

# Accomplishments and **results**



# Five-year summary

Below is a summary of the Group's financial highlights for the five most recent years.

## Income statement <sup>1)</sup>

<i>DKK million</i>	<b>2017</b>	<b>2016</b>	<b>2015 <sup>3)</sup></b>	<b>2014 <sup>3)</sup></b>	<b>2013 <sup>3)</sup></b>
Revenue	5,011	5,150	5,785	5,685	5,348
Gross profit	2,391	2,608	2,483	2,542	2,408
EBITDA	852	1,071	795	929	876
Depreciation and amortization	-257	-260	-293	-366	-175
EBIT	595	811	502	563	701
Net financial expenses etc.	-66	-24	-40	14	-21
Profit from continuing operations	403	545	322	440	553
Loss from discontinuing operations	-422	-53	-	-	-
Net profit	-19	492	322	440	553

## Balance sheet

<i>DKK million</i>	<b>2017</b>	<b>2016</b>	<b>2015 <sup>3)</sup></b>	<b>2014 <sup>3)</sup></b>	<b>2013 <sup>3)</sup></b>
Balance sheet total	6,189	7,161	7,194	6,455	6,132
Equity	1,664	2,238	2,003	1,831	1,644
Net working capital	668	610	451	540	462
Net interest bearing debt	855	1,191	1,152	1,016	994

## Cash flow

<i>DKK million</i>	<b>2017</b>	<b>2016</b>	<b>2015 <sup>3)</sup></b>	<b>2014 <sup>3)</sup></b>	<b>2013 <sup>3)</sup></b>
Cash flows from operating activities	137	748	750	754	483
- Of which continuing operations	421	785	-	-	-
Cash flows from investing activities	690	-386	-638	-585	-721
- Of which investments in property, plant and equipment	-211	-393	-589	-600	-664
Cash flows from financing activities	-586	-530	-99	-222	163
Change in cash and cash equivalents for the year	201	-162	32	-14	-75

## Employees

<i>Number</i>	<b>2017</b>	<b>2016</b>	<b>2015 <sup>3)</sup></b>	<b>2014 <sup>3)</sup></b>	<b>2013 <sup>3)</sup></b>
Average number of employees	2,527	2,543	2,688	2,694	2,430

## Ratios

<b>%</b>	<b>2017</b>	<b>2016</b>	<b>2015 <sup>3)</sup></b>	<b>2014 <sup>3)</sup></b>	<b>2013 <sup>3)</sup></b>
Gross margin <sup>2)</sup>	47.7	50.6	42.9	44.7	45.0
EBITDA margin <sup>2)</sup>	17.0	20.8	13.7	16.3	16.4
EBIT margin <sup>2)</sup>	11.9	15.7	8.7	9.9	13.1
Return on invested capital (ROIC) <sup>2)</sup>	22.4	33.8	16.0	20.1	31.0
Equity ratio	26.9	31.3	27.8	28.4	26.8
Return on equity	-1.0	23.2	16.8	25.3	36.1
Return on equity, continuing operations	18.2	25.4	-	-	-

The ratios have been prepared in accordance with the recommendations and guidelines issued by the Danish Society of Financial Analysts.

<sup>1)</sup> Income statements for 2016 and 2017 consist of continuing operations with discontinuing operations in a separate line.

<sup>2)</sup> Ratios for 2016 and 2017 apply to continuing operations.

<sup>3)</sup> Figures for 2013-2015 have not been restated with the sale of the emissions control business in 2017. Figures for 2013-2015 are therefore not comparable to figures for 2016-2017, where the divested business is presented as discontinuing operations.

Profit from continuing operations amounted to DKK 403 million in 2017 (2016: DKK 545 million). The decline in profit was mainly due to reduced technology revenue. However, it should be noted that the 2016 results were positively affected by the significant one-time effect of restarted Iranian contracts that impacted revenue and EBIT by DKK 122 million.

The financial results in 2017 were negatively impacted by the sale of Topsoe's emissions control business areas. The transaction was concluded on November 30, 2017, and included a fixed payment of DKK 900 million (adjusted for changes to an agreed normalized working capital level) plus a potential earn-out, which is dependent on buyer achieving certain targets in the coming years. We have conservatively estimated the value of this earn-out to zero

in the 2017 accounts. Consequently, the losses relating to the discontinuing activities within the emissions control business areas amounted to DKK 422 million (mainly related to revaluation).

Net profit (after loss on discontinuing operations) decreased significantly and showed a loss of DKK 19 million for 2017.

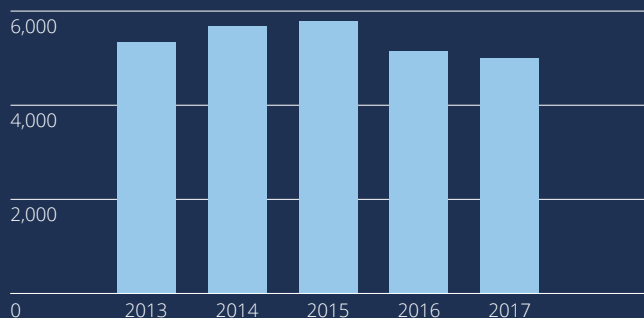
EBIT from continuing operations decreased by 27% to DKK 595 million corresponding to an EBIT margin of 11.9% (2016: 15.7%). Adjusting for the one-time effect in 2016, EBIT decreased by 14%.

R&D expenses were maintained at a high level with a R&D-to-revenue-ratio of 9.4% (2016: 9.6%).

## Revenue <sup>1)</sup>

DKK million

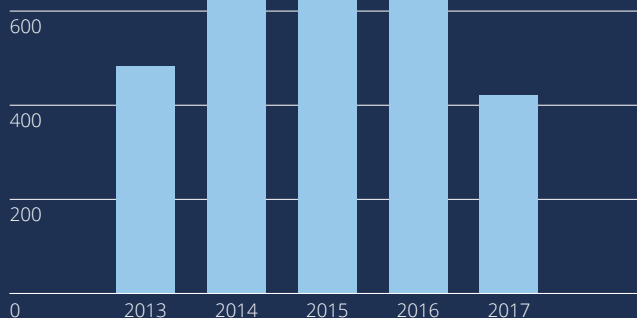
8,000



## Cash flow from operating activities <sup>1)</sup>

DKK million

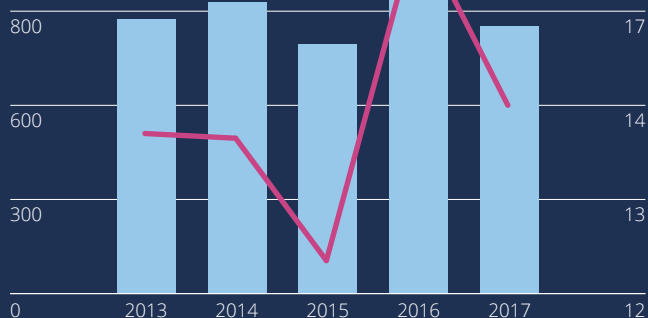
800



## EBITDA <sup>1)</sup>

DKK million

1,200

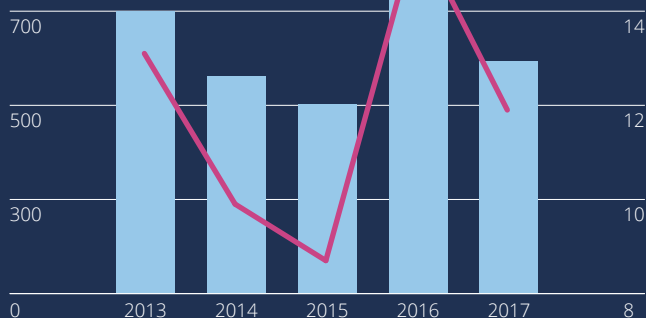


■ EBITDA (left)  
— EBITDA margin (right)

## EBIT <sup>1)</sup>

DKK million

900



■ EBIT (left)  
— EBIT margin (right)

<sup>1)</sup> 2016 and 2017 figures reflect continuing operations only



# Financial report

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## Income statement

### Revenue

Revenue from continuing operations decreased by 3% to DKK 5,011 million (2016: DKK 5,150 million). Adjusting for the 2016 one-time effect, revenue in 2017 was on par with 2016. Exchange rate developments had a negative impact of 0.9% on revenue. Catalyst revenue increased by 4% (driven by 5% volume growth), and technology revenue decreased by 17% (of which 5 percentage points can be attributed to the one-time positive impact of restarted Iranian contracts of DKK 122 million in 2016).

### Earnings before interest, tax, depreciation, and amortization (EBITDA)

EBITDA from continuing operations decreased by 20% to DKK 852 million, corresponding to an EBITDA margin of 17.0% (2016: 20.8%).

The 2017 contribution margin was lower than in 2016, mainly due to the one-time impact from Iranian projects of DKK 122 million in 2016, lower contribution from technology contracts, and lower catalyst contribution margins. Staff expenses amounted to DKK 1,539 million, which is on par with 2016. Raw material costs, including change in inventories, increased by 19% to DKK 1,301 million. Purchased equipment for contract work decreased by 21% to DKK 578 million due to decreased activity in our technology business. Other external expenses increased by 4% to DKK 756 million as a result of higher catalyst warranty provisions as well as freight costs due to the increase in catalyst volumes.

### Earnings before interest and tax (EBIT)

EBIT from continuing operations decreased by 27% to DKK 595 million corresponding to an EBIT margin of 11.9% (2016: 15.7%). Resumed Iranian contracts had a positive EBIT impact of DKK 122 million in 2016. Depreciation amounted to DKK 257 million, which is on par with 2016.

### Net profit

Net profit decreased to DKK -19 million (2016: DKK 492 million).

The decrease in the net profit is mainly explained by:

- A decrease in EBIT to DKK 595 million in 2017 (2016: DKK 811 million).
- A loss on sale of discontinuing operations of DKK 422 million.
- A DKK 116 million decrease in tax to DKK 126 million.

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## Cash flow and balance sheet

### Cash flows from operating activities

Cash flows from operations amounted to DKK 137 million (2016: DKK 748 million). Net working capital increased by DKK 100 million and made up 13.1% of revenue (2016: 11.8%). Initiatives have been taken to reduce net working capital significantly and thereby strengthen cash flows from operating activities in 2018.

### CAPEX

CAPEX decreased by 34% and amounted to DKK 284 million (2016: DKK 432 million).

### Net indebtedness

Net indebtedness decreased by 28% and amounted to DKK 855 million (2016: DKK 1,191 million).

The interest bearing debt at the end of 2017 was DKK 1,846 million (2016: DKK 1,981 million).

DKK 129 million in surplus funds were placed with the holding company, Haldor Topsøe Holding A/S, as part of a cash pool arrangement (2016: DKK 234 million).

### Return on invested capital (ROIC)

ROIC amounted to 22% (2016: 34%).

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## Order backlog

The order backlog amounted to DKK 3,508 million at the end of 2017 (a decline in continuing business backlog of DKK 362 million compared to the end of 2016), mainly as a consequence of progression on a number of technology projects during 2017 without Topsoe obtaining new orders of similar sizes. At the end of 2017, the catalyst order book was at a satisfactory level compared to previous years.

# Outlook for 2018

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## Revenue

In 2018, revenue from continuing operations is expected to be in line with or slightly above the comparable 2017 revenue, i.e., above DKK 5,000 million. However, the revenue development will be significantly impacted by the level of new technology orders, and the progress of existing technology orders in some core markets (e.g. Iran). In some markets, project development is impacted by international sanctions and the project owners' ability to finance projects. Exchange rate developments, most notably the DKK/USD exchange rate, will also impact revenue.

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## EBIT

EBIT margin is expected to be in the range of 10-12% in 2018.

In 2018, we expect to maintain a high level of R&D and business development activities in excess of 9% of revenue.

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## Cash flow and funding

Operating cash flows (including working capital development) are expected to improve in 2018 compared to 2017 due to efforts initiated to reduce net working capital.

Topsoe's current funding position is strong, based on access to the corporate bond market, institutional banks as well as commercial banks. Committed revolving credit facilities are also in place. A DKK 500 million tranche of corporate bonds will expire in April 2018. This has been re-financed by a new European Investment Bank loan.

Topsoe intends to maintain a credit profile that matches that of an investment grade company during a business cycle. When market terms are attractive and there is a need, Topsoe will consider issuing additional corporate bonds as well as obtaining other credit facilities.

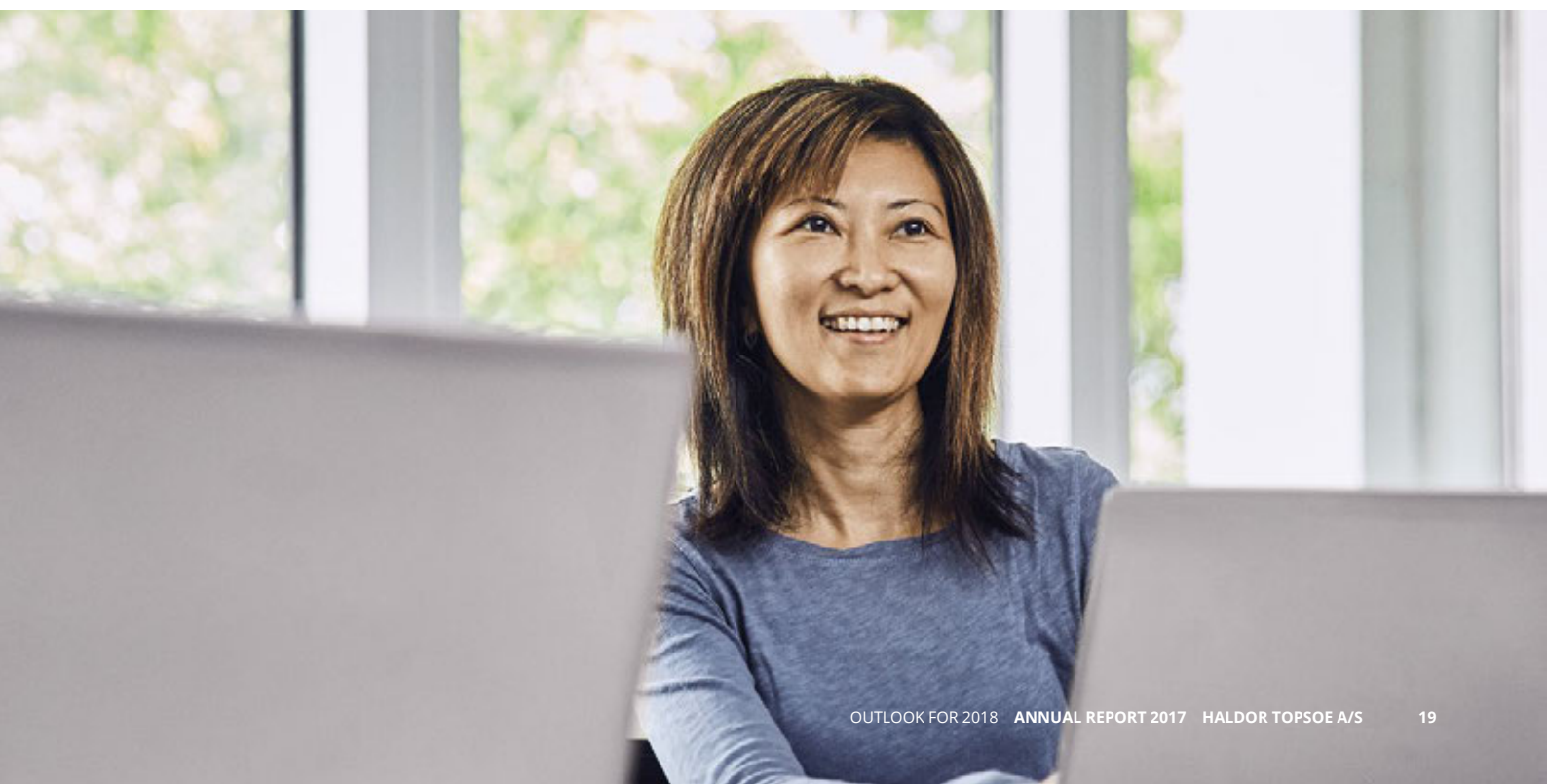
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## Forward-looking statements

Haldor Topsoe A/S' financial reports, whether in the form of annual reports or interim reports, as well as any presentations based on such financial reports, and any other written information released, or oral statements made, to the public based on this annual report or in the future on behalf of Haldor Topsoe A/S, may contain forward-looking statements.

These forward-looking statements are based on current plans, estimates and projections. By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, which may be outside Haldor Topsoe A/S' influence, and which could materially affect such forward-looking statements.

Haldor Topsoe A/S cautions that a number of factors, including those described in the risk management part of this report, could cause actual results to differ materially from those contemplated in any forward-looking statements.



# Risk management

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## Enterprise risk management

Topsoe operates an enterprise risk management program with quarterly reporting, followed up by reviews and mitigating activities. The program enables Topsoe to identify risks early, assess them, and implement mitigating actions.

The Topsoe Code of Conduct has been implemented throughout the organization, including policies covering anti-corruption, anti-money laundering, competition law, and other compliance issues. Our Code of Conduct is an example of a global mitigating action that is intended to prevent a series of potential risks related to business ethics and legal topics. In 2017, a global compliance hotline (whistleblower solution) was implemented. The compliance hotline is available at [www.topsoe.com/Compliance-Hotline](http://www.topsoe.com/Compliance-Hotline).

The general risk factors and the associated mitigating actions are outlined below.

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## Strategic and operational risks

### Customer demand

Catalysts are involved in the vast majority of industrial chemical processes today. We see no indication of disruption in our core markets that will reduce demand or create substitute products, but we obviously cannot rule out such disruption in the future. A very significant part of our technical and catalytic solutions is based on fossil fuels, notably natural gas. If cost-competitive alternative energy sources emerged, it could have a significant impact on our current business. For new products, processes, and services that are being developed, our sales depend on market demand.

### Intellectual property (IP) protection

As a highly innovative company, Topsoe pursues IP protection through for instance patents, trade secrets, trademarks, design, and copyright law. However, our IP could be challenged, invalidated, circumvented, or rendered unenforceable. Defending and prosecuting our IP rights are therefore of paramount importance.

### Cyber security

As a knowledge based company, Topsoe is exposed to the risk of theft of confidential information. To mitigate the risk of Topsoe confidential information being disclosed through theft or fraud, an Information Security Roadmap has been established, focusing on identifying and adequately mitigating potential risk areas. As the risk profile is developing rapidly, and new risks areas can evolve, Topsoe is continuously measuring the efforts within this area and seek to mitigate new potential threats.

### Raw material prices and availability

Raw materials are a significant cost component in our products, and prices can fluctuate considerably. We seek to mitigate this risk through escalation clauses in customer contracts. The escalation clauses are linked to market indices. In addition, we use financial hedging to a certain extent. We also seek to have multiple suppliers for each raw material. We are exposed to single source risk on some raw material supplies, which makes us vulnerable to cost increases and which can potentially influence the upstream supply chain. The single source raw materials and suppliers are continuously assessed and we work actively to mitigate and limit our single source exposure.

### Operations

Topsoe's production of catalysts takes place in Frederikssund (Denmark) and Houston (United States). If production is closed down for an extended period in one of our plants – e.g. due to damage to the production facilities (caused by fire, flooding, wind storm, etc.), equipment failure or cyber attacks – or if commissioning of a new production line is substantially delayed, it could have a material impact on Topsoe's earnings. We seek to mitigate this risk by operating multiple production lines for key products and enforcing a safety stock policy. We have also taken out business interruption insurance and property insurance.

Topsoe is exposed to project execution risk on technology projects. Systematic project management seeks to limit the risk of delayed deliveries, re-engineering, and cost overrun.

Issuance of bonds in support of contractual liabilities is an inherent and necessary part of Topsoe's business model, for instance in the form of bid bonds, advance payment bonds, and performance bonds issued by banks on behalf of Topsoe. Risk mitigation includes thorough structuring of contracts and related bonds.

### Insurance

Besides property insurance and business interruption insurance, a number of other operational risks are insured, including general liability, product liability, professional indemnity and transportation.

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## Geopolitical risks

Topsoe's global presence exposes earnings to geopolitical events. Political actions, such as embargoes, sanctions, trade barriers, new taxes, currency restrictions, and changes in environmental legislation, etc., may impact results



Reactor internals are inspected before shipment.

and cash flows. To a certain degree, this risk is mitigated by monitoring regulatory initiatives, geographical diversification, and by ensuring – to the extent possible – that cash flows are maintained positive for our individual contracts. New political sanctions or cancellation of existing political sanctions could potentially have a significant impact on our business. Our regulatory monitoring and business integrated compliance measures ensure that Topsoe is at all times compliant with applicable international sanctions.

## Financial risks

### Currencies

As Topsoe operates globally, the income statement, balance sheet, and cash flows are subject to the risk of currency fluctuations, mainly in relation to Topsoe's flows of EUR, USD, and CNY.

Part of this risk is mitigated through natural hedges arising from activities where Topsoe has both income and expenses in the same currency. However, the risk is not fully covered by natural hedges, and consequently Topsoe hedges certain future cash flows. A 5% increase in the USD/DKK exchange rate is assessed to have a positive EBIT effect of DKK 15-20 million.

### Interest rates

Long-term debt consists of loans and bonds with fixed and floating interest rates. Topsoe's policy is to maintain a loan portfolio where 35-50% is subject to floating interest rates and where 50-65% is subject to fixed interest rates. For the floating rate portion of Topsoe's interest-bearing debt, a change in the interest rate level of 1 percentage point will increase interest expenses by DKK 7 million.

### Credit

The credit risk of Topsoe is primarily related to trade receivables from state-owned as well as privately owned corporations. Where feasible, we seek to mitigate credit risk by applying instruments such as letters of credit and bank guarantees as well as selective structuring of payment terms, etc. On a quarterly basis, it is assessed if the company should make accruals for bad debt, which is considered unlikely to be collected.

### Counterparties

In this context, counterparty risk is defined as credit risk on financial institutions when dealing with them, either by placing deposits, entering into derivative financial instrument transactions, or otherwise. In order to reduce counterparty risk, Topsoe only deals with financial counterparties that Management believes have a satisfactory credit rating from a recognized international credit rating agency.



**Liquidity**

Topsoe must maintain sufficient liquidity to fund daily operations, debt service, and expansion. Topsoe's access to liquidity consists of cash and cash equivalents, including access to committed revolving credit facilities. The target is to maintain a minimum of DKK 500 million in unused committed revolving credit facilities at any time.

**Restrictive covenants**

Some of the financing arrangements of Topsoe are subject to financial covenants, and if violated, this could limit the ability to finance the company's operations and capital needs for acquisitions and other business activities. Covenants include equity ratio (min.

20%), interest coverage (min. 5), and leverage (net debt/EBITDA) requirements (max. 3,5).

**Dividend policy**

Haldor Topsoe Group finances the operations of Haldor Topsøe Holding A/S through dividend payments. The liquidity effect of the expected future dividend payments has been incorporated in the cash flow forecasts of Haldor Topsoe Group. The dividend potential must take into account covenant requirements.

**Tax**

Topsoe's business structure with entities and/or business activities in many countries implies that a number of

different direct, indirect, and collected taxes apply on a global basis. The combination of complexity in our business and our business structure requires dedicated focus on tax management; a focus that always respects international tax principles and local tax law, while managing the tax cost and tax risk of Topsoe. Topsoe will at all times use its best endeavors to comply with the tax legislation in the countries in which it operates, in accordance with OECD standards. When needed, Topsoe seeks to clarify uncertainties by involving external advisors and by taking a justifiable position in accordance with international tax principles and in alignment with Topsoe's Code of Conduct. Topsoe's tax management is documented in a global tax policy.

Topsoe's global engineering team work together across regions.



# Corporate social responsibility and **sustainability**

We continuously strive to create sustainable solutions that make a difference in the world of today – and tomorrow – and we are committed to ensure that our solutions as well as our conduct are economically, environmentally, and socially sustainable.

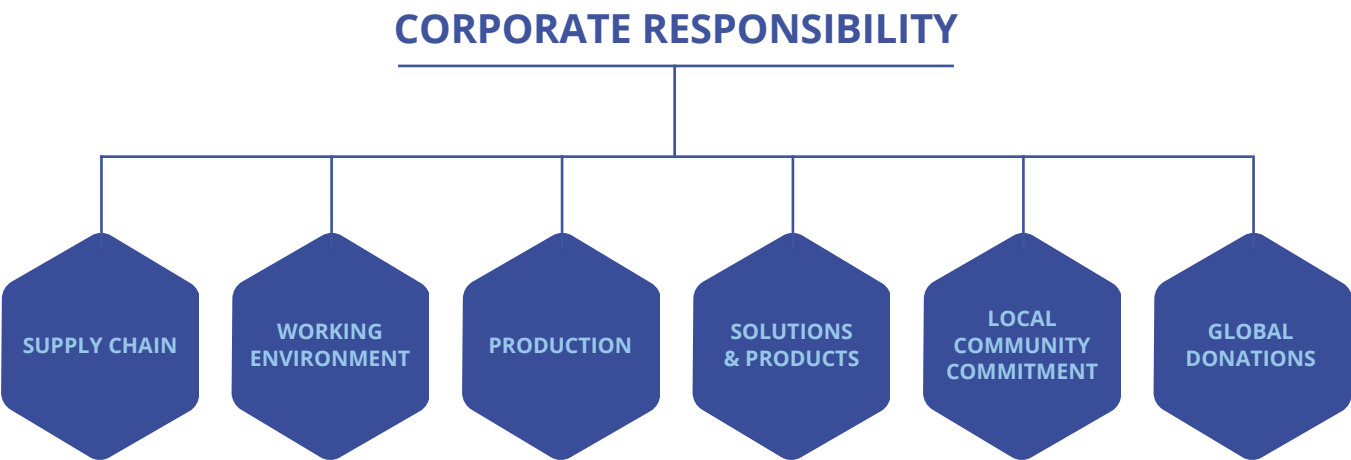
Acting responsibly in all aspects of our business is a fundamental element of our values – expressed in the Topsoe Spirit – that serve as the foundation for how we do business in a complex, international business environment with cultural, political, and legal challenges.

Our Code of Conduct puts our values into action by providing a common framework that helps everyone understand the standards of behavior we expect of each other, as well as the laws and regulations we must all comply with in our day-to-day work. This includes speaking up if we come across a situation that is inconsistent with our Code of Conduct or values.

As stated in our Corporate Social Responsibility (CSR) and Sustainability policy, it is important for us to conduct every aspect of our business with honesty, integrity and openness, respecting human rights and

the interests of our employees, customers, and third parties. Not only are we committed to creating and maintaining a safe and healthy working environment for our employees, we also strive to create a workplace with mutual trust and respect, and where every person is responsible for the performance and reputation of our company. This is very much in line with a central principle on which Topsoe was founded, namely that the company must be a “great place to work and have worked”.

## The Topsoe Corporate Responsibility framework



### **Compliance Hotline**

In 2017, Topsoe launched our Compliance Hotline - a whistleblower solution, for serious concerns and grievances. The hotline offers employees a possibility to report serious concerns in case they are not comfortable with discussing these concerns with their manager or other colleagues.

This new process and tool has been introduced as a supplement to our existing strong culture for speaking up, where many dilemmas and concerns are successfully tackled through open dialogue and direct communication.

The hotline has been well received and has sparked constructive conversations about both ethical business conduct and our expectations of each other as well as of external stakeholders.

### **Third party assurance policy**

In 2017, we implemented a Third Party Assurance Policy. We operate in an increasingly complex geopolitical environment and ensuring compliance with all applicable international rules and regulations is of highest priority for us.

The policy was implemented to increase transparency and overview of current due diligence procedures. As an early result, we experience greater assurance that all relevant risks are mitigated when venturing into new partnerships and business relations, and in addition we get a deeper understanding of our own business and the world around us.

### **Global standards and training**

The Topsoe Code of Conduct was launched in 2014 and employees across the globe were trained in 2015.

We have decided to retrain our employees in the Code of Conduct to ensure that everyone knows what is expected of them, and what they can expect from management. In 2017, we began developing a bespoke compliance and sustainability e-learning course focusing on dilemma-based awareness training. The training will be implemented globally during 2018.

### **Enhancing our operating standards**

In 2017, we conducted an overall compliance and sustainability assessment to measure and document our status and progress on internal processes that are critical for our business and expected from customers, business partners, and regulators. The assessment verified that we have strong measures in place in key areas, e.g., when it comes to protecting our knowledge and know-how, as well as procedures that minimize the risk of corruption.

We have also developed our Corporate Responsibility Framework by defining concrete actions and milestones to be implemented in 2018 and forward.

The Corporate Responsibility Framework is a structured approach that allows management to drive progress on corporate social responsibility and sustainability across Topsoe's global organization. The framework provides transparency of CSR-related efforts in our business.

### **Supply chain**

In 2017, we have undertaken preliminary assessments of the potential for working strategically with CSR in our supply chain.

The outcome of our analysis was a number of CSR-related projects that will be integrated into our sourcing strategy and monitored in our Corporate Responsibility Framework.

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### **Working environment**

We take responsibility for, and do our utmost to ensure, the safety and well-being of more than 2,300 employees globally because it is a core value to us and because continuous development of our working environment is of strategic importance.

### **Increase in accidents, decrease in severity**

Despite our continuous and very committed safety focus at board level, in top management, and across the organization, we have seen an unsatisfactory trend in the number of accidents in 2017. Even though the number of accidents involving higher severity or risk, e.g., when handling chemicals, have decreased, less severe accidents such as slips, trips and falls related to everyday tasks have increased.

### **Improving health and safety culture**

Reducing the number of accidents is a top priority for Topsoe. The health and safety of our employees is paramount to everything we do, and it is a core value to ensure that our employees are safe when working for Topsoe, thus supporting that Topsoe is a "great place to work and have worked". Extensive efforts have therefore been made to improve our health and safety awareness throughout the company in 2017.

In addition to providing structured guidance in the use of procedures and instructions, we see culture as





Rigorous health and safety procedures apply in the catalyst production facilities.

a key means to address and reverse the negative trend. Safety awareness needs to be embedded into everyday actions, and a number of initiatives have therefore been implemented to ensure that all employees are reminded that even everyday actions may deserve a sound risk assessment.

Around half of our accidents happen while employees perform everyday tasks that may not seem risky at first glance. To raise employees' awareness of these risks, we will increase our safety initiatives on lifting and roll out a dedicated campaign on slips, trips, and falls in 2018.

However, building a strong and proactive culture requires a long-term effort, so health and safety will continue to be at the top of the agenda in 2018.

#### **Health and safety training**

Improving the safety competencies of managers is a cornerstone in our efforts to improve our health and safety culture and reduce the number of accidents. In 2017, all managers with direct reports in our headquarters in Denmark were trained in their health and safety duties and responsibilities. In 2018, this training will be rolled out globally.

A basic principle of our health and safety culture is that the person handing over a task also assumes responsibility for ensuring safe conditions.

#### **Mental well-being**

On a national level in Denmark, we see an increase in illnesses related to the psychological working environment.

In 2017, we therefore made mental well-being a central element of the health and safety training for all managers, so that they are better capable of identifying and supporting employees who may experience psychological strain as a consequence of their working environment.



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## Production

At Topsoe, we provide solutions for our customers that contribute to a sustainable future for society, and our internal aim is to maintain an effective and consistent approach to reducing our environmental impacts. We strive to conduct our daily operations in an environmentally sound way by reducing waste and using less resources and energy.

We consider our environmental impacts in our entire value chain, from product development to the delivery to our customers, by evaluating materials and processes that constitute a potential risk to the environment.

## Policy commitment

Our global environmental policy describes how we continuously identify, evaluate, and implement measures to lower our environmental impact.

Our catalysts and know-how enable our customers to improve their environmental footprint substantially. Yet, it is not possible to produce our catalysts without environmental impacts and without using chemicals that can potentially harm the environment and people if they are not handled correctly. Therefore, all employees dealing with chemicals go through extensive mandatory training prior to undertaking any assignments so that we can ensure that our facilities are as safe as possible.

## Reduced impact

In 2017, we lowered our environmental impact by installing a new condenser at our production site in Denmark. In addition, the condenser provides excess heat to our neighbors and will consequently reduce CO<sub>2</sub> emissions from the local district heating plant.

In 2017, we delivered 34,514 MWh to the Frederikssund district heating plant. The excess heat from Topsoe's plant means that the district heating plant has avoided to incinerate 3,137,636 Nm<sup>3</sup> of natural gas, thereby reducing their CO<sub>2</sub> emission by 7,082 tons.

34,514 MWh per year is enough to heat more than 1,900 single-family houses in the Frederikssund area where our plant is located.

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## Solutions and products

Topsoe supplies catalysts, proprietary technologies, process design, engineering, and services for the chemical and refining industries primarily.

## Dedication to science

We are at the forefront when it comes to developing sustainable catalytic technologies and it is through our dedication to science that we have our largest positive impact.

We see it as our corporate responsibility to drive innovation, and we reinvest 9-10% of our revenue in research and development.

Much of our research targets scientific solutions to pressing global challenges, such as improving energy efficiency, enhancing food production, and protecting our environment and the climate.

## Bio-based chemicals

Catalysis is essential in the production of chemicals from fossil fuels, and in addition we see and follow the global trend towards looking for new ways to produce chemicals based on renewable resources.

In 2017, Topsoe entered into a research and development partnership with Braskem, a leading producer of thermoplastic resins in the Americas. The partnership was set in motion to explore and commercialize MOSAIC™, a new Topsoe technology to produce chemicals from biomass, which we see as a commercial opportunity.

The partnership aims to develop a pioneering route to produce monoethylene glycol (MEG) from sugar. MEG is a basic building block used in, e.g., polyester fabrics and PET plastic. We expect to be able to produce MEG at an attractive cost that can compete on commercial terms with MEG made from fossil sources.

The agreement calls for the construction of a demonstration plant in Denmark, with operation estimated to begin in 2019. Topsoe will deliver a packaged solution for this project with Braskem, including catalyst and technology. The companies will combine their expertise to further develop, test and validate the process. The overall goal of the partnership is the start-up of a commercial plant by 2023.

The partnership with Braskem indicates that chemicals from biomass can be a commercially attractive option, even in a tough, mature market such as thermoplastic resins. Catalysis will play an important role in the development of new solutions that can produce chemicals from renewable sources on commercial terms.

We have dedicated our capabilities within catalysis to accelerate this process for the benefit of our customers and the environment.



The Sunderbans School project benefits 500 poor children and their communities in West Bengal, India.

### Donations and community commitment

Our founder, Dr. Haldor Topsøe, learned at an early age that not all people are equally privileged with sufficient food, housing, and education. During the Great Depression and the Second World War, he experienced this personally and it influenced how he led the company throughout his life. Together with his wife, Dr. Topsøe began supporting organizations and people engaged in humanitarian work all over the world. On his many business trips, Dr. Topsøe would regularly seek out and support people in need. Today, Dr. Topsøe's spirit and engagement lives on through our Donation Committee.

### Contributing globally and locally

For Dr. Topsøe, it came naturally to help address local challenges and

needs in the countries he visited. Even today, he is remembered for his significant leadership in connection with the Green Revolution in India and Bangladesh, which impacted the lives of millions of farmers.

Dr. Topsøe said: "The corporate world in itself means nothing unless it improves the lives of people and the conditions in poor countries", and as a company, we ensure that his responsible attitude lives on, at both the global and the local level.

The Donation Committee meets four times a year to evaluate ongoing and new projects. The projects are assessed based on a set of principles, focusing primarily on supporting children in need, often with education as a central part.

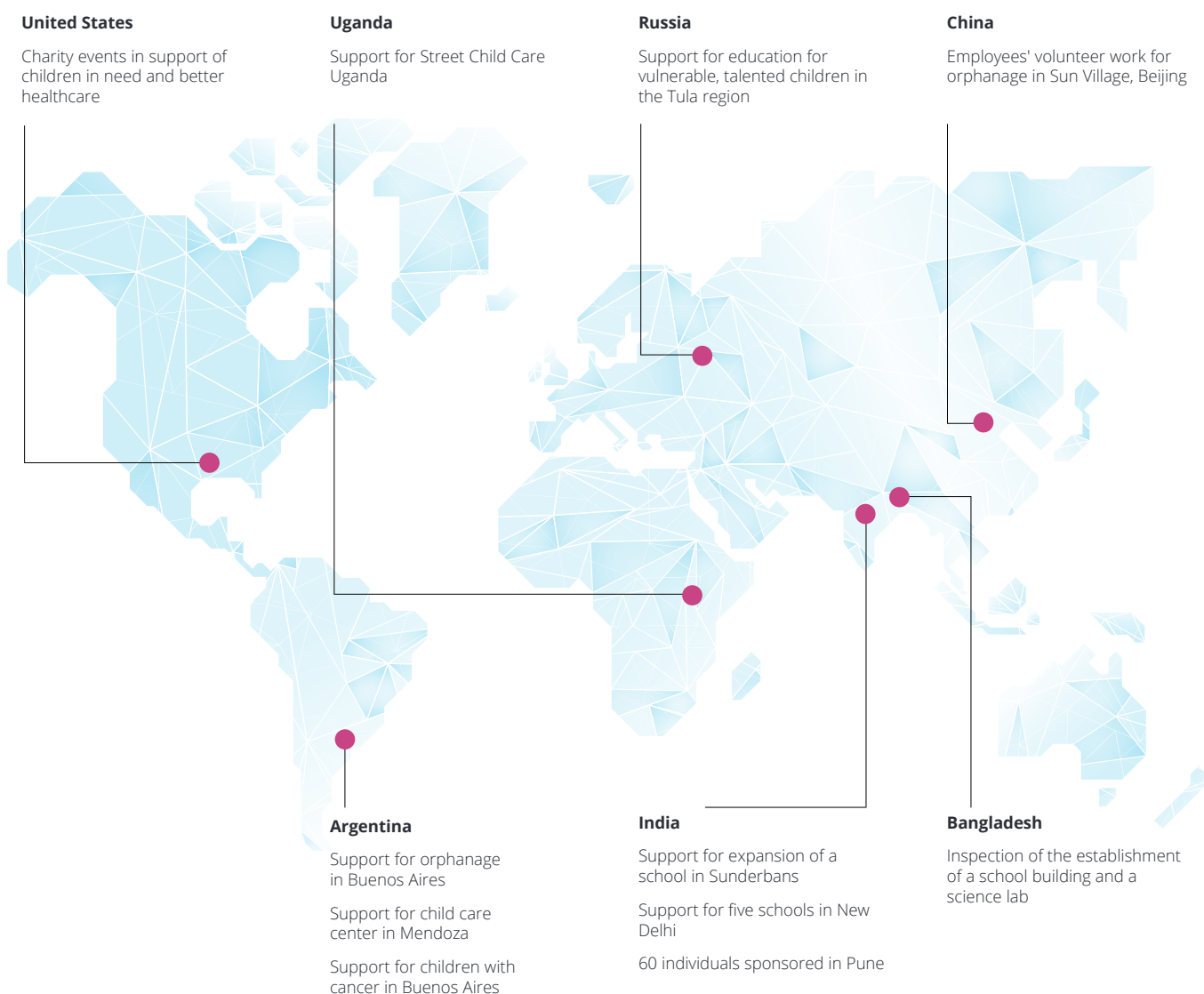
### Help children, pass on knowledge

At Topsoe, we aim to inspire others with our passion for science and by supporting young people in less fortunate circumstances in pursuing an education. We feel that ensuring knowledge through education is one of the most efficient ways of helping to improve lives.

### Sustainable development in India

The largest project that Topsoe has supported in the past decade is in Sunderbans, India. Similar to the other projects that are driven out of Topsoe's headquarters, with dedicated support and involvement from members of the Topsoe family, the approach has focused on making efforts sustainable.

Through ongoing dialogue with local stakeholders and with emphasis on investing in buildings, the school project for the benefit of 500 poor



children in West Bengal is now almost completed. The school has grown over the years, and today six buildings support the daily education and activities. The school's popularity has also grown in recent years, and today it attracts children from far away.

The school was initially provided with operational support, but this has been gradually reduced, and today the school requires a small fee from parents who can afford it. Teachers, the administrative personnel at the school, and not least a local NGO, have been the primary drivers for the project to succeed so well. The children are thriving at the school, and the local society will for sure benefit from the increased access to education.

### Local support

At many of Topsoe's regional offices across the globe, we meet people who dedicate their lives to making a difference for other people in tough or even desperate situations. Often, we wish to support these necessary and inspiring efforts, and our regional offices make a number of contributions to local organizations. One example is the Maria Cecilia Foundation that our Argentinian office supported in 2017.

The Maria Cecilia foundation began offering free treatment for children with cancer in 1995. Today, the organization treats more than 4,000 children every year. The treatment is available to children who do not have

health insurance and cannot finance their treatment by other means.

The treatment center is located in the northern part of Buenos Aires and provides chemotherapy, medical treatment, medicine, and psychological support for the children's parents.

Topsoe's regional offices in China, India, Russia, and the US also engage with their local communities directly or through organizations and charities.



# Diversity

With regional offices and production plants in more than 10 countries, our global footprint is in itself embedding diversity in terms of cultures and nationalities. The same can be said of our headquarters in Denmark where we have attracted many talented non-Danes over the years. We believe that an inclusive working environment can foster great teams and results, so we pursue opportunities to strengthen diversity through increased mobility and when hiring new employees.

## Hiring the best

When we hire people, it is our policy to get the right candidate for the job, regardless of gender, nationality, age, sexuality, religion, culture, etc. And to ensure that we continue to develop as an inclusive and diverse company we have in 2017 established first a career framework with defined tracks, and secondly a competence framework, both with the aim to guide the development of our employees in a structured and targeted way.

## Equal opportunities

Our approach to diversity and inclusion among other things means that we want to ensure an optimal gender representation in all our

career tracks, including our leadership pipeline.

To quantify our early actions and to best direct our efforts globally, we measure the gender ratio amongst our applicants and job interviewees.

In 2017, we had 75% male and 25% female applicants. Out of the candidates invited for a job interview, 70% were male and 30% female, which is an increase from 23% interviews with women in 2016.

We use this data-based overview of our selection process to qualify the dialogue about diversity with hiring managers, which could in turn increase the share of female employees at Topsoe and lead to a higher level of diversity.

## Diversity in management

The gender ratio across all Topsoe locations is 29% female and 71% male. In 2017, the share of female employees grew by one percentage point from 28% in 2016.

Our target for the ratio of women in leadership positions is 30% by 2020, a target that we will include in our work when revising our current policy in 2018.

The recent hiring of Amy Hebert, Deputy CEO and EVP, Chemical Business Unit, has increased diversity in top management.

## Gender representation in our Board

The Topsoe Board of Directors have seven members, not counting employee representatives. There are six male and one female Board member, which equals 14% women.

In 2013, the Board set a target to reach two female Board members by the end of 2017. This target has been carefully considered when members have been replaced or added to the Board, however, it has not been possible to identify and appoint new female members of the Board. The revised target is 28% women in the Board of Directors by 2020. The Board of Directors continue to focus on this target when evaluating its composition, competencies, and future candidates.

The overall status for gender representation can be found on our corporate website: <https://www.topsoe.com/about/corporate-social-responsibility/gender-representation>

