

# Accomplishments and **results**

# Five-year summary

Seen over a five-year period, the development of the Group is described by the following financial highlights.

## Income statement

<i>DKK million</i>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>
Revenue	5,824	5,785	5,685	5,348	5,244
Gross profit	2,762	2,483	2,542	2,408	2,142
EBITDA	1,050	795	929	876	793
Depreciation and amortization	-307	-293	-366	-175	-200
EBIT	743	502	563	701	593
Net financial expenses etc.	-40	-40	14	-21	-28
Net profit	492	322	440	553	415

## Balance sheet

<i>DKK million</i>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>
Balance sheet total	7,161	7,194	6,455	6,132	5,503
Equity	2,238	2,003	1,831	1,644	1,422
Net working capital	610	451	540	462	280
Net interest bearing debt	1,191	1,152	1,016	994	228

## Cash flow

<i>DKK million</i>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>
Cash flows from operating activities	748	750	754	483	786
Cash flows from investing activities	-386	-638	-585	-721	-342
- Of which investments in property, plant and equipment	-393	-589	-600	-664	-307
Cash flows from financing activities	-530	-99	-222	163	-247
Change in cash and cash equivalents for the year	-162	32	-14	-75	197

## Employees

<i>Number</i>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>
Total number of employees	2,543	2,688	2,694	2,430	2,195

## Ratios

<i>%</i>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>
Gross margin	47.4%	42.9%	44.7%	45.0%	40.8%
EBITDA margin	18.0%	13.7%	16.3%	16.4%	15.1%
EBIT margin	12.8%	8.7%	9.9%	13.1%	11.3%
Return on invested capital (ROIC)	21.4%	16.0%	20.1%	31.0%	33.0%
Equity ratio	31.3%	27.8%	28.4%	26.8%	25.8%
Return on equity	23.2%	16.8%	25.3%	36.1%	30.4%

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

2016 was a profitable year for Haldor Topsoe A/S.

Revenue and EBIT reached the highest level ever, and the positive results were favorably impacted by increased technology sales and the cost-reduction initiatives implemented in 2015 and 2016. Despite the challenging market conditions Topsoe maintained its market shares in 2016.

Topsoe maintained a strong operating cash flow (DKK 748 million).

EBIT increased by 48% to DKK 743 million corresponding to an EBIT margin of 12.8% (2015: 8.7%).

R&D expenses were maintained at a high level with a R&D-to-revenue-ratio of 9.2% (2015: 9.6%).

### Revenue

DKK million



### Cash flow from operating activities

DKK million



### EBITDA

DKK million



■ EBITDA (left)  
 ■ EBITDA margin (right)

### EBIT

DKK million



■ EBIT (left)  
 ■ EBIT margin (right)

# Financial report

---

## Income statement

### Revenue

Revenue increased 1% to DKK 5,824 million (2015: DKK 5,785 million). The revenue development was negatively impacted by difficult market conditions as a result of reduced global growth. Rate of exchange development from 2015 to 2016 impacted revenue positively with 0.2%, and revenue was positively impacted by a one-time effect of DKK 122 million from restarted contracts. Catalyst revenue decreased by 11% (compared to a 6% sales volume reduction) and technology revenue increased by 35%. Market shares were generally maintained in 2016.

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

EBITDA increased by 32% to DKK 1,050 million, corresponding to an EBITDA margin of 18.0% (2015: 13.7%).

Staff expenses increased by 1% to DKK 1,712 million. The cost-reduction initiatives implemented in 2015 and 2016 had a positive impact on the profitability level. Raw materials (incl. changes in inventories) decreased by 22% compared to 2015. Purchased equipment for contract work increased by 84% to DKK 736 million due to increased activity in our technology business as well as increased equipment content in our technology offerings. Other external expenses decreased by 18% to DKK 986 million as a result of various cost-reduction initiatives.

### Earnings before interest and tax (EBIT)

EBIT increased 48% to DKK 743 million corresponding to an EBIT margin of 12.8% (2015: DKK 502 million and an EBIT margin of 8.7%). Restarted contracts from 2012 had a positive revenue and EBIT impact of DKK 122 million for 2016. Depreciation increased by 5% to DKK 307 million, mainly due to completion of new production lines in China and Brazil.

### Net profit

Net profit increased 53% to DKK 492 million (2015: DKK 322 million).

The increase in net profit is explained by:

- An increase in EBIT to DKK 743 million in 2016 (2015: DKK 502 million).
- A DKK 3 million decrease in net interest as a result of lower market interest rates and margins.
- A DKK 71 million increase in tax to DKK 211 million.

---

## Cash flow and balance sheet

### Cash flows from operating activities

Cash flows from operating activities were maintained at a high level and amounted to DKK 748 million (2015: DKK 750 million). Working capital increased by DKK 150 million and net working capital amounted to 10.5% of revenue (2015: 7.8%).

### CAPEX

CAPEX decreased by 38% and amounted to DKK 432 million (2015:

DKK 702 million). Two new production lines in Tianjin, China, and Joinville, Brazil, were finalized in 2016.

### Net indebtedness

Net indebtedness increased by 3% and amounted to DKK 1,191 million (2015: DKK 1,152 million).

The interest bearing debt at the end of 2016 was DKK 1,981 million (2015: DKK 2,104 million).

DKK 234 million in surplus funds were placed with the holding company, Haldor Topsøe Holding A/S, as part of a cash pool arrangement (2015: DKK 375 million).

### Return on invested capital (ROIC)

ROIC amounted to 21% (2015: 16%).

---

## Order backlog

The order backlog at the end of 2016 was at a satisfactory level covering a major part of our engineering and catalyst production capacity for 2017.

# Outlook for 2017

---

## Revenue

Revenue in 2017 is expected to be in line with or slightly above 2016 revenue.

---

## EBIT

EBIT margin is expected to decrease in 2017 compared to 2016; mainly due to the one-time impact of restarted contracts in 2016.

We expect to maintain a high level of R&D and business development activities in 2017 of approximately 9-10% of revenue.

---

## Cash flow and funding

Operating cash flows are expected to continue to be good. Topsoe's current funding position is strong, based on access to the corporate bond market, institutional banks as well as commercial banks.

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.

---

## 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

---

## Enterprise risk management

Since 2013, Topsoe has operated 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.

During 2014, the Topsoe Code of Conduct was 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 prevents a series of potential risks related to business ethics and legal topics. In 2016, it was decided to implement a global compliance hotline (whistleblower solution) which was launched in the beginning of 2017. 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.

---

## Strategic and operational risks

### Customer demand

Catalysts are involved in the vast majority of industrial chemical processes today, and we see no indication of reduced demand or substitutes. A very significant part of our 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, we depend on market demand picking up in order to increase our sales.

### 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. To strengthen our focus on protecting our trade secrets, a Trade Secret Policy was implemented in 2016.

### 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. We work actively to limit our single source exposure.

### Operations

Topsoe's production of catalysts takes place in Frederikssund (Denmark), Houston (United States), Tianjin (China), and Joinville (Brazil). If production is closed down for an extended period in one of our plants, or if commissioning of a new plant 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.

---

## Geopolitical risks

Topsoe's global presence exposes earnings to geopolitical events. Political actions, such as trade barriers, embargoes, new taxes, currency restrictions, and changes in environmental legislation, etc., may impact results 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 and cancellation of existing political sanctions could potentially have a significant impact on our business.

---

## Financial risks

### Currencies

As Topsoe operates globally, the income statement, balance sheet, and cash flows are subject to the risk



Every year, Topsoe uses close to 10% of revenue on research & development.

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 8 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.

#### **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, interest coverage, and leverage (net debt/EBITDA) requirements.

#### **Dividend policy**

Since 2007, the Haldor Topsoe Group has financed 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 Topsoe.

#### **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.

#### **Information technology and security risks**

As IT systems become increasingly important and critical to a global business like Topsoe, maintaining a secure and updated IT infrastructure is a key task in our IT operations. A prioritized list of information security activities has been implemented during 2016 in order to further improve the protection of business-critical and confidential information. These measures aim to effectively minimize the risk of intruders gaining access or causing damage to our data or business.

Installing a Topsoe DeNOx catalyst for cleaning off-gases from power plants, boilers, and other industrial combustion.



# Corporate social responsibility and **sustainability**

At Topsoe we operate in a complex international business environment, with both cultural, political, and legal challenges. Our foundation is our values and our heritage: The Topsoe Spirit.

To ensure that we act responsibly, ethically and in compliance with laws and regulations at all times, we have the Topsoe Code of Conduct, a document that guides our business behavior, upholding the high standards the company was founded on, and reminds us of the importance of what we do, but also how we do it.

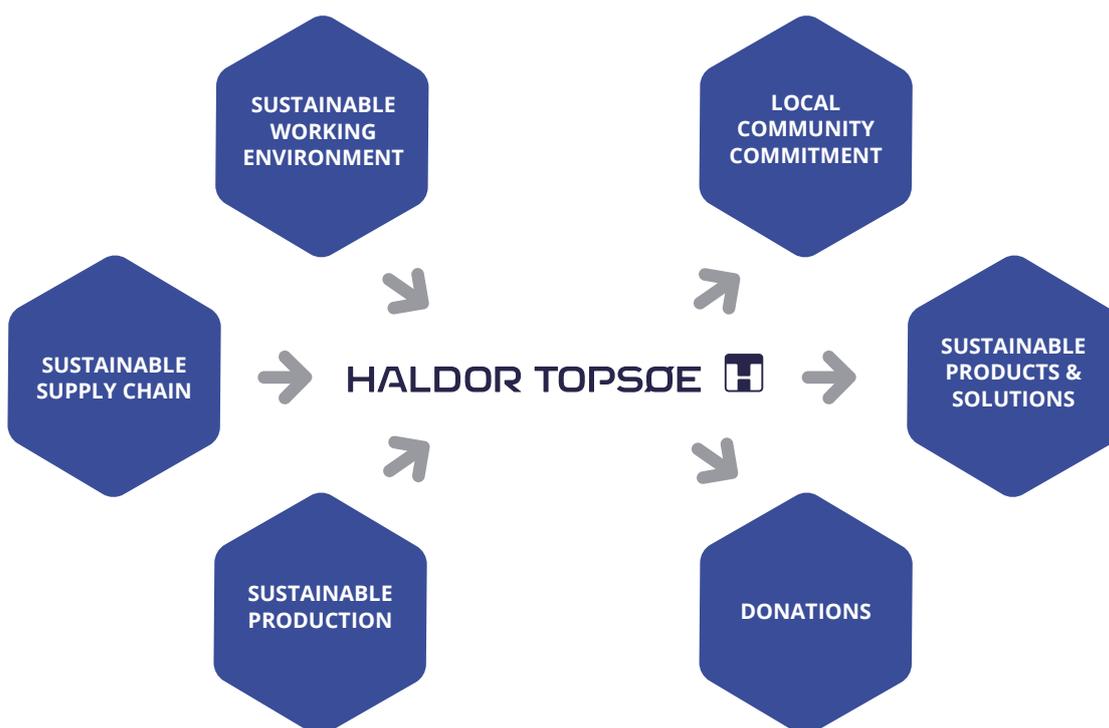
To be “a great place to work and have worked” is a central element of the Topsoe Spirit, and to us this includes ensuring that our employees enjoy basic human rights. In addition, our CSR & sustainability policy acknowledges our responsibility not to cause or contribute to adverse human rights impacts.

In 2016, we continued our work to ensure diversity across our global organization. The status is posted on our corporate website: <http://www.topsoe.com/about/corporate-social-responsibility/gender-representation-management>

Refining structures and ways of working is an ongoing process in an ever-changing business environment. In 2016, we have worked on several initiatives to meet the demands of stakeholders. One of these has been a more clear-cut corporate governance structure with increased transparency. Another has been preparing the launch of our global Compliance Hotline in early 2017.

In 2016, we have also strengthened our process for third party due diligence.

## The Topsoe CSR and sustainability framework



---

### Sustainable working environment

As a global company with more than 2600 employees in 11 countries, ensuring the health and safety of Topsoe's employees are of highest concern and we continuously work to make Topsoe an even safer place to work.

At our production sites in Denmark, the US, China, and Brazil, Topsoe's employees work with chemicals that may have a potentially harmful effect if they are not handled correctly. Therefore, we regularly evaluate processes and procedures to ensure that we are doing our job in a safe way.

#### Ownership of hazards

Topsoe's global Health and Safety Policy covers all employees at all our locations as well as our traveling employees. In the policy, we commit ourselves to constantly improve our safety culture.

An essential element of the Health and Safety Policy is the assignment of ownership to a hazard. Should any of our employees become aware of a hazard, that person owns it, in the sense that the individual is obliged to ensure that appropriate steps are taken to address the issue. This also serves as a reminder that safety is our collective responsibility.

#### Well spotted

All of Topsoe's production facilities have health and safety systems to ensure continuous improvement and mitigation of hazards. We implement numerous local health and safety initiatives every year on this basis.

Keeping safety top of mind is crucial to maintaining and developing our global safety culture. Therefore, safety is always the first topic on the agenda at all senior management meetings.

In 2016, Topsoe launched a new global health and safety campaign. One element was "Well spotted" booklets, a tool for employees to report safety risks and the actions they have taken.

Later in 2016, a campaign targeting traveling employees was launched, including workshops with a focus on sharing knowledge about near misses.

Our longstanding focus and dedication to health and safety led to excellent results, as we saw a reduction in our lost time accident frequency from 4.2 in 2015 to 2.9 in 2016.

Topsoe has reduced lost time accidents by 39% from 18 in 2015 to 11 in 2016. To ensure that we learn from our accidents, the root cause of lost time accidents is always shared on our global intranet.

---

### Sustainable production

Topsoe's largest production facility is in Denmark, while our other production sites are located in the US, China and Brazil. Ensuring compliance with all relevant environmental regulations is a key element at all locations. A central part of environmental compliance is assessing and mitigating environmental risks and hazards, and therefore we carry out local risk assessments regularly.

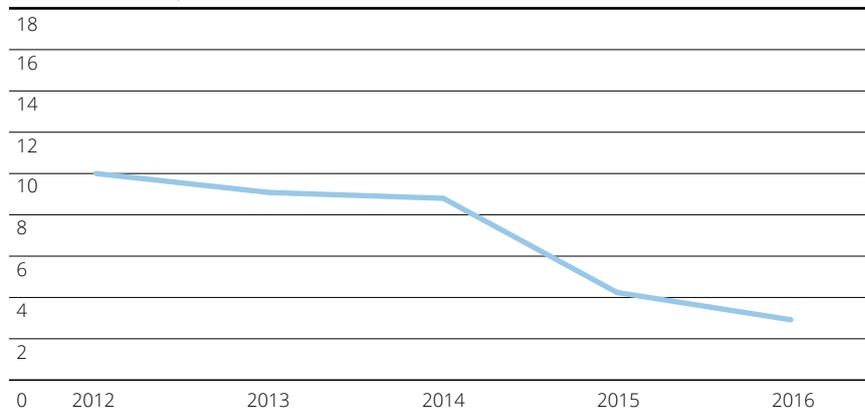
Our catalysts enable our customers to improve their environmental footprint substantially, yet production of catalysts is an energy-demanding process. For this reason, we continually evaluate options that could lower our energy consumption.

Production of catalysts involves chemicals which can potentially be harmful if they are not handled correctly. In the event of an accident, these chemicals could have a negative environmental impact. At Topsoe,

---

## LOST TIME ACCIDENT FREQUENCY

Lost time accidents per 1 million work hours





we ensure that every necessary step is taken to make our production as sustainable and safe as possible.

#### **Policy commitment**

In 2016, Topsoe published its first Global Environmental Policy, supplementing our local environmental policies. The global policy outlines our commitment to reduce our own and our customers' impact on the environment. In the policy, we commit to using fewer resources, less energy, and set objectives for continuous environmental improvement.

#### **Supplying heat**

At our largest production facility in Frederikssund, Denmark, we are always assessing and mitigating risks associated with chemical production. Continuous improvement

is a central element of environmental regulation and our ISO14001 certified environmental management system.

Since 2014, we have improved our waste heat management in Frederikssund by constantly looking for new opportunities for recovering heat from the production processes. Our endeavors have been so successful that Topsoe, in cooperation with an international energy provider, is now able to lead waste heat to the district heating network in Frederikssund, saving valuable resources and providing a sound business case.

In 2016, we delivered 38 GWh of district heating to the network in Frederikssund, which would otherwise have taken approximately 3,450,000 Nm<sup>3</sup> of natural gas to produce. The

use of waste heat has reduced CO<sub>2</sub> emissions by 7,800 tons, which compares to the yearly CO<sub>2</sub> emissions from about 1,000 Danish citizens, based on per person average emission rates.

---

#### **Sustainable supply chain**

Being a company with own production, we may have potential CSR-related impacts in our global supply chain.

Working strategically with CSR in our supply chain is new to Topsoe, but in 2017 we will make preliminary assessments to determine what the potential for working with CSR in our supply chain is.

---

### **Sustainable products and solutions**

We see it as our responsibility to enable our customers to meet higher emission standards without jeopardizing operating economy – a challenge which has led our customers in the refinery industry to look for new ways of dealing with sulfurous gasses.

### **An environmental business case**

Today, the most compelling alternative to the traditional method for removing sulfurous gasses is Topsoe's wet gas sulfuric acid or WSA technology. Lowering sulfuric acid emissions, which cause acid rain, is not only more efficient with the WSA technology, it is also more profitable. Because the WSA technology is both very energy-efficient and also turns what used to

be waste products into commercial-grade sulfuric acid that can be sold for a multitude of purposes such as producing fertilizers.

---

### **Local community commitment**

A thriving local community is to the benefit of all, including Topsoe. We believe that it is our responsibility to make a positive impact on the local communities we operate in, and we continuously explore opportunities to participate in relevant development projects. Our primary focus is to improve conditions for poor children while Topsoe also shares our passion for science and knowledge by supporting learning institutions and individuals.

---

### **Donations**

It is a long-standing tradition in Topsoe to contribute to local growth and progress through donations. Our founder, Dr. Haldor Topsøe, personally engaged in several charity projects in communities where he did business and the need was obvious. Today, we continue donating to charities in his spirit.

One example is Street Child Care Uganda (SCCU) that operates in Kampala, Uganda, where street children live under extreme circumstances. Joshua Allans Lugya, who founded SCCU, know better than most, as he lived on the streets from age 11. However, his extraordinary talent for football got him off the streets when he was spotted by a





Football is still an important activity for the street children who get a place to stay at SCCU.

player from Uganda's national team, who got Joshua a scholarship for a boarding school.

After a short career in professional football, Joshua wanted to do something good for the children on the streets. His first initiative was to start a club where street children could meet to play football. This developed into SCCU where 40 children live today, while up to 83 more children come for shelter, medical treatment, and psychosocial support on a daily basis.

The organization also tries to bring homeless children back to their families if possible.

The Topsøe family engaged in helping Kampala's street children when they donated funds for the building that

now houses SCCU as a celebration of Dr. Haldor Topsøe's 100-year birthday in 2013.

Since then, Topsoe has supported SCCU on a number of projects, including paying tuition for 37 street children. Topsoe has donated funds for medicines and sewing machines for production of slippers, clothes and school uniforms for the children's own use as well as sale on the local market. Our donations have also paid for equipment for the football team and the dance group, and we have made it possible to upgrade the building with modern toilets and dormitories.

Topsoe has committed to continue our support of SCCU in 2017.