received a Baa2 rating from Moody's Investors Service.

The liquidity acquired in this way is earmarked for general financing needs. Covestro AG agreed a syndicated revolving credit facility with a banking consortium totaling €1,500 million with a term until September 2022. No loans had been drawn against this syndicated credit facility as of December 31, 2017.

The Covestro Group pursues a prudent debt management strategy to ensure flexibility, drawing on a balanced financing portfolio. This portfolio will be based for the most part on bonds, syndicated credit facilities and bilateral loan agreements.

As a global enterprise, the Covestro Group is exposed to financial opportunities and risks which are continuously monitored within the context of financial management. Derivative financial instruments are used to minimize risks.

Please see section 22 "Opportunities and Risks Report" for further details of financial opportunities and risks.

18. Net Assets

Covestro Group Summary Statement of Financial Position

	Dec. 31, 2016	Dec. 30, 2017
	€ million	€ million
Noncurrent assets	5,966	5,606
Current assets	4,268	5,735
Total assets	**10,234**	**11,341**
Equity	**4,216**	**5,365**
Noncurrent liabilities	3,544	2,885
Current liabilities	2,474	3,091
Liabilities	**6,018**	**5,976**
Total equity and liabilities	**10,234**	**11,341**

Total assets jumped by €1,107 million from €10,234 million as of December 31, 2016, to €11,341 million as of December 31, 2017.

Noncurrent assets dropped by €360 million to €5,606 million (previous year: €5,966 million) and accounted for 49.4% (previous year: 58.3%) of total assets. This change is attributable primarily to the decline in the value of property, plant and equipment by €359 million. Current assets were up €1,467 million to €5,735 million (previous year: €4,268 million), and their ratio to total assets was 50.6% (previous year: 41.7%). This was due to a sharp increase in cash and cash equivalents.

Equity as of December 31, 2017, increased by €1,149 million to €5,365 million (previous year: €4,216 million). The equity ratio at the reporting date was 47.3% (previous year: 41.2%), a development mostly attributable to a rise in income after income taxes. This increase was offset in part by equity-reducing effects from the remeasurement of pension obligations, chiefly due to lower interest rates, the dividend distribution and the repurchase of initial treasury shares.

Liabilities were down €42 million to €5,976 million as of the reporting date (previous year: €6,018 million). Provisions for pensions and other post-employment benefits decreased by €22 million. Noncurrent financial liabilities decreased €583 million to €1,213 million (previous year: €1,796 million). This was due to bonds with a volume of €500 million being reclassified as current due to their final maturity. Driven primarily by this factor, current financial liabilities grew by €448 million to €583 million (previous year: €135 million).

Net Defined Benefit Liability for Post-Employment Benefits

	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million
Net defined benefit liability for post-employment benefits	**1,208**	**1,185**

The net defined benefit liability for post-employment benefits (pension obligations less plan assets) decreased by €23 million in the reporting year to €1,185 million (previous year: €1,208 million). The transfer of €250 million in government bonds to plan assets (Metzler Trust e. V.) stood in contrast to non-recurring effects from the adjustment on plan assets as well as to the upward effect of pension obligations due to lowering of the discount rate.

19. Alternative Performance Measures

Throughout its financial reporting, Covestro uses alternative performance measures (APMs) to assess the performance of the Group. These are not defined in the International Financial Reporting Standards (IFRSs). They should be considered a supplement to, not a replacement for, the performance measures determined in accordance with IFRSs. The calculation methods and reconciliation of the sales and earnings APMs to the figures reported in the financial statements are presented below. The calculation methods for the APMs may vary from those of other companies, thus limiting the extent of the overall comparability. These alternative performance measures should not be viewed in isolation or employed as an alternative to the financial indicators determined in accordance with IFRSs and presented in the consolidated financial statements for purposes of assessing Covestro's net assets, financial position and results of operations.

The following are the alternative performance measures relevant to the Covestro Group:

- EBITDA
- Return on capital employed (ROCE)
- Free operating cash flow (FOCF)
- Net financial debt

Covestro uses ROCE to assess profitability in the context of the company's internal management system. EBITDA is also calculated as an additional indicator of profitability. FOCF is a key factor in the presentation of the liquidity position that indicates the company's ability to generate a cash surplus and finance its activities. Net financial debt gauges the Group's financial condition and financing requirements.

19.1 EBIT and EBITDA

EBIT is equal to income after income taxes plus financial result and income tax expense. EBITDA is EBIT plus amortization and impairment losses on intangible assets, and depreciation and impairment losses on property, plant and equipment, less impairment loss reversals. EBIT represents the share of the income after income taxes attributable to Covestro's core business after elimination of the influence of variable tax rates and/or different financing activities. EBITDA is additionally adjusted for the possible distortions arising from various depreciation/amortization methods and measurement options.

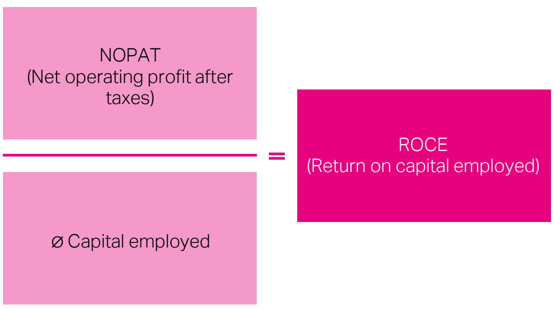
Calculation of EBITDA

	2016	2017
	€ million	€ million
Sales	**11,904**	**14,138**
Cost of goods sold	(8,611)	(9,308)
Gross profit	**3,293**	**4,830**
Selling expenses	(1,323)	(1,352)
Research and development expenses	(259)	(274)
General administration expenses	(451)	(481)
Other operating income	126	145
Other operating expenses	(55)	(60)
EBIT	**1,331**	**2,808**
Depreciation, amortization, impairment losses and impairment loss reversals	683	627
EBITDA	**2,014**	**3,435**
Financial result	**(196)**	**(150)**
Income before income taxes	**1,135**	**2,658**
Income taxes	(329)	(641)
Income after income taxes	**806**	**2,017**

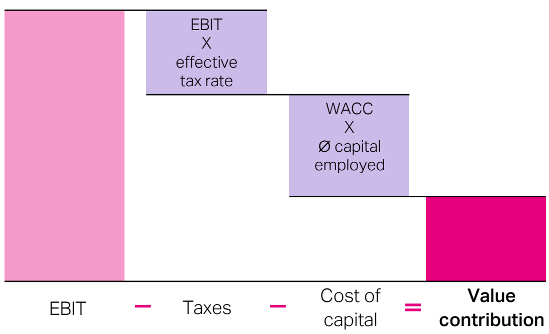
19.2 Return on Capital Employed (ROCE)

The foremost objective of the Covestro Group is to steadily increase enterprise value. Value is generated if Group earnings exceed the cost of capital. Covestro uses return on capital employed (ROCE) as the central value-based management metric. ROCE measures profitability and is calculated as the ratio of EBIT, adjusted for special items as needed, after taxes (NOPAT = net operating profit after taxes) to the average capital employed. If ROCE exceeds the weighted average cost of capital (WACC), the company is earning a premium on its cost of capital.

Calculation of the Return on Capital Employed



Calculation of the Value Contribution



Calculation of the net operating profit after taxes (NOPAT) and value contribution

The absolute value generation of the company is measured by the metric value contribution. This is the difference between NOPAT and the cost of capital. The latter is calculated by multiplying the average capital employed by WACC. A positive value contribution means that value has been generated.

NOPAT is the operating result after taxes. Taxes are determined by multiplying the effective tax rate by EBIT.

Calculation of the Net Operating Profit After Taxes and Value Contribution

	2016	2017
	€ million	€ million
EBIT[1]	1,331	2,808
Effective tax rate[2]	+29.0%	+24.1%
Taxes	(386)	(677)
NOPAT	**945**	**2,131**
WACC	+6.9%	+6.6%
Average capital employed	6,641	6,378
Cost of capital	(458)	(421)
Value contribution	**487**	**1,710**
ROCE	**+14.2%**	**+33.4%**

[1] Adjusted EBIT is not reported because no income or expense items were recognized as special items either in the reporting period or in the corresponding prior-year period.
[2] The calculation of the effective tax rate is presented in Note 11 "Taxes".

Calculation of average capital employed

The capital employed is the interest-bearing capital required by the company for its operations. It is calculated from operating noncurrent and current assets less non-interest-bearing liabilities. Interest-free liabilities include, for example, trade accounts payable and current provisions. The average capital employed is determined using the capital employed at the beginning and end of the relevant period.

Calculation of Average Capital Employed

	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million	€ million
Goodwill	261	264	253
Other intangible assets	132	97	81
Property, plant and equipment	4,934	4,655	4,296
Investments accounted for using the equity method	227	230	208
Other noncurrent financial assets[1]	17	9	8
Other receivables[2]	319	341	297
Deferred taxes[3]	230	187	224
Inventories	1,783	1,721	1,913
Trade accounts receivable	1,486	1,674	1,882
Claims for income tax refunds	16	119	138
Gross capital employed	**9,405**	**9,297**	**9,300**
Other provisions[4]	(737)	(886)	(755)
Other liabilities[5]	(185)	(207)	(215)
Deferred tax liabilities[6]	(181)	(157)	(160)
Trade accounts payable	(1,403)	(1,536)	(1,618)
Income tax liabilities	(56)	(73)	(235)
Capital employed	**6,843**	**6,438**	**6,317**
Average capital employed		**6,641**	**6,378**

[1] Other noncurrent financial assets were adjusted for non-operating and financial assets.
[2] Other receivables were adjusted for non-operating and financial receivables.
[3] Deferred taxes were adjusted for deferred taxes from defined benefit plans and similar obligations.
[4] Other provisions were adjusted for provisions for interest payments.
[5] Other liabilities were adjusted for non-operating and financial liabilities.
[6] Deferred tax liabilities were adjusted for deferred tax liabilities from defined benefit plans and similar obligations.

Calculation of the cost of capital

WACC reflects the expected return on the company's capital comprising both equity and debt. The cost of equity factors used in WACC are calculated by addition of the risk-free interest rate and the risk premium for an equity investment. Covestro uses the returns on long-term German government bonds as the risk-free interest rate. We derive this risk premium from capital market information for comparable listed companies. The cost of debt factors are calculated by addition of the risk-free interest rate and a risk premium on debt capital that Covestro calculates using the financing costs of comparable companies, less the tax benefit of interest incurred on borrowed capital. Calculation of the cost of capital generally has a long-term perspective; short-term fluctuations are evened out. The capital cost factor for the Covestro Group was 6.6% in fiscal 2017 (previous year: 6.9%).

19.3 Free Operating Cash Flow (FOCF)

FOCF is the operating cash flow less cash outflows for additions to property, plant, equipment and intangible assets. Free operating cash flow serves in particular to pay dividends and interest and to repay debt.

Calculation of Free Operating Cash Flow

	2016	2017
	€ million	€ million
EBITDA	**2,014**	**3,435**
Income taxes paid	(418)	(510)
Change in pension provisions	8	17
(Gains) losses on retirements of noncurrent assets	1	(45)
Change in other working capital, other noncash items	181	(536)
Operating cash flows	**1,786**	**2,361**
Cash outflows for additions to property, plant, equipment and intangible assets	(419)	(518)
Free operating cash flow	**1,367**	**1,843**

19.4 Net Financial Debt

Net financial debt equals the sum of all financial liabilities less cash and cash equivalents, current financial assets and receivables from financial derivatives.

Net Financial Debt

	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million
Bonds	1,494	1,495
Liabilities to banks	133	69
Liabilities under finance leases	265	223
Liabilities from derivatives	33	9
Other financial liabilities	6	–
Receivables from derivatives	(15)	(15)
Financial liabilities	**1,916**	**1,781**
Cash and cash equivalents	(267)	(1,232)
Current financial assets	(150)	(266)
Net financial debt	**1,499**	**283**

20. Results of Operations, Financial Position and Net Assets of Covestro AG

Covestro AG is the parent company and strategic management holding company of the Covestro Group. The principal management functions for the entire Group are performed by the Board of Management. These include strategic planning for the Group, resource allocation, and executive and financial management. Covestro AG's net assets, financial position and results of operations are largely determined by the business performance of its subsidiaries.

The financial statements of Covestro AG are prepared in accordance with the German Commercial Code (HGB) and Stock Corporation Act (AktG). The company, headquartered in Leverkusen (Germany), is registered in the commercial register of the Local Court of Cologne under No. HRB 85281.

There is a control and profit and loss transfer agreement between Covestro AG and Covestro Deutschland AG, Leverkusen. All profit not subject to a prohibition on transfer is transferred in full to Covestro AG at the end of the year, and losses are absorbed in full. Other retained earnings recognized during the term of the agreement must be released upon request by Covestro AG and used to compensate a net loss for the year or transferred as profit.

20.1 Results of Operations

Covestro AG Income Statement in Accordance with the German Commercial Code

	2016	2017
	€ million	€ million
Income from investments in affiliated companies	589	704
Interest result	(2)	(14)
Other financial income (expense)	(12)	(4)
Net sales	27	26
Cost of services provided	(24)	(27)
General administration expenses	(56)	(64)
Other operating income	3	1
Other operating expenses	(27)	(3)
Result from activities/result before tax	**498**	**619**
Income taxes	(44)	(131)
Result after tax	**454**	**488**
Allocation to other retained earnings	(181)	(49)
Distributable profit	**273**	**439**

Covestro AG posted result after tax of €488 million in the 2017 fiscal year, mainly due to income from investments in affiliated companies totaling €704 million. Income from investments in affiliated companies is solely attributable to income from the control and profit and loss transfer agreement with Covestro Deutschland AG.

General administration expenses totaling €64 million mainly consisted of personnel expenses for the employees of the holding company and members of the Board of Management. The interest result includes primarily interest expense of €15 million for the bonds issued. Other income and expense items had no notable effect on earnings. Result from activities was €619 million and resulted in income taxes of €131 million. An allocation of €49 million was made to other retained earnings, leaving a distributable profit of €439 million.

Our goal for the financial year 2017 is to generate a net income that will again enable our stockholders to adequately participate in the Covestro Group's earnings. The Board of Management and the Supervisory Board are proposing a dividend of €2.20 per share carrying dividend rights for the 2017 fiscal year to the Annual General Meeting. That would amount to a year-on-year increase of €0.85.

20.2 Net Assets and Financial Position

Covestro AG Statement of Financial Position in Accordance with the German Commercial Code

	Dec. 31,2016	Dec. 31,2017
	€ million	€ million
ASSETS		
Noncurrent assets	**1,766**	**1,767**
Property, plant and equipment	–	1
Financial assets	1,766	1,766
Current assets	**5,466**	**5,581**
Trade accounts receivable	27	19
Receivables from affiliated companies	5,356	5,505
Other assets	83	57
Deferred charges	10	9
Excess of plan assets over pension liability	8	13
Total assets	**7,250**	**7,370**
EQUITY AND LIABILITIES		
Equity	**5,614**	**5,686**
Capital stock	203	203
Own shares	–	(2)
Issued capital	203	201
Capital reserves	4,918	4,777
Other retained earnings	220	269
Distributable profit	273	439
Provisions	**72**	**140**
Provisions for pensions	3	2
Provisions for taxes	16	79
Other provisions	53	59
Liabilities	**1,564**	**1,544**
Bonds	1,500	1,500
Trade accounts payable	8	7
Liabilities to affiliated companies	43	31
Other liabilities	13	6
Total equity and liabilities	**7,250**	**7,370**

The total assets of Covestro AG as of December 31, 2017, were €7,370 million. The asset and financial position of Covestro AG is dominated by its role as a holding company in managing the subsidiaries and financing corporate activities. This is primarily reflected in the levels of financial assets (24.0% of total assets) and of the receivables from, and payables to, Group companies (75.0% of total assets).

All receivables and other assets had a term of less than one year.

Property, plant, equipment and intangible assets were of secondary importance. Deferred charges and the excess of plan assets over pension liability amounted in total to €22 million. These, too, were of secondary importance in relation to total assets. Other assets of €57 million mainly included income tax and VAT receivables.

Covestro AG's equity amounted to €5,686 million. This corresponds to an equity ratio of 77.2%. Changes in equity in fiscal year 2017 chiefly related to share buy-backs and the increase in distributable profit. As of the reporting date, Covestro AG had acquired 1,668,512 own shares at a total price of €143 million (excluding transaction costs). Covestro AG's capital reserves decreased accordingly. In contrast, €49 million was allocated to retained earnings, and distributable profit rose €166 million year on year.

Moreover, the payment of dividends for fiscal 2016 in the amount of €273 million reduced equity.

Provisions amounting to €140 million and other liabilities (including the aforementioned bonds) of €1,544 million stood in contrast to equity.

Provisions were made up of provisions for pensions and other post-employment benefits (€2 million), tax provisions (€79 million) and other provisions (€59 million). The bonds mature as follows according to their terms: €500 million in 2018; another €500 million in one to five years, and €500 million after 2023. In addition, other insignificant liabilities are due within a period of one to five years.

Report on Future Perspectives and on Opportunities and Risks

21. Report on Future Perspectives

21.1 Economic Outlook

Economic Outlook

	Growth[1] 2017	Growth[1] forecast 2018
	%	%
World	**+3.2**	**+3.3**
European Union	+2.5	+2.2
of which Germany	+2.6	+2.8
NAFTA	+2.3	+2.6
of which United States	+2.2	+2.7
Asia-Pacific	+5.0	+5.0
of which China	+6.8	+6.6

[1] Real growth of gross domestic product, source: IHS (Global Insight), as of January 2018

The global economy will probably grow as quickly in 2018 as in the previous year. Key factors here are a reduction in the corporate/income taxes in the United States and the continued positive performance in the European Union (EU).

In the EU, we anticipate relatively stable growth of around 2.2%. The overall decline in unemployment is having a favorable effect on consumer spending. Despite the latest increase, the monetary policy of the European Central Bank continues to be relaxed for the time being, holding interest rates at a very low level. This promotes lending, thereby creating further incentives for investment.

The U.S. economy's generally positive performance is expected to continue in 2018, driven by factors including a reduction in corporate/income taxes. In addition, we anticipate a moderately higher increase in wages in the next six to 12 months. This will likely also be reflected in higher inflation rates in the medium term.

China's economy should continue to perform relatively well in 2018, expanding at a slightly slower pace than in 2017. This is largely due to the advancement of structural reforms that aim to mitigate regional imbalances in income distribution and infrastructure.

Main customer industries[5]

In 2018, we anticipate a somewhat lower rate of growth in the global automotive industry than in the previous year, principally due to the elimination of tax incentives in China and the resulting decline in demand. Our global growth forecast for this year is 2%.

For 2018, we anticipate that the global construction industry will see stable growth of over 3% compared with the previous year. A continuation of the recovery in Eastern Europe, a stable investment climate in Western Europe and North America, and the ongoing positive trend in Asia are likely to contribute to this development. We expect slightly positive growth in Latin America.

In the global electrical/electronics industry, we project somewhat higher growth of over 4% worldwide in 2018. As in the previous year, we anticipate average growth of 5% for the emerging economies, particularly in Asia. In the industrialized countries, we forecast average growth of 2%.

In the global furniture industry, we also project marginally higher growth of 3% to 4% worldwide in 2018. We anticipate a robust increase in demand in North America and EMLA from which furniture manufacturers in Asia are also likely to benefit.

[5] Covestro's estimate, based on the following sources: LMC Automotive Limited, B+L, CSIL (Centre for Industrial Studies), ZVEI (Zentralverband Elektrotechnik- und Elektronikindustrie e.V.)

21.2 Forecast for Key Data

Forecast

	2017	Forecast 2018
Core volume growth	+3.4%	Low-to-mid-single-digit percentage increase
Free operating cash flow	€1,843 million	Significantly above the average of the last three years[1]
ROCE	+33.4%	Approaching the 2017 level

[1] The average of the free operating cash flow from 2015 to 2017 amounts to €1,391 million.

Covestro Group

The following forecast for the 2018 fiscal year is based on the business development described in this Annual Report and takes into account the following potential risks and opportunities:

We expect core volume growth in the low-to-mid-single-digit-percentage range. This trend is projected for both the Covestro Group and for the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments, although the Polycarbonates segment is anticipated to outperform the other two segments somewhat.

In fiscal 2018, free operating cash flow is expected to be significantly above the average of the last three years. This trend is forecast for both the Group and for the Polyurethanes and Polycarbonates segments. The Coatings, Adhesives, Specialties segment is anticipated to generate free operating cash flow slightly below the average of the last three years.

In 2018, we expect ROCE to approach the 2017 level.

Covestro AG

The earnings of Covestro AG, as the parent company of the Covestro Group, largely comprise the earnings of that company's subsidiaries. The earnings of the subsidiaries in Germany, especially Covestro Deutschland AG, are transferred to Covestro AG under profit and loss transfer agreements. The earnings of Covestro AG are therefore expected to reflect the positive business development anticipated in the Covestro Group. We want our stockholders to adequately participate in the Covestro Group's earnings for fiscal 2018. We aim to increase the dividend annually, or at least to keep it at the previous year's level. For 2018, we expect a net income of Covestro AG that will enable us to pay a corresponding dividend. The Board of Management and the Supervisory Board are proposing a dividend of €2.20 per share carrying dividend rights for the 2017 fiscal year to the Annual General Meeting.

22. Opportunities and Risks Report

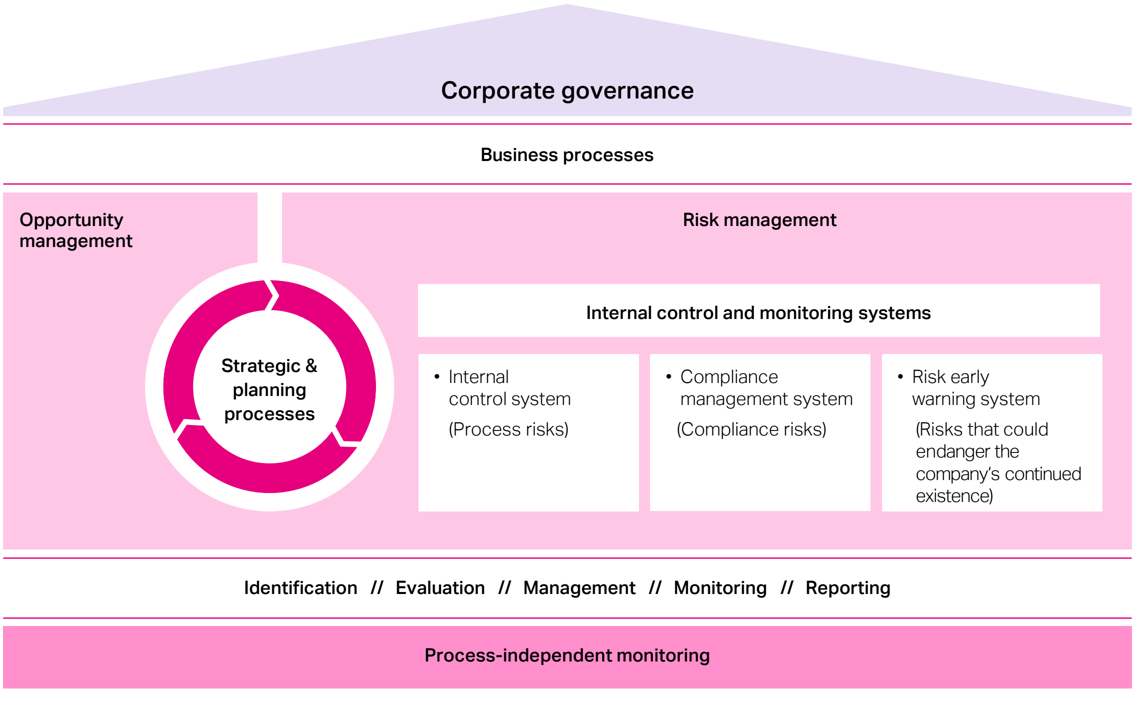
Risk management is integral to Covestro's Group-wide corporate governance system.

No risks that could endanger the Covestro Group's continued existence are currently identifiable.

22.1 Group-Wide Opportunities and Risk Management System

Corporate governance forms the basis for sustainable growth and economic success. This includes the ability to systematically identify and take advantage of opportunities while avoiding risks to the company's success.

Corporate Governance



The entrepreneurial decisions we make daily in the course of business processes are based on balancing opportunities and risks. We therefore regard the management of our opportunities and risks as an integral part of our business management system rather than the task of a specific organizational unit. Our opportunity and risk management begins with strategy and planning processes, from which relevant external and internal opportunities and risks of an economic, ecological or social nature are derived. Opportunities and risks are identified by observing and analyzing trends along with macroeconomic, industry-specific, regional and local developments. The identified opportunities and risks are subsequently evaluated and incorporated into our strategic and operational processes. We attempt to avoid or mitigate risks by taking appropriate countermeasures, or to transfer them to third parties (such as insurers) to the extent possible and economically acceptable. At the same time, we strive to take maximum advantage of opportunities by incorporating them into our entrepreneurial decisions as appropriate. We consciously accept and bear manageable and controllable risks that are in reasonable proportion to the anticipated opportunities. We regard them as the general risks of doing business. Opportunities and risks are continuously monitored using indicators so that, for example, changes in the economic or legal environment can be identified at an early stage and suitable countermeasures can be initiated if necessary.

To enable the Board of Management and the Supervisory Board to monitor material business risks as legally required, the following systems are in place: an internal control system ensuring proper and effective financial reporting pursuant to Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial Code (HGB); a compliance management system; and a risk early warning system pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act (AktG).

The various management systems are based on different risk types, risk levels and timelines. Different processes, methods and IT systems are therefore applied to identify, evaluate, manage, and monitor risks. The principles underlying the various systems are documented in Group policies that are integrated into our central document control processes and are accessible to all employees via the Covestro intranet. The overall responsibility for the effectiveness and appropriateness of the system as a whole lies with the Chief Financial Officer.

The various systems are described below.

Internal control system for (Group) accounting and financial reporting (Report pursuant to Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial Code)

The purpose of our internal control system (ICS) is to ensure proper and effective accounting and financial reporting in accordance with Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial Code.

The ICS is designed to guarantee timely, uniform, and accurate accounting for all business processes and transactions based on applicable statutory regulations, accounting and financial reporting standards, and the internal Group regulations that are binding on all consolidated companies.

The ICS concept is based on the COSO (Committee of the Sponsoring Organizations of the Treadway Commission) Internal Control – Integrated Framework (2013) and the COBIT (Control Objectives for Information and Related Technology) framework and addresses the risk of misreporting of the consolidated financial statements. Risks are identified and evaluated, and steps are taken to counter them. Mandatory ICS standards such as system-based and manual reconciliation processes and functional separation have been derived from these frameworks and promulgated throughout the Covestro Group by Group Accounting.

The management of each Covestro Group company holds responsibility for implementing the ICS standards at the local level. Using Bayer's and Covestro's own shared service centers, the Covestro Group companies prepare their financial statements locally and transmit them with the aid of a data model that is standardized throughout the Covestro Group and based on the Group accounting regulation. This ensures the regulatory compliance of the consolidated financial statements. Since July 2017, some of the services used by Bayer companies in the accounting area have been provided by the newly founded company Covestro (Slovakia) Services s.r.o. The assumption of all activities by Covestro's shared service center in Bratislava (Slovakia) is part of a Group-wide project within structured processes and is expected to be completed over the course of 2018.

The effectiveness of the ICS processes for accounting and financial reporting is evaluated on the basis of a cascaded self-assessment system that starts with the persons directly involved in the processes, then involves the principal responsible managers and ends with the Board of Management. An external audit is also performed to ensure and attest to its proper functioning. An IT system in use throughout the Covestro Group ensures the uniform and audit-proof documentation and transparent presentation of the risks, controls, and effectiveness evaluations associated with all ICS-relevant business processes. It should generally be noted that, however carefully designed, an internal control system cannot provide absolute assurance that material misstatements in the accounting will be avoided or identified in a timely manner.

The Board of Management of Covestro AG has confirmed the criteria and the effective functioning of the internal control system for accounting and financial reporting for fiscal 2017.

Compliance management system

Our compliance management system is designed to identify and systematically prevent potential violations before they happen. It thus contributes significantly to the integration of compliance into our business. Compliance risks are identified, evaluated, and analyzed as part of Group-wide opportunity and risk management. The Group's compliance risks are assessed quarterly. Measures to mitigate these risks are defined on the basis of this assessment. Our employees around the world regularly participate in face-to-face and web-based training to increase risk awareness, ensure the successful implementation of risk mitigation measures, and promote the creation of a global compliance culture. This holistic system enhances the systematic and preventive identification, evaluation, and prevention of risks.

The compliance management system is already used across the entire Group to prevent breaches of antitrust law, corruption, and violations of foreign trade and payments legislation. Our compliance regulations and processes are regularly reviewed with a view to continuous improvement.

Risk early warning system (Report pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act)

Covestro implemented a structured process for the early identification of any potentially disadvantageous developments that could have a material impact on the company or endanger its continued existence. This process satisfies the legal requirements regarding an early warning system for risks pursuant to Section 91, Paragraph 2 of the German Stock Corporation Act. Covestro's risk management process is based on the international risk management standard COSO II Enterprise Risk Management – Integrated Framework (2004). A central unit defines, coordinates, and monitors the framework and standards for this risk early warning system.

Throughout the year, various global subcommittees provide new and updated information about identified risks. The Covestro Corporate Risk Committee meets several times a year to review the risk landscape as well as the various risk management and monitoring mechanisms that are in place, and to take any necessary measures.

Risks are evaluated using estimates of the potential impact, the likelihood of their occurrence and their relevance for our external stakeholders. All material risks and the respective countermeasures are documented in a company-wide database. The risk early warning system is reviewed regularly over the course of the year. Significant changes must be promptly entered in the database and reported to the Board of Management. In addition, a report on the risk portfolio is submitted to the Audit Committee several times a year and to the Supervisory Board at least once a year. The following matrix illustrates the financial and indirect financial criteria for rating a risk as high, medium or low.

Rating Matrix

Indirect financial impact[1]	and/or	Accumulated impact[1] (€ million)	Likelihood of occurrence within 1 year				
			Very low	Low	Medium	High	Very high
Critical		> 750	Medium	Medium	High	High	High
Significant		> 285 – 750	Medium	Medium	Medium	High	High
High		> 115 – 285	Low	Medium	Medium	Medium	High
Moderate		≥ 60 – 115	Low	Low	Medium	Medium	Medium

Weighted risk occurrence: Low, Medium, High

[1] An individual risk that could have both a financial and indirect financial impact of different severities and is always classified based on the higher level of risk.

Criteria of the Classification of Indirect Financial Impact

Indirect financial impact overview			
Moderate	High	Significant	Critical
Moderate effect on achieving outcome objectives/national reporting	High effect on achieving outcome objectives/national reporting	Significant effect on achieving outcome objectives/major outlets reporting internationally	Critical effect on achieving outcome objectives/major outlets constantly reporting internationally

Process-independent monitoring
The effectiveness of our management systems is audited and evaluated at regular intervals by the Corporate Audit unit, which performs an independent and objective audit function focused on verifying compliance with laws and policies. Corporate Audit also supports the company in achieving its goals by systematically evaluating the efficiency and effectiveness of governance, risk management and control processes, and helping to improve them. The selection of audit targets follows a risk-based approach. Corporate Audit performs its tasks according to internationally recognized standards and delivers reliable audit services. This was confirmed in an external audit conducted in accordance with Auditing Standard 983 of the Institute of Public Auditors in Germany (IDW) in fiscal 2017. A report on the internal control system and its effectiveness is presented annually to the Audit Committee of the Supervisory Board.

Risks in the areas of occupational health and safety, plant safety, environmental protection, and product quality are assessed through specific HSEQ (health, safety, environment and quality) audits.

In addition, the external auditor, as part of their audit of the annual financial statements, assesses the basic suitability of the early warning system for identifying at an early stage any risks that could endanger the company's continued existence so that suitable countermeasures can be taken. The auditor also reports at regular intervals to the Board of Management and the Supervisory Board on the results of the audit and any weaknesses identified in the internal control system. In addition, the concept and appropriateness of the compliance management system along with the effectiveness of its implementation were confirmed in the reporting year in accordance with Auditing Standard 980 of the Institute of Public Auditors in Germany (IDW) for the areas antitrust, corruption and export control. Audit outcomes are also taken into account in the continuous improvement of our management processes.

22.2 Opportunities and Risks

Overall assessment of opportunities and risks
The overall opportunity position and overall risk position facing the Group have not changed as against the previous year. The risks reported in the following do not endanger the company's continued existence, nor could we identify any risk interdependencies that could combine to endanger the company's continued existence.

Based on our product portfolio, our know-how, and our innovation capability, we are confident that we can use the opportunities resulting from our entrepreneurial activity and successfully master the challenges resulting from the risks stated below.

22.2.1 Opportunities and Risks in General and in the Company's Business Environment

Risks that have material effects on the business situation, net assets, financial position, and results of operations are outlined below. Risks are deemed material if the potential loss to Covestro is estimated at €60 million or more, or – regardless of their likelihood of occurrence – they have at least a moderate potential indirect financial impact. The likelihood of occurrence of the risks is used in internal control to define focus areas for the Corporate Risk Committee. The risks are more highly aggregated in this report than in our internal documentation. The following chart shows the levels of risk allocated to the individual risks within each category. The order in which the risks are listed does not imply any order of significance.

Risk Categories

	Risk occurrence		
	Low	Medium	High
Business environment			
Competition	●	●	
Cooperations/acquisitions	●		
Market growth	●	●	
Regulations/policies	●	●	
Company-specific environment			
Product stewardship	●	●	
Procurement	●	●	
Production and supply chain	●	●	
Employees	●	●	
Information technology	●	●	
Law and compliance	●	●	

Business environment

General economic conditions worldwide and, in particular, in the geographic regions in which Covestro operates are a key factor affecting the company's earnings given that their effect on the industries in which Covestro's direct and indirect customers operate impacts demand for the company's products.

Negative economic developments typically have a negative impact on the sales markets for our products, which usually results in decreases in sales volumes and negatively impacts earnings. However, the extent of the impact of economic developments on sales volumes and earnings also depends on capacity utilization rates in the industry, which in turn, depends on the balance between supply and demand for the industry's products. Decreases in demand lead to lower sales volumes and, ultimately, to reduced capacity utilization, which negatively impacts margins. Conversely, a positive economic environment characterized by growth and upward trends usually leads to improved business success.

Historically, the markets for most of our products have experienced periods of tight supply, causing prices and profit margins to increase, as well as periods of significant capacity additions, resulting in oversupply and declining prices and profit margins. The cycles in demand are often caused by the capacity additions of new world-scale production facilities or the expansion of existing production facilities, which are necessary to create or sustain economies of scale in the industry segments, and the decline of industry-wide utilization rates that often follows capacity additions.

An economic downturn, changes in competitors' behavior or the emergence of new competitors can lead to greater competition and, as a result, overcapacities in the market and increased pressure on prices.

The international nature of Covestro's business exposes it to substantial changes in economic, political and social conditions, and the resulting statutory requirements of the countries in which Covestro operates. The associated opportunities and risks can have both a positive and negative effect on the company's business and significantly influence its prospects.

Where it appears strategically advantageous, we supplement our organic growth by acquiring companies or parts of companies. Exploiting potential synergies or economies of scale can positively impact the company's success. However, failure to successfully integrate a newly acquired business or unexpectedly high integration costs could jeopardize the achievement of qualitative or quantitative targets and adversely impact earnings. To avoid this, both the due diligence and integration processes are supported by teams of experts. Due diligence also includes, for example, reviewing risk-relevant factors such as compliance with applicable environmental regulations and occupational health and safety standards at production sites.

The main conditions for economic success in developing countries are political stability, prosperity, and a secure income. Based on the improved economic fundamentals in developing countries, we expect that the rising standard of living will lead to higher sales figures and better business prospects for our products in the medium to long term.

Further opportunities and risks may also arise if actual market developments vary from those we predict in section 21 "Report on Future Perspectives". Where macroeconomic developments deviate from forecasts, this may either positively or negatively impact our sales and earnings expectations. Continuous analysis of the economic environment and of economic forecasts enables us to utilize the identified opportunities and to mitigate risks by adjusting our business strategy.

Innovation

We analyze global trends and develop innovative solutions to address them, thereby mastering the challenges and taking advantage of the opportunities they provide.

One example of the opportunities created by innovation is additive manufacturing, also known as 3D printing. This is a new market with considerable growth potential for our products. Covestro is an established player in the polymer industry segment and has in-depth technological expertise in this area. This makes us well positioned to generate added value for our company through advances in additive manufacturing.

Customers are increasingly choosing sustainable products as a result of a growing environmental awareness and interest in environmental protection. A key focus of Covestro's strategy is sustainability and efficient production. Our product portfolio offers sustainable solutions for different areas of everyday life. We therefore see an opportunity here to expand our relevant market shares and to grow in this segment.

The finite nature of natural resources and efforts to protect the climate are boosting the demand for innovative products and technologies that reduce resource consumption and lead to lower emissions. This trend is being reinforced by increasingly stringent regulatory requirements and growing consumer awareness for the need to use resources sustainably. Covestro is therefore developing new materials that help to raise energy efficiency and reduce emissions. For example, the polyurethane manufactured by the company is used in the construction industry for thermal insulation, thus improving the positive energy balance, while its polycarbonate is used in the automotive industry to reduce vehicle weight and thus fuel consumption.

Ongoing technological advancements are changing the world we live in and the way we do business. By utilizing cutting-edge digital technologies, we expect to holistically add value across the value chain by optimizing supply chain, leveraging growth, and developing new business models.

Product stewardship

The Covestro Group is exposed to the risk of negative publicity, press speculation, and potential or actual legal proceedings concerning its business, which may harm its reputation. The development of a negative social perception of the chemical industry in general or Covestro's processes, products, or external communications in particular could also have a negative impact on the company. The incorrect use and handling of our products by third parties can also harm the company's reputation.

In addition, concerns about product safety and environmental protection could influence public perceptions regarding Covestro's products and operations, the viability of certain products, its reputation, and the ability to attract and retain employees. Due to the technical expertise required to fully understand the possible impacts of the chemical constituents of our products, the company's reputation may suffer due to claims that such compounds are of a harmful nature, even if these claims can be disproved by experts. Such statements may lead to changes in consumer preferences or additional government regulations even before any harm is scientifically substantiated and possibly despite scientific evidence to the contrary.

Procurement

Our Supplier Code of Conduct sets forth our sustainability principles and explains what we expect from our partners along the value chain. The Code requires that our suppliers observe environmental regulations as well as occupational health and safety rules, respect human rights and therefore not employ child labor in any form. Violations of the Code may harm our company's reputation. Through supplier assessments and audits, we verify whether our partners along the supply chain actually implement and adhere to our Code of Conduct. Covestro's Supplier Code of Conduct is based on the principles of the United Nations Global Compact and our human rights position.

Covestro requires significant quantities of energy and petrochemical feedstocks for production processes. Procurement prices for energy and raw materials may fluctuate significantly due to market conditions or legislation. Experience has shown that higher production costs cannot always be passed on to our customers through price adjustments. Conversely, lower raw materials prices that do not directly reduce the selling price by the full amount can lead to improved margins.

Production and supply chain

We place great importance not only on product safety but also on protecting our employees and the environment. Risks associated with the manufacture, filling, storage or shipping of products are mitigated through integrated quality, health, environmental protection and safety management. The materialization of such risks may result in personal injury, property and environmental damage, loss of production, business interruptions, and/or liability for compensation payments.

Covestro uses large quantities of hazardous substances, generates hazardous wastes, and emits wastewater and air pollutants in its production operations. Consequently, its operations are subject to extensive environmental, health and safety (EHS) laws, regulations, rules and ordinances at the international, national and local level in multiple jurisdictions. The company must dedicate substantial resources to complying with these EHS regulations and the additional voluntary commitments. Costs relating to the implementation of and compliance with EHS regulations are part of Covestro's operating costs and must therefore be covered by the prices at which the company is able to sell its products. Competitors of Covestro that are not affected by these strict EHS regulations to the same extent may have lower operating costs and, as a consequence, their products may be priced lower than those of Covestro.

Operations at our sites may be disrupted by natural disasters, fires or explosions, sabotage, or supply shortages for our principal raw materials or intermediates. To the extent possible and economically feasible, we counter these risks by distributing production for certain products among multiple sites and by building up safety stocks. Furthermore, an emergency response system has been implemented for all our production sites as a mandatory component of our HSEQ management. It is aimed at protecting employees, neighbors, the environment and production facilities from the risks described. The Group Regulation "Security and Crisis Management" forms the basis for this.

Covestro operates in markets with a relatively balanced supply and demand situation. However, in the event of planned or unplanned closures, interruptions, or even the elimination of one of our competitors, Covestro may have the opportunity to take over customers and cover their demand.

Increased ecological awareness creates opportunities for Covestro in two ways. On the one hand, the development of innovative materials for our customers opens up market potential. On the other hand, if we succeed in increasing the energy efficiency of our own production processes, we can mitigate environmental impacts and achieve cost savings at the same time. By developing new production technologies and applying internationally recognized energy management systems, we aim to help meet increasing environmental requirements, further reduce emissions and waste, and increase energy efficiency. In this way, we not only contribute to sustainable climate protection and the conservation of natural resources, but also achieve cost and competitive advantages.

Organic growth through investment may involve risks as it relates to the overall project scope, location, and timing. These risks are addressed through established processes which involve a variety of internal and external stakeholders. A specific risk is posed by the transfer of services formerly provided by Bayer companies to other external partners in order to complete investment projects. This risk is being addressed through a targeted project focusing on this shift. A robust investment assessment process helps to ensure that we are capitalizing on organic growth opportunities at the right time. These projects are reviewed throughout the project timeline so that any potential changes in the market situation are considered, enabling us to react in a timely manner, if necessary.

Employees

Skilled and dedicated employees are essential for the company's success. There is keen competition among companies for highly qualified personnel and employees in key positions in particular, especially in countries with full employment. If we are unable to recruit a sufficient number of employees in these countries and retain them within Covestro, this could have significant adverse consequences for the company's future development.

We are planning appropriate employee recruitment and development measures based on the analysis of future requirements. We aim to convince our target groups of the advantages of working for Covestro through comprehensive human resources marketing, including an employer branding campaign. Our human resources policies are based on the principles enshrined in our human rights position, the Corporate Compliance Policy, and our corporate values. Essential elements include competitive compensation containing performance-related components as well as an extensive range of training and development opportunities. In addition, our focus on diversity enables us to tap the full potential of the employment market.

Covestro depends on good relations with its employees, unions and employee representatives to avoid industrial action, implement restructurings, amend existing collective agreements, and to negotiate reasonable and fair wages as well as other key working conditions.

Information technology

Business and production processes and the internal and external communications of the Covestro Group are increasingly dependent on global IT systems. A significant technical disruption or failure of IT systems could severely impair our business and production processes. Technical precautions such as data recovery and continuity plans are defined and continuously updated in close cooperation with our internal IT organization.

The confidentiality of internal and external data is of fundamental importance to us. A loss of data confidentiality, integrity, or authenticity could lead to manipulation and/or the uncontrolled outflow of data and expertise. We have measures in place to counter these risks, including a sophisticated authorization system.

Furthermore, a Group-wide committee was established to determine the fundamental strategy, architecture, and IT safety measures for the Covestro Group. These measures are designed to guarantee optimum protection based on state-of-the-art technology.

Law and compliance

Ethical conduct is a matter of essential importance for society. Many stakeholders evaluate companies according to whether they conduct themselves not just "legally" but also "legitimately". The Covestro Group is dedicated to sustainable development in all areas of its commercial activity. Any violations of this voluntary commitment can result in adverse media reporting and thus lead to a negative public perception of the Covestro Group. We counter this risk through responsible corporate management that is geared toward generating not only economic but also ecological and societal benefit.

The Covestro Group is exposed to numerous risks from legal disputes or proceedings to which we are currently a party or that could arise in the future, particularly in the areas of product liability, competition and antitrust law, patent law, tax law, and environmental protection.

Investigations of possible legal or regulatory violations, such as potential infringements of antitrust law or the use of certain marketing and/or distribution methods, may result in the imposition of civil or criminal penalties – including substantial monetary fines – and/or other adverse financial consequences, harm Covestro's reputation, and ultimately hamper our commercial success.

Legal proceedings currently considered to involve material risks are described in Note 27 under "Legal Risks" in the notes to the consolidated financial statements.

22.2.2 Financial Opportunities and Risks

The Covestro Group is exposed to liquidity risks, foreign currency and interest-rate opportunities and risks, credit risks, and risks resulting from obligations for pensions and other post-employment benefits. Appropriate processes to manage financial opportunities and risks have been established and documented. One component of this is financial planning, which serves as the basis for establishing liquidity needs and foreign currency risk. Financial planning comprises a planning horizon of 12 months and is regularly updated.

The section below presents the financial risks material to the Covestro Group – independent of their likelihood of occurrence – including risks with a potential loss of less than €60 million.

Liquidity risk

Liquidity risk is the risk of not being able to meet existing or future payment obligations. The liquidity status of all material Group companies is continuously planned and monitored. Liquidity is secured by cash pooling agreements as well as internal and external financing. A syndicated revolving credit facility offers additional financial flexibility.

Foreign currency opportunities and risks

For the Covestro Group, foreign currency opportunities and risks result from changes in exchange rates and the related changes in value.

Material receivables and payables in liquid currencies from operating and financial activities are fully hedged through forward exchange contracts.

A value-at-risk approach is used to manage foreign currency exposures arising from planned receivables and liabilities. Anticipated foreign currency exposures were not hedged in the reporting year since they did not exceed the limit defined for the Group. They will be rehedged using forward exchange contracts if the foreign currency risk increases significantly.

Interest-rate opportunities and risks

Interest rate opportunities and risks result for the Covestro Group through changes in capital market interest rates, which could lead to changes in the fair value of fixed-rate financial instruments and in interest payments in the case of floating-rate instruments. To minimize adverse effects, interest rate risk is managed centrally based on an optimized debt maturity structure.

Credit risks

Credit risks arise from the possibility that the value of receivables or other financial assets of the Covestro Group may be impaired because counterparties cannot meet their payment or other performance obligations.

To manage credit risks from receivables, credit managers are appointed who regularly analyze customers' creditworthiness and set credit limits. The Covestro Group does not conclude master netting agreements with its customers for nonderivative financial instruments. Here, the total value of the financial assets represents the maximum credit risk exposure. In the case of derivatives, positive and negative market values may be netted under certain conditions.

Risk to pension obligations from capital market developments

The Covestro Group has obligations to current and former employees related to pensions and other post-employment benefits. Changes in relevant measurement parameters such as interest rates, mortality rates and salary increase rates may raise the present value of these obligations, resulting in increased costs for pension plans. A proportion of the Covestro Group's pension obligations is covered by plan assets. Declining or even negative returns on the investment of the plan assets may adversely affect their future fair value. Both these effects may negatively impact the company's earnings and may necessitate additional payments by the company.

We address the risk of market-related fluctuations in the value of plan assets through balanced strategic investments and by constantly monitoring investment risks with regard to obligations.

Corporate Governance Report

This Corporate Governance Report also constitutes the report pursuant to Section 3.10 of the German Corporate Governance Code.

23. Declaration of Conformity[6] (in accordance with the German Corporate Governance Code)

For further information please visit-www.covestro.com/en/company/management/corporate-governance

Declaration by the Board of Management and Supervisory Board concerning the German Corporate Governance Code (February 7, 2017 version) pursuant to Section 161 of the German Stock Corporation Act

Since the last Declaration of Conformity as of December 2016, Covestro AG has complied with all recommendations of the German Corporate Governance Code in the version of February 7, 2017, and will comply with them in the future.

Leverkusen, December 2017

For the Board of Management

Patrick Thomas

For the Supervisory Board

Dr. Richard Pott

[6] Not part of the audited management report

24. Governance[7]

This declaration on corporate governance includes the separate declaration for Covestro AG pursuant to Section 289f and for the Covestro Group pursuant to Section 315d of the German Commercial Code (HGB).

Covestro places great importance on responsible corporate governance.

In the reporting year, the Board of Management and Supervisory Board again addressed the question of compliance with the German Corporate Governance Code. The resulting declaration of conformity was issued in December 2017 and posted on Covestro's website.

In the year under review, Covestro AG was in compliance with all recommendations of the "Government Commission on the German Corporate Governance Code" as published by the Federal Ministry of Justice and Consumer Protection in the official section of the Federal Gazette (Bundesanzeiger), and will remain so in the future.

Covestro AG also conforms to all the suggestions contained in the German Corporate Governance Code.

Duties and activities of the Board of Management

The Board of Management runs the company on its own responsibility with the goal of sustainably increasing the company's enterprise value and achieving defined corporate objectives. In doing so, it takes account of the interests of stockholders, employees and other stakeholders. The Board of Management performs its tasks according to the law, the Articles of Incorporation and the Board of Management's rules of procedure, and the recommendations of the German Corporate Governance Code as stated in the declaration of conformity. It ensures compliance with the law and internal company policies, and works with the company's other governance bodies in a spirit of trust.

The Board of Management defines the long-term goals and strategies for the company and sets forth the principles and policies for the resulting corporate policies. It coordinates and monitors the most important activities, defines the company's portfolio, develops and deploys managerial staff, allocates resources, and decides on the financial steering and reporting of the Covestro Group.

The members of the Board of Management bear joint responsibility for running the business as a whole. However, the individual members manage the areas assigned to them on their own responsibility within the framework of the decisions made by the full Board. The allocation of duties among the members of the Board of Management is defined in a written schedule appended to its rules of procedure.

The full Board of Management makes decisions on all matters of fundamental importance and in cases where a decision of the full Board is prescribed by law or otherwise mandatory. The rules of procedure of the Board of Management contain a list of topics that must be dealt with and resolved by the full Board.

Meetings of the Board of Management are held regularly. They are convened by the Chair of the Board of Management. Any member of the Board of Management may also demand that a meeting be convened, notifying the other members of the matter for discussion. The Board of Management makes decisions by a simple majority of the votes cast, except where unanimity is required by law. In the event of a tie, the Chair has the casting vote.

According to the Board of Management's rules of procedure and schedule of duties, the Chair bears particular responsibility for coordinating all Board of Management areas. The Chair represents the Board of Management and Covestro AG and the Group in dealings with the public and other third parties.

Composition of the Board of Management

Under the schedule of duties, each Board member is assigned responsibility for particular duties and areas. The Board of Management members manage the areas assigned to them on their own responsibility within the framework of the decisions made by the full Board.

As the Board of Management comprises only four Board of Management positions, no committees have been established.

[7] Not part of the audited management report

Objectives for the composition of the Board of Management

Assisted by the Human Resources Committee and the Board of Management, the Supervisory Board arranges long-term succession planning for individual Board of Management members. The Supervisory Board follows the recommendations of the German Corporate Governance Code in selecting candidates for the Board of Management, in addition to observing the diversity principle in Covestro's corporate values. Balancing the Board of Management's composition in terms of age, education, and professional background as well as the number of male and female members is a key goal. The Board of Management as a whole should possess extensive experience in corporate strategy, innovation, production and technology, marketing and sales, finance, leadership, and sustainability management. The Supervisory Board decides on specific candidates to fill Board of Management positions in consideration of Covestro's interests and taking into account all of the circumstances in each individual case.

Implementation status of the objectives

Currently, Covestro's Board of Management has four members. The goals regarding age structure and function-specific expertise were generally met in fiscal year 2017. In filling the position of CFO, the Board of Management met the education and professional background requirements. The Board of Management's members ranged in age from 48 to 60 in fiscal 2017. As a whole, the Board of Management features members with a range of different educational backgrounds. In particular, they possess many years of experience in the following areas: engineering, physics and chemistry, business administration and finance. The members of the Board of Management have extensive professional experience in Germany and abroad as well as in the petroleum and chemical industries. In the course of their careers, they have held leadership positions in marketing and sales, corporate strategy, production and technology, and finance, among others, and have strong track records in human resources and project management.

Promotion of equal participation of women and men in leadership positions

The German Law on equal participation of women and men in leadership positions in the private and public sectors of May 24, 2015, requires certain companies in Germany to define target quotas for appointing women to their Supervisory Boards, and Boards of Management and the two management levels below, and to establish dates by which this quota is to be achieved in each case.

In accordance with Section 96 Paragraph 2 of the Stock Corporation Act (AktG), the Supervisory Board of a company which is both listed and codetermined should be composed of at least 30% women and at least 30% men As of December 31, 2017, the Supervisory Board of Covestro AG comprises four women and eight men. The minimum legal requirement has thus been met.

For the first target attainment period after the law took effect, the Supervisory Board defined a target quota of 0% for the Board of Management and an implementation period through June 30, 2017. At the end of the defined implementation period, the Board of Management of Covestro AG comprised three men. At the end of the first target attainment period, the Supervisory Board decided on a target quota of at least 40% for women on the Board of Management of Covestro AG and an implementation period through June 30, 2022.

In addition, the Board of Management set new targets for the first two management levels below the Board of Management. For the new period until June 30, 2022, the goal of Covestro AG and the Covestro Group is to achieve a minimum of 30% women at both levels. At the end of the first implementation period (June 30, 2017), the target for the first management level below the Board of Management was not met by Covestro AG. Examining the targets at the company level does not make sense for Covestro as, during the foundation of Covestro AG, only individual functions were brought into the company while other key functional areas continue to be located only in Covestro Deutschland AG. These companies should therefore be viewed together. In addition, supporting diversity at Covestro is a fundamental issue for our management at all management levels and is not limited to single companies. The targets for the first management level below the Board of management for the Covestro Group and for the second management level below the Board of Management for Covestro AG were met or exceeded.

Targets for Covestro AG and the Covestro Group

	Covestro AG			Covestro Group		
	Target (by June 30, 2017)	Status quo (June 30, 2017)	Target (by June 30, 2022)	Target (by June 30, 2017)	Status quo (June 30, 2017	Target (by June 30, 2022)
Management level 1	10%	0%	30%	10%	13%	30%
Management level 2	20%	22%	30%	20%	20%	30%

Supervisory Board: oversight and control functions

The 12-member Supervisory Board advises and oversees the Board of Management. Under the German Codetermination Act, half the members of the Supervisory Board are elected by the stockholders and half by the company's employees. The Supervisory Board is directly involved in decisions on matters of fundamental importance to the company, regularly conferring with the Board of Management on the strategic alignment of Covestro AG and the Covestro Group, and on the implementation status of the business strategy. The Chair of the Supervisory Board coordinates its work and presides over the meetings.

Through regular discussions with the Board of Management, the Supervisory Board is kept constantly informed of business policy, corporate planning and strategy. The Supervisory Board approves the annual budget and financing framework. It also approves the financial statements of Covestro AG and the consolidated financial statements of the Covestro Group, along with the combined management report, taking into account the reports by the auditor.

The Supervisory Board discussed the requirements stipulated by Section 100, Paragraph 5 of the German Stock Corporation Act. Based on its composition, the Supervisory Board as a whole has in-depth industry expertise in the chemical and polymer sector in which Covestro operates. This industry knowledge was acquired by the members either through their jobs or the requisite continuing education.

Committees of the Supervisory Board

The Supervisory Board currently has the following committees:

Presidial Committee: This comprises the Chair and Vice Chair of the Supervisory Board along with a further stockholder representative and a further employee representative. The Presidial Committee serves primarily as the mediation committee pursuant to the German Codetermination Act. It has the task of submitting proposals to the Supervisory Board on the appointment of members of the Board of Management if the necessary two-thirds majority is not achieved in the first vote at a plenary meeting. Certain decision-making powers in connection with capital measures, including the power to amend the Articles of Incorporation, have also been delegated to this committee.

Audit Committee: The Audit Committee comprises three stockholder representatives and three employee representatives. The Chair of the Audit Committee in the reporting year, Prof. Dr. Rolf Nonnenmacher, satisfies the statutory requirements concerning expertise in the field of accounting or auditing that at least one member of the Supervisory Board and the Audit Committee is required to possess and is independent pursuant to Section 5.4.2 of the German Corporate Governance Code. The Audit Committee meets regularly four times a year. It monitors the accounting and financial reporting process and is responsible for examining the financial statements, consolidated financial statements and management reports, and for discussing the quarterly and half-yearly reporting with the Board of Management. On the basis of the auditor's report, the Audit Committee develops proposals for resolutions by the Supervisory Board relating to the confirmation of the financial statements, the approval of the consolidated financial statements, and the use of the distributable profit.

The Audit Committee is also responsible for the company's relationship with the external auditor. It submits a proposal to the full Supervisory Board concerning the auditor's appointment and is authorized to award the audit contract to the audit firm appointed on behalf of the Supervisory Board and to agree the auditor's remuneration. It also suggests areas of focus for the audit and monitors the quality of the audit as well as the independence and qualifications of the auditor.

In addition, the Audit Committee monitors the effectiveness of the internal control system, the risk management system, the internal audit system and the compliance function.

Human Resources Committee: On this committee, too, there is parity of representation between stockholders and employees. It consists of the Chair of the Supervisory Board and three other members. The Human Resources Committee prepares the personnel decisions of the full Supervisory Board, which resolves on appointments or dismissals of members of the Board of Management. The Human Resources Committee resolves on behalf of the Supervisory Board on the service contracts of the members of the Board of Management. However, it is the task of the full Supervisory Board, based on the recommendations submitted by the Human Resources Committee, to resolve on the total compensation of the individual members of the Board of Management and the respective compensation components, as well as to regularly review the compensation system. The Human Resources Committee also discusses the long-term succession planning for the Board of Management.

Nominations Committee: This committee carries out preparatory work when an election of stockholder representatives to the Supervisory Board is to be held. It suggests suitable candidates for the Supervisory Board to propose to the Annual General Meeting for election. The Nominations Committee currently comprises the Chair of the Supervisory Board, another stockholder representative on the Presidial Committee and an elected stockholder representative.

Please see the Report of the Supervisory Board for detailed information about the work of the Supervisory Board and its committees.

Objectives for the composition of the Supervisory Board

The Supervisory Board should be composed in such a way that its members jointly possess the necessary expertise, skills and professional experience to properly perform their duties, and are sufficiently independent. The Supervisory Board assesses the independence of its members according to the recommendation contained in Section 5.4.2 of the German Corporate Governance Code.

Existing objectives for the composition

Covestro AG's Supervisory Board has agreed the following specific goals for its composition that align with the recommendations of the German Corporate Governance Code and at the same time provide for diversity in terms of age, independence and professional experience:

- The Supervisory Board has resolved that 75% of its members and more than half of the stockholder representatives on the Supervisory Board are to be independent.

- Absent special circumstances, a Supervisory Board member shall not serve more than three full terms of office and shall not hold office beyond the end of the next Annual General Meeting following his or her 68th birthday.

- The Supervisory Board shall not include more than two former members of the company's Board of Management. Supervisory Board members may not perform executive functions or consulting activities for major competitors of the company or any Group company, and they must not be exposed to other significant conflicts of interest.

- At least two Supervisory Board members must have function-specific knowledge in each of the following areas:
  - Accounting and/or auditing
  - Strategy, mergers and acquisitions, capital markets
  - Marketing, distribution, supply chain
  - Research and development, innovation
  - Technology, digitalization
  - Human resources, change management
  - Corporate governance, compliance

- The Supervisory Board must have at least two members with experience in industries, sales markets, and/or divisions of importance to Covestro, e.g. (polymer) chemistry, production and technology.

- Taking into account the specific situation and international operations of Covestro and its affiliated companies, the Supervisory Board shall strive to ensure sufficient diversity among its members. Moreover, at least three members should have managerial experience in an international enterprise and/or experience serving on other supervisory boards or supervisory bodies.

The objectives described refer to the Supervisory Board as a whole unless resolved otherwise. However, since the Supervisory Board can only nominate candidates for election as stockholder representatives, it can only consider the objectives in making these nominations.

Implementation status of the objectives

The Supervisory Board has several members with international business experience and an international background. The objectives pertaining to age limits, length of service and independence are being met. In the opinion of the Supervisory Board, the stockholder representatives Dr. Richard Pott, Ferdinando Falco Beccalli, Dr. Christine Bortenlänger, Johannes Dietsch (since September 30, 2017), Prof. Dr. Rolf Nonnenmacher and Regine Stachelhaus can be considered as independent pursuant to Section 5.4.2 of the German Corporate Governance Code. The requirements for function-specific knowledge are generally being met, but the specific goal of having at least two stockholders per field of expertise is not fulfilled in all areas.

The Chair of the Supervisory Board, Dr. Richard Pott, who was elected to serve until the Annual General Meeting in 2020, was a member of the Board of Management of Bayer AG until 2013. One member of the Supervisory Board, Johannes Dietsch, is currently Chief Financial Officer of Bayer AG with which Covestro AG entered into an agreement on the non-exercise of control effective September 30, 2017. However, neither Richard Pott nor Johannes Dietsch has any personal or business relationship with the company or a governance body of the company that in the opinion of the Supervisory Board gives rise to a material conflict of interest of more than a temporary nature. Information about Covestro AG's current Supervisory Board members is available on our website at: www.covestro.com/en/company/management/supervisory-board

Stockholdings and reportable securities transactions by members of the Board of Management or Supervisory Board

Members of the Board of Management and Supervisory Board and their close relatives are legally required to disclose all transactions involving the purchase or sale of Covestro securities where such transactions total €5,000 or more in a calendar year. Covestro publishes details of such transactions immediately on its website and also notifies the German Federal Financial Supervisory Authority accordingly. This information is provided to the company register for archiving. Information on securities transactions by members of the Board of Management or Supervisory Board can be found at: www.investor.covestro.com/en/stock/shareholder-structure/disclosure-of-securities-transactions/

Information filed with the company by members of the Board of Management and Supervisory Board shows that, on the closing date for the financial statements, their total holdings of Covestro AG stock or related financial instruments were equivalent to less than 1% of the issued stock.

Common values and leadership principles

Covestro is guided by three values that reflect the way people at the company think and act: curious, courageous and colorful.

Systematic risk management

Our enterprise risk management system ensures early identification of any financial or nonfinancial risks. We attempt to avoid or mitigate identified risks, or to transfer them to third parties (such as insurers) to the extent possible and economically acceptable.

The internal control system for accounting and financial reporting enables the timely monitoring of risks to prevent or correct potential errors in accounting for business transactions. It thus ensures the availability of reliable data on the company's financial situation.

However, the control and risk management system cannot provide absolute protection against losses arising from business risks or fraudulent actions.

Detailed reporting

To maximize transparency, we provide regular and timely information on the Covestro Group's position and significant changes in business activities to stockholders, financial analysts, stockholders' associations, the media and the general public. Four times a year we report to our stockholders about the company's business performance, its net assets, financial position and results of operations, and the risks it faces. Our company's reporting thus complies with the provisions of the German Corporate Governance Code.

In line with statutory requirements, the members of the company's Board of Management provide an assurance that, to the best of their knowledge, the financial statements of Covestro AG, the consolidated financial statements of the Covestro Group, and the combined management report provide a true and fair view.

The financial statements of Covestro AG, the consolidated financial statements of the Covestro Group and the combined management report are published within 90 days following the end of each fiscal year. During the fiscal year, stockholders and other interested parties are kept informed of developments by means of the half-year financial report and additional interim reports for the first and third quarters. The half-year financial report is voluntarily subjected to a review by the auditor appointed by the Annual General Meeting.

Covestro additionally provides information at regular news conferences and analysts' meetings. The company uses the internet as a platform for the timely disclosure of information, including the dates of major publications and events, such as the annual report, interim financial reports and the Annual General Meeting.

In line with the principle of fair disclosure, all stockholders and other main target groups are treated equally as regards the communication of valuation-relevant information. All significant new facts are disclosed immediately to the general public. In addition to our regular reporting, we issue ad-hoc statements on developments that otherwise might not become publicly known but have the potential to materially affect the price of Covestro stock.

25. Compliance

Ethical and responsible leadership and compliance with legal and regulatory requirements are integral to our corporate governance efforts.

Our Corporate Compliance Policy defines the principles and rules for our conduct within the company and in relation to our external partners and the general public.

The Corporate Compliance Policy governs the following principles guiding our actions:

1. We are committed to fairness in competition – no illegal cartel agreements
2. We are committed to integrity in business dealings – no corruption
3. We are committed to the principle of sustainability – no risk to people or the environment
4. We are committed to compliance with foreign trade law – no violations of export regulations
5. We are committed to maintaining equal opportunities in securities trading – no violations of insider trading laws
6. We are committed to proper documentation and transparent financial reporting – no deception
7. We are committed to fair and respectful working conditions – no discrimination
8. We safeguard our knowledge advantage and respect legally valid third-party industrial rights – no infringement of our property rights or those of others
9. We are committed to the separation of business and private interests – no conflicts of interest
10. We are committed to cooperative interaction with authorities – no misinformation

This Corporate Compliance Policy has been actively communicated to our employees and can be viewed on the intranet. Annual employee training sessions tailored to the roles and areas of responsibility cover the contents of this policy in a way that is easily understood. In addition, compliance issues are a fixed component of corporate communication such as at town hall meetings where the Board of Management reports on the current business position and answers employees' questions.

In the interest of identifying violations of laws, official and internal regulations, Covestro has set up a whistleblowing tool. Internal and external persons can report potential compliance violations through a hotline accessible worldwide or use an email address that also permits anonymous reports. In addition, employees can report any compliance suspicions internally to the compliance officer. Compliance incidents are regularly reported to the Supervisory Board, the Board of Management, and the segments' management teams. In addition, an overview of compliance incidents is published in a Compliance Telegram on the intranet and therefore can be viewed by all employees.

In creating the compliance management system (CMS), we applied the internationally recognized framework for internal control systems of the Committee of the Sponsoring Organizations of the Treadway Commission (COSO). In the year under review, the concept and appropriateness of the CMS along with the effectiveness of its implementation were unrestrictedly confirmed in accordance with the Auditing Standard 980 of the Institute of Public Auditors in Germany (IDW) for the areas antitrust law, corruption and export control. The Chief Compliance Officer is in charge of all compliance activities at Covestro, and in this function reports directly to the Board of Management. A central Compliance department coordinates compliance activities throughout the Covestro Group. A Compliance Committee chaired by the CFO of Covestro AG was set up and met four times in 2017. The Compliance Committee is the top-level decision-making body on compliance issues. Its responsibilities include the following: exercising a Group-wide compliance governance function, initiating and approving compliance-related regulations, and approving the annual training plan. A local Compliance Officer has been appointed for each country in which Covestro has employees. This person serves as a local point of contact for employees on all questions regarding legally and ethically correct conduct in business situations. The country organizations also have local compliance committees.

Compliance risks were systematically identified and assessed as part of our risk management. Regarding corruption, the areas of gifts/invitations, tender transactions, contributions, sponsoring, and working relationships with certain business partners such as customs officials were identified as being risk-relevant. We implemented controls such as reviews of business partners as preventive measures. By offering comprehensive communication measures and training, Covestro helps its employees develop a long-term awareness of integrity and proper conduct as well as the risks that could otherwise potentially occur.

26. Compensation Report

The Compensation Report describes the essential features of the compensation system for the members of the Board of Management and the Supervisory Board of Covestro AG and explains the compensation of the individual members. The report conforms to the requirements of the German Commercial Code, including the principles of German Accounting Standard No. 17 (DRS 17) and to the recommendations of the German Corporate Governance Code (GCGC) as amended on February 7, 2017. It also complies with the International Financial Reporting Standards (IFRSs).

26.1 Compensation of the Board of Management

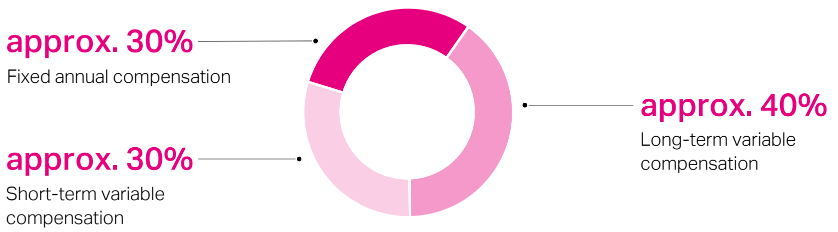
Objectives

The compensation system for the Board of Management of Covestro AG is designed to facilitate a long-term increase in the company's value and responsible corporate governance. Furthermore, we aim to position Covestro as an attractive employer in the competition for highly qualified executives, and ensure statutory and regulatory compliance. Board of Management compensation is in line with the basic principles of the compensation structure for managerial employees in the Covestro Group. The appropriateness of the system and the compensation level are regularly reviewed by the Supervisory Board, which then makes any necessary adjustments.

Compensation structure

The compensation comprises a non-performance-related component, an annual incentive and a long-term stock-based component. The Covestro Group's compensation structure, based on average total annual compensation for a Board of Management member at 100% target attainment, is as follows:

Board of Management Compensation Structure (German Commercial Code)[1]



[1] Excluding fringe benefits and pension entitlements

The non-performance-related compensation comprises the fixed annual compensation, which reflects the responsibilities and performance of the Board of Management members, along with fringe benefits. The performance-related compensation comprises a short-term variable component, which depends on the attainment of the corporate performance targets and on the long-term variable compensation, the stock-based compensation program Prisma. This is linked directly to changes in Covestro's share price.

The individual performance-related components are capped at the grant date. To comply with the recommendation of the German Corporate Governance Code, a cap has also been agreed for the compensation as a whole (total of the annual fixed compensation and the variable components, along with fringe benefits). The cap is 1.9 times the respective target compensation (total compensation for a Board of Management member at 100% target attainment) and is determined annually by the Supervisory Board when the fixed compensation is set. In the context of the compensation structure outlined here, the target compensation therefore amounts to 3.3 times the fixed compensation. The maximum total compensation is therefore 6.3 times the fixed compensation.

The members of the Board of Management also receive pension entitlements for themselves and their surviving dependents.

Non-performance-related components

Fixed annual compensation

The level of the non-performance-related, fixed annual compensation for members of the Board of Management takes into account the functions and responsibilities assigned to them as well as market conditions. The fixed compensation is regularly reviewed by the Supervisory Board in light of factors such as the consumer price index and adjusted if necessary. It is paid out in 12 monthly installments.

Fringe benefits

Fringe benefits mainly comprise a company car with driver or the use of the company carpool, payments toward the cost of security equipment, and reimbursement of the cost of annual health screening examinations. They are reported at cost or the amount of the pecuniary advantage gained.

Performance-related components

Short-term variable compensation

The target value of the short-term variable compensation is 100% of the fixed annual compensation. This amount is adjusted in line with target attainment.

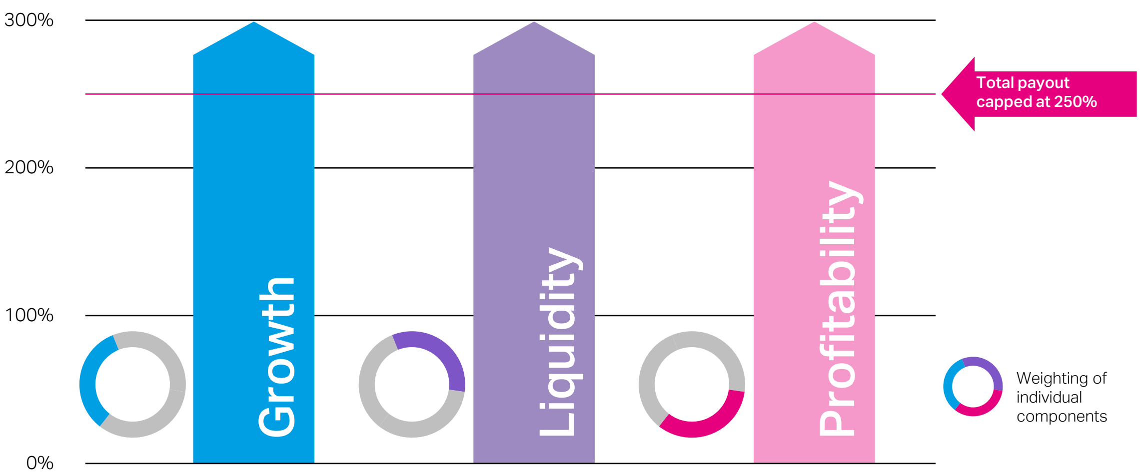
In fiscal 2016, the Group-wide "Covestro Profit Sharing Plan" was introduced, that also applies to the members of the Board of Management. It consists of a short-term variable compensation based solely on the attainment of financial targets. The system is based on the same performance indicators used to manage the company. The payout is based on target attainment in respect of growth (core volume growth), liquidity (free operating cash flow, FOCF), and profitability (return on capital employed, ROCE), with each counting for one third. In 2015, the Supervisory Board defined the global target values for minimum, 100% and maximum attainment of each target.

Individual KPI Target Attainment

	Growth: Core volume growth	Liquidity: FOCF	Profitability: ROCE
Threshold (0%)	+1.5%	Cash inflow of €250 million	ROCE = WACC
100% target attainment	+3.5%	Cash inflow of €500 million	1% point above WACC
Ceiling (300%)	+6.5%	Cash inflow of €875 million	2.5% points above WACC

For each individual KPI, the payout can be between zero (failure to meet minimum requirements) and three times the target value; however, the maximum payout for all three components combined is limited to 250% of the target value. The maximum payout is therefore 2.5 times the fixed annual compensation.

Component of Short-Term Variable Compensation



Long-term stock-based compensation

Aspire

The members of the Board of Management will still be participating in the final ongoing performance periods (2014–2017 and 2015–2018 tranches) of the "Aspire" long-term stock-based compensation program whose terms were set by Bayer. The payments made under this program are based on the Aspire Target Opportunity, which is a contractually agreed percentage of fixed annual compensation. Depending on the performance of Bayer stock, both in absolute terms and relative to the EURO STOXX 50® benchmark index, participants are granted an award of between 0% and 300% of their individual Aspire Target Opportunity at the end of the respective performance period.

In order to break the link between the payout and the development of Bayer's share price, which can no longer be materially influenced by the members of the Board of Management, the Supervisory Board decided in 2015 that the average price of Bayer stock and the benchmark index calculated from the closing prices for the last 30 trading days of 2015 would be used as the closing price for all current tranches and that the payout amount would be frozen accordingly. In January 2018, this resulted in a payout for the 2014–2017 tranche of a distribution totaling 170% of the target value. The target value for the 2015–2018 tranche was reduced to 8/12 of the full value (pro rata for the period from January to August 2015). This was compensated for by increasing the target value for the first tranche of Covestro's own Prisma long-term compensation program launched in 2016 by 4/12. For the 2015–2018 Aspire tranche, however, the relevant average price as of year end 2015 remained below the required minimum hurdle. As a result, there will be no payout for this tranche.

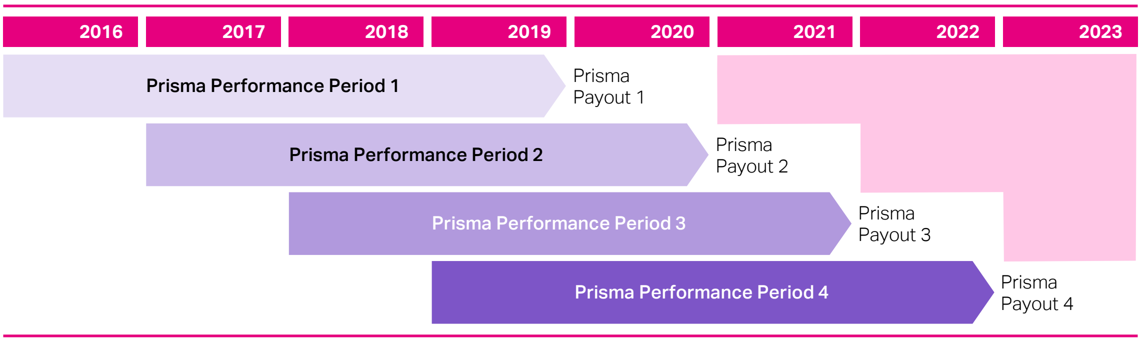
Prisma

The members of the Board of Management are eligible to participate in the Prisma compensation program as long as they remain in the service of the Covestro Group and acquire for their own account, and hold an individually determined number of Covestro shares according to defined policies. This program is based on a target opportunity set at 130% of the fixed annual compensation. When a member of the Board of Management retires, current tranches may be shortened, thus reducing their value.

The payout is determined by calculating two factors: The total shareholder return (TSR) factor is the return generated by a stock expressed as a percentage (total of the final price of the share and all dividends distributed per share during the performance period divided by the initial price). The outperformance factor is based on the performance of Covestro stock during the performance period relative to the performance of the STOXX® Europe 600 Chemicals index. It is determined by expressing the difference between the performance of Covestro stock and that of the index as a percentage. The factor is greater than 100% (less than 100%) if Covestro's stock outperforms (underperforms) the index.

The Prisma target opportunity of each participant is multiplied by the TSR factor and the outperformance factor to arrive at the total distribution figure. The total distribution is limited to no more than 200% of the target opportunity. The maximum payout is therefore 260% of the fixed annual compensation. If Covestro's shares were to significantly underperform the index (e.g. if the price of the stock went down while the index increased in value), the outperformance factor could amount to zero. As a result, there would be no payout.

Prisma Performance Periods



Other stock-based compensation

In his capacity as subgroup CEO within the Bayer Group, Patrick Thomas received a split payout of the short-term variable compensation (short-term incentive, STI) for the period from October 2013 to December 2014. Part of the STI was paid out in the form of virtual Bayer shares with a three-year lock-up period. The payout of the STI tranche for fiscal 2013 of the entitlements based on virtual Bayer shares took place in 2017. The payout of the STI tranche for fiscal 2014 will take place in 2018. The payout amount for both tranches was "frozen" on the basis of the stock price as of December 31, 2015.

Pension entitlements (retirement and surviving dependents' pensions)

The members of the Board of Management are entitled to receive a lifelong company pension after leaving the Covestro Group, though generally not before the age of 62. This pension is paid out in the form of a monthly life annuity.

The arrangements for surviving dependents basically provide for a widow's pension amounting to 60% of the member's pension entitlement, and an orphan's pension amounting to 12% of the member's pension entitlement for each child.

The annual pension entitlement is based on contributions. From September 1, 2015, onward, Covestro has provided a hypothetical contribution amounting to as much as 33% of the respective fixed compensation each year. This remains the same over the annual income threshold for general statutory pension plans. This percentage comprises a 6% basic contribution and a matching contribution of up to 27% – three times the member's maximum personal contribution of 9%. The total annual contribution is converted into a pension module according to the annuity table for the applicable tariff of the Rheinische Pensionskasse VVaG pension fund. The annual pension entitlement upon retirement is the total amount of the accumulated pension modules including an investment bonus, which is determined annually by the representatives' meeting of the Rheinische Pensionskasse VVaG and approved by the German Financial Supervisory Authority.

In the case of fixed compensation up to the annual income threshold, the Board of Management members, like all entitled employees, remain subject to the rules governing the basic company pension and are regular participants in the relevant pension plan.

Dr. Klaus Schäfer has been granted, in addition, a vested entitlement to a fixed annual pension of €126,750.

The actual pension entitlement cannot be precisely determined in advance. It depends on the development of the member's compensation, the number of years of service on the Board of Management, and the return on the assets of the Rheinische Pensionskasse VVaG.

Certain assets are administered under a contractual trust agreement (CTA), providing additional insolvency protection for pension entitlements resulting from direct commitments for the members of the Board of Management in Germany.

As a rule, future pension payments are adjusted by at least 1% per year. Depending on the pension obligation, an additional adjustment may be made if the investment bonus of the Rheinische Pensionskasse VVaG or the consumer price index exceeds 1% per year.

Benefits upon termination of service on the Board of Management

Post-contractual non-compete agreements

Post-contractual non-compete agreements exist with the members of the Board of Management, providing for compensatory payments to be made by the company for the duration of these agreements (maximum of two years). The compensatory payment amounts to 100% of the average fixed compensation in the 12 months preceding termination of service.

Change of control

Agreements exist with the members of the Board of Management providing for severance payments to be made in certain circumstances in the event of a change in control. The amount of the severance payments, including any ancillary benefits, in the case of early termination of service on the Board of Management as a result of a change in control is limited to the value of three years' compensation in line with the recommendation in Section 4.2.3 of the German Corporate Governance Code. Such payments do not exceed the compensation payable for the remaining term of the service contract.

Early termination of service on the Board of Management

The amount of the payments, including any ancillary benefits, made upon early termination of service on the Board of Management is limited to the value of two years' compensation in line with the recommendation in Section 4.2.3 of the German Corporate Governance Code.

Unfitness for work

In the event of temporary unfitness for work, members of the Board of Management continue to receive the contractually agreed compensation. Covestro AG may terminate the service contract early if the member has been continuously unfit for work for at least 18 months and is likely to be permanently incapable of fully performing his or her duties (permanent incapacity to work). A disability pension is paid in the event of contract termination before the age of 60 due to permanent incapacity to work. The amount of this disability pension corresponds to the entitlement accrued on the date of contract termination, taking into account a fictitious period of service between that date and the member's 55th birthday where applicable.

Compensation of the Board of Management for the fiscal year

The following paragraphs report the compensation of the Board of Management of Covestro AG for the fiscal year 2017. The members of the Board of Management of Covestro AG are the same as the members of the Board of Management of Covestro Deutschland AG, which became a subsidiary of Covestro AG on September 1, 2015. Compensation is not paid for the members' work on the Board of Management of Covestro Deutschland AG.

The outstanding remuneration amount for Frank H. Lutz was established in the context of a termination agreement. Accordingly, he received his fixed annual compensation pro rata for five full months up to and including May 2017, as well as pro rata for two days in June up to his resignation from office on June 2, 2017. The long-term compensation for tranches of the years up to and including 2016 (remaining Aspire tranches as well as the Prisma program from 2016) is regarded as fully earned; a pro-rata target value for five of the twelve months is granted for Prisma in 2017. As part of the short-term variable compensation, there is an existing entitlement to the Covestro PSP for 2017 with a pro-rata target value for five of the twelve months. All variable compensation components shall be paid based on the actual targets set and achieved at the date of the respective maturity. The previously existing non-compete agreement was reduced from two years to one year. During the reporting period, Frank H. Lutz has not engaged in any activity which would have led to a deduction of the compensation for the non-compete period.

In the 2017 reporting period, the aggregate compensation for the members of the Board of Management of Covestro AG totaled €13,059 thousand (previous year: €14,957 thousand), comprising €3,985 thousand (previous year: €3,001 thousand) in non-performance-related components and €9,074 thousand (previous year: €11,956 thousand) in performance-related components. The pension service cost (German Commercial Code) amounted to €850 thousand (previous year: €965 thousand).

The following table shows the total compensation of the individual members of the Board of Management who served in 2017 according to the German Commercial Code and DRS 17.

Total Board of Management Compensation (German Commercial Code)

€ thousand	Fixed annual compensation		Fringe benefits		Short-term variable compensation		Long-term variable compensation[1]		Aggregate compensation		Pension service cost[2]	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Board of Management members serving as of December 31, 2017												
Patrick Thomas (Chair)	1,050	1,150	81	70	2,624	2,664	1,811	1,447	5,566	5,331	369	398
Dr. Klaus Schäfer	550	552	54	323	1,375	1,279	949	694	2,928	2,848	177	179
Dr. Markus Steilemann	550	552	15	435	1,375	1,279	949	694	2,889	2,960	179	179
Former Board of Management member												
Frank H. Lutz	680	288	21	615	1,700	659	1,173	358	3,574	1,920	240	94
Total	**2,830**	**2,542**	**171**	**1,443**	**7,074**	**5,881**	**4,882**	**3,193**	**14,957**	**13,059**	**965**	**850**

1 Fair value when granted
2 Including company contribution to Bayer Pensionskasse VVaG or Rheinische Pensionskasse VVaG

Fixed annual compensation
The fixed compensation of Board of Management members was increased as of January 1, 2017, based on the change in the previous year's consumer price index (0.34% from November 2015 to October 2016). Furthermore, the Supervisory Board identified an additional need for adjustment in the case of Patrick Thomas, as his fixed annual compensation was positioned significantly lower in the corresponding comparison market than those of the other members of the Board of Management.

The fixed annual compensation for all members of the Board of Management in the 2017 reporting period totaled €2,542 thousand (previous year: €2,830 thousand).

The fringe benefits for the reporting year 2017 include security facilities for Frank H. Lutz, Dr. Klaus Schäfer and Dr. Markus Steilemann in the amount of €905 thousand. In addition, Frank H. Lutz received a pro-rated compensatory payment of €393 thousand in fiscal 2017 for a post-contractual non-compete agreement that was limited to one year.

Short-term variable compensation
In 2017, the total short-term variable compensation for all the members of the Board of Management totaled €5,881 thousand after deduction of the solidarity contribution (previous year: €7,074 thousand). The solidarity contribution is made by all employees of the companies covered by the respective agreements with the employee representatives to help safeguard jobs at the German sites. For the 2017 reporting period, the contribution amounted to 0.15% of each member's Covestro PSP award. By resolution of the Supervisory Board, this contribution is also withheld from the Board of Management.

Long-term stock-based compensation (Aspire and Prisma)
The total compensation according to the German Commercial Code includes long-term stock-based compensation (Prisma) with a fair value when granted of €3,193 thousand (previous year: €4,882 thousand).

In accordance with IFRS, grants of stock-based compensation with a four-year performance period are therefore expensed at their respective fair values over four years starting with the grant year. The associated expense is a part of compensation according to IFRSs. According to IFRSs, the change in the value of existing entitlements under ongoing tranches granted in prior years must be reported as stock-based compensation. As explained above, however, because the payout amount of all remaining Aspire tranches was frozen based on the 2015 closing price, no change in value occurred under these tranches in the reporting year.

Provisions of €7,076 thousand were recognized for the Aspire and Prisma entitlements of the members of the Board of Management serving as of December 31, 2017 (previous year: €4,359 thousand).

Stock-based Compensation (IFRSs)

	Board of Management members serving as of December 31, 2017						Former Board of Management member			
	Patrick Thomas (Chair)		Dr. Klaus Schäfer (Production and Technology, Labor Director)		Dr. Markus Steilemann (Innovation, Marketing and Sales)		Frank H. Lutz		Total	
€ thousand	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Stock-based compensation entitlements earned in the reporting period[1]	1,250	1,588	535	761	497	753	610	775	2,892	3,877
Change in value of existing entitlements in the reporting period[2]	–	53	–	28	–	28	–	35	–	144
Total	**1,250**	**1,641**	**535**	**789**	**497**	**781**	**610**	**810**	**2,892**	**4,021**

[1] Long-term variable compensation from newly earned entitlements includes the Aspire program from the years 2014 and 2015 and the Prisma program from the years 2016 and 2017, because this compensation is earned over a period of four fiscal years. It is stated at its pro-rata fair value in 2016 and 2017.
[2] The previous entitlements from the Aspire programs have been frozen on the basis of the 2015 closing price and will therefore no longer change.

Pension entitlements

The pension service cost recognized for the members of the Board of Management in the reporting year was €850 thousand (previous year: €965 thousand) according to the German Commercial Code, while the current service cost for pension entitlements recognized according to IFRSs was €1,290 thousand (previous year: €1,298 thousand).

The service cost and the settlement or present value of the pension obligations attributable to the individual members of the Board of Management are shown in the following table.

The pension service cost differs on account of the different principles applied in measuring the settlement value of pension obligations in accordance with the German Commercial Code and the present value of defined pension obligations in accordance with IFRSs.

Pension Entitlements (German Commercial Code and IFRSs)

	German Commercial Code				IFRSs			
	Pension service cost[1]		Settlement value of pension obligations as of December 31		Service cost for pension entitlements		Present value of defined pension obligation as of December 31	
€ thousand	2016	2017	2016	2017	2016	2017	2016	2017
Board of Management members serving as of December 31, 2017								
Patrick Thomas	369	398	3,137	3,864	456	549	4,432	5,082
Dr. Klaus Schäfer	177	179	1,888	2,306	242	273	3,202	3,669
Dr. Markus Steilemann	179	179	575	815	265	310	1,217	1,571
Former Board of Management member								
Frank H. Lutz	240	94	314	404	335	158	535	647
Total	**965**	**850**	**5,914**	**7,389**	**1,298**	**1,290**	**9,386**	**10,969**

[1] Including company contribution to Bayer Pensionskasse VVaG or Rheinische Pensionskasse VVaG

26.2 Disclosures Pursuant to the Recommendations of the German Corporate Governance Code

The following tables show the compensation and fringe benefits paid for the 2017 reporting period or the prior-year period, including the maximum and minimum achievable variable compensation, and the allocation of compensation for the reporting period or the prior-year period in the line with the recommendations in the February 7, 2017, version of the German Corporate Governance Code.

Compensation and Benefits Granted for the Reporting Period

	Board of Management members serving as of December 31, 2017											
	Patrick Thomas (Chair)				Dr. Klaus Schäfer (Production and Technology, Labor Director)				Dr. Markus Steilemann (Innovation, Marketing and Sales)			
€ thousand	Target value 2016	Target value 2017	Min. 2017	Max.[2] 2017	Target value 2016	Target value 2017	Min. 2017	Max.[2] 2017	Target value 2016	Target value 2017	Min. 2017	Max.[2] 2017
Fixed annual compensation	1,050	1,150	1,150	1,150	550	552	552	552	550	552	552	552
Fringe benefits	81	70	70	70	54	323	323	323	15	435	435	435
Total	**1,131**	**1,220**	**1,220**	**1,220**	**604**	**875**	**875**	**875**	**565**	**987**	**987**	**987**
Short-term variable compensation	1,050	1,150	–	2,875	550	552	–	1,380	550	552	–	1,380
Long-term stock-based compensation (2016–2019 "Prisma"-Tranche)	1,811[1]				949[1]				949[1]			
Long-term stock-based compensation (2017–2020 "Prisma"-Tranche)		1,447[1]	–	2,990		694[1]	–	1,435		694[1]	–	1,435
Total (performance based)	**3,992**	**3,817**	**1,220**	**7,085**	**2,103**	**2,121**	**875**	**3,690**	**2,064**	**2,233**	**987**	**3,802**
Benefit expense	456	549	549	549	242	273	273	273	265	310	310	310
Total compensation	**4,448**	**4,366**	**1,769**	**7,634**	**2,345**	**2,394**	**1,148**	**3,963**	**2,329**	**2,543**	**1,297**	**4,112**

[1] Fair value when granted
[2] Applicable caps have not yet been taken into account in the total maximum amounts. The payout in a single year is limited to 1.9 times the target compensation

Compensation and Benefits Granted for the Reporting Period

	Former Board of Management member			
	Frank H. Lutz			
€ thousand	Target value 2016	Target value 2017	Min. 2017	Max.[2] 2017
Fixed annual compensation	680	288	288	288
Fringe benefits	21	615	615	615
Total	**701**	**903**	**903**	**903**
Short-term variable compensation	680	284	–	710
Long-term stock-based compensation (2016–2019 "Prisma"-tranche)	1,173[1]			
Long-term stock-based compensation (2017–2020 "Prisma"-tranche)		358[1]	–	739
Total (performance based)	**2,554**	**1,545**	**903**	**2,352**
Benefit expense	335	158	158	158
Total compensation	**2,889**	**1,703**	**1,061**	**2,510**

[1] Fair value when granted
[2] Applicable caps have not yet been taken into account in the total maximum amounts. The payout in a single year is limited to 1.9 times the target compensation.

Allocation of Compensation for the Reporting Period

	Board of Management members serving as of December 31, 2017						Former Board of Management member	
	Patrick Thomas (Chairman)		Dr. Klaus Schäfer (Production and Technology, Labor Director)		Dr. Markus Steilemann (Innovation, Marketing and Sales)		Frank H. Lutz	
€ thousand	2016	2017	2016	2017	2016	2017	2016	2017
Fixed annual compensation	1,050	1,150	550	552	550	552	680	288
Fringe benefits	81	70	54	323	15	435	21	615
Total	**1,131**	**1,220**	**604**	**875**	**565**	**987**	**701**	**903**
Short-term variable compensation	2,624	2,664	1,375	1,279	1,375	1,279	1,700	659
Long-term stock-based compensation (2012–2015 "Aspire"-tranche)[1]	946		217[2]		93[2]		–	
Long-term stock-based compensation (2013–2016 "Aspire"-tranche)[1]		978		223[2]		103[2]		–
Total	**4,701**	**4,862[3]**	**2,196**	**2,377**	**2,033**	**2,369**	**2,401**	**1,562**
Benefit expense	456	549	242	273	265	310	335	158
Total compensation	**5,157**	**5,411**	**2,438**	**2,650**	**2,298**	**2,679**	**2,736**	**1,720**

[1] The Aspire tranche was paid out for a performance period that mostly occurred prior to the start of the Board of Management term.
[2] Payment was made partially outside Germany in local currency on the basis of a theoretical net salary in Germany.
[3] In addition, Patrick Thomas received a payout of the long-term stock-based compensation in the form of virtual Bayer shares in the amount of €164 thousand in his capacity as subgroup CEO in the Bayer Group for the 2013 fiscal year.

26.3 Compensation of the Supervisory Board

The Supervisory Board is compensated according to the relevant provisions of the Articles of Incorporation.

The members of the Supervisory Board each receive fixed annual compensation of €100 thousand plus reimbursement of their expenses.

In accordance with the recommendations of the German Corporate Governance Code, additional compensation is paid to the Chair and Vice Chair of the Supervisory Board, and for chairing and membership in committees. The Chair of the Supervisory Board receives fixed annual compensation of €300 thousand, the Vice Chair €150 thousand. These amounts also cover membership in and chairmanship of committees. The other members of the Supervisory Board are entitled to additional compensation for membership in or chairmanship of committees. The Chair of the Audit Committee receives an additional €50 thousand, the other members of the Audit Committee €25 thousand each. The chairs of the remaining committees receive €30 thousand each, the other members of those committees €20 thousand each. No additional compensation is paid for membership in the Nominations Committee. A Supervisory Board member who is a member of more than two committees receives compensation only for the two committees with the highest compensation. If changes are made to the Supervisory Board and/or its committees during the year, members receive compensation on a pro-rated basis. The members of the Supervisory Board also receive an attendance fee of €1 thousand each time they personally attend a meeting of the Supervisory Board or a committee. The attendance fee is limited to €1 thousand per day.

The members of the Supervisory Board have given a voluntary pledge that they will each purchase Covestro shares for 25% of their fixed compensation, including any compensation for committee membership (before taxes), and hold these shares for as long as they remain members of the Supervisory Board. This does not apply to members who transfer at least 85% of their fixed compensation to the Hans Böckler Foundation in accordance with the rules of the German Trade Union Confederation or whose service or employment contract with a company requires them to transfer such compensation to that company. If less than 85% of the fixed compensation is transferred, the voluntary pledge applies to the portion not transferred. By voluntarily pledging to invest in and hold Covestro shares, the Supervisory Board members reinforce their interest in the long-term, sustainable success of the company

Compensation of the Supervisory Board for the fiscal year

The following table outlines the components of each Covestro AG Supervisory Board member's compensation for the 2017 reporting period and the prior-year period.

Compensation of the Members of the Supervisory Board of Covestro AG for 2017

€ thousand	Fixed compensation 2016	Fixed compensation 2017	Attendance fee 2016	Attendance fee 2017	Total 2016	Total 2017
Ferdinando Falco Beccalli	100	100	3	5	103	105
Dr. Christine Bortenlänger	100	100	4	5	104	105
Johannes Dietsch	145	145	8	11	153	156
Dr.-Ing. Thomas Fischer	120	120	4	8	124	128
Peter Hausmann	145	145	7	9	152	154
Petra Kronen (Vice Chair)	150	150	8	12	158	162
Irena Küstner	125	125	6	10	131	135
Michael Mostert[1]	74	–	2	–	76	–
Prof. Dr. Rolf Nonnenmacher (Chair of the Audit Committee)	150	150	7	9	157	159
Dr. Richard Pott (Chair)	300	300	8	13	308	313
Regine Stachelhaus	120	120	4	7	124	127
Marc Stothfang[2]	–	89	–	6	–	95
Frank Werth[3]	26	100	2	6	28	106
Sabine Wirtz[4]	100	11	4	–	104	11
Total	**1,655**	**1,655**	**67**	**101**	**1,722**	**1,756**

[1] Member of the Supervisory Board until September 2016
[2] Member of the Supervisory Board since February 2017
[3] Member of the Supervisory Board since September 2016
[4] Member of the Supervisory Board until February 2017

In addition to their compensation as members of the Supervisory Board, those employee representatives who are employees of Covestro Group companies receive compensation unrelated to their service on the Supervisory Board. The total amount of such compensation was €915 thousand (previous year: €503 thousand).

No compensation was paid or benefits granted to members of the Supervisory Board for personally performed services such as consulting or agency services. The company has purchased insurance for the members of the Supervisory Board to cover their personal liability arising from their service on the Supervisory Board.

26.4 Other Information

There were no advances or loans to members of the Board of Management or the Supervisory Board outstanding as of either December 31, 2016, or December 31, 2017.

Takeover-relevant Information

Description pursuant to Section 289a, Paragraph 1 and Section 315a, Paragraph 1 of the German Commercial Code (HGB)

Composition of the capital stock

The capital stock of Covestro AG amounted to €202,500,000 as of December 31, 2017, and is composed of 202,500,000 no-par value bearer shares. Each share confers equal rights and one vote at the Stockholders' Meeting.

Investments in capital interest held, exceeding 10% of total voting rights

At the closing date, Bayer AG held a direct interest of approximately 25%. We have received no notification nor are we otherwise aware of other direct or indirect investments in capital interest held, equal to or exceeding 10% of the voting rights.

For information on Covestro's ownership structure, see: www.investor.covestro.com/en/stock/shareholder-structure

Appointment and dismissal of members of the Board of Management; changes to the Articles of Incorporation

The appointment and dismissal of members of the Board of Management are subject to the provisions of Sections 84 and 85 of the German Stock Corporation Act, Section 31 of the German Codetermination Act and Section 6 of the company's Articles of Incorporation. Pursuant to Section 84, Paragraph 1 of the German Stock Corporation Act, the members of the Board of Management are appointed and dismissed by the Supervisory Board. Since Covestro AG falls within the scope of the German Codetermination Act, the appointment or dismissal of members of the Board of Management requires a majority of two-thirds of the votes of the members of the Supervisory Board on the first ballot pursuant to Section 31, Paragraph 2 of that act. If no such majority is achieved, the appointment is resolved pursuant to Section 31, Paragraph 3 of the Codetermination Act on a second ballot by a simple majority of the votes of the members of the Supervisory Board. If the required majority still is not achieved, a third ballot is held. Here again, a simple majority of the votes of the members suffices, but in this ballot the Chair of the Supervisory Board has two votes pursuant to Section 31, Paragraph 4 of the Codetermination Act. Under Section 6, Paragraph 1 of the Articles of Incorporation of Covestro AG, the number of members of the Board of Management is determined by the Supervisory Board but must be at least two. The Supervisory Board may appoint one member of the Board of Management to be its Chair and one member to be the Vice Chair pursuant to Section 84, Paragraph 2 of the German Stock Corporation Act and Section 6, Paragraph 1 of the Articles of Incorporation.

Any amendments to the Articles of Incorporation are made pursuant to Section 179 of the German Stock Corporation Act and Sections 10 and 17 of the Articles of Incorporation. Under Section 179, Paragraph 1 of the German Stock Corporation Act, amendments to the Articles of Incorporation require a resolution of the Stockholders' Meeting. Pursuant to Section 179, Paragraph 2 of the German Stock Corporation Act, this resolution must be passed by a majority of three-quarters of the voting capital represented at the meeting, unless the Articles of Incorporation provide for a different majority. However, where an amendment relates to a change in the object of the company, the Articles of Incorporation may only specify a larger majority. Section 17, Paragraph 2 of the Articles of Incorporation of Covestro AG utilizes the scope for deviation pursuant to Section 179, Paragraph 2 of the German Stock Corporation Act and provides that resolutions may be passed by a simple majority of the votes cast or, where a capital majority is required, by a simple majority of the capital represented. Pursuant to Section 10, Paragraph 9 of the Articles of Incorporation, the Supervisory Board may resolve on amendments to the Articles of Incorporation that relate solely to their wording.

Authorized capital

Provisions of the Articles of Incorporation concerning authorized capital are entered in the commercial register of Covestro AG. With the approval of the Supervisory Board and until October 2, 2020, the Board of Management may use the authorized capital to increase the capital stock by up to a total of €101,250,000. New shares may be issued against cash contributions and/or contributions in kind. If the authorized capital is used to issue shares in return for cash contributions, stockholders must normally be granted subscription rights. However, the Board of Management is authorized – with the consent of the Supervisory Board – to exclude subscription rights for stockholders:

(a) Where the subscription ratio gives rise to fractional amounts.

(b) To the extent necessary to grant holders or creditors of bonds (including jouissance rights) with warrants or conversion rights or obligations issued by the company or its Group companies the right to subscribe to new shares to the extent to which they would be entitled after exercise of their warrants or conversion rights, or performance of their exercise or conversion obligations.

(c) If the capital is increased by granting shares against contributions in kind.

(d) If the new shares are issued at a price that is not significantly below the stock market price and the total interest in the capital stock attributable to the new shares for which subscription rights are excluded pursuant to Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act does not exceed 10% of the existing capital stock either on the date this authorization takes effect or the date it is utilized. The sale of own shares shall count toward this limit if they are sold during the term of this authorization and subscription rights are disapplied pursuant to Section 71, Paragraph 1, No. 8, Sentence 5 in conjunction with Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act. Further, shares issued or to be issued to service bonds (including jouissance rights) with warrants or conversion rights or obligations shall also count toward this limit where such bonds or jouissance rights were issued during the term of this authorization and stockholders' subscription rights were excluded in analogous application of Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act.

(e) To issue a scrip dividend in which stockholders are given the option of contributing their dividend entitlements to the company (either in full or in part) as a noncash contribution in return for the granting of new shares in the company out of the authorized capital.

Conditional capital

The company's capital stock shall be conditionally increased by up to €70,000,000, divided into up to 70,000,000 no-par value bearer shares (conditional capital). The conditional capital increase shall only be implemented to the extent that the holders of warrants or conversion rights attached to bonds (including jouissance rights) issued or guaranteed by the company or its Group companies up to August 31, 2020, on the basis of the authorization of the Stockholders' Meeting of September 1, 2015, exercise their warrant or conversion rights or perform their warrant or conversion obligations, and to the extent that such warrants or conversion rights or obligations cannot be serviced by own shares, shares issued out of the authorized capital, or other forms of settlement.

The new shares shall be issued at the warrant or conversion price to be determined in accordance with the authorizing resolution referred to above. The new shares shall participate in the profit from the beginning of the fiscal year in which they come into existence; however, the Board of Management, with the consent of the Supervisory Board, may decide that the new shares shall participate in the profit from the beginning of the fiscal year for which, at the time when the warrants or conversion rights are exercised or the exercise or conversion obligations are performed, the Stockholders' Meeting has not yet adopted a resolution on the use of the distributable profit. The Board of Management is authorized, with the consent of the Supervisory Board, to set further details of the terms of the conditional capital increase.

Acquisition and use of the own shares

By a resolution adopted by the Stockholders' Meeting on September 1, 2015, the Board of Management is authorized to acquire and use own shares, also using derivatives. The individual details of the resolution are as follows:

1. Authorization granted to the Board of Management to acquire and use own shares

1.1 The Board of Management is authorized until August 31, 2020, to acquire own shares with a proportionate interest in the capital stock totaling up to 10% of the company's capital stock existing at the date of the resolution, subject to the proviso that the shares acquired as a result of this authorization, together with other shares of the company that the company has already acquired and still holds, or which are attributable to it under Sections 71d and 71e of the German Stock Corporation Act, at no time exceed 10% of the capital stock of the company. The provisions in Section 71, Paragraph 2, Sentences 2 and 3 of the German Stock Corporation Act must be complied with.

The acquisition may only take place via the stock exchange or by means of a public purchase offer and must satisfy the principle of equal treatment of stockholders (Section 53a of the German Stock Corporation Act). If the acquisition takes place via the stock exchange, the purchase price paid by the company (excluding transaction costs) may neither exceed, nor be lower than, the company's share price, as determined by the opening auction in XETRA® trading (or a comparable successor system) on the Frankfurt Stock Exchange on the trading day, by more than 10%. If the acquisition takes place by means of a public purchase offer, the offer price paid by the company (excluding transaction costs) may neither exceed, nor be lower than, the company's share price, as determined by the closing auction in XETRA® trading (or a comparable successor system) on the Frankfurt Stock Exchange on the last trading day before the publication of the purchase offer, by more than 10%. If the total number of the shares tendered in response to a public purchase offer exceeds the offer volume, purchases may be made in proportion to the number of shares tendered (tender ratios); in addition, preferential acceptance of small numbers of shares (up to 50 shares per stockholder), as well as rounding in accordance with commercial principles to avoid notional share fractions, may be provided for. Any further stockholder tender rights are disapplied to this extent.

1.2 The authorization may be exercised in full, or in a number of partial amounts split across several acquisition dates, until the maximum purchase volume has been reached. The acquisition may also be carried out by Group companies that are dependent on the company within the meaning of Section 17 of the German Stock Corporation Act, or by third parties on behalf of the company or such Group companies. The authorization may, subject to compliance with the statutory requirements, be exercised for any purpose permissible in law, especially in pursuit of one or more of the purposes listed in 1.3, 1.4, 1.5 and 1.6. Trading in own shares is not permitted.

If the own shares acquired are used for one or more of the purposes described under 1.3 or 1.4, the stockholders' subscription rights are disapplied. The Board of Management is authorized to disapply subscription rights if the own shares acquired are used for the purpose specified in 1.6. Stockholders also do not have any subscription rights if the own shares acquired are sold via the stock exchange. In the event that the own shares acquired are sold by means of a public offer to stockholders and this public offer complies with the principle of equal treatment, the Board of Management is authorized to disapply the stockholders' subscription rights for fractions.

1.3 The Board of Management is authorized to also sell the own shares acquired under the above authorization in a manner other than via the stock exchange or via an offer to all stockholders, provided that the sale takes place against cash consideration and at a price which, at the date of sale, is not significantly lower than the market price for the same class of shares in the company. This authorization concerning the use of shares is restricted to shares whose proportionate interest in the capital stock may not in total exceed 10% of the capital stock either at the date when this authorization becomes effective or, if this amount is lower, at the date when the present authorization is exercised. The upper limit of 10% of the capital stock is reduced by the proportionate interest in the capital stock which is attributable to those shares which are issued or sold while disapplying subscription rights under or in accordance with Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act on or after September 1, 2015. The upper limit of 10% of the capital stock is further reduced by the proportionate interest in the capital stock which is attributable to those shares which are to be issued to service bonds with warrants or conversion rights or obligations, provided that these bonds are issued while disapplying subscription rights in application of Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act, with the necessary modifications, on or after September 1, 2015.

1.4 The Board of Management is authorized to transfer the own shares acquired under the above authorization to third parties, provided this is done for the purpose of acquiring companies, parts of companies, equity interests in companies, or other assets, or to effect business combinations.

1.5 The Board of Management is authorized to retire the own shares acquired under the above authorization without a further resolution by the Stockholders' Meeting. The shares may also be retired without reducing the capital by adjusting the proportionate interest of the remaining no-par value shares in the capital stock of the company. In this case, the Board of Management is authorized to amend the number of no-par value shares in the Articles of Incorporation.

1.6 The Board of Management is authorized to use the own shares acquired as a result of the above-mentioned authorization to pay a scrip dividend.

1.7 The Board of Management may only use the authorizations in 1.3, 1.4 and 1.6 with the consent of the Supervisory Board. Moreover, the Supervisory Board can determine that the measures taken by the Board of Management on the basis of this Stockholders' Meeting resolution may only be implemented with its consent.

1.8 Overall, the above authorizations concerning the use of shares may be utilized on one or several occasions, individually or together, in relation to partial volumes of the own shares or all own shares held in total.

In October 2017, Covestro AG's Board of Management resolved to buy back treasury shares totaling up to €1.5 billion, (excluding transaction costs) or up to 10% of the company's capital stock, whichever comes first. The buyback began in November 2017. As of December 31, 2017, the company held 1,668,512 treasury shares. This corresponds to 0.8% of the capital stock.

2. Authorization for acquisition using derivatives

2.1 Own shares being acquired as part of the authorization under 1.1 may also be acquired using put or call options. In this case, the option transactions must be entered into with a credit institution, or a company which operates in accordance with Section 53, Paragraph 1, Sentence 1 or Section 53b, Paragraph 1, Sentence 1 or Paragraph 7 of the German Banking Act, that is independent of the company (financial institution), provided that this financial institution, when the option is exercised, only delivers shares which were previously acquired via the stock exchange at a market-driven price in compliance with the principle of equal treatment.

2.2 The acquisition of shares using put or call options is limited to a maximum of 5% of the capital stock in existence as of the date of the resolution by the Stockholders' Meeting or, if this value is lower, as of the date when the authorization is exercised.

2.3 The option premium paid by the company in the case of call options and received in the case of put options may not be materially lower than the theoretical fair value of the options concerned calculated using accepted valuation techniques. The exercise price agreed in the option transaction (in each case not including transaction costs, but taking into account the option premium received or paid) may not be more than 10% higher or lower than the price of the company's shares as determined by the opening auction in XETRA® trading (or a comparable successor system) on the Frankfurt Stock Exchange on the trading day on which the option transaction was entered into.

2.4 The term of the individual derivatives may not, in each case, exceed 18 months; it must end at the latest on August 31, 2020, and must be selected so that the acquisition of the shares using derivatives does not take place after August 31, 2020.

2.5 The provisions under 1.1 also apply to the use of company shares that have been acquired on the basis of this authorization.

3. Authorization to issue convertible bonds, warrant bonds and/or jouissance rights and to disapply subscription rights to these convertible bonds, warrant bonds and/or profit participation certificates

3.1 Authorization period; object; nominal value; term; number of shares

The Board of Management is authorized, with the approval of the Supervisory Board, to issue by August 31, 2020 – in one or more installments – warrant bonds, convertible bonds and/or jouissance rights (collectively referred to as "bonds") – as either registered or bearer bonds – with a total nominal value of up to €1,500,000,000, with or without limited maturity, and to grant to the creditors of these bonds warrants or conversion rights in respect of up to 70,000,000 no-par value bearer shares of the company representing a total pro-rated increase of up to €70,000,000 in the company's capital stock (hereinafter referred to as "shares of the company") on the terms to be defined for these bonds (hereinafter referred as the "terms of the bond"). The authorization can be used in one or more installments. Bonds may also be issued against consideration in kind.

3.2 Currency; issue by Group companies

The bonds may be issued in euros or in the legal currency of any OECD country up to the equivalent value in euros. If bonds are issued in a currency other than the euro, the value shall be calculated using the European Central Bank's reference price for that currency on the date the resolution concerning the bond issue was taken. The bonds may also be issued by a Group company within the meaning of Section 8 of the German Stock Corporation Act. In such case, the Board of Management is authorized, with the approval of the Supervisory Board, to assume the guarantee for redemption of the bonds and to grant to the creditors of these bonds warrants or conversion rights to shares of the company.

3.3 Conversion rights/obligations; conversion ratio

In the case of bonds with conversion rights, creditors may exchange their bonds for shares of the company in accordance with the terms of the bond. The proportionate interest in the capital stock upon conversion into shares may not exceed the nominal value or a lower issue price for the bond with conversion rights. The conversion ratio is the nominal value of a bond with conversion rights divided by the conversion price for a share in the company. This applies analogously if the price of the bond with conversion rights is lower than the nominal value. The conversion ratio may be rounded up or down to the nearest whole number. Moreover, an additional cash payment may be determined. It may also be determined that fractions are aggregated and/or paid out in cash. The terms of the bond may provide for a fixed or variable conversion ratio. The terms of the bond may also specify a conversion obligation. Moreover, they may entitle the company to grant the creditors of bonds with conversion rights upon or before maturity shares in the company in full or partial place of the cash amount due (company's substitution right). The terms of the bond may also authorize the company to compensate by cash in full or in part any difference between the nominal value of the bond with conversion rights and the product of the conversion ratio and a price for the share at the time of conversion that is to be specified in the terms of the bond. The share price used in the calculation in accordance with the preceding sentence must be at least 80% of the share price relevant for the lower limit of the conversion price in accordance with the following No. 3.6.

3.4 Warrants/exercise obligations

In the case of bonds with warrants or exercise obligations, one or several warrants are attached to each bond entitling the creditors to subscribe to shares in the company in accordance with the terms of the bond that are to be defined by the Board of Management. The subscription ratio is the nominal value of a bond with warrants divided by the subscription price for a share in the company. The proportionate interest in the capital stock represented by the shares of the company to be issued on exercise of the options may not exceed the nominal value of the bonds. The terms of the bond may also provide for subscription to a variable number of shares on exercise of the warrants. They may also permit settlement of the subscription price by way of a transfer of bonds and, if necessary, an additional cash payment.

3.5 Granting of new or existing shares; cash payment

When exercising warrants or conversion rights or when meeting exercise or conversion obligations, the company may choose to either grant new shares issued from conditional capital or existing shares in the company or shares in another listed corporation. The terms of the bond may entitle the company to pay the cash value instead of granting shares when exercising warrants or conversion rights or when meeting exercise or conversion obligations.

3.6 Conversion/exercise price

The conversion/exercise price must be at least 80% of the volume-weighted average closing price for the company's shares in XETRA® trading (or a comparable successor system) on the Frankfurt Stock Exchange on the last ten trading days before the day on which the Board of Management passes the resolution concerning the bond issue or at least 80% of the average closing price for the company's shares in XETRA® trading (or a comparable successor system) during the days on which the subscription rights are traded on the Frankfurt Stock Exchange, with the exception of the last two trading days of subscription rights trading. In the case of bonds that are subject to mandatory conversion or if the company exercises its substitution right, the conversion price for one share must be either the aforementioned minimum price or at least the average closing price for the company's shares in XETRA® trading (or a comparable successor system) on the ten trading days before the day on which the conversion takes effect. The terms of the bond may provide for changes to the conversion or exercise price over the course of its term, taking account of the minimum prices as described above within a range specified by the Board of Management depending on the development of the share price. The terms of the bond may include dilution clauses for the case that, during the conversion or exercise period, the company increases the capital stock with subscription rights for its stockholders or issues further convertible bonds, warrant bonds, or profit participation rights or grants or guarantees other option rights and disapplies the subscription rights to which the holders of warrants or conversion rights would be entitled on exercise of their warrants or conversion rights or on performance of their conversion obligations. The terms of the bond may also allow a value-preserving adjustment of the conversion or exercise price or of the option ratio or payment of a cash component in the event of other measures taken by the company or events which entail an economic dilution of the value of the warrants or conversion rights (e.g. dividends). Under no circumstances may the proportionate interest in the capital stock per share attached to a bond exceed the nominal value of the bond itself.

This shall not affect Section 9, Paragraph 1 or Section 199 of the German Stock Corporation Act.

3.7 Other terms of the bond
The Board of Management is authorized, with the consent of the Supervisory Board, to set further details for the issue and class of the bonds.

3.8 Subscription rights; disapplying subscription rights
When bonds are issued, stockholders must be granted subscription rights as a matter of principle. The bonds may be taken up by one or more banks with the obligation to offer them for subscription to stockholders. However, when issuing bonds, the Board of Management is authorized – with the consent of the Supervisory Board – to disapply stockholders' subscription rights:

3.8.1 For fractions.

3.8.2 Insofar as it is necessary to grant the holders of warrants or conversion rights to shares in the company or the creditors of bonds with conversion obligations attached a subscription right to the extent to which they would be entitled if they were to exercise their rights or perform the conversion obligation.

3.8.3 Insofar as the bonds are issued against cash and the issue price does not substantially exceed the theoretical market value of the bonds as determined in accordance with recognized financial principles. However, this authorization to disapply subscription rights relates only to bonds with rights to shares with a total proportionate interest in the capital stock of no more than 10%, and neither at the time when this authorization becomes effective nor at the time it is exercised. The sale of own shares shall count toward this limit if they are sold during the term of this authorization and subscription rights are disapplied pursuant to Section 71, Paragraph 1, No. 8, Sentence 5 in conjunction with Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act. Those shares issued during the term of this authorization from authorized capital and on which subscription rights are disapplied pursuant to Section 186, Paragraph 3, Sentence 4 of the German Stock Corporation Act shall also count toward this limit.

3.8.4 Insofar as they are issued against considerations in kind and the value of these considerations in kind is in reasonable proportion to the market value of the bonds determined according to the preceding No. 3.8.3.

Material conditional agreements

One of the material agreements containing a clause for the event of a change of control pertains to a syndicated credit facility with a bank consortium.

In September 2015, Covestro AG concluded a syndicated multicurrency term and revolving credit facilities agreement (facilities agreement) for €2,700 million with a consortium of banks. In the course of the successful bond placement in March 2016, Covestro AG dissolved the term loan facility of €1,200 million that was part of this facilities agreement, as planned. The multicurrency revolving credit facility of €1,500 million with a term until September 2022 remains in place. No loans had been drawn against this syndicated credit facility as of December 31, 2017. In the event of a change of control, defined as the acquisition of more than 50% of the voting shares by a third party not associated with the Bayer Group or by a consortium of third parties, the participating banks are entitled to terminate the credit facility and demand repayment of any loans that may have been granted up to that time.

Agreements exist for the members of the Board of Management in compliance with Section 4.2.3 of the German Corporate Governance Code to cover the eventuality of a takeover offer being made for Covestro AG. Under these agreements, payments promised in the event of early termination of the service contract of a Board of Management member due to a change of control are limited to the value of three years' compensation and may not compensate more than the remaining term of the contract.

Declaration by the Board of Management Concerning Related Companies

As of the end of the fiscal year, Bayer AG directly held around 25% of the shares of Covestro AG. There is no control and/or profit and loss transfer agreement between these two companies. Bayer AG and Covestro AG entered into an agreement on the non-exercise of control effective September 30, 2017, under which Bayer AG is obligated to waive the right to exercise certain voting rights at Covestro's Annual General Meeting. For this reason, the Board of Management of Covestro AG prepared a report on the company's relationships with related companies in accordance with Section 312 of the German Stock Corporation Act (related parties report) for the period from January 1, 2017, to September 30, 2017. The related parties report was audited by the company's auditor.

At the end of related parties report, the Board of Management made the following declaration concerning relationships with related companies:

"The Board of Management declares that Covestro AG, under the conditions known to the Board of Management at the time at which legal transactions were made, received an appropriate consideration for every legal transaction. No measures in the interest or at the instigation of the controlling company or its affiliated companies have been taken or refrained from."

Consolidated Financial Statements of Covestro AG as of December 31, 2017

CONSOLIDATED FINANCIAL STATEMENTS

Covestro Group Consolidated Income Statement

	Note	2016	2017
		€ million	€ million
Net sales		**11,904**	**14,138**
Cost of goods sold		(8,611)	(9,308)
Gross profit		**3,293**	**4,830**
Selling expenses		(1,323)	(1,352)
Research and development expenses		(259)	(274)
General administration expenses		(451)	(481)
Other operating income	7	126	145
Other operating expenses	8	(55)	(60)
EBIT[1]		**1,331**	**2,808**
Equity-method loss		(20)	(23)
Interest income[2]		19	21
Interest expense[2]		(133)	(120)
Other financial result[2]		(62)	(28)
Financial result	**10**	**(196)**	**(150)**
Income before income taxes		**1,135**	**2,658**
Income taxes	11	(329)	(641)
Income after income taxes		**806**	**2,017**
of which attributable to noncontrolling interest		11	8
of which attributable to Covestro AG stockholders (net income)		795	2,009
		€	€
Basic earnings per share[3]	**12**	**3.93**	**9.93**
Diluted earnings per share[3]	**12**	**3.93**	**9.93**

[1] EBIT: income after income taxes plus financial result and income tax expense
[2] The previous year's figures were adjusted retroactively to reflect the change in the accounting treatment of forward exchange contracts. See Note 4 for additional information.
[3] Weighted average number of outstanding no-par voting shares of Covestro AG in issue: 202,396,416 (previous year: 202,500,000)

Covestro Group Consolidated Statement of Comprehensive Income

	Note	2016	2017
		€ million	€ million
Income after income taxes		**806**	**2,017**
Remeasurements to the net defined benefit liability for post-employment benefit plans	21	(138)	(215)
Income taxes	11	43	33
Other comprehensive income from remeasurements of the net defined benefit liability for post-employment benefit plans		**(95)**	**(182)**
Other comprehensive income that will not be reclassified subsequently to profit or loss		**(95)**	**(182)**
Change in fair values of available-for-sale financial assets	25	(1)	1
Reclassified to profit or loss		1	–
Income taxes	11	–	–
Other comprehensive income from available-for-sale financial assets		**–**	**1**
Change in exchange differences recognized on translation of operations outside the eurozone		36	(270)
Reclassified to profit or loss		–	–
Other comprehensive income from exchange differences		**36**	**(270)**
Other comprehensive income that may be reclassified subsequently to profit or loss		**36**	**(269)**
Total other comprehensive income[1]		**(59)**	**(451)**
of which attributable to noncontrolling interest		1	(4)
of which attributable to Covestro AG stockholders		(60)	(447)
Total comprehensive income		**747**	**1,566**
of which attributable to noncontrolling interest		12	4
of which attributable to Covestro AG stockholders		735	1,562

[1] Total change recognized outside profit or loss

Covestro Group Consolidated Statement of Financial Position

	Note	Dec. 31, 2016	Dec. 31, 2017
		€ million	€ million
Noncurrent assets			
Goodwill	13	264	253
Other intangible assets	13	97	81
Property, plant and equipment	14	4,655	4,296
Investments accounted for using the equity method	15	230	208
Other financial assets	16	31	31
Other receivables	19	41	35
Deferred taxes	11	648	702
		5,966	**5,606**
Current assets			
Inventories	17	1,721	1,913
Trade accounts receivable	18	1,674	1,882
Other financial assets	16	171	285
Other receivables	19	316	281
Claims for income tax refunds		119	138
Cash and cash equivalents		267	1,232
Assets held for sale		–	4
		4,268	**5,735**
Total assets		**10,234**	**11,341**
Equity	**20**		
Capital stock of Covestro AG		203	201
Capital reserves of Covestro AG		4,908	4,767
Other reserves		(922)	367
Equity attributable to Covestro AG stockholders		**4,189**	**5,335**
Equity attributable to noncontrolling interest		27	30
		4,216	**5,365**
Noncurrent liabilities			
Provisions for pensions and other post-employment benefits	21	1,209	1,187
Other provisions	22	319	229
Financial liabilities	23	1,796	1,213
Income tax liabilities	11	36	74
Other liabilities	24	26	21
Deferred taxes	11	158	161
		3,544	**2,885**
Current liabilities			
Other provisions	22	569	529
Financial liabilities	23	135	583
Trade accounts payable		1,536	1,618
Income tax liabilities	11	37	161
Other liabilities	24	197	200
		2,474	**3,091**
Total equity and liabilities		**10,234**	**11,341**

Covestro Group Consolidated Statement of Cash Flows

	Note	2016	2017
		€ million	€ million
Income after income taxes		806	2,017
Income taxes		329	641
Financial result		196	150
Income taxes paid		(418)	(510)
Depreciation, amortization, impairment losses and impairment loss reversals		683	627
Change in pension provisions		8	17
(Gains)/losses on retirements of noncurrent assets		1	(45)
Decrease/(increase) in inventories		73	(306)
Decrease/(increase) in trade accounts receivable		(171)	(325)
(Decrease)/increase in trade accounts payable		123	156
Change in other working capital, other noncash items		156	(61)
Cash flows from operating activities	**28.1**	**1,786**	**2,361**
Cash outflows for additions to property, plant, equipment and intangible assets		(419)	(518)
Cash inflows from sales of property, plant, equipment and other assets		6	16
Cash inflows from divestitures		–	47
Cash outflows for noncurrent financial assets		(19)	(30)
Cash inflows from noncurrent financial assets		4	1
Cash outflows for acquisitions less acquired cash		–	(4)
Interest and dividends received[1]		18	29
Cash inflows from/(outflows for) other current financial assets[1]		(548)	(288)
Cash flows from investing activities[1]	**28.2**	**(958)**	**(747)**
Reacquisition of treasury shares		–	(143)
Dividend payments and withholding tax on dividends		(143)	(274)
Issuances of debt		1,793	244
Retirements of debt		(2,727)	(330)
Interest paid[1]		(129)	(131)
Cash flows from financing activities[1]	**28.3**	**(1,206)**	**(634)**
Change in cash and cash equivalents due to business activities		**(378)**	**980**
Cash and cash equivalents at beginning of year		**642**	**267**
Change in cash and cash equivalents due to exchange rate movements		3	(15)
Cash and cash equivalents at end of year		**267**	**1,232**

[1] The previous year's figures were adjusted retroactively to reflect the change in the accounting treatment of forward exchange contracts. See Note 4 for additional information.

Covestro Group Consolidated Statement of Changes in Equity

					Accumulated other comprehensive income				
	Capital stock of Covestro AG	Capital reserves of Covestro AG	Retained earnings incl. total income		Currency translation	Fair value of available for sale financial assets	Equity attributable to Covestro AG stockholders	Equity attributable to noncontrolling interest	Equity
	€ million	€ million	€ million		€ million	€ million	€ million	€ million	€ million
Dec. 31, 2015	**203**	**4,908**	**(1,999)**		**484**	**–**	**3,596**	**16**	**3,612**
Reacquisition of treasury shares	–	–					–		–
Dividend payments			(142)				(142)	(1)	(143)
Income after income taxes			795				795	11	806
Other comprehensive income			(95)		35	–	(60)	1	(59)
Total comprehensive income			**700**		**35**	**–**	**735**	**12**	**747**
Dec. 31, 2016	**203**	**4,908**	**(1,441)**		**519**	**–**	**4,189**	**27**	**4,216**
thereof treasury shares	–	–					–		–
Dec. 31, 2016	**203**	**4,908**	**(1,441)**		**519**	**–**	**4,189**	**27**	**4,216**
Reacquisition of treasury shares	(2)	(141)					(143)		(143)
Dividend payments			(273)				(273)	(1)	(274)
Income after income taxes			2,009				2,009	8	2,017
Other comprehensive income			(182)		(266)	1	(447)	(4)	(451)
Total comprehensive income			**1,827**		**(266)**	**1**	**1,562**	**4**	**1,566**
Dec. 31, 2017	**201**	**4,767**	**113**		**253**	**1**	**5,335**	**30**	**5,365**
thereof treasury shares	(2)	(141)					(143)		(143)

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS OF THE COVESTRO GROUP

Principles and Methods

1. General Information

Covestro AG is a stock exchange-listed corporation headquartered at Kaiser-Wilhelm-Allee 60, 51373 Leverkusen (Germany), (Covestro AG). The consolidated financial statements of Covestro AG for the period ended December 31, 2017, cover Covestro AG and its subsidiaries, joint arrangements and associated companies. They have been prepared according to the International Financial Reporting Standards (IFRSs) of the International Accounting Standards Board, London (United Kingdom), (IASB), as endorsed by the European Union and in effect at the reporting date, the Interpretations (IFRICs) of the IFRS Interpretations Committee (IFRS IC) and the Interpretations published by the Standing Interpretations Committee (SIC), as well as the additional requirements of German commercial law pursuant to Section 315e, Paragraph 1 of the German Commercial Code (HGB) for the exempting IFRS consolidated financial statements.

The declaration pertaining to the German Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act (AktG) has been issued and made available to stockholders. It is reproduced in section 23 of the management report.

If certain items in the income statement, statement of comprehensive income, statement of financial position, statement of cash flows and statement of changes in equity of the Covestro Group are condensed for the sake of clarity, this is explained in the notes. The income statement has been prepared using the cost-of-sales method. Assets and liabilities are classified by maturity. They are classified as current if they mature within one year or within the Group's normal business cycle or are held for sale. Inventories and trade accounts receivable and payable are consistently presented as current. Deferred tax assets, deferred tax liabilities and pension provisions are consistently presented as noncurrent.

The consolidated financial statements are drawn up in euros. Amounts are stated in millions of euros (€ million) except where otherwise indicated.

Exchange rates

In the reporting period, the following exchange rates were used for the major currencies of relevance to the Covestro Group:

Closing Rates for Major Currencies

		Closing Rates	
€1/		2016	2017
BRL	Brazil	3.43	3.97
CNY	China	7.35	7.81
HKD	Hong Kong	8.18	9.37
INR	India	71.59	76.61
JPY	Japan	123.40	135.01
MXN	Mexico	21.77	23.66
USD	United States	1.05	1.20

Average Rates for Major Currencies

		Average Rates	
€1/		2016	2017
BRL	Brazil	3.84	3.59
CNY	China	7.36	7.61
HKD	Hong Kong	8.59	8.78
INR	India	74.33	73.38
JPY	Japan	120.06	126.39
MXN	Mexico	20.62	21.28
USD	United States	1.11	1.13

2. Effects of New Financial Reporting Standards

2.1 Financial Reporting Standards Applied for the First Time in the Reporting Period

IFRS Pronouncement (published on)	Title	Effective for annual periods beginning on or after
Amendments to IAS 12 (January 19, 2016)	Recognition of Deferred Tax Assets for Unrealised Losses	January 1, 2017
Amendments to IAS 7 (January 29, 2016)	Disclosure Initiative	January 1, 2017
Annual Improvements to IFRSs (December 8, 2016)	2014–2016 Cycle	January 1, 2017/January 1, 2018

The first-time application of these financial reporting standards either had no impact or no material impact on the presentation of the Covestro Group's net assets, financial position and results of operations.

In the **"Annual Improvements to IFRS Standards 2014–2016 Cycle"** published by the IASB on December 8, 2016, only the amendments to IFRS 12 were to have been applied for the first time as of January 1, 2017. The amendments to IFRS 1 and IAS 28 must be applied for the first time as of January 1, 2018. These changes are not expected to have an impact on the presentation of the Covestro Group's net assets, financial position and results of operations.

IFRS 14 (Regulatory Deferral Accounts), which was published by the IASB on January 30, 2014, was to have been applied for the first time from January 1, 2016. Due to the decision by the European Commission not to endorse the standard, it has not been applied.

2.2 Published Financial Reporting Standards That Have Not Yet Been Applied

The IASB and the IFRS IC have issued the following standards, amendments to standards, exposure drafts of standards and interpretations whose application has not yet been mandatory to date. The application of these IFRS standards is conditional upon their endorsement by the European Union.

IFRS pronouncement (published on)	Title	Effective for annual periods beginning on or after
Endorsed by the EU		
IFRS 15 (May 28, 2014)	Revenue from Contracts with Customers	January 1, 2018
Amendments to IFRS 15 (September 11, 2015)	Effective Date of IFRS 15	January 1, 2018
Amendments to IFRS 15 (April 12, 2016)	Clarifications to IFRS 15 – Revenue from Contracts with Customers	January 1, 2018
IFRS 9 (July 24, 2014)	Financial Instruments	January 1, 2018
IFRS 16 (January 13, 2016)	Leases	January 1, 2019
Amendments to IFRS 4 (September 12, 2016)	Applying IFRS 9 – Financial Instruments with IFRS 4 Insurance Contracts	January 1, 2018
Not yet endorsed by the EU		
Amendments to IFRS 2 (June 20, 2016)	Classification and Measurement of Share-based Payment Transactions	January 1, 2018
IFRIC Interpretation 22 (December 8, 2016)	Foreign Currency Transactions and Advance Consideration	January 1, 2018
Amendments to IAS 40 (December 8, 2016)	Transfers of Investment Property	January 1, 2018
IFRS 17 (May 18, 2017)	Insurance Contracts	January 1, 2021
IFRIC Interpretation 23 (June 7, 2017)	Uncertainty over Income Tax Treatments	January 1, 2019
Amendments to IAS 28 (October 12, 2017)	Long-term Interests in Associates and Joint Ventures	January 1, 2019
Amendments to IFRS 9 (October 12, 2017)	Prepayment Features with Negative Compensation	January 1, 2019
Annual Improvements IFRS (December 12, 2017)	2015–2017 Cycle	January 1, 2019
Amendments to IAS 19 (February 7, 2018)	Plan Amendment, Curtailment or Settlement	January 1, 2019

The financial reporting standards whose application could influence the presentation of the Covestro Group's net assets, financial position and results of operations are outlined in greater detail below. The Covestro Group is currently evaluating the impact these standards will have and does not currently intend to begin applying them early.

On May 28, 2014, the IASB issued **IFRS 15 (Revenue from Contracts with Customers)**. According to IFRS 15, an entity must recognize the expected consideration for goods or services as revenue as soon as control over the goods passes to the customer or the services are rendered. There are five steps to revenue recognition. In step 1, the contract with the customer is identified. In step 2, the distinct performance obligations in the contract are identified. In step 3, the transaction price is determined. In step 4, this transaction price is allocated to the distinct performance obligations. In step 5, revenue is recognized either over time or at a point in time. As a result of these principles, IFRS 15 may affect the timing of revenue recognition, among other things. IFRS 15 also results in new items in the statement of financial position, such as contract assets, contract liabilities and refund liabilities, and requires additional disclosures in the notes to the financial statements. IFRS 15 replaces IAS 11 (Construction Contracts), IAS 18 (Revenue), IFRIC 13 (Customer Loyalty Programmes), IFRIC 15 (Agreements for the Construction of Real Estate), IFRIC 18 (Transfers of Assets from Customers) and SIC-31 (Revenue – Barter Transactions Involving Advertising Services). On September 11, 2015, an amendment to IFRS 15 was published postponing the date of mandatory application by one year until January 1, 2018. Moreover, on April 12, 2016, the IASB issued an amendment to IFRS 15 entitled "Clarifications to IFRS 15 Revenue from Contracts with Customers". This pronouncement mainly clarifies certain IFRS 15 rules regarding the identification of performance obligations in contracts, principal versus agent considerations and licensing. It also amends the rules regarding the first-time application of IFRS 15.

In the course of the analysis conducted at Covestro, certain issues have been identified that will affect the presentation of its net assets, financial position and results of operations when IFRS 15 is applied. For certain contracts, revenue will be recognized differently than it is today. For example, certain consignment warehousing agreements will generally generate revenue as early as the date of delivery and not upon documented withdrawal. In addition, the timing of the recognition of revenue governed by certain transportation clauses will change. There are two categories: In the first category, transportation and freight services are performed after the transfer of control of the goods sold. The revenue attributable to these services will therefore not be recognized until the services are provided. In the second category, the transfer of control of the goods sold occurs later than under the accounting rules to date. As a result, the total revenue from the delivery of the goods will be recognized at a later date. Moreover, other effects will arise from certain customer-specific products for which revenue will be recognized earlier in the future due to the possible lack of an alternative use for Covestro where Covestro has an enforceable right to receive payment for completed performance. These partially compensating effects of the aforementioned changes are, overall, not expected to have a material impact on the presentation of the Covestro Group's net assets, financial position and results of operations.

The analysis of the effects of IFRS 15 on the presentation of the Covestro Group's net assets, financial position and results of operations was not yet fully completed at the time the consolidated financial statements were prepared.

IFRS 15 was applied as of January 1, 2018, using the modified retrospective approach. The cumulative effect of initially applying the standard as of January 1, 2018, is recognized in equity.

On July 24, 2014, the IASB published the final version of **IFRS 9 (Financial Instruments)**. The new standard contains rules on categorizing and measuring financial assets and financial liabilities. IFRS 9 defines three instead of four measurement categories for financial assets, with classification to be based partly on the entity's business model and partly on the characteristics of the contractual cash flows from the respective financial asset. In the case of equity investments that are not held for trading, an entity may irrevocably opt at initial recognition to recognize future changes in their fair value outside profit or loss in the statement of comprehensive income. Furthermore, the hedge accounting rules were revised with the aim of achieving a closer link between risk management activities and the reporting of hedging instruments in the financial statements. This involves additional disclosures in the notes. IFRS 9 also includes new rules for the recognition of impairments on financial instruments. This new impairment model is based on the principle of accounting for expected losses.

The analysis has shown that the new impairment model, the amended classification and measurement requirements, and additional disclosures in the notes will result in changes at Covestro. The process by which expected losses are stated for the purposes of recognizing impairment charges on financial instruments (e.g. trade accounts receivable) has already been implemented. A change in the accounting for financial assets is only likely to occur in isolated cases. Because Covestro does not practice formal hedge accounting, the fundamental changes in hedge accounting are not relevant at present.

Initial application of IFRS 9 will not have a material impact on Covestro's net assets, financial position and results of operations. Nevertheless, IFRS 9 could materially affect the presentation of its net assets, financial position and results of operations depending on future arrangements and transactions. IFRS 9 was adopted as of January 1, 2018. The cumulative effect of initially applying the standard as of January 1, 2018, is recognized in equity.

On January 13, 2016, the IASB published **IFRS 16 (Leases)**, a new standard for recognizing leases which replaces IAS 17 (Leases), IFRIC 4 (Determining whether an Arrangement Contains a Lease), SIC-15 (Operating Leases – Incentives) and SIC-27 (Evaluating the Substance of Transactions Involving the Legal Form of a Lease). While IFRS 16 basically retains the previous accounting rules for lessors, only one accounting model is now envisaged for use by lessees. This requires a lessee to recognize a right-of-use asset and a corresponding lease liability for each lease, unless a lease has a term of less than 12 months or the underlying asset is of low value. The right-of-use asset reflects a lessee's right to use the asset being leased. The lease liability recognizes the lessee's obligation to make contractual lease payments.

IFRS 16 will change Covestro's lease accounting fundamentally, particularly from a lessee perspective. The analysis focuses mainly on the implications on data systems and processes and is still underway, as is the technical accounting analysis. No statement can yet be made regarding the effects on the presentation of Covestro's net assets, financial position and results of operations.

On June 20, 2016, the IASB published amendments to IFRS 2 (Share-based Payment) entitled **"Classification and Measurement of Share-based Payment Transactions"**. The amendments clarify the effects of vesting and nonvesting conditions on the measurement of cash-settled share-based payments. They provide additional guidance on classifying equity-settled share-based payment transactions for which tax must be withheld and accounting for modifications to the terms and conditions of share-based payment transactions that change the classification from cash-settled share-based payment transactions to equity-settled share-based payment transactions.

On December 8, 2016, the IFRS IC published **IFRIC Interpretation 22 (Foreign Currency Transactions and Advance Consideration)**. This interpretation clarifies the date to be used for determining the exchange rate when a transaction includes the receipt or payment of advance consideration in a foreign currency prior to first-time recognition of the associated asset, expense or income. In these cases, the interpretation specifies this as the date of initial recognition of a nonmonetary asset or nonmonetary liability as a result of prepayment.

On May 18, 2017, the IASB issued **IFRS 17 (Insurance Contracts)**. IFRS 17 regulates the recognition, measurement and presentation of issued insurance contracts as well as the necessary disclosures in the notes. In addition, IFRS 17 requires the application of similar principles in the case of existing reinsurance contracts held and, insofar as insurance contracts are issued, also issued investment contracts with a discretionary participation feature. IFRS 17 will replace IFRS 4 (Insurance Contracts).

On June 7, 2017, the IFRS IC also issued **IFRIC Interpretation 23 (Uncertainty over Income Tax Treatments)**. The interpretation clarifies how in cases, in which there is uncertainty about the fiscal treatment according to IAS 12 or recognition by tax authorities, the taxable profit or tax loss, the tax basis, unused tax losses, unused tax credits and tax rates are determined. Furthermore, the likelihood that a tax authority will accept a certain tax treatment, shall also generally be taken into account. If it is probable that a certain tax treatment with an existing uncertainty is accepted, then this shall be incorporated into the determination, otherwise the most likely amount or the expected value shall be taken into account. Moreover, the interpretation clarifies if such cases shall be regarded individually or together, which assumptions shall be made with respect to the tax authorities and how amendments to the corresponding facts and circumstances shall be taken into account.

On October 12, 2017, the IASB issued amendments to IAS 28 (Investments in Associates and Joint Ventures) under the title **"Long-term Interests in Associates and Joint Ventures"**. The amendments clarify that IFRS 9 (Financial Instruments) shall be applied to long-term interests, which are part of the net investment in an associate or a joint venture to which the equity method is not applied.

On October 12, 2017, the IASB also issued amendments to IFRS 9 (Financial Instruments) under the title **"Prepayment Features with Negative Compensation"**. The amendments extend the rules of the IFRS 9 to the extent that prepayable financial assets can be measured at amortized cost or fair value through other comprehensive income, also in the case of reasonable negative compensation payments. Furthermore, the amendments contain clarification with regard to reporting on modifications to financial liabilities.

On December 12, 2017, the IASB published **"Annual Improvements to IFRS Standards 2015–2017 Cycle"**. The Annual Improvements include clarifications of IFRS 3 (Business Combinations), IFRS 11 (Joint Arrangements), IAS 12 (Income Taxes) and IAS 23 (Borrowing Costs). The amendments to IFRS 3 clarify that interests in a business previously held in a joint operation must be remeasured when an entity obtains control of this business. In contrast, the amendments to IFRS 11 state that when an entity obtains joint control of a business held to date in a joint operation, the entity does not remeasure previously held interests in that business. Among other things, the amendments to IAS 12 stipulate that the tax consequences of accounting for dividend payments must be recognized in the same way as the related transaction. The clarifications with regard to IAS 23 mainly explain that the capitalization of borrowing costs for a qualified asset ceases when the asset is ready for its intended use or sale. Accordingly, any specific borrowing for this asset outstanding after that time becomes part of the funds that an entity borrows generally which are the basis for calculating a capitalization rate according to IAS 23.

On February 7, 2018, the IASB published changes to IAS 19 (Employee Benefits) under the title **"Plan Amendment, Curtailment or Settlement"**. With these changes, the IASB clarified in particular that in the event of an amendment, curtailment or settlement of a plan, not only must the net defined benefit liability or asset be remeasured, the current service cost and the net interest for the period remaining after the amendment, curtailment or settlement must also be calculated using the new assumptions.

Insofar as the aforementioned accounting and financial reporting standards depicted in the table above have not yet been endorsed by the European Union, the first-time application of amendments to IFRS 2, IFRIC interpretation 22 as well as amendments to IAS 40 shall not take effect as of January 1, 2018.

3. Accounting Policies and Valuation Principles

Covestro's consolidated financial statements are based on the principle of the historical cost of acquisition, construction or production, with the exception of the items reflected at fair value, such as available-for-sale financial assets and derivatives.

In preparing the consolidated financial statements, Covestro management has to make assumptions and estimates to a certain extent that may substantially impact the presentation of the Covestro Group's net assets, financial position and results of operations. Such estimates, assumptions and the exercise of discretion mainly relate to the following areas: the useful life of noncurrent assets, the discounted cash flows used for impairment testing to be conducted at least annually, purchase price allocations, the assessment of the amount of deferred tax assets recoverable in future periods as well as the recognition of provisions, for example for litigation-related expenses, pensions and other employee benefits, taxes, environmental compliance and remediation costs, sales allowances and product liability. In addition, Covestro's management must decide which information is relevant for readers of the IFRS consolidated financial statements and should be included in the notes.

Consolidation

As of December 31, 2017, the direct and indirect subsidiaries of Covestro AG were fully consolidated in accordance with the principles of IFRS 10 (Consolidated Financial Statements). In addition, joint arrangements as defined by IFRS 11 (Joint Arrangements) were classified as joint operations and consolidated proportionately, or classified as joint ventures and accounted for in the consolidated financial statements in the same way as associated companies using the equity method in accordance with IAS 28 (Investments in Associates and Joint Ventures). For additional information, please see Note 6.1.

Joint operations and joint ventures

Joint operations and joint ventures are based on joint arrangements. A joint arrangement is deemed to exist if Covestro AG, through a contractual agreement, indirectly or directly jointly controls an activity together with at least one third party. Joint control is only deemed to exist if decisions regarding the relevant activities require the unanimous consent of the parties sharing control.

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets and obligations for the liabilities relating to the arrangement. The Covestro Group recognizes the share of assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with its rights and obligations.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Joint ventures are accounted for using the equity method.

Associates over which Covestro AG has significant influence, generally through an ownership interest between 20% and 50%, are also accounted for using the equity method.

Companies that do not have a material impact on the Covestro Group's net assets, financial position and results of operations, either individually or in aggregate, are accounted for at cost of acquisition less any impairment losses, because their fair value cannot be determined from a stock exchange or other market price or by discounting reliably determinable cash flows.

Currency translation

The financial statements of the individual companies for inclusion in the consolidated financial statements are prepared in their respective functional currencies. The majority of consolidated companies carry out their activities autonomously from a financial, economic and organizational point of view, and their functional currencies are therefore the respective local currencies.

In the separate financial statements of the foreign companies, receivables and liabilities in currencies other than the respective functional currency are translated at closing rates. Related exchange differences are recognized in profit or loss and recorded as exchange gains or losses under other financial result.

In the consolidated financial statements, the assets and liabilities of Covestro companies outside the eurozone are translated into euros at closing rates at the start and end of the reporting period. All changes occurring during the year and all income and expense items and cash flows are translated into euros at average rates. The components of equity are translated at the historical exchange rates.

Net sales and other operating income

All revenues derived from the selling of products or rendering of services or from licensing agreements are recognized as sales. Other operational revenues are recognized as other operating income. Product sales are recognized in profit or loss when

- the significant risks and rewards of ownership of the goods have been transferred to the customer,
- the Covestro Group retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold,
- the amount of revenue and costs incurred or to be incurred can be measured reliably, and
- it is sufficiently probable that the economic benefits associated with the transaction will flow to the Covestro Group.

As a rule, the transfer of the significant risks and rewards of ownership of the goods takes place at the same time as the passing of possession to the customer or at a time during the transport operation when Covestro is no longer responsible for the insurance. The transfer of legal ownership is based on the agreed dispatch and transport conditions.

Sales are stated net of sales taxes, other taxes and sales deductions at the fair value of the considerations received or to be received. Sales deductions are estimated amounts for rebates, cash discounts and similar sales allowances. They are deducted at the time the sales are recognized, and appropriate provisions are recorded. Sales deductions are estimated primarily on the basis of historical experience, specific contractual terms and expectations of future sales development. It is unlikely that factors other than these could materially affect sales deductions in the Covestro Group. Adjustments to provisions for rebates and similar sales allowances established in prior periods were of secondary importance for income before income taxes in the reporting period.

Research and development expenses

Research and development expenses are incurred in the Covestro Group for in-house research and development activities as well as research and development collaborations and alliances with third parties.

Research costs cannot be capitalized. Development costs, on the other hand, must be capitalized according to closely defined conditions. An intangible asset must be recognized if there is reasonable certainty of receiving future cash flows that will cover an asset's carrying amount. Since Covestro's development projects are often subject to uncertainties, the conditions for the capitalization of development costs are normally not satisfied.

Income taxes

Income taxes comprise the taxes levied on taxable income in the individual countries along with changes in deferred tax assets and liabilities that are recognized in profit or loss. The income taxes recognized are reflected at the amounts likely to be payable or reimbursable under the statutory regulations in force, or already enacted in relation to future periods, at the end of the reporting period.

As a rule, deferred taxes are recognized in profit or loss. However, if deferred taxes relate to items recognized outside profit or loss in equity, they, too, are recognized outside profit or loss.

The probability that deferred tax assets resulting from temporary differences, tax credits or loss carryforwards can be utilized in the future is the subject of forecasts by the individual companies regarding the future earnings situation in the respective Covestro companies and other parameters.

Deferred tax liabilities are recognized on planned dividend payments by subsidiaries. Where no dividend payment is planned for the foreseeable future, no deferred tax liability is recognized on the difference between the proportionate equity according to IFRSs and the tax base of the carrying amount of the investment in the subsidiary.

The expected effects of uncertain tax positions are reflected at probable value in the consolidated financial statements.

Goodwill

Goodwill is not amortized. Its carrying amount is subjected to impairment testing annually or more often if there is any indication of possible impairment. Detailed explanations of impairment testing can be found under “Procedure used in global impairment testing and its impact”. Once an impairment loss has been recognized on goodwill, it cannot be reversed in subsequent periods.

Other intangible assets

An “other intangible asset” is an identifiable nonmonetary asset without physical substance, other than goodwill (such as software or rights). Other intangible assets are recognized at the cost of acquisition or generation. Those with a determinable useful life are amortized accordingly on a straight-line basis over a period of up to 20 years, except where their actual depletion demands a different amortization pattern. Determination of the expected useful lives of other intangible assets is based on estimates of the period for which they will generate cash flows.

Property, plant and equipment

Property, plant and equipment are carried at the cost of acquisition or construction and depreciated by the straight-line method over the expected useful life. An impairment loss is recognized in addition if an asset’s recoverable amount falls below its carrying amount.

If the construction phase of property, plant or equipment extends over a period of 12 months or more, the interest incurred on borrowed capital up to the date of completion is capitalized as part of the cost of acquisition or construction in accordance with IAS 23 (Borrowing Costs).

Costs for regular, comprehensive maintenance work (such as the major overhaul of a technical facility) are capitalized as a separate component if they satisfy special recognition criteria.

The following depreciation periods are applied throughout the Covestro Group:

Useful Life of Property, Plant and Equipment

Buildings	20 to 50 years
Infrastructure	10 to 20 years
Storage tanks and pipelines	10 to 20 years
Plant installations	6 to 20 years
Machinery and equipment	6 to 12 years
Furniture and fixtures	4 to 10 years
Vehicles	5 to 8 years
Computer equipment	3 to 5 years
Laboratory and research facilities	3 to 5 years

Significant asset components with different useful lives are accounted for and depreciated separately.

When assets are sold, closed down or scrapped, the difference between the net proceeds and the net carrying amount of the assets is recognized as a gain or loss in other operating income or expenses, respectively.

Impairment of other intangible assets and property, plant and equipment

If there are indications that an individual item of intangible assets or property, plant and equipment may be impaired, the recoverable amount is compared to the carrying amount. If the recoverable amount is less than the carrying amount, an impairment loss is recognized for the difference. If the reasons for a previously recognized impairment loss no longer apply, the impairment loss is reversed provided that the reversal does not cause the carrying amount to exceed the original (amortized) cost of acquisition or generation.

Both depreciation or amortization and impairment losses are recognized in the functional cost in line with the use of the relevant asset.

Financial assets

Financial assets comprise loans and receivables, acquired equity and debt instruments, cash and cash equivalents, and derivatives with positive fair values.

They are recognized and measured in accordance with IAS 39 (Financial Instruments: Recognition and Measurement). Accordingly, financial assets are recognized in the consolidated financial statements if the Covestro Group has a contractual right to receive cash or other financial assets from another entity. Regular-way purchases and sales of financial assets are generally posted on the settlement date. Financial assets are initially recognized at fair value plus transaction costs. If these assets are to be carried at amortized cost for the purposes of subsequent measurement, the transaction costs are accounted for as deferred expense using the effective interest method. However, the transaction costs incurred for the purchase of financial assets held at fair value through profit or loss are expensed immediately. Upon first-time recognition, each financial asset is assigned to one of the categories prescribed in IAS 39. Subsequent measurement takes place according to the measurement rules for the respective category, as described below.

"Financial assets at fair value through profit or loss" comprise those financial assets that are held for trading. This category also includes the receivables from other derivatives not used in hedge accounting that are included in other financial assets, in addition to embedded derivatives in some cases. Changes in the fair value of financial assets in this category are recognized in profit or loss when the increase or decrease in fair value occurs.

"Loans and receivables" are nonderivative financial assets with fixed or determinable payments that are not quoted in an active market. They are accounted for at amortized cost using the effective interest method. This category comprises trade accounts receivable, the loans and receivables included in other financial assets, the additional financial receivables reflected in other receivables, and cash and cash equivalents. Interest income from items assigned to this category is determined using the effective interest method.

"Available-for-sale financial assets" are those nonderivative financial assets that are not assigned to any of the above categories. They mainly include equity instruments, such as shares, and debt instruments not to be held to maturity that are included in other financial assets. After their first-time recognition, "available-for-sale financial assets" are measured at fair value and any unrealized gains or losses are recognized outside profit or loss in other comprehensive income. These are only reclassified to profit or loss if the assets are sold or if there are objective indications of impairment, in which case the accumulated loss is recognized in profit or loss. An objective indication of impairment is a significant or prolonged decrease in the fair value of an equity instrument to below its acquisition cost. Previously recognized impairment losses are reversed if the reasons for them no longer apply. Impairment loss reversals for equity instruments are recognized outside profit or loss, while those for debt instruments are recognized in profit or loss. Where possible, a fair value for equity securities is derived from market data. Those financial assets for which no market price is available and whose fair value cannot be reasonably estimated are recognized at cost less any impairment losses.

If there are substantial and objective indications of a decline in the value of "loans and receivables" or "available-for-sale financial assets", an impairment test is performed. Indications of possible impairment include a high probability of insolvency, a significant deterioration in credit standing, a material breach of contract, operating losses reported by a company over several years, a reduction in market value, the financial restructuring of the debtor, or the disappearance of an active market for the asset.

In the case of "loans and receivables", an impairment test is performed in which the carrying amount is compared to the present value of the expected future cash flows, discounted at the original effective interest rate. If the carrying amount exceeds the present value, an impairment loss is recognized for the difference between the two amounts. If the reasons for previously recognized impairment losses no longer apply, the impairment losses are reversed, provided that this does not cause the carrying amounts to exceed the amortized cost of acquisition.

Financial assets are derecognized when contractual rights to receive cash flows from the financial assets expire or the financial assets are transferred together with all significant risks and rewards.

Inventories

Inventories are recognized at their cost of acquisition or production (production-related full cost) – calculated by the weighted-average method – or at their net realizable value, whichever is lower. The net realizable value is the estimated selling price in the ordinary course of business less estimated cost to complete and selling expenses.

Cash and cash equivalents

Cash and cash equivalents comprise cash, checks received and balances with banks. Cash equivalents are highly liquid short-term financial investments that are subject to an insignificant risk of changes in value, are easily convertible into a known amount of cash, and have a maturity of three months or less from the date of acquisition or investment.

Provisions for pensions and other post-employment benefits

Within the Covestro Group, post-employment benefits are provided under defined contribution and defined benefit plans. In the case of defined contribution plans, the company pays contributions to publicly or privately administered pension plans on a mandatory, contractual or voluntary basis. Once the contributions have been paid, the company has no further payment obligations. The regular contributions constitute expenses for the year in which they are due and as such are included in the functional cost items, and thus in income after income taxes plus financial result and income tax expense (EBIT). All other post-employment benefit systems are defined benefit plans, which may be either unfunded, i.e. financed by provisions, or funded, i.e. financed through pension funds.

The present value of the defined benefit obligations and the resulting expense are calculated in accordance with IAS 19 (Employee Benefits) by the projected unit credit method. The future benefit obligations are valued by actuarial methods and spread over the entire employment period on the basis of specific assumptions regarding beneficiary structure and the economic environment. These relate mainly to the discount rate, future salary and pension increases, variations in health care costs, and mortality rates.

The discount rates used are calculated from the yields of high-quality corporate bond portfolios in specific currencies with cash flows approximately equivalent to the expected cash outflows from the pension plans. The uniform discount rate derived from this interest rate structure is thus based on the yields, at the closing date, of a portfolio of corporate bonds with at least an AA or AAA rating whose weighted residual maturities approximately correspond to the duration necessary to cover the entire benefit obligation.

The fair value of plan assets is deducted from the present value of the defined benefit obligation for pensions and other post-employment benefits to determine the net defined benefit liability. Plan assets in excess of the benefit obligation are reflected in other receivables, subject to the asset ceiling specified in IAS 19. Comprehensive actuarial valuations for all major plans are performed annually as of December 31.

The balance of all income and expenses relating to defined benefit plans, except the net interest on the net liability, is recognized in EBIT. The net interest is reflected in the financial result.

The effects of remeasurements of the net defined benefit liability are reflected in other comprehensive income. They consist of actuarial gains and losses, the return on plan assets and changes in the effects of the asset ceiling, less the respective amounts included in net interest for the last two components. Deferred taxes relating to the effects of remeasurements are also recognized in other comprehensive income.

Other provisions
Other provisions are measured in accordance with IAS 37 (Provisions, Contingent Liabilities and Contingent Assets) or, where applicable, IAS 19. Where the cash outflow to settle an obligation is expected to occur after one year, the provision is recognized at the present value of the expected cash outflow. Claims for reimbursements from third parties are separately reflected in other receivables if their realization is virtually certain.

If the projected obligation declines as a result of a change in the estimate, the provision is reversed by the corresponding amount and the resulting income recognized in the operating expense item(s) in which the original charge was recognized.

To enhance the information content of the estimates, certain provisions that could have a material effect on the net assets, financial position and results of operations are selected and tested for their sensitivity to changes in the underlying parameters using sensitivity analysis. To reflect uncertainty about the likelihood of the assumed events actually occurring, the impact of a five-percentage-point change in the probability of occurrence is examined in each case.

Provisions for environmental protection are recorded if future cash outflows are likely to be necessary to ensure compliance with environmental regulations or to carry out remediation work, such costs can be reliably estimated, and no future benefits are expected from such measures.

Estimating the future costs of environmental protection and remediation involves many uncertainties, particularly with regard to the status of laws, regulations and the information available about conditions in the various countries and at the individual sites. Significant factors in estimating the costs include previous experiences in similar cases, the conclusions in expert opinions obtained regarding existing environmental programs, current costs, and new developments affecting costs. Also taken into consideration are management’s interpretation of current environmental laws and regulations, the number and financial position of third parties that may become obligated to participate in any remediation costs on the basis of joint liability, and the remediation methods likely to be deployed. Changes in these assumptions could impact future reported results.

Taking into consideration experience gained to date regarding environmental matters of a similar nature, Covestro’s management believes the existing provisions to be adequate based upon currently available information. Given the businesses in which the Covestro Group operates and the difficulties inherent in accurately estimating liabilities for environmental protection, it remains possible that material additional costs will be incurred beyond the amounts accrued. It may transpire during remediation work that additional expenditures are necessary over an extended period and that these exceed existing provisions and cannot be reasonably estimated.

Provisions for restructuring only cover expenses that arise directly from restructuring measures, are necessary for restructuring and are not related to future business operations. Such expenses include severance payments to employees and compensation payments in respect of rented property that can no longer be used.

Restructuring measures may include the sale or termination of business units, site closures, relocations of business activities or fundamental reorganizations of business units. The respective provisions are established when a detailed restructuring plan has been drawn up, resolved upon by the responsible decision-making level of management and communicated to the employees and/or their representatives. Provisions for restructuring are established at the present value of future cash outflows.

Trade-related provisions are recorded mainly for the granting of rebates, discounts and similar sales allowances.

As a global enterprise, the Covestro Group is exposed to numerous legal risks for which **provisions for litigations** must be established under certain conditions – particularly in the areas of product liability, competition and antitrust law, patent disputes, tax law, environmental law, and compliance issues such as corruption and export control.

Litigation and other judicial proceedings often raise complex issues and are subject to many uncertainties and complexities including, but not limited to, the facts and circumstances of each particular case, the jurisdiction in which each suit is brought and differences in applicable law. The outcomes of currently pending and future proceedings generally cannot be predicted. Judgment in court proceedings, regulatory decisions or the conclusion of a settlement may result in the Covestro Group incurring charges for which no accounting measures have been taken for lack of reasonable estimate or which exceed established provisions and insurance coverage.

The Covestro Group considers the need for accounting measures in respect of pending or future litigations, and the extent of any such measures, on the basis of the information available to its legal department and in close consultation with legal counsel acting for the Covestro Group.

Where it is more likely than not that such a litigation will result in an outflow of resources that is already reasonably estimable, a provision for litigation is recorded in the amount of the present value of the expected cash outflows. Such provisions cover the estimated payments to the plaintiffs, court and procedural costs, attorney costs and the cost of potential settlements.

It is often impossible to reliably determine the existence of a present obligation or reasonably estimate the probability that a potential outflow of resources will result from a pending or future litigation. Due to the special nature of these litigations, provisions generally are not established until initial settlements allow an estimate of potential amounts or judgments have been issued. Provisions for legal defense costs are established if it is probable that material costs will have to be incurred for external legal counsel to defend the company's legal position.

Internal and external legal counsels evaluate the current status of the material legal risks of the Covestro Group at the end of each reporting period. The need to establish or adjust a provision and the amount of the provision or adjustment are determined on this basis. Adjusting events are reflected up to the date of preparation of the consolidated financial statements.

The status of the material legal risks is described in Note 27.

Personnel-related provisions are mainly those recorded for variable one-time payments, individual performance awards, long-service awards, severance payments in connection with early retirement arrangements, surpluses on long-term accounts and other personnel costs.

Obligations under stock-based compensation programs that provide for awards payable in cash are also included here. The compensation of the Board of Management of Covestro AG and of managerial employees includes stock-based compensation components that are earned with lock-up periods and are reflected in profit or loss as personnel expenses in line with the consideration paid in the performance period. They are measured using a subscription price model at the time of granting and at each reporting date in accordance with IFRS 2 (Share-based Payment).

Miscellaneous provisions include those for other liabilities, product liability and warranties.

Financial liabilities

Financial liabilities comprise primary financial liabilities and negative fair values of derivatives.

Primary financial liabilities are initially recognized in the consolidated financial statements at fair value, taking into account any transaction costs if Covestro has a contractual obligation to transfer cash or other financial assets to another party. In subsequent periods, such liabilities are measured at amortized cost using the effective interest method.

Financial liabilities are derecognized when the contractual obligation is discharged or canceled, or has expired.

Other receivables and liabilities

Grants and subsidies from third parties that serve to promote investment are reflected in the statement of financial position under other liabilities, and amortized to income over the useful lives of the respective investments.

Derivatives

Derivatives – such as forward exchange contracts – are used to mitigate the risk of fluctuations in exchange rates. Derivatives are recognized at the trade date.

Contracts concluded in order to receive or deliver nonfinancial goods for the company's own purposes are not accounted for as derivatives but treated as pending transactions. Where embedded derivatives are identified that are required to be separated from the pending transactions, they are accounted for separately. To take advantage of market opportunities or cover possible peak demand, a nonmaterial volume of transactions may be entered into for which the possibility of immediate resale cannot be excluded. Such transactions are allocated to separate portfolios upon acquisition and accounted for as derivatives according to IAS 39.

Derivatives are carried at fair value. Positive fair values at the end of the reporting period are reflected in financial assets, negative fair values in financial liabilities. Changes in the fair values of transactions in nonfinancial goods accounted for according to IAS 39 relate to embedded derivatives that were not designated as hedging instruments but classified as stand-alone derivatives that had to be separated from their host contracts. Changes in the fair values of these derivatives are recognized directly in profit or loss in the other operating result. Changes in the fair values of forward exchange contracts and currency options serving as hedging instruments for items in the statement of financial position are divided into an interest and a currency component. The interest component is recognized in interest expense or income and the currency component is recognized as exchange gains or losses in the other financial result. Changes in forward exchange contracts used to hedge forecasted transactions in foreign currencies are recognized in the other operating result.

The income and expense reflected in the financial result pertaining to the derivatives and the underlying transactions are recorded separately. Income and expense are not offset.

Leasing

Leases are classified as either finance or operating leases. Leasing transactions that transfer substantially all the risks and rewards incidental to ownership of the leased asset to the lessee are treated as finance leases.

Where the Covestro Group is the lessee in a finance lease, the leased asset is capitalized at the lower of the fair value of the asset and the present value of the minimum lease payments at the beginning of the lease term and simultaneously recognized under financial liabilities. The minimum lease payments are divided into the interest portion and the principal portion of the remaining obligation, which is determined using the effective interest method. The leased asset is depreciated by the straight-line method over the shorter of its estimated useful life or the lease term.

Acquisition accounting

Acquired businesses are accounted for using the acquisition method, which requires that the assets acquired and liabilities assumed be recorded at their respective fair values on the date control is obtained. Ancillary acquisition costs are recognized as expenses in the periods in which they occur.

Procedure used in global impairment testing and its impact

Global impairment testing is performed at the level of cash-generating units. A cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Covestro Group regards its strategic business entities as cash-generating units and subjects them to global impairment testing. The cash-generating units usually constitute the first financial reporting level below the reportable segments.

Cash-generating units are globally tested if there is an indication of possible impairment. Those to which goodwill is allocated are tested at least annually.

In the case of impairment, the resulting expense is reflected for goodwill in other operating expenses and for other assets in the functional item of the income statement in which the depreciation or amortization of the respective assets is recognized. The same applies to income from impairment loss reversals, although impairment losses on goodwill may not be reversed.

The recoverable amount is generally determined on the basis of the fair value less costs of disposal, taking into account the present value of the future cash flows as market prices for the individual units are normally not available. The forecasts of future cash flows generally have a planning horizon of three to five years and are based on the Covestro Group's current planning. Forecasting involves making assumptions, based on internal Group estimates and external sources, especially regarding future selling prices, sales volumes, costs, market growth rates, economic cycles and exchange rates. Where the recoverable amount is the fair value less costs of disposal, the cash-generating unit is measured from the viewpoint of an independent market participant. Cash flows beyond the planning period are determined on the basis of long-term business expectations using the respective individual growth rates derived from market information. The measurement of fair value less costs of disposal is based on unobservable inputs (Level 3).

The net cash inflows are discounted at the weighted average cost of capital (WACC), which is calculated as the weighted average cost of equity and cost of debt. To take into account the risk and return profile of the Covestro Group, an after-tax cost of capital is calculated and a specific capital structure is defined by benchmarking against comparable companies in the same industry sector ("peer group"). The cost of equity corresponds to the return expected by stockholders, while the cost of debt is based on the terms at which the peer group can obtain long-term financing. Both components are derived from capital market information.

The growth rates for the terminal value applied for impairment testing in 2016 and 2017 and the capital cost factors used to discount the expected cash flows are shown in the following table:

Impairment Testing Parameters

	Growth rate		After-tax cost of capital	
	2016	2017	2016	2017
	%	%	%	%
Diphenylmethane Diisocyanate (MDI)	2.0	2.0	5.4	6.5
Toluene Diisocyanate (TDI)	2.0	2.0	5.4	6.5
Polyether polyols	0.0	1.0	5.4	6.5
Polycarbonates (PCS)	2.0	2.0	5.4	6.5
Base & Modified Isocyanates (BMI)	2.0	2.0	5.4	6.5
Resins (RES)	2.0	2.0	5.4	6.5
Specialty Films (SF)	2.0	2.0	5.4	6.5

As was the case in the previous year, no impairment losses were recognized on goodwill in the reporting period on the basis of the global annual impairment testing of the cash-generating units. In the fiscal year, impairment losses on property, plant and equipment and intangible assets amounted to €6 million (previous year: €14 million) and impairment loss reversals on property, plant and equipment and intangible assets amounted to €18 million (previous year: €0 million). Details are provided in Notes 13 and 14.

Although the estimates of the useful lives of certain assets, assumptions concerning the macroeconomic environment and developments in the industries in which the Covestro Group operates, and estimates of the discounted future cash flows are believed to be appropriate, changes in assumptions or circumstances could require changes in the analysis. This could lead to additional impairment losses in the future or – except in the case of goodwill – to reversals of previously recognized impairment losses if developments are contrary to expectations.

The sensitivity analysis for cash-generating units to which goodwill is allocated was based on a 10% reduction in the future free operating cash flow, a 10% increase in the WACC or a one-percentage-point reduction in the long-term growth rate. It showed that no impairment loss would need to be recognized in any cash-generating unit. This applies analogously to other deviations from the assumptions used in impairment testing that were deemed possible.

4. Change in Accounting for Forward Exchange Contracts

Since January 1, 2017, the effect on earnings of forward exchange contracts for the purpose of hedging foreign exchange risks has been divided into an interest and a currency component to improve the transparency of presentation for the results of operations. The interest component comprises interest rate-induced changes in the fair value of forward exchange contracts and the forward element, which reflects the interest rate differential between two currency areas at the time the transaction is entered into. For this reason, the interest component is no longer reported in other financial result, but instead in interest income or expense. Net interest therefore provides a more comprehensive picture of financing costs. In addition, there will no longer be any interest rate-induced effects in the currency position included in the other financial result.

In accordance with IAS 8.22, the changes have been applied retroactively. The following table illustrates the effects of the change in accounting for forward exchange contracts:

Accounting Changes Income Statement

	2016 pre-change	Accounting change	2016 post-change	2017 pre-change	Accounting change	2017 post-change
	€ million	€ million	€ million	€ million	€ million	€ million
Equity-method income (loss)	(20)	–	(20)	(23)	–	(23)
Interest income	5	14	19	5	16	21
Interest expense	(53)	(80)	(133)	(42)	(78)	(120)
Other financial result	(128)	66	(62)	(90)	62	(28)
Financial result	**(196)**	**–**	**(196)**	**(150)**	**–**	**(150)**

5. Segment and Regional Reporting

The Board of Management of Covestro AG, as the chief operating decision maker of the Covestro Group, allocates resources to the operating segments and assesses their performance. The reportable segments and regions are identified, and the disclosures selected, in line with the internal financial reporting system (management approach). These are based on the same accounting policies as described for the Covestro Group in Note 3.

As of December 31, 2017, the Covestro Group comprises three reportable segments with the following activities:

Polyurethanes

The Polyurethanes segment develops, produces and markets high-quality precursors for polyurethanes. These precursors are isocyanates (MDI, TDI) and polyether polyols. Flexible polyurethane foam is used primarily in the furniture and automotive industries (e.g. in upholstered furniture, mattresses and automobile seats); rigid foam is used in particular as insulating material in the construction industry and in refrigeration chains. The segment operates production facilities worldwide as well as systems houses for formulating and supplying customized polyurethane systems.

Polycarbonates

The Polycarbonates segment develops, produces and markets the high-performance plastic polycarbonate in the form of granules, composite materials and semifinished products (sheets). The material is used primarily in the automotive industry (e.g. in the passenger compartment and for vehicle lighting) and in the construction industry (e.g. for roof structures). It is also used in the electrical and electronics industry (e.g. for connector housings, computer cases and DVDs), the medical technology sector and the lighting industry (e.g. for LED components). The Covestro Group produces polycarbonate all around the world and processes it at compounding centers to meet specific customer requirements.

Coatings, Adhesives, Specialties

The Coatings, Adhesives, Specialties segment develops, produces and markets raw materials for coatings, adhesives and sealants as well as specialties – primarily for polyurethane systems. They include polymer materials and aqueous dispersions based on the isocyanates HDI and IPDI, which are produced at facilities located throughout the world. The main areas of application are automotive and transportation, infrastructure and construction, wood processing, and furniture. The specialties comprise elastomers, high-quality films and raw materials for the cosmetics, textiles, and health care sectors.

Business activities that cannot be allocated to any of the aforementioned segments are reported under **"All other segments"**. The external sales from these activities are mainly based on by-products of chlorine production and use.

The costs of Corporate Center functions and higher or lower expenses for long-term stock-based compensation arising from fluctuations in the performance of Covestro AG stock are presented in the segment reporting as **"Corporate Center and reconciliation"**.

The segment data are calculated as follows:

- Core volume growth refers to the core products in the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments. It is calculated as the percentage change in externally sold volumes in thousand metric tons compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example the sale of raw materials and by-products such as hydrochloric acid, sodium hydroxide solution and styrene. These transactions are not included in core volume growth.

- EBIT and EBITDA are not defined in the International Financial Reporting Standards. EBIT is equal to income after income taxes plus financial result and income taxes expense. EBITDA is the EBIT as reported in the income statement plus impairment losses on property, plant and equipment and amortization and impairment losses on intangible assets and depreciation, less impairment loss reversals.

- Free operating cash flow is the operating cash flows less cash outflows for additions to property, plant and equipment and intangible assets. As a component of operating cash flows, income taxes paid are not directly attributed to any particular unit of the company. For purposes of calculating operating cash flows, the income taxes paid of a reporting segment are determined according to the management approach by multiplying the effective tax rate (ETR) expected for the fiscal year by that segment's EBIT.

- Working capital comprises inventories plus trade accounts receivable, less trade accounts payable.

The following tables show the segment reporting data for fiscal 2017 and as of December 31, 2017, respectively:

Key Data by Segment

				Other/Consolidation		
	Polyurethanes	Polycarbonates	Coatings, Adhesives, Specialties	All other segments	Corporate Center and reconciliation	Covestro Group
	€ million	€ million	€ million	€ million	€ million	€ million
2017						
Net sales	7,660	3,737	2,053	688	–	14,138
Core volume growth[1]	+3.4%	+5.0%	–0.3%			+3.4%
EBITDA	2,212	853	453	7	(90)	3,435
EBIT	1,856	672	366	4	(90)	2,808
Free operating cash flow	1,082	321	243	271	(74)	1,843
Cash outflows for additions to property, plant and equipment and intangible assets	287	155	76	–	–	518
Depreciation, amortization and impairment losses	(356)	(181)	(87)	(3)	–	(627)
of which impairment losses	(5)	–	–	(1)	–	(6)
of which impairment loss reversals	15	–	3	–	–	18
Research and development expenses	(108)	(74)	(90)	(1)	(1)	(274)
2016						
Net sales	5,927	3,298	2,040	639	–	11,904
Core volume growth[1]	+7.7%	+10.4%	–0.3%			+7.5%
EBITDA	881	704	500	11	(82)	2,014
EBIT	489	507	411	6	(82)	1,331
Free operating cash flow	631	442	341	7	(54)	1,367
Cash outflows for additions to property, plant and equipment and intangible assets	211	128	79	1	–	419
Depreciation, amortization and impairment losses	(392)	(197)	(89)	(5)	–	(683)
of which impairment losses	(12)	(2)	–	–	–	(14)
of which impairment loss reversals	–	–	–	–	–	–
Research and development expenses	(100)	(75)	(84)	–	–	(259)

[1] Reference values calculated based on the definition of the core business effective March 31, 2017

Working Capital by Segment

	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million
Polyurethanes	948	1,068
Polycarbonates	477	644
Coatings, Adhesives, Specialties	378	397
Total of reportable segments	**1,803**	**2,109**
All other segments	63	75
Corporate Center	(7)	(7)
Working capital	**1,859**	**2,177**
of which inventories	1,721	1,913
of which trade accounts receivable	1,674	1,882
of which trade accounts payable	(1,536)	(1,618)

Information by geographical areas

The following table shows information by geographical area. The EMLA region consists of Europe, the Middle East, Africa and Latin America except Mexico, which together with the United States and Canada forms the NAFTA region. The APAC region includes Asia and the Pacific region.

Regional Reporting[1]

	EMLA	NAFTA	APAC	Total
	€ million	€ million	€ million	€ million
2017				
Net sales (external) by market	5,997	3,398	4,743	14,138
Net sales (external) by point of origin	5,982	3,470	4,686	14,138
2016				
Net sales (external) by market	5,126	3,169	3,609	11,904
Net sales (external) by point of origin	5,106	3,222	3,576	11,904

[1] No further presentation of interregional sales is provided, as these are neither reported separately to, nor do they influence the EBIT and EBITDA reported to the Board of Management of Covestro AG.

The following table provides a breakdown by countries of external sales by market and of property, plant and equipment as well as intangible assets:

Net Sales (External) by Market and Property, Plant and Equipment and Intangible Assets by Country

	Net sales (external) – by market	Property, plant and equipment and intangible assets
	€ million	€ million
2017		
Germany	1,723	1,229
United States	2,777	1,020
China	3,062	1,630
Other	6,576	751
Total	**14,138**	**4,630**
2016		
Germany	1,547	1,142
United States	2,611	1,159
China	2,163	1,954
Other	5,583	761
Total	**11,904**	**5,016**

Information on major customers

Revenues from transactions with a single customer in no case exceeded 10% of Covestro Group sales in fiscal 2017 or the previous year.

Reconciliation

The following tables show the reconciliation of EBITDA of the segments to income before income taxes of the Group.

Reconciliation of Segments' EBITDA to Group Income Before Income Taxes

	2016	2017
	€ million	€ million
EBITDA of reportable segments	2,085	3,518
EBITDA of all other segments	11	7
EBITDA of Corporate Center	(82)	(90)
EBITDA	**2,014**	**3,435**
Depreciation, amortization, impairment losses and impairment loss reversals of reportable segments	(678)	(624)
Depreciation, amortization, impairment losses and impairment loss reversals of all other segments	(5)	(3)
Depreciation, amortization, impairment losses and impairment loss reversals	**(683)**	**(627)**
EBIT of reportable segments	1,407	2,894
EBIT of all other segments	6	4
EBIT of Corporate Center	(82)	(90)
EBIT	**1,331**	**2,808**
Financial result	(196)	(150)
Income before income taxes	**1,135**	**2,658**

6. Changes in the Scope of Consolidation

6.1. Scope of Consolidation and Investments

As of December 31, 2017, the scope of consolidation comprised Covestro AG and 49 (previous year: 49) consolidated companies.

The Covestro Group holds 100% of the voting rights in the fully consolidated subsidiary Bayer Pearl Polyurethane Systems L.L.C, Dubai (United Arab Emirates), pursuant to a contractual agreement with the noncontrolling stockholders.

Pure Salt Baytown LLC, Houston (United States), (Pure Salt LLC) is included as a structured entity. The Covestro Group obtains all the evaporated salt needed for its production operations at Baytown (United States), from Pure Salt LLC. This comprises most of that company's production capacity. The variable and fixed costs of Pure Salt LLC are reimbursed by Covestro in accordance with a contractually agreed mechanism. Moreover, the Covestro Group is obliged to finance one-time operating expenses and guarantees the liabilities of Pure Salt LLC to banks. As of December 31, 2017, the guaranteed liabilities amounted to €6 million (previous year: €12 million). Pure Salt LLC is dependent to a high degree on Covestro (e.g. through approval requirements), which means that Covestro can indirectly enforce its interests in respect of this company.

As in the previous year, the scope of consolidation as of December 31, 2017 included the joint operation LyondellBasell Covestro Manufacturing Maasvlakte V.O.F, Rotterdam (Netherlands). Pursuant to IFRS 11 (Joint Arrangements), Covestro's shares of this company's assets, liabilities, revenues and expenses are included in the consolidated financial statements in accordance with Covestro's rights and obligations. The main purpose of LyondellBasell Covestro Manufacturing Maasvlakte V.O.F is the joint production of propylene oxide (PO) for Covestro and its partner Lyondell.

Additionally, two (previous year: two) associated companies and one (previous year: one) joint venture are accounted for in the consolidated financial statements using the equity method.

Six (previous year: seven) subsidiaries and one (previous year: one) associated company that in aggregate are immaterial to the Covestro Group's net assets, financial position and results of operations are not consolidated but recognized at cost. The immaterial subsidiaries each accounted for no more than 0.1% of Group sales, equity or total assets.

Since the third quarter of 2017, Covestro AG has no longer been consolidated by Bayer AG, Leverkusen (Germany), (Bayer AG). The consolidated financial statements of Covestro AG therefore comprise the largest consolidated group. They are submitted to the operator of the Federal Gazette (Bundesanzeiger).

Details of subsidiaries and affiliated companies pursuant to Section 313 of the German Commercial Code (HGB) are shown in the following tables. The first table shows fully consolidated companies:

Fully Consolidated Companies

Company name	Place of business	Covestro's interest
		%
EMLA		
Bayer Pearl Polyurethane Systems FZCO	Dubai (United Arab Emirates)	51
Bayer Pearl Polyurethane Systems L.L.C	Dubai (United Arab Emirates)	49[1]
Covestro (France) SNC	Fos-sur-Mer (France)	100
Covestro (Slovakia) Services s.r.o.	Bratislava (Slovakia)	100
Covestro (Tielt) NV	Tielt (Belgium)	100
Covestro A/S	Otterup (Denmark)	100
Covestro B.V.	Foxhol (Netherlands)	100
Covestro Brunsbüttel Energie GmbH	Brunsbüttel (Germany)	100
Covestro Deutschland AG	Leverkusen (Germany)	100
Covestro Elastomers SAS	Romans-sur-Isère (France)	100
Covestro First Real Estate GmbH	Monheim (Germany)	100
Covestro GmbH	Leverkusen (Germany)	100
Covestro Indústria e Comércio de Polímeros Ltda.	São Paulo (Brazil)	100
Covestro International SA	Fribourg (Switzerland)	100
Covestro NV	Antwerp (Belgium)	100
Covestro Oldenburg GmbH & Co. KG	Oldenburg (Germany)	100
Covestro Polyurethanes B.V.	Nieuwegein (Netherlands)	100
Covestro S.p.A.	Milan (Italy)	99
Covestro S.r.l.	Milan (Italy)	100
Covestro Second Real Estate GmbH	Monheim (Germany)	100
Covestro Thermoplast Composite GmbH	Markt Bibart (Germany)	100
Covestro UK Limited	Cheadle (United Kingdom)	100
Covestro, S.L.	La Canonja (Spain)	100
Epurex Films GmbH & Co. KG	Bomlitz (Germany)	100
MS Global AG	Köniz (Switzerland)	100
MS Holding B.V.	Nieuwegein (Netherlands)	100
OOO Covestro	Moscow (Russia)	100
NAFTA		
Covestro International Trade Services Corp.	Wilmington (United States)	100
Covestro LLC	Pittsburgh (United States)	100
Covestro PO LLC	New Martinsville (United States)	100
Covestro S.A. de C.V.	Mexico City (Mexico)	100
Pure Salt Baytown LLC	Houston (United States)	0[2]
APAC		
Covestro (Hong Kong) Limited	Hong Kong (China)	100
Covestro (India) Private Limited	Thane (India)	100
Covestro (Shanghai) Management Co., Ltd.	Shanghai (China)	100
Covestro (Taiwan) Ltd.	Kaohsiung City (Taiwan)	95.5
Covestro (Thailand) Co., Ltd.	Bangkok (Thailand)	100
Covestro (Viet Nam) Company Limited	Ho Chi Minh City (Vietnam)	100
Covestro Far East (Hong Kong) Limited	Hong Kong (China)	100
Covestro Japan Ltd.	Tokyo (Japan)	100
Covestro Korea Corporation	Seoul (South Korea)	100
Covestro Polymers (China) Co., Ltd.	Shanghai (China)	100
Covestro Polymers (Qingdao) Co., Ltd.	Qingdao (China)	100
Covestro Polymers (Shenzhen) Co., Ltd.	Shenzhen (China)	100
Covestro Pty Ltd	Cheltenham (Australia)	100
Guangzhou Covestro Polymers Co., Ltd.	Guangzhou (China)	100
PT Covestro Polymers Indonesia	Jakarta (Indonesia)	99.9
Sumika Covestro Urethane Company, Ltd.	Amagasaki (Japan)	60

[1] Fully consolidated subsidiary pursuant to IFRS 10.B39
[2] Fully consolidated structured entity according to IFRS 10.B8 in conjunction with B19 (b) and (c) and other substantial rights of Covestro

The following joint operation was included in the consolidated financial statements in line with Covestro's shares of its assets, liabilities, revenues and expenses:

Joint Operation

Company name	Place of business	Covestro's interest
		%
LyondellBasell Covestro Manufacturing Maasvlakte V.O.F	Rotterdam (Netherlands)	50

The following associated companies and joint ventures are accounted for in the consolidated financial statements using the equity method:

Associates and Joint Ventures Accounted for Using the Equity Method

Company name	Place of business	Covestro's interest
		%
Associates		
Paltough Industries (1998) Ltd.	Kibbuz Ramat Yochanan (Israel)	25
PO JV, LP	Wilmington (United States)	39.4
Joint ventures		
DIC Covestro Polymer Ltd.	Tokyo (Japan)	50

The following subsidiaries were reflected in the consolidated financial statements at amortized cost due to their immateriality:

Immaterial Subsidiaries

Company name	Place of business	Covestro's interest
		%
CleanTech NRW GmbH	Leverkusen (Germany)	100
Covestro Polímer Anoním Şírketí	Istanbul (Turkey)	100
Covestro Polymers (Tianjin) Co., Ltd.	Tianjin (China)	100
Covestro Verwaltungs GmbH Oldenburg	Oldenburg (Germany)	100
Epurex Films Geschäftsführungs-GmbH	Bomlitz (Germany)	100
Shanghai Baulé Polyurethane Technology Co., Ltd.	Shanghai (China)	100

The following associated company was accounted for in the consolidated financial statements at cost due to its immateriality:

Immaterial Associate

Company name	Place of business	Covestro's interest
		%
Technology JV, L.P.	Wilmington (United States)	33.3

The following domestic subsidiaries availed themselves in fiscal 2017 of certain exemptions granted under Section 264, Paragraph 3 or Section 264b of the German Commercial Code (HGB) regarding the preparation, auditing and publication of financial statements:

German Exempt Subsidiaries

Company name	Place of business	Covestro's interest
		%
Covestro GmbH	Leverkusen (Germany)	100
Covestro Oldenburg GmbH & Co. KG	Oldenburg (Germany)	100
Epurex Films GmbH & Co. KG	Bomlitz (Germany)	100

6.2 Acquisitions and Divestitures

Acquisitions

Effective April 1, 2017, Covestro acquired a pilot plant (technical center) in an asset deal from Bayer AG along with the employees. The new plant functions as a link between research and production and is intended to accelerate the process of manufacturing new Covestro products on an industrial scale. The consideration agreed amounts to €4 million, all paid in cash. The net assets acquired amount to €4 million. The goodwill of €2 million reflects the positive growth prospects resulting from the ability to move innovative products to industrial-scale production more quickly. This goodwill is not tax deductible.

At the acquisition date, the aforementioned transaction had the following effects on the Covestro Group's assets and liabilities in fiscal 2017 and led to the following net outflow of funds (including cash and cash equivalents acquired):

Acquired Assets and Assumed Liabilities (Fair Values at the Acquisition Date)

	2017
	€ million
Goodwill	2
Property, plant and equipment	4
Deferred tax assets	1
Pension provision	(2)
Other provisions	(1)
Net assets	**4**
Purchase price	**4**
Net cash outflow for acquisitions	**4**

A contract for hereditary building rights was also signed for the technical center property by Covestro and Bayer AG and classified as a finance lease. The property was recognized in the amount of €1 million in property, plant and equipment with a corresponding liability of €1 million in financial liabilities.

Since its inclusion as of April 1, 2017, the technical center has contributed €2 million to the Covestro Group's sales and minus € 1 million to its income after income taxes. Including it earlier, as of January 1, 2017, would not have had a material effect on the Covestro Group's sales or income after income taxes for the period from January 1, 2017, to December 31, 2017.

Divestitures

On April 3, 2017, in the Polyurethanes segment, Covestro finalized an asset deal for the sale of the North American polyurethane spray foam systems business to Accella Polyurethane Systems LLC, Maryland Heights (United States), for a selling price of €47 million. Assets of €12 million and liabilities of €4 million were transferred to the buyer. The gain on the disposal of this business totaling €39 million was recognized in other operating result.

Notes to the Income Statement

7. Other Operating Income

Other operating income was comprised as shown in the following table:

Other Operating Income

	2016	2017
	€ million	€ million
Gains on retirements of noncurrent assets	2	47
Gains from derivatives	4	4
Reversals of unutilized provisions	10	3
Reversal of impairment losses on receivables	3	3
Miscellaneous operating income	107	88
Total	**126**	**145**

In fiscal 2017, a gain on retirement of noncurrent assets was generated in the amount of €39 million from the sale of a North American polyurethane spray foam systems business to Accella Polyurethane Systems LLC, Maryland Heights (United States).

Gains from derivatives in fiscal years 2016 and 2017 resulted from embedded derivatives.

The miscellaneous operating income for the reporting period included insurance reimbursements amounting to €44 million (previous year: €32 million) and reversals of impairment losses on noncurrent assets of €15 million on account of the continuation of MDI production at the site in Tarragona (Spain). In 2016, this item also included a reimbursement for contract termination (€27 million), indirect tax refunds for previous years (€19 million) and compensation from Bayer AG in relation to the legal independence of Covestro (€12 million). The remaining amount consisted of a large number of individually immaterial items.

8. Other Operating Expenses

Other operating expenses were comprised as shown in the following table:

Other Operating Expenses

	2016	2017
	€ million	€ million
Impairment losses on receivables	(8)	(13)
Losses from derivatives	(9)	(3)
Losses on retirements of noncurrent assets	(3)	(2)
Miscellaneous operating expenses	(35)	(42)
Total	**(55)**	**(60)**

Losses from derivatives in fiscal years 2016 and 2017 resulted from embedded derivatives.

In fiscal years 2016 and 2017, miscellaneous operating expenses consisted of a large number of individually immaterial items.

9. Personnel Expenses and Employee Numbers

Personnel expenses in 2017 were comprised as shown in the following table:

Personnel Expenses

	2016	2017
	€ million	€ million
Salaries	(1,569)	(1,572)
Social expenses and expenses for pensions and other benefits	(326)	(343)
of which for defined contribution pension plans	(90)	(90)
of which for defined benefit and other pension plans	(90)	(110)
Total	**(1,895)**	**(1,915)**

Average Number of Employees

	2016	2017
Production	9,901	10,036
Marketing and distribution	3,482	3,466
Research and development	1,017	1,048
General administration	1,275	1,439
Total	**15,675**	**15,989**
Employees in vocational training	407	444

The number of employees on either permanent or temporary contracts is stated in full-time equivalents (FTE). Part-time employees are included on a pro-rated basis in line with their contractual working hours. The figures do not include employees in vocational training.

10. Financial Result

10.1 Result from Investments in Affiliated Companies

The main components of the result from investments in affiliated companies were the €26 million (previous year: €24 million) equity-method loss from the associated company PO JV, LP, Wilmington (United States), and the total €3 million (previous year: €4 million) of equity-method gains from joint ventures. Further details of the companies accounted for using the equity method are given in Note 15.

10.2 Net Interest Expense

Net interest expense was comprised as shown in the following table:

Net Interest Expense

	2016	2017
	€ million	€ million
Expenses		
Interest and similar expenses	(53)	(42)
Interest expenses for fx-derivatives[1]	(80)	(78)
Income		
Interest and similar income	5	5
Interest income from fx-derivatives[1]	14	16
Total	**(114)**	**(99)**

[1] The previous year's figures were adjusted retroactively to reflect the change in the accounting treatment of forward exchange contracts. See Note 4 for additional information.

Interest and similar expenses primarily resulted from Covestro AG loans, from liabilities to banks of the subsidiary Covestro Polymers (China) Co., Ltd., Shanghai (China), and from interest expenses from finance leases. Interest expense and interest income from forward exchange contracts included interest rate-induced fair value changes and the forward element.

10.3 Other Financial Result

The other financial result was comprised as shown in the following table:

Other Financial Result

	2016	2017
	€ million	€ million
Expenses		
Interest portion of interest-bearing provisions	(43)	(28)
Exchange gain/(loss)[1]	(9)	4
Miscellaneous financial expenses	(10)	(4)
Total	**(62)**	**(28)**

[1] The previous year's figures were adjusted retroactively to reflect the change in the accounting treatment of forward exchange contracts. See Note 4 for additional information.

The interest portion of interest-bearing provisions comprised €26 million (previous year: €41 million) in interest expense for pension and other post-employment benefit provisions plus €2 million (previous year: €2 million) in effects of interest expense and interest rate fluctuations for other provisions and corresponding overfunding.

11. Taxes

The breakdown of tax expenses by type is shown in the table below:

Income Taxes

	2016	2017
	€ million	€ million
Income taxes paid or accrued	(327)	(656)
Deferred taxes	(2)	15
from temporary differences	29	30
from tax loss carryforwards and tax credits	(31)	(15)
Total	**(329)**	**(641)**

The deferred tax assets and liabilities were allocated to the items in the statements of financial position as shown in the table below:

Deferred Tax Assets and Liabilities

	Dec. 31, 2016		Dec. 31, 2017	
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
	€ million	€ million	€ million	€ million
Intangible assets	63	(25)	62	(21)
Property, plant and equipment	161	(276)	159	(192)
Financial assets	–	(82)	2	(51)
Inventories	33	(9)	31	(2)
Receivables	4	(8)	12	(5)
Provisions for pensions and other post-employment benefits	464	(83)	479	(86)
Other provisions	127	(18)	53	(17)
Liabilities	120	(2)	113	(2)
Tax loss carryforwards	21	–	6	–
Total	**993**	**(503)**	**917**	**(376)**
of which noncurrent	946	(490)	834	(348)
Offsetting	(345)	345	(215)	215
Recognition	**648**	**(158)**	**702**	**(161)**

Of the total tax loss carryforwards of €30 million (previous year: €87 million), an amount of €22 million (previous year: €76 million) is expected to be usable within a foreseeable period. The decrease in loss carryforwards was mainly due to the use of existing loss carryforwards in the reporting year and tax reassessments for prior years. Deferred tax assets of €6 million (previous year: €21 million) were recognized for the amount of loss carryforwards expected to be usable.

The use of €8 million (previous year: €11 million) of tax loss carryforwards was subject to legal or economic restrictions. Consequently, no deferred tax assets were recognized for this amount. If these tax loss carryforwards had been fully usable, further deferred tax assets of €2 million (previous year: €3 million) would have been recognized.

No material tax credits were recorded in either the reporting year or the prior year.

Unusable tax loss carryforwards will expire as shown in the table below:

Expiration of Unusable Tax Loss Carryforwards

	Tax loss carryforwards	
	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million
Within one year	–	–
Within two years	–	–
Within three years	–	–
Within four years	–	–
Within five years	–	–
Thereafter	11	8
Total	**11**	**8**

In 2017, subsidiaries that reported losses for the reporting year or the previous year recognized net deferred tax assets totaling €5 million (previous year: €128 million) from temporary differences and tax loss carryforwards. These assets were considered to be unimpaired because the companies concerned were expected to generate taxable income in the future.

In the reporting year, deferred tax liabilities of €18 million (previous year: €9 million) were recognized for planned dividend payments by subsidiaries. Deferred tax liabilities were not recognized for temporary differences on €1,409 million (previous year: €623 million) of retained earnings of subsidiaries because the Covestro Group is able to control the timing of the difference reversal and the temporary differences will not reverse in the foreseeable future.

The reported tax expense of €641 million for 2017 (previous year: €329 million) was €83 million lower (previous year: difference of €12 million) than the expected tax expense of €724 million (previous year: €317 million) that would have resulted from applying an expected weighted average tax rate to the pre-tax income of the Covestro Group. This average rate, derived from the expected tax rates of the individual Group companies, was 27.2% in 2017 (previous year: 27.9%). The effective tax rate was 24.1% (previous year: 29.0%).

The reconciliation of expected to actual income tax expense and of the expected to the effective tax rate for the Covestro Group is shown in the following table:

Reconciliation of Expected to Actual Income Tax Expense

	2016		2017	
	€ million	%	€ million	%
Expected income tax expense and expected tax rate	**317**	**+27.9**	**724**	**+27.2**
Reduction in taxes due to tax-free income	(15)	–1.3	(15)	– 0.6
First-time recognition of previously unrecognized deferred tax assets on tax loss carryforwards	(9)	– 0.8	–	–
Use of tax loss carryforwards on which deferred tax assets were not previously recognized	(13)	– 1.1	–	–
Increase in taxes due to non-tax-deductible expenses	18	+1.6	18	+0.7
Tax income (–) and expenses (+) relating to other periods	23	+2.0	(12)	– 0.5
Tax effects of change in tax rates	–	–	(94)	– 3.5
Other tax effects	8	+0.7	20	+0.8
Actual income tax expense and effective tax rate	**329**	**+29.0**	**641**	**+24.1**

In fiscal year 2017, a positive effect of €94 million was reported in the reconciliation item "Tax effects of changes in tax rates", which is mainly composed of €87 million from the remeasurement of deferred tax items of the U.S. companies resulting from the tax reform in the United States.

12. Earnings per Share

Earnings per share are calculated according to IAS 33 (Earnings per Share) as the relationship of the Group's income after income taxes (net income) for the fiscal year to the weighted average number of outstanding no-par voting shares of Covestro AG. In 2016, the earnings per share figure was calculated based on 202,500,000 shares. Since November 21, 2017, Covestro AG has been acquiring treasury shares as part of a share buy-back program. Taking into account the treasury shares acquired as of December 31, 2017, the weighted average number of outstanding no-par voting shares of Covestro AG was 202,396,416 in 2017.

Earnings per Share

	2016	2017
	€ million	€ million
Income after income taxes	806	2,017
of which attributable to noncontrolling interest	11	8
of which attributable to Covestro AG stockholders (net income)	795	2,009
	Shares	Shares
Weighted average number of outstanding no-par voting shares of Covestro AG	202,500,000	202,396,416
	€	€
Basic earnings per share	3.93	9.93
Diluted earnings per share	3.93	9.93

Notes to the Statement of Financial Position

13. Goodwill and Other Intangible Assets

Changes in Intangible Assets in 2017

	Acquired goodwill	Patents and technologies	Marketing and distribution rights	Production rights	Software	Other rights	Advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2016	**264**	**38**	**114**	**98**	**144**	**321**	**7**	**986**
Acquisitions	2	–	–	–	–	–	–	2
Capital expenditures	–	–	–	–	2	–	9	11
Retirements	–	–	(1)	–	(3)	(140)	–	(144)
Transfers	–	–	1	–	6	–	(7)	–
Transfers (IFRS 5)	–	(6)	(8)	–	–	–	–	(14)
Exchange differences	(13)	(2)	(1)	(2)	(2)	(5)	–	(25)
Cost of acquisition or generation, December 31, 2017	**253**	**30**	**105**	**96**	**147**	**176**	**9**	**816**
Accumulated amortization, impairment losses and impairment loss reversals, December 31, 2017	–	13	78	90	138	163	–	482
Carrying amounts, December 31, 2017	**253**	**17**	**27**	**6**	**9**	**13**	**9**	**334**
Amortization and impairment losses in 2017	–	1	7	2	10	5	–	25
Amortization	–	1	7	2	10	5	–	25
Impairment losses	–	–	–	–	–	–	–	–

No impairment losses were recognized for intangible assets in 2017 (previous year: €9 million). No impairment losses were reversed either in the reporting period or in the reference period.

The impairment testing procedure for goodwill and other intangible assets is explained under “Procedure used in global impairment testing and its impact” in Note 3.

Changes in Intangible Assets in 2016

	Acquired goodwill	Patents and technologies	Marketing and distribution rights	Production rights	Software	Other rights	Advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2015	**261**	**38**	**110**	**97**	**136**	**327**	**14**	**983**
Acquisitions	–	–	–	–	–	–	–	–
Capital expenditures	–	–	1	–	1	2	4	8
Retirements	–	–	–	–	(3)	(12)	–	(15)
Transfers	–	–	2	–	10	–	(12)	–
Transfers (IFRS 5)	–	–	–	–	–	–	–	–
Exchange differences	3	–	1	1	–	4	1	10
Cost of acquisition or generation, December 31, 2016	**264**	**38**	**114**	**98**	**144**	**321**	**7**	**986**
Accumulated amortization, impairment losses and impairment loss reversals, December 31, 2016	–	19	81	89	132	304	–	625
Carrying amounts, December 31, 2016	**264**	**19**	**33**	**9**	**12**	**17**	**7**	**361**
Amortization and impairment losses in 2016	–	2	8	4	8	20	–	42
Amortization	–	2	8	4	8	11	–	33
Impairment losses	–	–	–	–	–	9	–	9

Goodwill that is of material significance for the Covestro Group was allocated to the following cash-generating units at the end of the reporting period:

Material Goodwill by Cash-Generating Unit

	Cash-generating unit	Dec. 31, 2016	Dec. 31, 2017
Reporting segment		€ million	€ million
PUR	MDI	73	65
PUR	Polyether polyols	24	22
PCS	PCS	124	121
CAS	BMI	30	31
CAS	Resins	10	10

In 2017, there were no transactions involving a transfer of goodwill between the cash-generating units.

14. Property, Plant and Equipment

Changes in Property, Plant and Equipment in 2017

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2016	**3,277**	**11,517**	**509**	**468**	**15,771**
Acquisitions	3	1	–	–	4
Capital expenditures	29	123	16	341	509
Retirements	(12)	(78)	(9)	(1)	(100)
Transfers	40	215	15	(270)	–
Transfers (IFRS 5)	(10)	(8)	(1)	–	(19)
Exchange differences	(141)	(604)	(21)	(21)	(787)
Cost of acquisition or construction, December 31, 2017	**3,186**	**11,166**	**509**	**517**	**15,378**
Accumulated depreciation, impairment losses and impairment loss reversals, December 31, 2017	1,932	8,725	425	–	11,082
Carrying amounts, December 31, 2017	**1,254**	**2,441**	**84**	**517**	**4,296**
Depreciation and impairment losses in 2017	95	493	32	–	620
Depreciation	94	488	32	–	614
Impairment losses	1	5	–	–	6
Impairment loss reversals in 2017	(8)	(10)	–	–	(18)

In 2017, impairment loss reversals totaling €18 million (previous year: €0 million) were recognized for property, plant and equipment in the Polyurethanes (€15 million) and Coatings, Adhesives, Specialties (€3 million) reporting segments.

The decision to shut down MDI production at the site in Tarragona (Spain) by the end of 2017 was suspended for three years initially in March 2017 and then reversed in December 2017 in a separate decision. Production will now continue beyond 2020, and investments will be made at the site in projects including new chlorine production activities. This decision resulted in the reversal of impairment losses on noncurrent assets in the Polyurethanes segment totaling €15 million. The impairment test was performed at the level of the assets relevant for local on-site MDI production. The carrying amount of the affected assets less depreciation, if no impairment losses had been recognized in 2015, amounted to €18 million as of December 31, 2017. The recoverable amount of the assets greatly exceeded this carrying amount as of December 31, 2017, and was determined based on their value in use. In determining the value in use, the expected cash flows were discounted at a rate of 7.7%. When impairment was indicated in 2015, the value in use was determined by applying a rate of 7.6%.

Changes in Property, Plant and Equipment in 2016

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2015	**3,194**	**11,237**	**493**	**582**	**15,506**
Acquisitions	–	–	–	–	–
Capital expenditures	20	91	18	287	416
Retirements	(18)	(116)	(22)	–	(156)
Transfers	84	290	24	(398)	–
Transfers (IFRS 5)	–	–	–	–	–
Exchange differences	(3)	15	(4)	(3)	5
Cost of acquisition or construction, December 31, 2016	**3,277**	**11,517**	**509**	**468**	**15,771**
Accumulated depreciation, impairment losses and impairment loss reversals, December 31, 2016	1,928	8,768	420	–	11,116
Carrying amounts, December 31, 2016	**1,349**	**2,749**	**89**	**468**	**4,655**
Depreciation and impairment losses in 2016	97	508	36	–	641
Depreciation	97	503	36	–	636
Impairment losses	–	5	–	–	5
Impairment loss reversals in 2016	–	–	–	–	–

In the reporting year, borrowing costs of €2 million (previous year: €3 million) were capitalized as components of the cost of acquisition or construction of qualifying assets, applying an average interest rate of 1.2% (previous year: 1.4%).

Leasing

Capitalized property, plant and equipment include assets with a total net value of €247 million (previous year: €294 million) held under finance leases. They comprise plant installations and machinery with a carrying amount of €153 million (previous year: €188 million), buildings with a carrying amount of €26 million (previous year: €31 million) and other property, plant and equipment with a carrying amount of €68 million (previous year: €75 million). The cost of acquisition or cost of construction of these assets as of the closing date totaled €549 million (previous year: €578 million). For information on the liabilities arising from finance leases, see Note 23.

In 2017, rental payments of €102 million (previous year: €96 million) were made for assets leased under operating leases as defined in IAS 17 (Leases). An overview of the maturities of payment obligations under operating leases can be found in Note 26.

Lease payments for property, plant and equipment of €12 million are expected to be received in the following year from operating leases as defined in IAS 17 (Leases), not including investment property as outlined below. Lease payments totaling €8 million are expected to be received in 2019–2022, and lease payments totaling €5 million after 2022.

Investment property

The fair values of investment property are mainly determined using the income approach based on internal valuations for buildings and developed sites, and using the market comparison approach for undeveloped sites.

The total carrying amount of investment property as of December 31, 2017, was €59 million (previous year: €45 million), and its fair value totaled €280 million (previous year: €274 million). The rental income from investment property was €27 million (previous year: €30 million), and the operating expenses directly allocable to this property amounted to €15 million (previous year: €14 million). Operating expenses for investment property not generating any rental income stood at €1 million (previous year: €3 million).

Rental income from the leasing of investment property stemmed in part from contracts for hereditary building rights and leases granted by the Covestro Group, including those with Currenta GmbH & Co. OHG, Leverkusen (Germany), and its subsidiaries. These contracts with a weighted average remaining term of 21 years relate to space used by companies and contractual partners in the chemical industry at production sites in Germany. Based on current rental prices, around €14 million in compensation will be received annually from these long-term contracts for the use of this space in the coming years.

15. Investments Accounted for Using the Equity Method

An overview of the investments accounted for using the equity method can be found in Note 6.1. The two following tables contain summarized data from the income statement and statement of financial position of the associate PO JV, LP, Wilmington (United States), which is accounted for using the equity method, and show the respective amounts recognized in the financial statements of the Covestro Group.

In 2000, the polyols business and parts of the propylene oxide (PO) production operations of Lyondell Chemicals were acquired with the objective of ensuring access to patented technologies and safeguarding the long-term supply of PO, a starting product for polyurethanes. As part of this strategy, a company was established to jointly produce PO (PO JV, LP, in which Covestro continues to hold a 39.4% interest). Covestro benefits from fixed long-term supply quotas/volumes of PO from this company's production.

Income Statement Data of PO JV, LP, Wilmington (United States)

	2016	2017
	€ million	€ million
Net sales	1,659	1,973
Net loss after taxes	(53)	(53)
Share of net loss after taxes	(24)	(26)
Share of total comprehensive income after taxes	**(24)**	**(26)**

Data from the Statements of Financial Position of PO JV, LP, Wilmington (United States)

	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million
Noncurrent assets	469	396
Equity	469	396
Share of equity	**202**	**181**
Other	(4)	(5)
Carrying amount	**198**	**176**

The item "Other" mainly comprised differences arising from adjustments of data to Covestro's uniform accounting policies, purchase price allocations and their amortization in profit or loss.

The following table contains the income statement data and the carrying amount of the other associates accounted for using the equity method:

Income Statement Data and Carrying Amounts of Other Investments Accounted for Using the Equity Method

	2016	2017
	€ million	€ million
Income after taxes	13	8
Share of income after taxes	4	3
Share of total comprehensive income after taxes	**4**	**3**
Carrying amount	**32**	**32**

16. Other Financial Assets

The other financial assets were comprised as follows:

Other Financial Assets

	Dec. 31, 2016		Dec. 31, 2017	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Loans	164	152	279	267
Investments in nonconsolidated subsidiaries and other equity investments	6	–	6	–
Receivables from derivatives	24	18	23	17
Receivables under lease agreements	8	1	8	1
Total	**202**	**171**	**316**	**285**

Loans included bank deposits of €265 million (previous year: €150 million) with terms of more than three months at the time of deposit.

Receivables from derivatives included currency forward contracts of €15 million (previous year: €15 million) and embedded derivatives of €8 million (previous year: €9 million). Further information is given in Note 25.

Interests in nonconsolidated companies as of the closing date totaled €4 million (previous year: €5 million) and were recognized as available-for-sale financial assets.

There were no unimpaired other financial assets significantly past-due on either December 31, 2017, or on the reporting date in the previous year. No significant impairment losses or impairment loss reversals were recognized on financial assets in profit or loss in either 2016 or 2017.

Receivables under lease agreements relate to finance leases where Covestro is the lessor and the economic owner of the leased assets is the contractual partner. These receivables comprise expected lease payments of €34 million (previous year: €39 million), including €26 million (previous year: €31 million) in interest. Of the expected lease payments, €1 million (previous year: €1 million) is due within one year, €2 million (previous year: €2 million) within the following four years, and €31 million (previous year: €36 million) in subsequent years.

17. Inventories

Inventories were comprised as follows:

Inventories

	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million
Raw materials and supplies	501	563
Work in process, finished goods and goods purchased for resale	1,219	1,350
Advance payments	1	–
Total	**1,721**	**1,913**

In fiscal year 2017, impairment losses on inventories amounting to €13 million (previous year: €30 million) and impairment loss reversals of €5 million (previous year: €23 million) were recognized in profit or loss in the cost of goods sold.

18. Trade Accounts Receivable

Trade accounts receivable were comprised as follows:

Trade Accounts Receivable

	2016	2017
	€ million	€ million
Trade accounts receivable (before impairments)	1,723	1,923
Accumulated impairment losses	(49)	(41)
Carrying amount, December 31	**1,674**	**1,882**
of which noncurrent	–	–

Changes in impairment losses on trade accounts receivable were as follows:

Impairments of Trade Accounts Receivable

	2016	2017
	€ million	€ million
Accumulated impairment losses, January 1	**(47)**	**(49)**
Impairment losses in the reporting period	(7)	(4)
Impairment loss reversals or utilization	6	10
Exchange differences	(1)	2
Accumulated impairment losses, December 31	**(49)**	**(41)**

Trade accounts receivable amounting to €1,880 million (previous year: €1,671 million) were not impaired. Of this amount, €182 million (previous year: €149 million) was past-due or due immediately on the closing date.

The gross carrying amount of impaired trade accounts receivable was €43 million (previous year: €52 million). The impairment losses recognized on these assets totaled €41 million (previous year: €49 million), resulting in a net carrying amount of €2 million (previous year: €3 million).

The unimpaired receivables were deemed to be collectible on the basis of established credit management processes and individual assessments of customer risks. The impairment losses recognized included an appropriate allowance for the default risk as of the end of each reporting period.

A further €50 million of receivables (previous year: €44 million) was secured mainly by letters of credit.

The following table summarizes the breakdown of trade accounts receivable according to the criteria of impairment and past-due status:

Impairment and Past-Due Trade Accounts Receivable

		Of which neither impaired nor past-due at the closing date	Of which unimpaired but past-due at the closing date				Of which impaired at the closing date
	Carrying amount		up to 3 months	3–6 months	6–12 months	more than 12 months	
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Dec. 31, 2017	**1,882**	**1,698**	**175**	**4**	**2**	**1**	**2**
Dec. 31, 2016	1,674	1,522	141	4	2	2	3

19. Other Receivables

As in the prior year, no impairment losses were recognized on other receivables, which were comprised as follows:

Other Receivables

	Dec. 31, 2016		Dec. 31, 2017	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax receivables	204	198	189	182
Deferred charges	67	62	64	58
Reimbursement claims	2	2	2	2
Net defined benefit asset	1	–	2	–
Receivables from employees	7	6	2	2
Miscellaneous receivables	76	48	57	37
Total	**357**	**316**	**316**	**281**

The miscellaneous receivables included an advance payment by Covestro Polymers (China) Co., Ltd., Shanghai (China), to Shanghai Chlor-Alkali Chemical Co., Ltd., Shanghai (China), in the amount of €17 million (previous year: €23 million), which will be offset against monthly purchases. Other receivables included €34 million (previous year: €52 million) in financial receivables. Of this amount, €1 million (previous year: €6 million) was past-due or due immediately on the closing date.

The following table summarizes the breakdown of financial receivables included in other receivables according to the criteria of impairment and past-due status:

Impairment and Past-Due Other Financial Receivables

		Of which neither impaired nor past-due at the closing date	Of which unimpaired but past-due at the closing date				Of which impaired at the closing date
	Carrying amount		up to 3 months	3–6 months	6–12 months	more than 12 months	
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Dec. 31, 2017	**34**	**33**	**1**	**–**	**–**	**–**	**–**
Dec. 31, 2016	52	46	5	–	1	–	–

20. Equity

The individual components of equity and changes in equity in 2016 and 2017 are presented in the Covestro Group consolidated statement of changes in equity.

Capital stock

Covestro AG's capital stock as of December 31, 2017, amounted to €201 million (previous year: €203 million). The decline was the result of the deduction of the notional value (€2 million) of the treasury shares held by Covestro as of December 31, 2017.

The capital stock of Covestro AG is divided into 202,500,000 bearer shares and is fully paid up. Each share confers the right to one vote.

Treasury shares

Since November 21, 2017, Covestro AG has bought back and as of December 31, 2017, held 1,668,512 treasury shares. This corresponds to 0.8% of the capital stock.

The total cost of the treasury shares held by Covestro AG at the end of the fiscal year was €143 million. The average price per share was €85.61.

Authorized and conditional capital

The authorized capital and conditional capital as of December 31, 2017, were comprised as follows:

Authorized and Conditional Capital

	€ million	Purpose
Authorized capital 2015[1]	101	Increase in capital stock against cash contributions and/or contributions in kind (by October 2, 2020)
Conditional capital 2015[1]	1,500	Issue of warrants or conversion rights (by August 31, 2020)

[1] Requires Supervisory Board approval

Neither the authorized capital nor the conditional capital has been utilized to date.

Capital reserves

Covestro AG's capital reserves as of December 31, 2017, amounted to €4,767 million (previous year: €4,908 million). The decrease was the result of the deduction of the excess of the cost of the treasury shares over their notional value (€141 million).

Dividend

The distributable dividend is determined based on the distributable profit reported in the financial statements of Covestro AG prepared in accordance with the German Commercial Code (HGB). The dividend proposed for the 2017 fiscal year amounts to €2.20 per share carrying dividend rights for a total distribution of €437 million based on the number of shares carrying dividend rights as of February 14, 2018, and depends on authorization by the stockholders at the Annual General Meeting. It is therefore not recognized as a liability in the consolidated financial statements. For the fiscal year 2016, a dividend of €1,35 per share was paid.

Equity attributable to noncontrolling interest

The equity attributable to noncontrolling interest mainly relates to the equity of Bayer Pearl Polyurethane Systems FZCO, Dubai (United Arab Emirates), Sumika Covestro Urethane Company, Ltd., Amagasaki (Japan), and Covestro (Taiwan) Ltd., Kaohsiung City (Taiwan).

The changes in equity attributable to noncontrolling interest are presented in the following table:

Components of Noncontrolling Interest in Equity

	2016	2017
	€ million	€ million
January 1	**16**	**27**
Change in equity not recognized in profit or loss		
Exchange differences on translation of operations outside the eurozone	1	(4)
Dividend payments	(1)	(1)
Change in equity recognized in profit or loss	**11**	**8**
December 31	**27**	**30**

21. Provisions for Pensions and Other Post-employment Benefits

Provisions for pensions and other post-employment benefits were recognized for defined benefit obligations. The expenses for defined contribution obligations are shown in Note 9. The net defined benefit liability for post-employment benefit plans was accounted for as follows:

Net Defined Benefit Liability Reflected in the Statement of Financial Position

	Pensions		Other post-employment benefits		Total	
	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million	€ million	€ million	€ million	€ million
Provisions for pensions and other post-employment benefits	**1,052**	**1,046**	**157**	**141**	**1,209**	**1,187**
of which Germany	903	940	–	–	903	940
of which other countries	149	106	157	141	306	247
Net defined benefit asset	**1**	**2**	**–**	**–**	**1**	**2**
of which Germany	1	2	–	–	1	2
of which other countries	–	–	–	–	–	–
Net defined benefit liability	**1,051**	**1,044**	**157**	**141**	**1,208**	**1,185**
of which Germany	902	938	–	–	902	938
of which other countries	149	106	157	141	306	247

The expenses for defined benefit plans and for other post-employment benefits included the components described as follows:

Expenses for Defined Benefit Plans

	Pension plans						Other post-employment benefit plans	
	Germany		Other countries		Total		Other countries	
	2016	2017	2016	2017	2016	2017	2016	2017
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Current service cost	64	80	15	16	79	96	3	2
Past service cost	9	8	–	3	9	11	–	–
Plan settlements	–	–	(1)	1	(1)	1	–	–
Service cost	**73**	**88**	**14**	**20**	**87**	**108**	**3**	**2**
Interest expense from defined benefit obligation	66	58	27	24	93	82	6	5
Interest income from plan assets	(37)	(42)	(21)	(19)	(58)	(61)	–	–
Net interest	**29**	**16**	**6**	**5**	**35**	**21**	**6**	**5**
Total expenses	**102**	**104**	**20**	**25**	**122**	**129**	**9**	**7**

In 2017, a total of €215 million (previous year: €138 million) in effects of remeasurements of the net defined benefit liability was also recognized in other comprehensive income. Of this amount, €215 million (previous year: €141 million) related to pension obligations and €0 million (previous year: minus €3 million) to other post-employment benefit obligations.

The changes in the net defined benefit liability for post-employment benefit plans were as follows:

Changes in Defined Benefit Obligation

	2016			2017		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**2,552**	**868**	**3,420**	**2,935**	**906**	**3,841**
Acquisitions	–	–	–	5	–	5
Change relating to carve out	3	–	3	4	–	4
Current service cost	64	18	82	80	18	98
Past service cost	9	–	9	8	3	11
(Gains)/losses from plan settlements	–	(1)	(1)	–	1	1
Net interest	66	33	99	58	30	88
Net actuarial (gain)/loss	277	11	288	120	19	139
of which due to change in financial assumptions	260	30	290	131	25	156
of which due to change in demographic assumptions	–	(12)	(12)	–	(3)	(3)
of which due to experience adjustments	17	(7)	10	(11)	(3)	(14)
Employee contributions	7	1	8	8	1	9
Payments due to plan settlements	–	–	–	–	(5)	(5)
Benefits paid out of plan assets	(21)	(44)	(65)	(22)	(34)	(56)
Benefits paid by the company	(22)	(7)	(29)	(24)	(9)	(33)
Exchange differences	–	27	27	–	(95)	(95)
December 31	**2,935**	**906**	**3,841**	**3,172**	**835**	**4,007**
of which other post-employment benefits	–	157	157	–	142	142

Changes in Fair Value of Plan Assets

	2016			2017		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**1,405**	**556**	**1,961**	**2,033**	**603**	**2,636**
Acquisitions	–	–	–	3	–	3
Change relating to carve out	1	–	1	3	–	3
Net interest	37	21	58	42	20	62
Adjustment of estimation techniques	–	–	–	(115)	–	(115)
Return or (expense) on plan assets excluding amounts recognized as interest result	118	32	150	(9)	48	39
Employer contributions	487	17	504	291	20	311
Employee contributions	7	1	8	8	1	9
Payments due to plan settlements	–	–	–	–	(5)	(5)
Benefits paid out of plan assets	(21)	(44)	(65)	(22)	(34)	(56)
Plan administration cost paid out of plan assets	(1)	–	(1)	(1)	–	(1)
Exchange differences	–	20	20	–	(61)	(61)
December 31	**2,033**	**603**	**2,636**	**2,233**	**592**	**2,825**
of which other post-employment benefits	–	–	–	–	1	1

Effects of the Asset Ceiling

	2016			2017		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**1**	**2**	**3**	**–**	**3**	**3**
Remeasurement of asset ceiling	(1)	1	–	–	–	–
December 31	**–**	**3**	**3**	**–**	**3**	**3**
of which other post-employment benefits	–	–	–	–	–	–

Development of the Net Defined Benefit Liability

	2016			2017		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	**1,148**	**314**	**1,462**	**902**	**306**	**1,208**
Acquisitions	–	–	–	2	–	2
Change relating to carve out	2	–	2	1	–	1
Current service cost	64	18	82	80	18	98
Past service cost	9	–	9	8	3	11
(Gains)/losses from plan settlements	–	(1)	(1)	–	1	1
Net interest	29	12	41	16	10	26
Net actuarial (gain)/loss	277	11	288	120	19	139
Change in estimation technique	–	–	–	115	–	115
(Return) or expense on plan assets excluding amounts recognized as interest result	(118)	(32)	(150)	9	(48)	(39)
Remeasurement of asset ceiling	(1)	1	–	–	–	–
Employer contributions	(487)	(17)	(504)	(291)	(20)	(311)
Employee contributions	–	–	–	–	–	–
Payments due to plan settlements	–	–	–	–	–	–
Benefits paid out of plan assets	–	–	–	–	–	–
Benefits paid by the company	(22)	(7)	(29)	(24)	(9)	(33)
Plan administration cost paid out of plan assets	1	–	1	1	–	1
Exchange differences	–	7	7	–	(34)	(34)
December 31	**902**	**306**	**1,208**	**939**	**246**	**1,185**
of which other post-employment benefits	–	157	157	–	141	141

The pension obligations pertained mainly to Germany (79%; previous year: 76%) and the United States (17%; previous year: 20%). In Germany, current employees accounted for about 63% (previous year: 64%), retirees or their surviving dependents for about 30% (previous year: 30%), and former employees with vested pension rights for about 7% (previous year: 6%) of entitlements under defined benefit plans. In the United States, current employees accounted for about 39% (previous year: 39%), retirees or their surviving dependents for about 57% (previous year: 56%), and former employees with vested pension rights for about 4% (previous year: 5%) of entitlements under defined benefit plans.

The actual income on the assets of defined benefit plans for pensions or other post-employment benefits amounted to €101 million (previous year: €208 million) and €0 million (previous year: €0 million), respectively. This does not include the reduction in plan assets described in the following section resulting from a change in the calculation method for German pension plans.

The following table shows the defined benefit obligations for pensions and other post-employment benefits along with the funded status of the funded obligations:

Defined Benefit Obligation and Funded Status

	Pension obligations		Other post-employment benefit obligations		Total	
	2016	2017	2016	2017	2016	2017
	€ million	€ million	€ million	€ million	€ million	€ million
Defined benefit obligation	**3,684**	**3,865**	**157**	**142**	**3,841**	**4,007**
of which unfunded	65	62	156	140	221	202
of which funded	3,619	3,803	1	2	3,620	3,805
Funded status of funded obligations						
Overfunding	4	5	–	–	4	5
Underfunding	987	984	1	1	988	985

Pension entitlements and other post-employment benefit obligations

The Covestro Group provides retirement benefits for most of its employees, either directly or by contributing to privately or publicly administered funds. The way these benefits are provided varies according to the legal, tax and economic conditions of each country, the benefits generally being based on employee compensation and years of service. The obligations relate both to existing retirees' pensions and to pension entitlements of future retirees.

Funded pension plans exist for employees in various countries. In principle, the most appropriate investment strategy is determined for each of the Covestro Group's defined benefit pension plans based on the risk structure of the obligations (especially demographics, the current funded status, the structure of the expected future cash flows, interest sensitivity, biometric risks, etc.), the regulatory environment and the existing level of risk tolerance or risk capacity. A strategic target investment portfolio is then developed in line with the plan's risk structure, taking capital market factors into consideration. Further determinants are risk diversification, portfolio efficiency and the need for both a country-specific and a global risk/return profile centered on ensuring the payment of all future benefits. In principle, as the capital investment strategy for each pension plan is developed individually in light of the plan-specific conditions listed above, the investment strategies for different pension plans may vary considerably. For example, the proportion of plan assets invested in equities is greater with the non-German pension plans than with the plans domiciled in Germany. The investment strategies are generally aligned less toward maximizing absolute returns and more toward the reasonable assurance of financing pension commitments over the long term. For plan assets, stress scenarios are simulated and other risk analyses (such as value at risk) are undertaken with the aid of risk management systems.

Bayer-Pensionskasse VVaG, Leverkusen (Germany), (Bayer-Pensionskasse), is by far the most significant of the pension plans for Covestro. It has been closed to new members since January 1, 2005. This legally independent fund is regarded as a life insurance company and is therefore subject to the German Insurance Supervision Act. The benefit obligations covered by Bayer-Pensionskasse comprise retirement, surviving dependents' and disability pensions. It is financed with contributions by the active members and by their employers. The company contribution is a certain percentage of the employee contribution. This percentage is the same for all participating employers and is set by agreement between the plan's executive committee and supervisory board, acting on a proposal from the responsible actuary. It takes into account the differences between the actuarial estimates and the actual values for the factors used to determine liabilities and contributions. Only Bayer AG may adjust the company contribution in agreement with the plan's executive committee and supervisory board, acting on a proposal from the responsible actuary. The plan's liability is governed by Section 1, Paragraph 1, Sentence 3 of the German Law on the Improvement of Occupational Pensions (BetrAVG). This means that if the pension plan exercises its right under the articles of association to reduce benefits, each participating employer has to make up the resulting difference. Covestro is not liable for the obligations of other participating employers, even if they cease to participate in the plan.

The Bayer-Pensionskasse pension commitments are classified as a multi-employer plan according to IAS 19 (Employee Benefits). A defining characteristic of multi-employer plans is that assets from various employers not under common control are pooled at plan level and used to collectively grant pension benefits to employees. Allocation mechanisms that would permit an exact distribution of the plan assets managed by the pension plan to individual employers often do not exist, as in the case of Bayer-Pensionskasse. Covestro must therefore apply an estimation procedure that is sufficiently fit for this purpose to calculate its proportional share of the plan assets. In fiscal 2017, the procedure used to date was adjusted due to restrictions on the availability of the data used. The amended technique for the estimate resulted in a €112 million reduction in the Bayer-Pensionskasse plan assets, which was recognized in other comprehensive income. This adjusted estimate is not expected to result in an increased outflow of funds for Covestro in future periods, because the plan assets available at pension plan level for satisfying all post-employment benefits have not changed.

Pension entitlements for people hired in Germany on or after January 1, 2005, are granted via Rheinische Pensionskasse VVaG, Leverkusen (Germany), (Rheinische Pensionskasse). Future pension payments from this plan are based on contributions and the return on plan assets; a guaranteed interest rate applies. The aforementioned adjustment of the estimation procedure for recognizing plan assets was applied analogously for Rheinische-Pensionskasse. This resulted in a reduced carrying amount for the plan assets of €3 million.

Since October 2015, another important pension provision vehicle is Metzler Trust e.V., Frankfurt am Main (Germany), (Metzler Trust). This covers further retirement provision arrangements for German employees of the Covestro Group, such as deferred compensation, pension obligations and components of other direct commitments.

The defined benefit pension plans in the United States have been frozen for some years, and no significant new entitlements can be earned under these plans. The assets of all the U.S. pension plans are held by a master trust for reasons of efficiency. The applicable regulatory framework is based on the Employee Retirement Income Security Act (ERISA), which includes a statutory 80% minimum funding requirement to avoid benefit restrictions. The actuarial risks, such as investment risk, interest rate risk and longevity risk, remain with the company.

In 2017, the risk management concept applicable to pension obligations (asset-liability matching) was revised for both the direct commitments in Germany and for the U.S. defined benefit obligations due to a higher funded status in each case. First, the actuarial obligations were analyzed and updated. Then statistical methods were applied to this information to determine an investment strategy that would ensure a suitable risk-return profile. The factors considered here included expected returns for the various asset classes and anticipated balance sheet volatility.

The changes in the investment strategy were subsequently implemented by third-party asset managers. Covestro will further update the risk management concept as needed.

The other post-employment benefit obligations outside Germany are mainly related to retirees' health care benefit payments in the United States.

The fair value of the plan assets to fund pensions and other post-employment benefit obligations was as follows:

Fair Value of Plan Assets as of December 31

	Pension obligations				Other post-employment obligations	
	Germany		Other countries		Other countries	
	2016	2017	2016	2017	2016	2017
	€ million	€ million	€ million	€ million	€ million	€ million
Plan assets based on quoted prices in active markets						
Real estate and special real estate funds	–	–	25	19	–	–
Equities and equity funds	330	585	170	109	–	–
Callable debt instruments	–	–	12	6	–	–
Noncallable debt instruments	556	387	139	138	–	–
Bond funds	284	467	165	228	–	–
Derivatives	2	3	–	–	–	–
Cash and cash equivalents	41	46	11	8	–	–
Other	–	–	2	2	–	–
	1,213	**1,488**	**524**	**510**	**–**	**–**
Plan assets for which quoted prices in active markets are not available						
Real estate and special real estate funds	112	107	4	-	–	–
Equities and equity funds	19	20	–	–	–	–
Callable debt instruments	295	297	–	–	–	–
Noncallable debt instruments	375	309	–	–	–	–
Bond funds	–	–	–	–	–	–
Derivatives	–	–	–	–	–	–
Other	19	12	75	81	–	1
	820	**745**	**79**	**81**	**–**	**1**
Total plan assets	**2,033**	**2,233**	**603**	**591**	**–**	**1**

The fair value of plan assets in Germany included no real estate leased by Covestro Group companies nor Covestro AG shares or bonds held through investment funds. The other plan assets comprise mortgage loans granted, other receivables and qualified insurance policies.

Risks

The risks from defined benefit plans arise partly from the defined benefit obligations and partly from the investment in plan assets. The risks lie in the possibility that higher direct pension payments will have to be made to the beneficiaries and/or that additional contributions will have to be made to plan assets in order to meet current and future pension obligations.

Demographic/biometric risks

Since a large proportion of the defined benefit obligations comprises lifelong pensions or surviving dependents' pensions, longer claim periods or earlier claims may result in higher benefit obligations, higher benefit expense and/or higher pension payments than previously anticipated.

Investment risks

If the actual return on plan assets were below the return anticipated on the basis of the discount rate, the net defined benefit liability would increase, assuming there were no changes in other parameters. This could happen as a result of a drop in share prices, increases in market rates of interest, default of individual debtors or the purchase of low-risk but low-interest bonds, for example.

Interest rate risks

Declining capital market interest rates, especially for high-quality corporate bonds, would increase the defined benefit obligation. This effect would be at least proportionately offset by the ensuing increase in the market values of the debt instruments held in plan assets.

Measurement parameters and their sensitivities

The bond portfolio consists exclusively of high-quality corporate bonds with a rating of at least AA or AAA. The portfolio does not include any government-guaranteed or secured bonds. The following weighted parameters were used to measure the pension obligations as of December 31 and the expense for pensions and other post-employment benefits in the respective reporting year.

Parameters for Benefit Obligations

	Germany		Other countries		Total	
	2016	2017	2016	2017	2016	2017
	%	%	%	%	%	%
Pension obligations						
Discount rate	2.00	1.90	3.51	3.16	2.30	2.15
Projected future salary increases	2.75	2.75	3.37	3.22	2.90	2.85
Projected future benefit increases	1.50	1.70	4.24	3.67	2.05	2.05
Other post-employment benefit obligations						
Discount rate	–	–	3.80	3.50	3.80	3.50

In Germany, the Heubeck 2005 G mortality tables were used, in the United States as of 2014 the RP-2014 Combined Healthy Mortality Tables. The parameters for measuring the benefit expense are the same as those used to measure the benefit obligations in the most recent annual financial statements.

The parameter sensitivities were computed by expert actuaries based on a detailed evaluation similar to that performed to determine the net defined benefit liability. Altering individual parameters by 0.5 percentage points (mortality by 10% per beneficiary) while leaving the other parameters unchanged would have impacted pension and other post-employment benefit obligations as of the end of fiscal year 2017 as follows:

Sensitivity Analysis of Benefit Obligations

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5 percentage points change in discount rate	(310)	360	(38)	41	(348)	401
0.5 percentage points change in projected future salary increases	31	(28)	4	(4)	35	(32)
0.5 percentage points change in projected future benefit increases	187	(169)	2	(1)	189	(170)
10% change in mortality	(89)	99	(13)	14	(102)	113
Other post-employment benefit obligations						
0.5 percentage points change in discount rate	–	–	(9)	10	(9)	10
10% change in mortality	–	–	(4)	4	(4)	4

Sensitivity Analysis of Benefit Obligations (previous year)

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5 percentage points change in discount rate	(289)	336	(41)	45	(330)	381
0.5 percentage points change in projected future salary increases	33	(31)	4	(4)	37	(35)
0.5 percentage points change in projected future benefit increases	172	(155)	2	–1	174	(156)
10% change in mortality	(80)	89	(17)	19	(97)	108
Other post-employment benefit obligations						
0.5 percentage points change in discount rate	–	–	(10)	11	(10)	11
10% change in mortality	–	–	(4)	4	(4)	4

Provisions are also set up for the obligations, mainly of the U.S. subsidiary, to provide post-employment benefits in the form of health care cost payments to retirees. The valuation of health care costs was based on the assumption that they will increase at a rate of 7% (previous year: 7%), which should gradually decline to 5% (previous year: 5%) by 2023. The following table shows the impact on other post-employment benefit obligations and total benefit expense of a one percentage point change in the assumed cost increase rates:

Sensitivity Analysis of Health Care Cost Increases

	2016		2017	
	Increase of one percentage point	Decrease of one percentage point	Increase of one percentage point	Decrease of one percentage point
	€ million	€ million	€ million	€ million
Impact on other post-employment benefit obligations	16	(14)	14	(12)

Employer contributions made or expected

The following payments or transfers correspond to the employer contributions made or expected to be made to funded benefit plans:

Employer Contributions Made or Expected

	Germany				Other countries			
	2016	2017 expected	2017	2018 expected	2016	2017 expected	2017	2018 expected
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations	487	34	291	38	17	18	20	22
Other post-employment benefit obligations	–	–	–	–	–	–	–	–
Total	487	34	291	38	17	18	20	22

Pensions and other post-employment benefits payable in the future from funded and unfunded plans are estimated as follows:

Future Benefit Payments

	Payments out of plan assets				Payments by the Company			
	Pensions		Other post-employment benefits		Pensions		Other post-employment benefits	
	Germany	Other countries	Other countries	Total	Germany	Other countries	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
2018	25	51	–	76	27	5	6	38
2019	27	43	–	70	29	5	6	40
2020	29	43	–	72	31	6	7	44
2021	33	41	–	74	34	6	7	47
2022	35	43	–	78	36	6	8	50
2023–2027	221	193	1	415	219	33	41	293

The weighted average term of the pension obligations is 21.6 years (previous year: 22.0 years) in Germany and 11.9 years (previous year: 12.2 years) in other countries. The weighted average term of the obligations for other post-employment benefits in other countries is 12.2 years (previous year: 12.0 years).

22. Other Provisions

Changes in the various provision categories in 2017 were as follows:

Changes in Other Provisions

	Taxes	Environ-mental protection	Restruc-turing	Trade-related commit-ments	Litigations	Personnel commit-ments	Miscella-neous	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2016	**9**	**48**	**66**	**66**	**6**	**676**	**17**	**888**
Additions	6	3	–	108	5	543	23	688
Utilization	(6)	(2)	(5)	(109)	(1)	(540)	(10)	(673)
Reversal	(1)	–	(58)	(24)	(1)	(32)	(10)	(126)
Reclassifications	(3)	–	–	–	–	–	3	–
Interest cost	–	–	–	–	–	2	–	2
Exchange differences	–	(5)	–	(4)	(1)	(15)	4	(21)
December 31, 2017	**5**	**44**	**3**	**37**	**8**	**634**	**27**	**758**
thereof long-term	–	42	1	–	4	173	9	229

Taxes

Provisions for taxes comprise provisions for other types of taxes amounting to €5 million (previous year: €6 million).

Environmental protection

Provisions for environmental protection mainly relates to the rehabilitation of contaminated land and recultivation of landfills as well as water protection measures at sites in the United States and Spain.

Restructuring

As of December 31, 2017, provisions for restructuring included €3 million (previous year: €31 million) for severance payments. Provisions for other restructuring expenses related to the closure of production facilities were no longer recognized in the reporting period (previous year: €35 million). A reversal during the reporting period amounting to €58 million resulted largely from the decision to permanently continue production at the Tarragona (Spain) site contrary to the previous plan to shut down the facility. Due to the change in the going concern assumption, long-term, contractually fixed customer and supplier relationships that could be terminated no earlier than after the originally planned date of site closure were no longer classified as onerous. This resulted in the reversal of trade-related provisions in the amount of €14 million.

Personnel commitments

Personnel-related provisions are mainly those recorded for variable one-time, short-term and long-term incentive payments and other personnel-related provisions.

Long-term incentive programs

The long-term incentive programs of the Covestro Group entail commitments offered collectively to different groups of employees. As required by IFRS 2 (Share-based Payment) for compensation systems involving cash settlement, awards to be made under the stock-based programs are covered by provisions in the amount of the fair value of the obligations existing as of the date of the financial statements vis-à-vis the respective employee group. All resulting valuation adjustments are recognized in profit or loss.

Senior executives and other managerial employees at Covestro have been entitled to participate in the stock-based compensation program **Prisma** since January 1, 2016. A percentage of the employee's annual base salary – based on his/her position – is defined as a target for variable payments (Prisma target opportunity). The payout is calculated by multiplying the Prisma target opportunity by the total shareholder return (total of Covestro's closing share price[1] and all of the dividends distributed in the respective performance period divided by the opening share price) and the performance of Covestro stock relative to the STOXX® Europe 600 Chemicals benchmark index. The payout is capped at 200% of the Prisma target opportunity. If Covestro's shares were to significantly underperform the STOXX® Europe 600 Chemicals index (e.g. if the price of the stock went down while the index increased in value), Prisma target attainment could amount to zero, in which case there would be no payout. Payouts are made regularly following each four-year performance period; the first award will be in January 2020 for the performance period ending on December 31, 2019.

In addition to Prisma, Covestro continues to run the Bayer Group's **Aspire** long-term incentive program for performance periods that started prior to January 1, 2016. Senior executives were entitled to participate in Aspire I on the condition that they purchased a certain number of Bayer shares – determined for each individual according to specific guidelines – and retained them for the full term of the program. A percentage of the executive's annual base salary – based on his/her position – was defined as a target for variable payments (Aspire target opportunity). Depending on the performance of Bayer stock, both in absolute terms and relative to the EURO STOXX® 50 benchmark index during a four-year performance period, participants were granted an award of up to 300% of their individual Aspire target opportunity. Middle management and managerial employees were entitled to participate in Aspire II. The terms of Aspire II generally matched those of Aspire I, except that Aspire II did not require a personal investment in Bayer stock, and the exclusive performance measure was Bayer's absolute share price performance. Aspire II payouts were capped at 250% of the Aspire target opportunity.

In order to decouple the Aspire payouts from Bayer's share price performance, which can no longer be significantly influenced by the Covestro Group's employees, the average price of Bayer stock and the benchmark calculated from the closing prices for the last 30 trading days of 2015 was stipulated as the binding closing price for the remaining Aspire I and Aspire II tranches. However, the vesting phase will continue to run until the end of the respective performance period. A minimum payout of 100% of the Aspire target opportunity was guaranteed for all tranches. This results in a payout of 170% for Aspire I and 120% for Aspire II for the 2014–2017 tranche payable in January 2018. The payout for the 2015–2018 tranche will amount to 100% for both Aspire programs.

[1] Calculated as the average price for the last 30 days of trading in the relevant performance period

The following table shows the fair value of the provisions recognized for the various programs as of December 31, 2017:

Fair Value of the Provisions for Stock-based Compensation Programs

	Prisma	Aspire I	Aspire II	Total
	€ million	€ million	€ million	€ million
December 31, 2017	**36**	**8**	**23**	**67**

The value of the Aspire tranches that were fully earned at the end of 2017, resulting in payments at the beginning of 2018, was €18 million (previous year: €35 million).

The net expense for all stock-based compensation programs was €28 million (previous year: €32 million), including €3 million for the Covestment stock participation program described below in greater detail (previous year: €2 million).

The fair value of obligations under the Prisma program was calculated using the Monte Carlo simulation method on the basis of the following key parameters pertaining to the reporting date:

Monte Carlo Simulation Parameters

	2017
Risk-free interest rate for the 2016 tranche	–0.22%
Risk-free interest rate for the 2017 tranche	–0.06%
Stock price volatility	+24.69%
STOXX® Europe 600 Chemicals volatility	+10.75%
Correlation between stock price and STOXX® Europe 600 Chemicals	0.36

For the Aspire I and Aspire II long-term incentive programs, the fair value of the obligation was calculated based on a Monte Carlo simulation in previous years and until these programs were locked in 2015.

Stock participation program (Covestment)

Under the Covestment program, employees of Covestro AG and other selected Group companies could invest a fixed amount of their compensation in Covestro shares in 2017, which Covestro supplemented through an employer subsidy. The discount granted for 2017 was 30% of the subscription amount and is set every year. The total individual investment amount was capped at €3,600, depending on the Group company and the employee's position.

Around 105,000 total shares were purchased by employees under the Covestment program. Employees were able to acquire Covestro shares at the volume-weighted average price on four trading days in August 2017. Group employees in the United States also acquired around 70,000 Covestro American Depositary Shares (ADS) with two ADS equaling one Covestro share. Each month, participants acquired 1/12 of the total subscription amount based on the market price of Covestro stock. The shares and ADS acquired are subject to a one-year lock-up period from the subscription date.

23. Financing and Financial Liabilities

The bonds issued through the Debt Issuance Program launched in the first quarter of 2016 are a key form of external financing. Bonds with a total nominal volume of €1,500 million were placed. The bonds comprise two fixed-rate tranches with terms until October 2021 (a coupon of 1.00% and a volume of €500 million) and September 2024 (a coupon of 1.75% and a volume of €500 million) and a variable-rate tranche with a volume of €500 million, a term until March 2018 and a coupon of 0.60 percentage points above the three-month Euribor. All three bonds received a Baa2 rating from Moody's Investors Service, London (United Kingdom).

Additional liquidity is provided by a multicurrency revolving credit facility totaling €1,500 million with a term until September 2022. No loans had been drawn against this syndicated credit facility as of December 31, 2017. The Covestro Group had total credit facilities of €1,569 million at its disposal (previous year: €1,633 million). Of this amount, €69 million (previous year: €133 million) was drawn down, while €1,500 million (previous year: €1,500 million) remained unused.

Financial liabilities were comprised as follows:

Financial Liabilities

	Dec. 31, 2016		Dec. 31, 2017	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Bonds	1,494	–	1,495	500
Liabilities to banks	133	72	69	46
Leasing liabilities	265	31	223	29
Liabilities from derivatives	33	32	9	8
Other financial liabilities	6	–	–	–
Total	**1,931**	**135**	**1,796**	**583**

Maturities of Financial Liabilities

	Dec. 31, 2016		Dec. 31, 2017
Maturity	€ million	**Maturity**	€ million
2017	135	2018	583
2018	564	2019	46
2019	49	2020	31
2020	33	2021	529
2021	529	2022	33
2022 or later	621	2023 or later	574
Total	**1,931**	**Total**	**1,796**

The financial liabilities of the Covestro Group are mainly unsecured.

Finance leases

Lease payments totaling €295 million (previous year: €356 million), including €72 million (previous year: €91 million) in interest, are to be made under finance leases to the respective lessors in future years. The liabilities under finance leases mature as follows:

Leasing Liabilities

	Dec. 31, 2016				Dec. 31, 2017		
	Lease payments	Interest component	Leasing liabilities		Lease payments	Interest component	Leasing liabilities
Maturity	€ million	€ million	€ million	Maturity	€ million	€ million	€ million
2017	48	17	31	2018	43	14	29
2018	46	15	31	2019	41	12	29
2019	44	13	31	2020	41	11	30
2020	43	11	32	2021	39	9	30
2021	41	9	32	2022	39	7	32
2022 or later	134	26	108	2023 or later	92	19	73
Total	**356**	**91**	**265**	**Total**	**295**	**72**	**223**

Further information on the accounting for liabilities from derivatives is given in Note 25.

24. Other Liabilities

Other liabilities were comprised as follows:

Other Liabilities

	Dec. 31, 2016		Dec. 31, 2017	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax liabilities	110	109	111	111
Deferred income	13	10	11	11
Grants and subsidies received from governments	8	1	13	5
Liabilities to employees	34	34	38	36
Liabilities for social expenses	16	16	17	16
Accrued interest on liabilities	13	13	6	6
Miscellaneous liabilities	29	14	25	15
Total	**223**	**197**	**221**	**200**

The miscellaneous liabilities included €5 million (previous year: €6 million) in liabilities from derivatives.

25. Financial Instruments

25.1 Financial Instruments by Category

The following tables show the carrying amounts and fair values of financial assets and liabilities by category of financial instrument. The line items "Other receivables", "Trade accounts payable", and "Other liabilities" contain both financial instruments and nonfinancial assets or liabilities (such as other tax receivables or liabilities and advance payments for services to be received in the future).

Carrying Amounts of Financial Instruments According to IAS 39 and Their Fair Values

	Dec. 31, 2017				
		Valuation according to IAS 39			
	Carrying amount	Carried at amortized cost	Fair value recognized outside profit or loss	Fair value recognized in profit or loss	Fair value
	€ million	€ million	€ million	€ million	€ million
Assets					
Trade accounts receivable	1,882				
Loans and receivables	1,882	1,882			1,882
Other financial assets	316				
Loans and receivables	279	279			279
Available-for-sale financial assets	6	4	2		6
Derivatives that do not qualify for hedge accounting	23			23	23
Receivables under finance lease agreements[1]	8				15
Other receivables	316				
Loans and receivables	34	34			34
Nonfinancial assets	282				
Cash and cash equivalents	1,232				
Loans and receivables	1,232	1,232			1,232
Liabilities					
Financial liabilities	1,796				
Carried at amortized cost	1,564	1,564			1,627
Derivatives that do not qualify for hedge accounting	9			9	9
Liabilities under finance lease agreements[1]	223				262
Trade accounts payable	1,618				
Carried at amortized cost	1,581	1,581			1,581
Nonfinancial liabilities	37				
Other liabilities	221				
Carried at amortized cost	28	28			28
Derivatives that do not qualify for hedge accounting	5			5	5
Nonfinancial liabilities	188				

[1] Valuation in accordance with IAS 17

Carrying Amounts of Financial Instruments According to IAS 39 and Their Fair Values

	Dec. 31, 2016				
		Valuation according to IAS 39			
	Carrying amount	Carried at amortized cost	Fair value recognized outside profit or loss	Fair value recognized in profit or loss	Fair value
	€ million	€ million	€ million	€ million	€ million
Assets					
Trade accounts receivable	1,674				
Loans and receivables	1,674	1,674			1,674
Other financial assets	202				
Loans and receivables	164	164			164
Available-for-sale financial assets	6	5	1		6
Derivatives that do not qualify for hedge accounting	24			24	24
Receivables under finance lease agreements[1]	8				16
Other receivables	357				
Loans and receivables	52	52			52
Nonfinancial assets	305				
Cash and cash equivalents	267				
Loans and receivables	267	267			267
Liabilities					
Financial liabilities	1,931				
Carried at amortized cost	1,633	1,633			1,703
Derivatives that do not qualify for hedge accounting	33			33	33
Liabilities under finance lease agreements[1]	265				303
Trade accounts payable	1,536				
Carried at amortized cost	1,516	1,516			1,516
Nonfinancial liabilities	20				
Other liabilities	223				
Carried at amortized cost	36	36			36
Derivatives that do not qualify for hedge accounting	6			6	6
Nonfinancial liabilities	181				

[1] Valuation in accordance with IAS 17

The fair values of financial instruments are determined and reported in accordance with IFRS 13 (Fair Value Measurement) on the basis of the fair value hierarchy described below:

Level 1 covers fair values determined on the basis of unadjusted prices which exist in active markets.

Level 2 comprises fair values determined on the basis of parameters which are observable in an active market.

Level 3 applies to fair values determined using parameters whose input factors are not based on observable market data.

The following table shows the assignment of the financial instruments to the three-level fair value hierarchy:

Fair Value Hierarchy of Financial Instruments

	Fair value Dec. 31, 2016	Level 1	Level 2	Level 3	Fair value Dec. 31, 2017	Level 1	Level 2	Level 3
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial assets carried at fair value								
Available-for-sale financial assets	1	1			2	2		
Derivatives that do not qualify for hedge accounting	24		15	9	23		15	8
Financial assets not carried at fair value								
Receivables under lease agreements	16			16	15			15
Financial liabilities carried at fair value								
Derivatives that do not qualify for hedge accounting	39		33	6	14		9	5
Financial liabilities not carried at fair value								
Bonds	1,556	1,556			1,551	1,551		
Other financial liabilities	450		450		338		338	

During the fiscal year, no transfers were made between the levels of the fair value hierarchy.

Because of the generally short maturities of cash and cash equivalents, trade accounts receivable and payable, and other receivables and liabilities, their carrying amounts do not significantly differ from the fair values.

Interests in nonconsolidated companies are categorized as available-for-sale financial assets. These equity instruments are recognized at cost because their fair value cannot be determined from a stock exchange or other market price or by discounting reliably determinable cash flows. The fair values of other remaining assets categorized as available-for-sale financial assets correspond to quoted prices in active markets (Level 1).

The fair values stated for noncurrent financial assets and liabilities are the present values of the respective future cash inflows or outflows. These were determined by discounting the cash flows at a closing-date interest rate observable on the market that takes into account the term of the assets or liabilities and the creditworthiness of the contractual party. For this reason, these values are assigned to Level 2 of the fair value hierarchy.

The fair values of derivatives for which no publicly quoted market prices existed were determined using valuation techniques based on observable market data as of the end of the reporting period (Level 2). Credit value adjustments and debt value adjustments are determined to allow for both the contracting party's credit risk and Covestro's own credit risk. The currency forward contracts were measured individually at their forward rates or forward prices on the closing date. These depend on spot rates or prices including time spreads.

Fair values measured using unobservable inputs are categorized within Level 3 of the fair value hierarchy. The fair values of noncurrent leasing receivables, reported for information purposes, were calculated on the basis of interest curves observable in the market. Additionally, a discount for cash flows that are very far in the future was applied as an unobservable factor.

The financial assets and liabilities recognized at fair value based on individual unobservable inputs (Level 3) solely comprise embedded derivatives. These are separated from their respective host contracts, which are generally sales or purchase agreements relating to the operational business. The embedded derivatives cause the cash flows from the contracts to vary with fluctuations in exchange rates, commodity prices or other prices, for example. The internal measurement of embedded derivatives is mainly performed using the discounted cash flow method, which is based on unobservable inputs. These include planned sales and purchase volumes, and prices or price indices derived from market data.

The table below shows the reconciliation of Level 3 financial instruments for fiscal 2017:

Changes in the Net Amount of Financial Assets and Liabilities Recognized at Fair Value Based on Unobservable Inputs

	2016	2017
	€ million	€ million
Net carrying amounts, Jan. 1	**5**	**3**
Gains (losses) recognized in profit or loss	(7)	–
of which related to assets/liabilities recognized in the statement of financial position	(6)	–
Gains (losses) recognized outside profit or loss	–	–
Additions of assets (liabilities)	–	–
Settlements of (assets) liabilities	5	–
Reclassifications	–	–
Net carrying amounts, Dec. 31	**3**	**3**

Gains and losses from Level 3 financial instruments recognized in profit or loss result primarily from embedded derivatives and are reported in other operating expenses or income.

Income, expense, gains and losses on financial instruments can be assigned to the following categories in accordance with IAS 39 (Financial Instruments: Recognition and Measurement):

Net Result by Measurement Category in Accordance with IAS 39

	2016	2017
	€ million	€ million
Loans and receivables	3	(169)
of which net interest	3	3
Held-to-maturity financial assets	–	–
of which net interest	–	–
Available-for-sale financial assets	(1)	1
of which net interest	–	–
Assets held for trading	(42)	45
of which net interest[1]	(66)	(62)
Liabilities carried at amortized cost	(99)	17
of which net interest	(52)	(40)

[1] The previous year's figures were adjusted retroactively to reflect the change in the accounting treatment of forward exchange contracts. See Note 4 for additional information.

In the reporting period, losses from available-for-sale financial assets of €0 million (previous year: €1 million) were reclassified to profit or loss.

Master netting arrangements exist for derivatives, but these did not satisfy, or only partially satisfied, the offsetting criteria of IAS 32 (Financial Instruments: Presentation) as of the closing date and in the previous year. Settlement on a net basis is therefore only enforceable in the event of breach of contract by, or insolvency of, one of the contracting parties.

25.2 Financial Risk Management and Information on Derivatives

Capital management

The main purpose of financial management is to ensure solvency at all times, continuously optimize capital costs and reduce the risks of financing measures. Financial management for the Covestro Group is performed centrally by Covestro AG.

Moody's Investors Service, London (United Kingdom), currently assigns Covestro AG an investment-grade rating of Baa2 with a positive outlook. Covestro uses the debt ratios published by prominent rating agencies in managing its capital and pursues a conservative debt policy along with a balanced financing portfolio. This is based for the most part on bonds, syndicated credit facilities and bilateral loan agreements.

Currency risks

Currency opportunities and risks for the Covestro Group result from changes in exchange rates and the related changes in the value of financial instruments (including receivables and payables) and of anticipated payment receipts and disbursements in foreign currencies. Material receivables and payables in liquid currencies from operating and financial activities are generally fully hedged through forward exchange contracts. At the closing date, the nominal volume of the forward exchange contracts used to hedge currency risk amounted to €1,633 million (previous year: €2,757 million). A value-at-risk approach is used to manage foreign currency exposures arising from planned receivables and liabilities. Anticipated foreign currency exposures were not hedged in 2017 since they did not exceed the limit defined for the Group. They will be rehedged using forward contracts if the foreign currency risk increases significantly. The extent of the currency risk is represented below by a sensitivity analysis.

The currency risk shown in the sensitivity analysis results from the following:

- The unsecured portion of receivables and payables in nonfunctional currencies
- Unsecured bank deposits and liabilities to banks in nonfunctional currencies
- Currency risks from embedded derivatives

Sensitivities were determined based on a hypothetical scenario in which the euro depreciates by 10% against all other currencies compared with the year-end exchange rates. Under this scenario, the estimated hypothetical gains recognized in profit or loss as of December 31, 2017, would have totaled €7.9 million (previous year: gains of €8.9 million). The table below shows the distribution of these effects among the individual currencies:

Sensitivity by Currency

	2016		2017
Currency	€ million	Currency	€ million
CNY	7.3	CNY	5.2
USD	0.9	USD	1.9
HKD	(0.4)	DKK	(0.4)
Other	1.1	Other	1.2
Total	**8.9**	**Total**	**7.9**

Liquidity risk

Liquidity risk is the risk of not being able to meet existing or future payment obligations. The liquidity status of all material Group companies is continuously planned and monitored. Liquidity is secured by cash pooling agreements as well as through internal and external financing. A syndicated revolving credit facility offers additional financial flexibility.

The liquidity risks to which the Covestro Group was exposed from its financial instruments can be divided into obligations for interest and repayment installments on financial liabilities and payment obligations arising from derivatives. The following tables show the maturity structure of the nondiscounted contractually agreed payments arising from these line items:

Maturity Analysis of Financial Liabilities and Derivative Financial Instruments

	Carrying amount	Contractual cash flows					
	Dec. 31, 2017	2018	2019	2020	2021	2022	after 2022
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial liabilities							
Bonds	1,495	511	14	14	514	9	518
Liabilities to banks	69	49	17	1	1	1	3
Remaining liabilities	223	43	41	41	39	39	92
Trade accounts payable	1,581	1,581	–	–	–	–	–
Other liabilities							
Accrued interest on liabilities	6	6	–	–	–	–	–
Remaining liabilities	22	15	–	–	–	–	7
Liabilities from derivatives							
Derivatives that do not qualify for hedge accounting	14	9	2	1	1	1	–
Receivables from derivatives							
Derivatives that do not qualify for hedge accounting	23	13	7	1	1	1	–
Loan commitments	–	208	–	–	–	–	–

	Carrying amount	Contractual cash flows					
	Dec. 31, 2016	2017	2018	2019	2020	2021	after 2021
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial liabilities							
Bonds	1,494	12	514	14	14	514	526
Liabilities to banks	133	76	36	19	–	–	9
Remaining liabilities	271	48	46	44	44	41	141
Trade accounts payable	1,516	1,515	1	–	–	–	–
Other liabilities							
Accrued interest on liabilities	13	13	–	–	–	–	–
Remaining liabilities	23	14	–	–	–	–	9
Liabilities from derivatives							
Derivatives that do not qualify for hedge accounting	39	33	1	1	2	1	1
Receivables from derivatives							
Derivatives that do not qualify for hedge accounting	24	18	2	2	1	1	1
Loan commitments	–	208	–	–	–	–	–

In addition to the primary financial liabilities and derivative financial instruments, there was an obligation under certain conditions to make a loan of €208 million (previous year: €208 million) to the effective initial fund of Bayer-Pensionskasse VVaG, which may result in payments by Covestro AG in subsequent years. This is reflected in the loan commitments shown in the table above. Further information is given in Note 26.

In this analysis, foreign currencies were translated at the closing rates. Derivative financial instruments are reported as net amounts.

Interest rate risks

Interest rate opportunities and risks for the Covestro Group result from changes in capital market interest rates, which could lead to changes in the fair value of fixed-rate financial instruments and in interest payments in the case of floating-rate instruments. To minimize adverse effects, interest rate risk is managed centrally based on an optimized debt maturity structure.

A sensitivity analysis based on our net floating-rate receivables and payables position at year end 2017, taking into account the interest rates relevant for our receivables and payables in all principal currencies, produced the following result: A hypothetical increase of 100 basis points, or one percentage point, in these interest rates (assuming constant currency exchange rates) would have raised our interest expense by €0.2 million (previous year: €5.9 million).

Raw material price risks

The Covestro Group requires significant quantities of energy and petrochemical feedstocks for its production processes. Procurement prices for energy and raw materials may fluctuate significantly. Important raw materials are procured on the basis of long-term supply agreements and an active supplier management to minimize substantial price fluctuations. In steam and electricity generation, we aim for market-based price indexing, a diversification of fuels and a mix of external procurement and captive production to minimize the price fluctuation risk for energies. During the past fiscal year, derivative financial instruments were not used to hedge raw material price risks.

26. Contingent Liabilities and Other Financial Commitments

Contingent liabilities

The following warranty and guarantee contracts as well as other contingent liabilities existed at the end of the reporting period:

Contingent Liabilities

	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million
Warranties	2	1
Other contingent liabilities	7	6
Total	**9**	**7**

In connection with the Contribution, Indemnification and Post-Formation Agreement between Bayer AG and Covestro AG, arrangements were made to settle possible claims for taxes. These may result in corresponding cash outflows at Covestro.

Other financial commitments

The other financial commitments were as follows:

Other Financial Commitments

	Dec. 31, 2016	Dec. 31, 2017
	€ million	€ million
Operating leases	378	424
Orders already placed for started or planned investment projects	117	187
Loan commitments to Bayer-Pensionskasse VVaG	208	208
Total	**703**	**819**

The nondiscounted future minimum lease payments relating to operating leases were as follows:

Operating Leases

	Dec. 31, 2016		Dec. 31, 2017
Maturing in	€ million	**Maturing in**	€ million
2017	77	2018	76
2018	59	2019	57
2019	46	2020	53
2020	41	2021	47
2021	34	2022	44
2022 or later	121	2023 or later	147
Total	**378**	**Total**	**424**

Obligations from leases classified as operating leases relate mainly to leases for real estate and logistics infrastructure. The increase in future minimum operating lease payments is attributable mainly to new leases for offices in China, the extension of a lease for a property in Thailand and new leases for pipelines in the Netherlands.

In cases where pension obligations allocable to the Covestro Group are funded through pension institutions used jointly with other companies (especially Bayer), it is generally contractually ensured that Covestro participates in funding measures that serve to guarantee adequate funding status and/or adequate solvency capital of these pension institutions for the long term. To this end, Covestro AG agreed to grant Bayer-Pensionskasse VVaG an interest-bearing loan of up to €208 million for the effective initial fund as required.

27. Legal Risks

As a global enterprise, the Covestro Group is exposed to numerous legal risks, particularly in the areas of product liability, competition and antitrust law, patent disputes, tax law, environmental law, and compliance issues such as corruption and export control. The outcome of any current or future proceedings cannot be predicted. It is therefore possible that legal judgments or regulatory decisions or future settlements could give rise to expenses that are not covered, or not fully covered, by insurers' compensation payments and could significantly affect the earnings of the Covestro Group.

Legal proceedings currently considered to involve material risks are outlined below. The legal proceedings referred to do not necessarily represent an exhaustive list:

Carbon monoxide pipeline from Dormagen to Krefeld-Uerdingen

The carbon monoxide pipeline is intended to connect the chemical production sites at Dormagen and Krefeld-Uerdingen and complement the network already existing between Dormagen and Leverkusen. The aim is to ensure a safe and reliable supply of carbon monoxide to and across all sites. Although the pipeline was almost completed by the end of 2009, it cannot currently be put into operation because of court proceedings and an ongoing planning amendment procedure. Following confirmation by the Düsseldorf Administrative Court in 2011 that there were no grounds to challenge the material aspects of the planning permission decision, in particular the safety of the materials used and the legal conformity of the relevant pipeline act (Rohrleitungsgesetz), the plaintiffs and the regional government against which legal proceedings had been instituted lodged appeals before the Higher Administrative Court in Münster. In 2014, the Münster Higher Administrative Court raised no objections in principle to the safety and routing of the pipeline, but questioned the constitutionality of the pipeline act which forms the legal basis for the project. The decision on the constitutionality of the pipeline act was then a matter for the German Federal Constitutional Court. The Covestro Group did not share the doubts of the Münster Higher Administrative Court as to the constitutionality of the pipeline act and believed there were good prospects for putting the pipeline into operation. On December 21, 2016, the German Federal Constitutional Court dismissed the constitutionality question referred to it by Münster Higher Administrative Court as inadmissible and confirmed the legal opinion of the Covestro Group. Münster Higher Administrative Court must now return to considering the facts of the appeal.

Litigation in the United States

On September 14, 2016, Covestro LLC, Pittsburgh (United States), – amongst three other defendants – was served with a lawsuit filed by a law firm for a plaintiff in California Federal Court. This has since been transferred to a federal court in Washington D.C. (United States) by agreement of the parties involved. This action seeks financial damages due to fines allegedly enforceable and due by the defendants to the United States Environmental Protection Agency because they withheld information about the health risks associated with the manufacture and use of TDI, MDI and PMDI. The U.S. government declined to intervene and proceed with the claims itself despite sufficient opportunity to do so under the applicable laws. It is therefore now up to the law firm to proceed with the claims asserted on behalf of the government. Violations of the Toxic Substances Control Act (TSCA) and False Claims Act (FCA) are asserted. The trial court dismissed the action on October 23, 2017. The plaintiff then filed a timely appeal against this decision. Covestro continues to consider the action to be without merit and will therefore defend the claims using all legal means.

Other Information

28. Notes to the Statement of Cash Flows

Since January 1, 2017, the effect on earnings of forward exchange contracts for the purpose of hedging foreign exchange risks has been divided into an interest and a currency component. The cash flows from the interest component are no longer reported as cash inflows from/outflows for other current assets. Instead, they are recognized as interest received or interest paid.

The prior-year figures were adjusted in each case.

28.1. Cash Flows from Operating Activities

The net cash of €2,361 million (previous year: €1,786 million) provided by operating activities comprises the cash surplus from operating activities and reflects the changes in working capital and other noncash transactions.

The €575 million (32.2%) year-on-year increase in net cash provided by operating activities was chiefly the result of a €1,477 million increase in EBIT. A decrease (previous year: increase) in cash inflows from working capital and higher income tax payments (€92 million) had the opposite effect.

The €250 million transfer of government bonds to Metzler Trust e.V. was a noncash transaction and therefore did not result in a cash outflow from operations.

28.2. Cash Flows from Investing Activities

Net cash outflow for investing activities in 2017 amounted to €747 million (previous year: €958 million[2]).

These mainly included cash outflows for additions to property, plant, equipment and intangible assets of €518 million (previous year: €419 million) and European government bonds with a nominal volume of €250 million acquired in the course of investing surplus liquidity. In October, the government bonds (€250 million) were transferred to Metzler Trust e. V. The transfer was a noncash transaction and therefore did not result in a cash inflow from investing activities.

The sale of the North American polyurethane spray foam systems business (asset deal) generated proceeds from divestitures of €47 million.

Cash outflows for acquisitions of €4 million resulted from the acquisition of a pilot plant (technical center), including employees of Bayer AG, in an asset deal.

28.3. Cash Flows from Financing Activities

In 2017, there was a net cash outflow of €634 million (previous year: €1,206 million[2]) for financing activities. Net loan repayments amounted to €86 million (previous year: €934 million).

In the course of the share buy-back program, Covestro AG has paid €143 million to acquire own shares since November 2017.

In May 2017, dividends totaling €273 million were paid to Covestro AG stockholders.

[2] The previous year's figures were adjusted retroactively to reflect the change in the accounting treatment of forward exchange contracts.

Reconciliation of financial debt in 2017

	Carrying amounts, Dec. 31, 2016	Changes cashflow realized	Changes cashflow not realized			Carrying amounts, Dec. 31, 2017
			Changes due to exchange rate movements	Changes in measurement	Other changes	
	€ million	€ million	€ million	€ million	€ million	€ million
Bonds	1,494	–	–	1	–	1,495
Liabilities to banks	133	(50)	(14)	–	–	69
Liabilities under finance lease	265	(30)	(14)	–	2	223
Other financial liabilities	6	(6)	–	–	–	–
Financial debt[1]	**1,898**	**(86)**	**(28)**	**1**	**2**	**1,787**

[1] Not including forward exchange contracts used to hedge currency risks

29. Related Companies and Persons

29.1 Related Companies

Related entities as defined in IAS 24 (Related Party Disclosures) are those legal entities that are able to exert at least significant influence on Covestro AG and its subsidiaries or over which Covestro AG or its subsidiaries exercise control or have at least a significant influence. They include, in particular, Bayer AG on account of its approximately 25% interest in Covestro AG as of December 31, 2017, the Bayer AG subsidiaries which are not part of the Covestro scope of consolidation, nonconsolidated subsidiaries, joint ventures, associated companies and post-employment benefit plans.

Receivables from and Liabilities to Related Parties

	Dec. 31, 2016		Dec. 31, 2017	
	Receivables	Liabilities	Receivables	Liabilities
	€ million	€ million	€ million	€ million
Bayer AG	1	4	6	2
Bayer Group companies	25	133	18	128
Nonconsolidated subsidiaries and associates	4	7	4	8
Joint ventures	1	–	1	–
Associates	4	1	10	–

Sales and Purchases of Goods and Services to/from Related Parties

	2016		2017	
	Sales of goods and services	Purchases of goods and services	Sales of goods and services	Purchases of goods and services
	€ million	€ million	€ million	€ million
Bayer AG	15	14	29	11
Bayer Group companies	75	509	55	535
Nonconsolidated subsidiaries and associates	34	4	39	5
Joint ventures	4	–	4	–
Associates	11	551	21	618

Transactions with Bayer AG and its subsidiaries

The sale of products and goods and other typical business activities result in revenues with Bayer AG and its subsidiaries.

The **goods and services received** mainly comprise operational goods and service transactions, leasing and services performed for Covestro by the Bayer Group through its service company Currenta GmbH & Co. OHG, Leverkusen (Germany), (Currenta) and its subsidiaries.

Of the goods and services received by Covestro from Bayer Group companies in 2017, services accounted for €502 million (previous year: €472 million).

The services provided by the service companies are primarily services connected with the Chempark sites operated by Currenta, which are used jointly by Covestro and the Bayer Group. The services obtained from Currenta mainly comprise energy supplies, maintenance services, environmental services, and logistics and infrastructure. The latter include in particular basic site infrastructure at the Chempark sites (e.g., electricity networks, pipeline systems, site railway networks, harbor installations, wastewater treatment plants and security services).

Covestro also uses some insurance services provided by the wholly owned Bayer subsidiary Pallas Versicherung AG, Leverkusen (Germany).

The services provided and received also include leasing agreements concluded with the Bayer Group in which Covestro figures as both the lessor and the lessee.

The goods and services provided by associated companies result from the ongoing operating business with PO JV, LP, Wilmington (United States). Further details on these business relationships are given in Note 15.

Receivables from and payables to related parties mainly comprise leasing and financing matters, trade in goods and services and other transactions. In the 2017 fiscal year, impairment losses on receivables from related parties amounted to €1 million (previous year: €0 million).

29.2 Related Persons

Related persons as defined in IAS 24 are those natural persons who, on account of their function in the Covestro Group, are responsible for Covestro's global business operations. These persons include the corporate officers of Covestro AG, who are the members of the Board of Management and Supervisory Board.

Compensation of the corporate officers

Total compensation of €16,962 thousand (previous year: €16,010 thousand) was paid to the corporate officers in fiscal 2017, including the compensation of the Supervisory Board amounting to €1,756 thousand (previous year: €1,722 thousand).

This compensation is shown below:

Board Members Compensation According to IFRSs

	2016	2017
	€ thousand	€ thousand
Total short-term compensation	11,798	11,238
Termination benefits	–	393
Total stock-based compensation (long-term incentive)	2,914	4,041
Service cost for pension entitlements earned in the respective year	1,298	1,290
Aggregate compensation (IFRSs)	**16,010**	**16,962**

Aggregate compensation (German Commercial Code) is presented in section 26 of the combined management report. The fair value of the long-term stock-based compensation (Prisma) granted to the Board of Management in fiscal year 2017 was €3,193 thousand (previous year: €4,882 thousand). Of this amount, €358 thousand is attributable to members of the Board of Management who stepped down during the year.

Provisions of €14,088 thousand (previous year: €12,536 thousand) were recognized for the short-term variable cash compensation and long-term stock-based cash compensation for the members of the Board of Management serving during the 2017 reporting period. Members of the Board of Management who left the company during the fiscal year accounted for €2,151 thousand of this amount. At the end of the year, the present value of the defined benefit pension obligations for the current members of the Board of Management was €10,322 thousand (previous year: €9,386 thousand). The present value of the defined benefit pension obligations for members of the Board of Management who stepped down during the reporting period was €647 thousand.

Since 2016, the members of the Board of Management are entitled to participate in the Prisma long-term stock-based compensation program, as long as they are employed by the Covestro Group, and acquire for their own account and hold an individually defined number of Covestro shares as specified by the guidelines.

The compensation of the Supervisory Board is exclusively non-performance-related. In addition to their compensation as members of the Supervisory Board, those employee representatives who are employees of Covestro Group companies receive compensation unrelated to their service on the Supervisory Board. The total amount of such compensation was €915 thousand (previous year: €503 thousand). Pension obligations for employee representatives on the Supervisory Board amounted to €2,683 thousand (previous year: €2,172 thousand).

There were no advances or loans to members of the Board of Management or the Supervisory Board outstanding as of December 31, 2017, or at any time during 2017 or the previous year.

30. Audit Fees

The following fees were recognized as expenses for the services provided by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC GmbH WPG):

Audit Fees

	PwC GmbH WPG	
	2016	2017
	€ million	€ million
Financial statements auditing	2	3
Total	**2**	**3**

The fees for the auditing of financial statements mainly comprise those for the audit of the consolidated financial statements, the review of the Covestro Group's interim report for the period ended June 30, 2017, process-related audits, and the audit of the financial statements of Covestro AG and its subsidiaries in Germany. To a lesser degree, the auditor also performed other assurance services in the areas of compliance and sustainability as well as providing tax advice.

31. Events after the End of the Reporting Period

Covestro AG acquired 2,175,687 shares as part of the share buy-back program in the period from January 1, to February 14, 2018. As of February 14, 2018, Covestro AG held 3,844,199 treasury shares.

Covestro intends to sell assets (disposal group) in the Polycarbonates reporting segment. The disposal group includes production-related assets and inventories. The contract of sale is expected to be signed in the first half of 2018, and the transaction should be completed no later than in the third quarter of 2018.

Leverkusen, February 14, 2018
Covestro AG
The Board of Management

Responsibility Statement

To the best of our knowledge, and in accordance with the applicable reporting principles for financial reporting, the consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the Covestro Group, and the Group management report, which has been combined with the management report of Covestro AG, includes a fair review of the development and performance of the business and the position of the Covestro Group and Covestro AG, together with a description of the principal opportunities and risks associated with the expected development of the Covestro Group and Covestro AG.

Leverkusen, February 14, 2018
Covestro AG
The Board of Management

Patrick Thomas (Chairman)

Dr. Klaus Schäfer

Dr. Markus Steilemann

Independent Auditor’s Report

To Covestro AG, Leverkusen

Report on the Audit of the Consolidated Financial Statements and of the Group Management Report

Audit Opinions

We have audited the consolidated financial statements of Covestro AG, Leverkusen, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2017 and the consolidated income statement, the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from 1 January to 31 December 2017 and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Covestro AG, which is combined with the Company’s management report, including the non-financial statement pursuant to § [Article] 289b Abs. [paragraph] 1 HGB and § 315b Abs. 1 HGB for the financial year from 1 January to 31 December 2017. We have not audited the content of the statement on corporate governance pursuant to § 289f HGB and § 315d HGB in accordance with the German legal requirements.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to § 315e Abs 1 and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2017 and of its financial performance for the financial year from 1 January to 31 December 2017 and

- the accompanying group management report as a whole provides an appropriate view of the Group’s position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of the statement on corporate governance referred to above.

Pursuant to § 322 Abs. 3 Satz [sentence] 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as “EU Audit Regulation”) and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). We performed the audit of the consolidated financial statements in supplementary compliance with the International Standards on Auditing (ISAs). Our responsibilities under those requirements and principles and standards are further described in the “Auditor’s Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report” section of our auditor’s report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from January 1, to December 31, 2017. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In our view, the matters of most significance in our audit were as follows:

(A) Impairment of goodwill and assets with determinable useful lives
(B) Pension provisions
(C) Other provisions and obligations
(D) Project for the development and transfer of Accounting Shared Services from Bayer Business Services GmbH to Covestro AG

Our presentation of these key audit matters has been structured in each case as follows:

(1) Matter and issue
(2) Audit approach and findings
(3) Reference to further information

Hereinafter we present the key audit matters:

A Impairment of goodwill and assets with determinable useful lives

A.1 Matter and issue

In the consolidated financial statements, a total amount of € 4.6 billion is reported under the line items "Goodwill", "Other intangible assets" and "Property, plant and equipment" of the consolidated statement of financial position. While goodwill must be tested for impairment ("impairment test") on an annual basis or if there are indications that goodwill may be impaired, such a test needs only to be carried out for other non-current assets with determinable useful lives if there are indications that these assets may be impaired ("triggering events"). The Company has identified certain indicators, which are monitored and in case of negative development trigger an impairment test. In an impairment test, the carrying amount of the affected asset or cash-generating unit is compared against the higher of the value in use and the fair value less costs of disposal. In general, the Company conducts the test in a first step based on the fair value less costs of disposal. The basis of measurement is usually the present value of future cash flows from the affected asset or the cash-generating unit to which the respective assets are assigned. The present value is determined using the discounted cash flow method. For this purpose, the Group's 3-year financial plan, prepared by the executive directors and approved by the supervisory board, serves as a starting point and is projected forward until such time as operational stability has been achieved. The discount rate used is the weighted average cost of capital for the relevant cash-generating unit. The result of this measurement depends to a large extent on the executive directors' assessment of future cash inflows and the discount rate used, and is therefore subject to considerable uncertainty.

A.2 Audit approach and findings

We assessed the appropriateness of the future cash inflows used in the calculation, inter alia, by comparing this data with the current budgets in the 3-year financial plan prepared by the executive directors and approved by the supervisory board, and by reconciling it with general and sectorspecific market expectations. In the knowledge that even relatively small changes in the discount rate applied can have a material impact on the value of the entity calculated in this way, we also focused our testing on the parameters used to determine the discount rate applied, and evaluated the measurement model. Furthermore, supplemental to the analyses performed by the Company, we carried out our own sensitivity analyses and established that the carrying amounts of the assets and cash-generating units tested are sufficiently covered by the discounted future net cash inflows. Overall, the measurement inputs and assumptions used by the executive directors are in line with our expectations and are also within the ranges considered by us to be reasonable.

A.3 Reference to further information

The Company's disclosures pertaining to non-current assets are contained in sections 3, 13 and 14 of the notes to the consolidated financial statements.

B Pension provisions

B.1 Matter and issue

Within the consolidated financial statements, pension provisions amounting to € 1.2 billion are reported, comprising the net amount of the present value of the obligations under defined-benefit pension plans, amounting to € 4.0 billion, and the fair value of the plan assets, amounting to € 2.8 billion. The majority of these provisions relates to old-age and transitional pension commitments in Germany and the United States of America. Obligations from defined-benefit pension plans are measured using the projected unit credit method in accordance with IAS 19. This requires assumptions to be made in particular about long-term rates of growth in salaries and pensions, average life expectancy, and staff turnover. Furthermore, the discount rate applied as of the balance sheet date must be determined by reference to market yields on high-quality corporate bonds with matching currencies and terms which are consistent with the expected maturities of the obligations. Changes to these actuarial assumptions and experience adjustments are recognized in other comprehensive income as actuarial gains or losses. Plan assets are recognized at their fair value. From our point of view, these matters were of particular importance for our audit, as the recognition and measurement of these material items are to a large extent based on the executive directors' estimates and assumptions. Furthermore, the line item "pension provisions" is potentially factored into ratios relevant to the Group's rating regarding the Group's indebtedness; this means that the measurement of pension obligations materially affects compliance with the requirements set by the rating agencies.

B.2 Audit approach and findings

As part of our audit, we evaluated the actuarial reports obtained by the relevant Group entities. Given the special features of the actuarial calculations, we received assistance from pension specialists for this purpose. Among other things, we checked the numerical data, the actuarial parameters, the calculation of the provisions as well as the presentation in the consolidated statement of financial position and the notes to the consolidated financial statements based on the actuarial reports. Our audit of the fair value of the plan assets was carried out on the basis of respective bank and fund confirmations as well as expert valuations which were available to us and which we evaluated. Based on our audit procedures, we satisfied ourselves that the estimates and assumptions made by the executive directors were justified and adequately documented.

B.3 Reference to further information

The disclosures about pension provisions are contained in section 21 of the notes to the consolidated financial statements.

C Other provisions and obligations

C.1 Matter and issue

As a manufacturer of polymer-based materials, Covestro is exposed to a variety of risks. The recognition and measurement of € 0.8 billion in current and non-current provisions in Covestro AG's consolidated financial statements for legal, environmental and warranty risks as well as obligations from personnel measures, restructuring and other agreements are highly dependent on estimates and assumptions by the executive directors. In light of this background and due to the amounts of these material items, we consider these matters to be of particular importance for our audit.

C.2 Audit approach and findings

In the knowledge that estimated values result in an increased risk of accounting misstatements and that the executive directors' measurement decisions have a direct and significant impact on consolidated net income, we assessed the appropriateness of the carrying amounts. With respect to the recognition and measurement of obligations, we evaluated, among other things, the current agreements, social plans, cost estimates – partly obtained from third parties – as well as the existence of constructive obligations. In doing so, we were able to satisfy ourselves that the estimates applied and the assumptions made by the executive directors were sufficiently well documented and supported to justify the recognition and measurement of the material provisions and other obligations where judgment was involved.

C.3 Reference to further information

The Company's disclosures pertaining to other provisions and obligations are contained in sections 22, 26 and 27 of the notes to the consolidated financial statements.

D Project for the development and transfer of Accounting Shared Services from Bayer Business Services GmbH to Covestro AG

D.1 Matter and issue

Since the spin-off from the Bayer Group in fiscal year 2015, some accounting services have been provided by Bayer Business Services GmbH. Covestro has launched a Group-wide project with the aim of gradually transferring these Shared Service Center functions, processes and controls to Covestro's Shared Service Center, in particular in Bratislava. From our point of view, this matter was of particular importance for our audit in view of its extent and complexity and the associated risks relating to the effective functioning of the control and accounting processes and therefore the propriety of the consolidated financial statements.

D.2 Audit approach and findings

In the course of our audit, we assessed the development, ongoing implementation and (partial) results of the project, in particular with respect to observance of the compliance and accounting requirements. In the first stage, our audit procedures focused on the development of the project and the approach to project management (methodology for the transfer, estimations of the project risks etc.) as well as the essential guidelines covering project monitoring and responsibilities. The latter also included assessing the design and operating effectiveness of processes and controls, as well as assessing the user and authorization procedures in the Company's bookkeeping system, based on the new divisions of responsibilities, and evaluating the design of the supporting IT programs. In the second stage, we assessed the commencement of the Covestro Service Centers' activities on an ongoing basis. This related in particular to the initial transfer of the bookkeeping functions and the assessment of process stability and quality in regular operation, as well as the implementation of the supporting IT programs. Based on these and further audit procedures, we were able to satisfy ourselves that the processes and controls established to date in the service centers are adequately documented and suitable overall for carrying out the outsourced processes.

D.3 Reference to further information

The Company describes the relevant project in the section headed "Internal control system for (Group) accounting and financial reporting (Report pursuant to Section 289, Paragraph 4 and Section 315, Paragraph 4 of the German Commercial" in chapter 22 "Opportunities and risks report" of the Group management report.

Other Information

The executive directors are responsible for the other information. The other information comprises the statement on corporate governance pursuant to § 289f HGB and § 315d HGB.

The other information comprises further the remaining parts of the annual report – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor's report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the

Group. In addition the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) and supplementary compliance with the ISAs will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.

- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.

- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor by the annual general meeting on 3 May 2017. We were engaged by the supervisory board on 3 August 2017. We have been the group auditor of the Covestro AG, Leverkusen, without interruption since the financial year 2015.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Dietmar Prümm.

Essen, 15 February 2018

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Petra Justenhoven
Wirtschaftsprüferin
(German Public Auditor)

Dietmar Prümm
Wirtschaftsprüfer
(German Public Auditor)

FURTHER INFORMATION

Glossary

A

AktG/German Stock Corporation Act
Regulates the legal provisions pertaining to German stock corporations

APAC
Comprises all countries in the Asia and Pacific region in which Covestro is active

C

Capital Employed
Capital employed is the sum of noncurrent and current assets less non-interest-bearing liabilities such as trade accounts payable.

Carbon Productivity
The value generated per carbon unit used (e.g. in the form of fossil raw materials such as coal, oil and natural gas). Measuring carbon productivity is intended to promote a sustainable and optimal use of carbon.

Core volume growth
Core volume growth refers to the core products in the Polyurethanes, Polycarbonates and Coatings, Adhesives, Specialties segments. It is calculated as the percentage change in externally sold volumes in thousand metric tons compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example by selling of raw materials and by-products such as hydrochloric acid, sodium hydroxide solution and styrene. These transactions are not included in core volume growth.

Corporate Social Responsibility
The responsibility companies assume for and the actions taken as a result of the effects of their activities on environmental and social wellbeing

Covestment
Stock participation program in which all employees in Germany and in the USA can acquire Covestro shares at a discount

D

DCGK/German Corporate Governance Code
A set of regulations compiled by the Government Commission on the German Corporate Governance Code in respect of responsible corporate governance, which contains recommendations and suggestions for the management and oversight of listed corporations in Germany

DRS/German Accounting Standards
Pronouncements of the German Accounting Standards Committee e. V., which substantiate the HGB requirements in reference to the application of the Group accounting principles

Due diligence
Investigation and analysis of a company, especially in respect of its economic, legal, tax and financial position

E

Earnings per share
Net income divided by the weighted average number of outstanding shares in the reporting period

EBIT/earnings before interest and taxes
Income after income taxes plus financial result and income tax expense

EBITDA/earnings before interest, taxes, depreciation and amortization
EBIT plus depreciation and amortization of property, plant and equipment, and intangible assets

EHS/environment, health and safety
Environment, health and safety

EMLA
Comprises all countries in Europe, the Middle East, Africa and Latin America (excluding Mexico) in which Covestro is active

EURO STOXX 50®
A European stock index that tracks the performance of the 50 most important and most actively traded companies in the eurozone

F

FOCF/free operating cash flow
Operating cash flows (pursuant to IAS 7) less cash outflows for additions to property, plant, equipment and intangible assets

G

GHG Protocol/Greenhouse Gas Protocol
International accounting system for greenhouse gas emissions developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD)

GPS/Global Product Strategy
Initiative of the International Council of Chemical Associations (ICCA) with the aim of anchoring uniform global standards for product safety in the chemical industry

GRI/Global Reporting Initiative
Guidelines for the preparation of sustainability reports by companies, governments and nongovernmental organizations (NGOs)

H

HDI/ hexamethylediisocyanate
A chemical compound from the class of aliphatic isocyanates, primarily used in polyurethane coating systems

HGB/German Commercial Code
Comprises much of the German accounting legislation

HSEQ/health, safety, environment, quality
Health, safety, environment and quality

I

IAS/International Accounting Standards
International accounting standards as endorsed by the European Union

IASB/International Accounting Standards Board
The International Accounting Standards Board is an independent, private-sector body that develops and approves the International Financial Reporting Standards (IFRSs).

ICS/internal control system
Internal control system to ensure compliance with directives by means of technical and organizational rules

IDW/Institut der Wirtschaftsprüfer in Deutschland e.V.
A professional association of German Public Auditors and German Public Audit Firms that represents the interests of its members and supports their work

IFRSs/International Financial Reporting Standards
International accounting standards as endorsed by the European Union

IPDI/isophorone diisocyanate
A chemical compound from the class of aliphatic isocyanates, primarily used in polyurethane coating systems

L

LoPC/loss of primary containment
Leaks of chemicals in amounts above defined thresholds leaking from their primary containers, such as pipelines, pumps, tanks and drums

LTRIR/lost time recordable incident rate
Rate of the reportable workplace accidents to days of absence

M

MDI/diphenylmethane diisocyanate
A chemical compound from the class of aromatic isocyanates, primarily used in polyurethane foams

N

NAFTA
Region comprising the United States, Canada and Mexico in which Covestro is active

Net financial debt
Interest-bearing liabilites (excluding pension obligations) less liquid assets

Net income
Income after income taxes that is attributable to the stockholders

NOPAT/net operating profit after taxes
Operating result (EBIT) after taxes

P

PMDI/Polymeric diphenylmethane diisocyanate
A chemical compound from the class of aromatic isocyanates, primarily used in polyurethane foams

PO/propylene oxide
A chemical compound from the class of epoxies used in the production of polyurethanes

Prisma
Prisma is a stock-based compensation program with a four-year performance period for senior executives and other managerial employees.

PSP/Profit Sharing Plan
Covestro PSP is the Group's short-term variable compensation system. It is based exclusively on the target achievement of the relevant Covestro performance indicators (core volume growth, FOCF, ROCE).

R

REACH Regulation
Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No. 1907/2006 which came into force in 2007 and harmonizes EU chemicals legislation

Responsible Care initiative
Initiative by the German Chemical Industry Association (VCI) aimed at continuously improving health, environmental protection and safety in its member states

RIR/recordable incident rate
Total number of workplace accidents per 200,000 working hours

ROCE/return on capital employed
Ratio of operating result after taxes to the capital employed

S

Stakeholders
Internal and external interest groups which are directly or indirectly impacted by the company's corporate activities and/or may be so in the future

STOXX® Europe 600 Chemicals
A sector index provided by STOXX®. The STOXX® Europe 600 is comprised of 600 companies across Europe.

T

TDI/toluylene diisoycanate
A chemical compound from the class of aromatic isocyanates, primarily used in polyurethane foams and coating systems

TfS/Together for Sustainability
An initiative undertaken by various companies in the chemical industry to standardize supplier evaluations and audits globally in order to improve sustainability practices in the supply chain

U

UN Global Compact
The world's largest responsible corporate governance initiative. The member companies undertake to implement ten universal principles and regularly document their progress.

V

VC/value contribution
The difference between the operating result after taxes and the cost of capital. A positive value contribution means that value has been created.

VCI/Verband der chemischen Industrie – German Chemical Industry Association
German chemical industry association

W

WACC/weighted average cost of capital
Weighted average cost of capital reflecting the expected return on the company's equity and debt capital

World-scale plants
Covestro defines world-scale plants in terms of their permitted production capacity in kilotons per year:

- TDI plants from 300 kilotons per year
- MDI plants from 400 kilotons per year
- Polyether polyol plants from 300 kilotons per year
- Polycarbonate plants from 240 kilotons per year
- HDI plants from 40 kilotons per year

Segment and Quarterly Overview

Segment Information 4th Quarter

	Polyurethanes		Polycarbonates		Coatings, Adhesives, Specialties		Others/Consolidation		Covestro Group	
	4th quarter 2016	4th quarter 2017	4th quarter 2016	4th quarter 2017	4th quarter 2016	4th quarter 2017	4th quarter 2016	4th quarter 2017	4th quarter 2016	4th quarter 2017
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Sales	**1,540**	**1,939**	**833**	**939**	**481**	**466**	**163**	**178**	**3,017**	**3,522**
Change in sales										
Volume	+0.3%	+6.5%	+13.2%	+5.2%	+2.4%	–2.1%	–6.1%	+3.8%	+3.8%	+4.6%
Price	+11.6%	+25.2%	–2.6%	+13.1%	–1.7%	+3.2%	–1.9%	+7.6%	+4.6%	+17.4%
Currency	–0.7%	–5.8%	–0.9%	–5.6%	+0.1%	–4.2%	+0.1%	–2.2%	–0.6%	–5.3%
Portfolio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Core volume growth[1]	**+2.4%**	**+5.1%**	**+12.8%**	**+3.7%**	**–**	**–1.0%**			**+4.8%**	**+4.1%**
Sales by region										
EMLA	576	805	270	315	217	223	134	132	1,197	1,475
NAFTA	442	458	207	206	109	95	26	42	784	801
APAC	522	676	356	418	155	148	3	4	1,036	1,246
EBITDA	**176**	**618**	**142**	**213**	**83**	**74**	**(11)**	**(26)**	**390**	**879**
EBIT	**80**	**534**	**93**	**169**	**59**	**51**	**(11)**	**(26)**	**221**	**728**
Depreciation, amortization, impairment losses and impairment loss reversals	**96**	**84**	**49**	**44**	**24**	**23**	**–**	**–**	**169**	**151**
Operating cash flows	**403**	**598**	**178**	**245**	**126**	**139**	**(97)**	**(92)**	**610**	**890**
Cash outflows for additions to property, plant, equipment and intangible assets	**96**	**132**	**70**	**74**	**36**	**31**	**1**	**(2)**	**203**	**235**
Free operating cash flow	**307**	**466**	**108**	**171**	**90**	**108**	**(98)**	**(90)**	**407**	**655**

[1] Reference values calculated based on the definition of the core business effective March 31, 2017

Segment Information Full Year

	Polyurethanes		Polycarbonates		Coatings, Adhesives, Specialties		Others/Consolidation		Covestro Group	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Sales	**5,927**	**7,660**	**3,298**	**3,737**	**2,040**	**2,053**	**639**	**688**	**11,904**	**14,138**
Change in sales										
Volume	+5.2%	+4.1%	+10.0%	+7.1%	+0.6%	–0.1%	–6.0%	+4.1%	+5.0%	+4.3%
Price	–6.4%	+26.9%	–4.3%	+8.0%	–2.4%	+1.8%	–6.1%	+4.2%	–5.2%	+16.1%
Currency	–1.4%	–1.8%	–1.7%	–1.8%	–0.7%	–1.1%	–0.2%	–0.6%	–1.3%	–1.6%
Portfolio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Core volume growth[1]	**+7.7%**	**+3.4%**	**+10.4%**	**+5.0%**	**–0.3%**	**–0.3%**			**+7.5%**	**+3.4%**
Sales by region										
EMLA	2,477	3,227	1,137	1,241	1,006	1,005	506	524	5,126	5,997
NAFTA	1,810	1,935	788	874	456	443	115	146	3,169	3,398
APAC	1,640	2,498	1,373	1,622	578	605	18	18	3,609	4,743
EBITDA	**881**	**2,212**	**704**	**853**	**500**	**453**	**(71)**	**(83)**	**2,014**	**3,435**
EBIT	**489**	**1,856**	**507**	**672**	**411**	**366**	**(76)**	**(86)**	**1,331**	**2,808**
Depreciation, amortization, impairment losses and impairment loss reversals	**392**	**356**	**197**	**181**	**89**	**87**	**5**	**3**	**683**	**627**
Operating cash flows	**842**	**1,369**	**570**	**476**	**420**	**319**	**(46)**	**197**	**1,786**	**2,361**
Cash outflows for additions to property, plant, equipment and intangible assets	**211**	**287**	**128**	**155**	**79**	**76**	**1**	**–**	**419**	**518**
Free operating cash flow	**631**	**1,082**	**442**	**321**	**341**	**243**	**(47)**	**197**	**1,367**	**1,843**

[1] Reference values calculated based on the definition of the core business effective March 31, 2017

Quarterly Overview

	1st quarter 2016	2nd quarter 2016	3rd quarter 2016	4th quarter 2016	1st quarter 2017	2nd quarter 2017	3rd quarter 2017	4th quarter 2017
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Sales	**2,875**	**2,990**	**3,022**	**3,017**	**3,586**	**3,498**	**3,532**	**3,522**
Polyurethanes	1,403	1,481	1,503	1,540	1,894	1,889	1,938	1,939
Polycarbonates	786	831	848	833	954	911	933	939
Coatings, Adhesives, Specialties	512	532	515	481	564	533	490	466
Core volume growth[1]	**+8.4%**	**+7.7%**	**+9.1%**	**+4.8%**	**+9.0%**	**–1.6%**	**+2.6%**	**+4.1%**
EBITDA	**508**	**542**	**574**	**390**	**846**	**848**	**862**	**879**
Polyurethanes	214	228	263	176	482	556	556	618
Polycarbonates	177	191	194	142	232	197	211	213
Coatings, Adhesives, Specialties	139	142	136	83	146	114	119	74
EBIT	**340**	**364**	**406**	**221**	**688**	**687**	**705**	**728**
Polyurethanes	117	124	168	80	396	460	466	534
Polycarbonates	127	142	145	93	184	152	167	169
Coatings, Adhesives, Specialties	119	119	114	59	123	95	97	51
Financial result	**(78)**	**(45)**	**(41)**	**(32)**	**(54)**	**(34)**	**(35)**	**(27)**
Income before income taxes	**262**	**319**	**365**	**189**	**634**	**653**	**670**	**701**
Income after taxes	**184**	**233**	**261**	**128**	**469**	**486**	**493**	**569**
Net income	**182**	**230**	**259**	**124**	**468**	**484**	**491**	**566**
Operating cash flows	**124**	**316**	**736**	**610**	**285**	**411**	**775**	**890**
Cash outflows for additions to property, plant, equipment and intangible assets	**47**	**79**	**90**	**203**	**74**	**92**	**117**	**235**
Free operating cash flow	**77**	**237**	**646**	**407**	**211**	**319**	**658**	**655**

[1] Reference values calculated based on the definition of the core business effective March 31, 2017

covestro

Financial Calendar

Annual General Meeting 2018	**April 13, 2018**
Q1 2018 Interim Statement	**April 26, 2018**
Half-Year Financial Report 2018	**July 26, 2018**
Q3 2018 Interim Statement	**October 25, 2018**

PUBLISHING INFORMATION

Published by
Covestro AG
Kaiser-Wilhelm-Allee 60
51373 Leverkusen
Germany
Email: info@covestro.com

covestro.com

Local Court of Cologne
HRB 85281
VAT No. DE815579850

Editorial support
Edelman.ergo GmbH
Cologne / Munich, Germany

Sustainability consultant
FutureCamp Climate GmbH
Munich, Germany

Translation
Leinhäuser Language Services GmbH
Unterhaching, Germany

Design and layout
TERRITORY CTR GmbH
Leverkusen, Germany

Annual Report partially produced
by firesys

Photo credits
Page 3: photo collage by TERRITORY (with elements of Adobe Stock, UNEP); page 6, 26: Getty Images; page 7, 36, 37, 38: Ayush Das; page 8: Andreas Kühlken, TERRITORY, UNEP; page 12: Patrick Thomas; page 13: Dr. Klaus Schäfer, Dr. Markus Steilemann; page 14, 22, 28, 29, 30, 31, 35, 37, 38, 41, 43, 44, 46, 48, 49, 54, 58: Adobe Stock; page 14: UNEP; page 17, 18, 19, 21, 35, 47: Tobi Bohn; Seite 21, 25, 31, 41: Illustration TERRITORY; page 23: Marcus Müller-Saran; page 24: Samah Tokmachi, Cyril Villemain; page 26: Hoxton / Chris Ryan; page 32, 33: Sonnenwagen Aachen e. V.; page 50, 51: Thorsten Schmidtkord; page 52: Dirk Hansen. All SDG icons: copyright by United Nations. All other photos: Covestro AG

IR contact
Email: ir@covestro.com

Press contact
Email: communications@covestro.com

Covestro AG
Kaiser-Wilhelm-Allee 60
51373 Leverkusen
Germany
Email: info@covestro.com

covestro.com