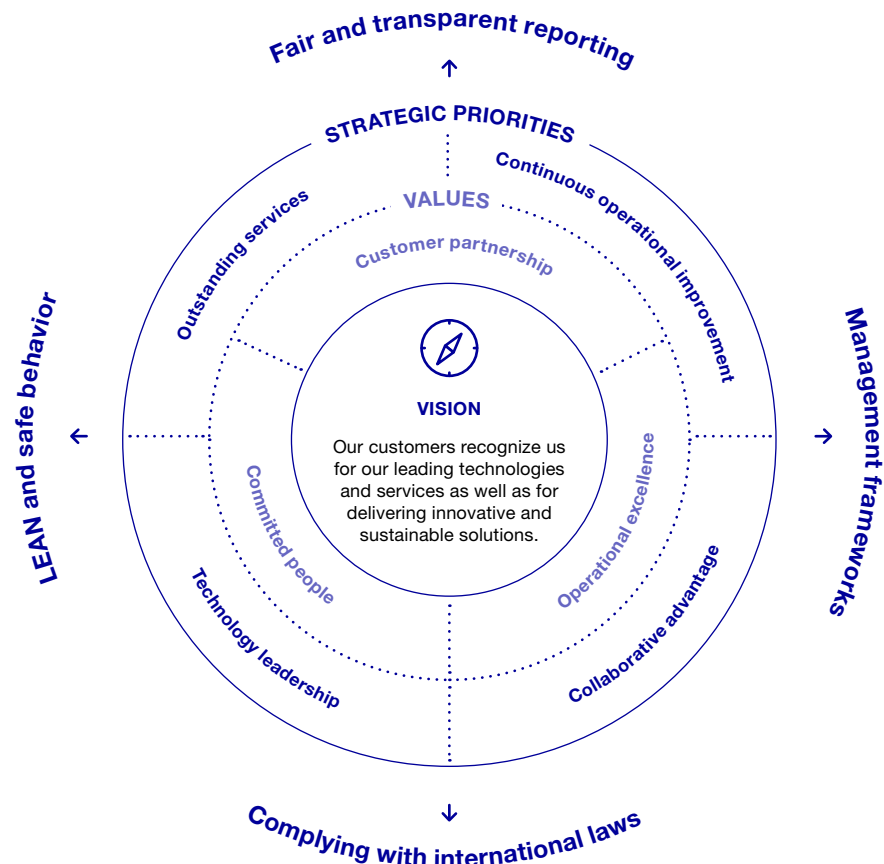# Committed to Sustainable Business Practices

Sulzer builds its activities on its vision, values, and strategic priorities. Through a centralized reporting system and local initiatives, Sulzer monitors and drives its sustainability efforts globally and locally.

The Sulzer vision constitutes the core of the company's global activities. Sulzer's values act as an inner compass and guide all activities. Based on them, Sulzer's four strategic priorities define the overall direction of the company.

Sulzer has a transparent reporting system in place to benchmark its extrafinancial performance from year to year. The company collects its group-wide financial and extrafinancial data on a centralized reporting platform. The group function ESH (environment, safety, and health) is in charge of data management. It defines standards and initiatives that are implemented locally. Two of the most important activities are Sulzer's Safe Behavior Program (SBP, read more on page 48) and Sulzer LEAN, a waste reduction initiative.

Sulzer complies with international and national laws and standards. The company participates in the OECD Guidelines for Multinational Enterprises, the United Nations' Universal Declaration of Human Rights and its protocols, the UN Global Compact, and the ILO's Declaration on Fundamental Principles and Rights at Work.

Global Research and Development Network Reduces Time to Market

Sulzer commits itself to designing, developing, and manufacturing innovative, reliable, and resource-conserving solutions. The company's global research and development network supports manifold innovation projects and helps reduce time to market.

Because markets are changing fast, it is critical for companies to shorten their innovation cycles and reduce time to market. Hence, technology experts around the world support Sulzer in the development of products and services. In 2016, Sulzer invested CHF 71.4 million, or 2.5% relative to sales, in research and development (R&D) (2015: CHF 73.4 million, 2.5% of sales).

Sharing and exchanging knowledge across borders

As a global company, Sulzer has built an extensive and international research and development network. Its R&D competence centers around the world support core technology and engineering projects in reducing time to market. For example, the Technical Resource Center in Navi Mumbai, India, was inaugurated ten years ago. Around 100 employees — from mechanical engineers to IT specialists — provide R&D services to all major Sulzer sites.

Collaboration is pivotal for every player in the industry. Sulzer has maintained relationships with academic institutions such as the ETH (Swiss Federal Institute of Technology) and Texas A&M for a long time. The company also collaborates with customers and suppliers during various stages of its product development.

Driving innovation in wastewater treatment

Wastewater has changed dramatically in recent years. It contains less water and more solids and fibrous materials. This change places tough new demands on collection networks. In 2016, Sulzer introduced the highly efficient recirculation pump for wastewater treatment, launched new lifting station types for the automatic pumping of wastewater and sewage, and presented standardized agitators for the wastewater industry. The future-proof solutions not only respond to the changing conditions but also reduce customers' operating costs and environmental footprint.

Introducing new products and solutions across markets

To complement its strong presence in the desalination and wastewater markets, Sulzer introduced an extended product portfolio that also covers clean water applications. The design and innovative construction of the clean water equipment lead to energy savings and improve customers' processes. In the pulp and paper industry, Sulzer supplied the largest medium-consistency pump that has ever been manufactured. In the oil and gas market, the company helped to lower the cost of a floating production, storage, and offloading (FPSO) ship offshore Angola through an innovative oil-cleaning process.

Near real-time monitoring to make informed decisions

The Internet of Things has a considerable impact on innovation and technology. Remote-control programs help operators monitor and maintain their plants in near real time. Sulzer provides web-based control and monitoring solutions specifically designed for the water market. With a software called AquaWeb, operators are able to examine the status of their pumping stations in near real time. The data helps identify unreliable and inefficient pumps, which cause costs. Based on these findings, customers can make informed decisions and modernize their equipment — for example with Sulzer's retrofit solutions. The software also contains an alarm function: as soon as performance deteriorates, automated alarms warn the operator. Before sending an engineer on-site, the program allows the operator to reset motor protection devices remotely. This helps customers improve the efficiency, performance, and reliability of their equipment.

"In a competitive environment with difficult market conditions, it is a decisive advantage to have a global R&D network. It helps us reduce time to market and develop solutions close to our customers."

Ralf Gerdes,
Head Global Technology

Number of patents

31

(2015: 30)

R&D investments

CHF **71m**

(2.5% of sales)
(2015: CHF 73m/2.5% of sales)

Reducing Environmental Footprint of Products and Organization

Sulzer's commitment to environmental sustainability is twofold: The company reduces its own environmental footprint and develops innovative and highly efficient solutions for its customers. They help save energy and reduce operating costs.

"We enable our sites to take individual measures to reduce the environmental footprint."

Rajiv Damani,
*Head of Group Environment,*
Safety, and Health

Sulzer's products and solutions are important elements of customers' operations. The greater part of life cycle energy consumption and emissions originates at customers' sites. Products that help reduce energy consumption and emissions are thus important to supporting customers in maintaining their business sustainably. Sulzer has substantial expertise in providing energy-efficient solutions and the company offers service and training for safe and efficient operation of the equipment.

Designing energy-efficient products

Product designers take the entire life cycle into account. Pumps typically use a lot of energy. This is why Sulzer's design teams pay particular attention to the energy efficiency during product development. The company puts a strong focus on highest efficiency levels that reduce energy consumption. Optimized products use as little material as possible without compromising quality. In addition to designing efficient products, Sulzer offers revamps, retrofits, and upgrades to increase the efficiency and extend the lifetime of already installed pumps.

Delivering a product to the customer's site is not the end of the job. Unintended or incorrect use can lead to environmental damage. Sulzer consults its customers on the safe and efficient installation, operation, maintenance, and disposal of their equipment. Although the company does not operate its own take-back programs, it supports its customers with optimized ecological and economic solutions for proper dismantling and disposal.
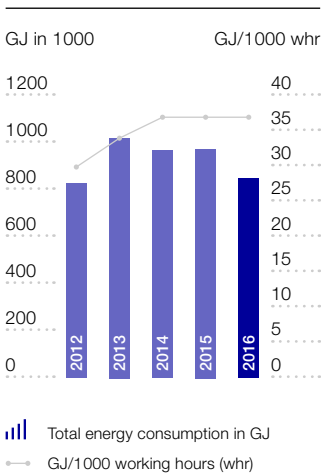
Maintaining or improving environmental performance

The environmental footprint of Sulzer's operations mainly stems from energy consumption, greenhouse gas emissions, and hazardous as well as non-hazardous waste. Sulzer makes the most effort in areas where it has the scale and resources to make an impact. Because of the diversity of Sulzer's businesses, the business units evaluate their environmental footprint and set their own agendas for reducing their impact. Although having a car fleet policy makes sense in the service business, it is less suitable for manufacturing plants that do not have many cars. Overall, the company's minimum target is to maintain but ideally to improve performance measured against working hours.

In 2016, Sulzer continued to focus on sharing expertise across the company. A newly formed environment committee fosters the exchange of best practices. Furthermore, Sulzer is in the pilot phase of an environmental awareness training for its locations.

Reporting transparently and systematically

Sulzer collects extrafinancial data systematically at the site level. The company uses the number of total working hours as a reference. Overall, 78% of total working hours report on environmental data. This is slightly less than in 2015, because several smaller service centers were excluded from the data collection process. The coverage of HR and occupational health and safety data is 100% (of total working hours). The organization collects extrafinancial data according to two different reporting cycles: The reporting period for environmental data is October 1, 2015, to September 30, 2016. The reporting cycle for HR data and the health and safety performance is January 1, 2016, to December 31, 2016. Regular internal audits make sure that the reporting of the figures is accurate.

Fluctuations in energy, greenhouse gas emissions, waste, and water data

The year 2016 was characterized by the company's ongoing transformation. To adapt to the market environment, Sulzer has reduced capacities. This results in larger fluctuations in energy consumption, greenhouse gas emissions, waste, and water consumption at individual sites.

Energy consumption

GJ in 1000   GJ/1000 whr

Total energy consumption in GJ

GJ/1000 working hours (whr)

On the whole, both energy consumption and waste were reduced by 13% and almost 8% respectively, largely due to reduced utilization rates. The rate of energy consumption per 1000 working hours remained stable. Waste production per 1000 working hours increased slightly because the company cleared out obsolete inventory and stock.

In contrast, the total consumption of water increased significantly by 22%. This increase was almost entirely due to two factors: First, the successfully growing Sulzer Mixpac Systems business was able to increase production significantly in 2016. It invested heavily in new and more efficient plants and equipment, which also consume considerably higher amounts of water for cooling parts and molds. Second, one of the larger manufacturing plants implemented changes to its cooling systems and used ground water instead of an aging refrigerant system. If these two factors are excluded, water consumption was reduced throughout the company. Again, this is largely due to reduced utilization and adjustments in capacities.

Hazardous waste


		Total hazardous waste in t (metric)
		t/1000 working hours (whr)

Key figures

		2016	2015	Change in +/– %
Energy	GJ	**845 056**	**970 832**	**−13.0**
— Energy consumption per working hours (whr)	GJ per 1 000 whr	37.3	37.2	0.1
— Share of electricity	%	56.8	54.9	3.4
— Share of gases	%	23.0	23.7	−3.1
— Share of fuels	%	11.7	12.4	−6.1
— Share of fuel oils	%	1.5	1.6	−5.9
— Share of district heating	%	6.1	6.7	−8.5
— Share of other sources	%	<1	<1	–
Greenhouse gas emissions	tons CO_2 eq.	**91 440**	**105 960**	**−13.7**
— GHG emissions per working hours	tons CO_2 eq. per 1 000 whr	4.03	4.06	−0.7
— GHG scope 1[1]	tons CO_2 eq.	17 690	20 560	−14.0
— GHG scope 2[2]	tons CO_2 eq.	56 970	66 290	−14.1
— GHG scope 3[3]	tons CO_2 eq.	16 780	19 110	−12.2
Waste	tons	**26 811**	**29 071**	**−7.8**
— Waste per working hours	tons per 1 000 whr	1.2	1.1	6.1
By treatment				
— Recycling	%	77.4	66.5	16.4
— Waste to landfill/incineration/other treatment	%	22.6	33.5	−32.6
By hazardousness				
— Non-hazardous waste	%	76.7	83.8	−8.5
— Hazardous waste	%	23.3	16.2	43.9
Water	m³	**1 600 383**	**1 311 922**	**22.0**
— Water consumption per working hours	m³ per 1 000 whr	70.6	50.3	40.3

[1] Direct emissions from Sulzer stemming from primary energy sources such as natural gas and fuels used on-site.
[2] Indirect emissions from secondary (converted) energy sources such as electricity and district heating.
[3] Indirect emissions from the production and transport of fuels and gases not included in scopes 1 or 2.
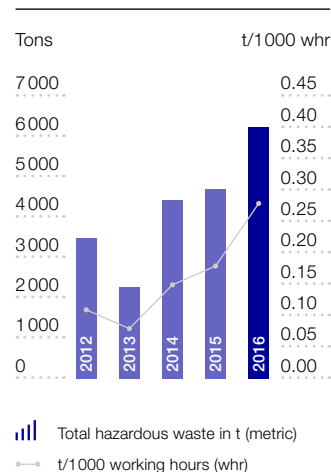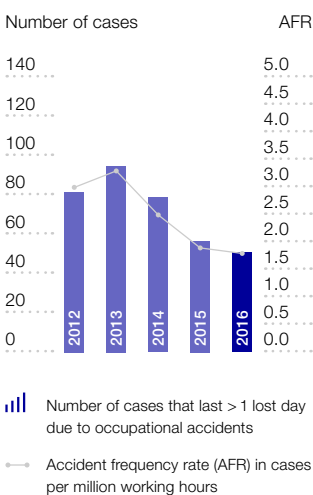
Driving Safety Excellence and Fostering Cultural Exchange

Sulzer wants its employees to be safe and healthy, and the company continues to carry out its Safe Behavior Program. To develop people skills, Sulzer offers effective and pragmatic training opportunities. The company strives for a performance-rewarding culture that encourages its employees to speak up and exchange ideas globally.

Improving safety is increasingly difficult with conventional safety control measures. An organization needs to enable its employees to recognize hazards and anticipate risks while empowering them to act in the interests of each other's safety. To achieve a mature safety culture, Sulzer has had its Safe Behavior Program (SBP) in place for four years. Since then, the company has achieved a 38% drop in its accident rate. Raising awareness for safe behavior and developing skills is key for Sulzer.

Accidents

Number of cases   AFR

140	5.0
	4.5
120	4.0
100	3.5
	3.0
80	2.5
60	2.0
	1.5
40	1.0
20	0.5
0	0.0

2012 2013 2014 2015 2016

📶 Number of cases that last > 1 lost day due to occupational accidents

•—• Accident frequency rate (AFR) in cases per million working hours

Maintaining low accident frequency rate

In 2016, Sulzer was able to sustain the previous year's performance and reached an accident frequency rate of below two cases per million working hours. Nevertheless, the health and safety organization faced severe challenges last year. In total, Sulzer suffered 51 cases of major accidents, which resulted in 1 414 lost working days. Tragically, one employee died while working at a customer's site early in the year. Thus, Sulzer is critically examining the entire system of operational health and safety management in its service activities.

Sulzer continues to implement the SBP as its main vehicle for driving improvement in the safety culture. In 2016, the company paid particular attention to developing and raising the safety program competence of both novice health and safety experts and critical management teams. In total, Sulzer held three environment, safety, and health (ESH) training sessions and an additional five management workshops in Asia, Europe, and the Americas. In total, over 150 ESH professionals and middle- to senior-level managers received training.

Effective, applicable, and pragmatic people development

Sulzer recognizes that people development is not only critical to ensuring employees have the necessary knowledge and skills to do their jobs; it also drives employee satisfaction and company commitment. Hence, Sulzer provides effective, applicable, and pragmatic development opportunities.

The company takes a diverse and varied approach to training topics. The Sulzer Management Training (SMT) program, developed in 2014, enables junior managers to master the basics of management topics. It facilitates the transition from individual contributor to manager. SMT includes web-based, classroom, and peer group activities. In 2016, Sulzer carried out the SMT program in all three regions. More than 60 participants earned their completion certificates.

The Learning Management System (LMS), a cloud-based platform, makes development activities available on a global scale. The learning history ensures that the development of competencies remains transparent and is available in the long run. LMS accommodates over 7 000 users, 2 500 active training offerings, and is available in six languages.

Rewarding contributions and results

In 2016, Sulzer further refined its talent management and employee review processes. Running from the very top of the organization through to local management, the processes enable improved succession planning. To share talent information better across the globe, the succession planning online tool was further developed. Sulzer's goal is to build an even stronger high-performance culture where contributions and results are valued and rewarded. Thus, the company is streamlining and harmonizing its performance evaluation processes.

Assuming ethical responsibility

Sulzer values and fosters performance. The company also remains deeply committed to personal responsibility, integrity, and ethical behavior. Every employee signs Sulzer's Code of Business Conduct. The company's compliance training sessions and Code of Business Conduct refresher courses ensure that Sulzer employees are fully aware of their individual ethical responsibilities and that they act accordingly. Read more on Corporate Governance on pages 51–70.

Appreciating cultural diversity and exchange

Sulzer welcomes a diverse workforce. People of different cultural backgrounds, nationalities, genders, and ages collaborate and share ideas across the company. Through job rotation programs, internships, and temporary relocations, Sulzer fosters cultural exchange. The company also believes in a speak-up culture and encourages its employees to communicate openly. With tools such as an "ask your CEO" e-mail address, CEO Skype meetings that everyone can participate in, and the intranet, the company provides easy access to the top management.
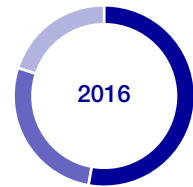
> "In our offices, manufacturing plants, and service centers, you meet open-minded people from all over the world who are excited to share ideas and solve problems. This international spirit is reflected in everything we do."
>
> *Armand Sohet,*
> *Chief Human Resources Officer*

Geographical spread of employees

2016

- ● **53%** Europe, Middle East, and Africa
- ● **27%** Americas
- ● **20%** Asia-Pacific

Key figures

		2016	2015	Change in +/−%
Accident frequency rate (AFR)	Cases per million working hours	1.8	1.9	−5.3
Accident severity rate (ASR)	Lost days per million working hours	51.2	48.1	6.4
Health and safety training	hours	119 153	106 610	11.7
Voluntary attrition rate	%	8.0	7.5	0.5
Share of women (of total workforce)	%	17.1	14.5	2.5
Leaders from internal talent pipeline	%	56.0	60.0	−6.7
Number of employees	FTE	14 005	14 253	−1.7

Chemtech Innovation Award

Employees are one of the most valuable sources of innovation ideas. For this reason, Sulzer's Chemtech division introduced a new ideation platform in 2015. This platform allows all employees to post their ideas for innovations in Sulzer's technologies, products, and applications. After they pass the initial evaluation, the ideas enter the company's product innovation process. By the end of 2016, employees from different locations and business units had submitted 72 ideas. Three of them were realized and launched.

72
ideas

3
products launched

Donation

For 20 years, Sulzer's Houston Service Center in Texas, USA, has been collecting money for the Boys and Girls Harbor charity. Boys and Girls Harbor is a local non-profit organization that provides a safe, caring home for children that have been abused, abandoned, or neglected. In total, the employees have collected and donated USD 1 million to the charity in the past 20 years.

1 million
US dollars donated in the past 20 years

Sulzer Academy for Pumps and Systems

Sulzer provides training workshops for interested engineers, operators, and main-tenance personnel. The Sulzer Academy for Pumps and Systems offers comprehensive courses to help participants better under-stand the centrifugal pumps and associated auxiliary equipment that is used in their facilities. The goal is to further develop the competencies of the attendees so they can react in time to changing demands and situations within their plants. With more effective and timely decisions, participants are well prepared to ensure the reliability of the operation of the systems and cope with the unexpected.

180
participants trained in 2016

Two Novel Skill Development Initiatives in India

India is in transition from an agriculture-based economy to a knowledge-based economy. In the future, the abilities of its people to create, share, and use knowledge more effectively will decide its competitive edge. To reduce the global skill shortages, Sulzer's site in India has established training courses to support the success of young people: the Earn and Learn program and the GET program.

Earn and Learn program
The unique Earn and Learn program is open for young people both with and without a college degree. It provides employment to rural or semiurban youth who have completed at least 12 years of formal schooling. In this way, the company helps underprivileged students to complete their bachelor's degree while working and introduces them to attractive opportunities in the growing market.

GET program
The Graduate Engineer Trainee program (GET program) is designed for new engineering graduates who have demonstrated impressive academic ability but who have little or no job experience. With its training and development opportunities, the program eases candidates into the working world. It has been running consistently for five years. The placement rate is 100%, which means that every single graduate has found a job after Sulzer's training.

100%
placement rate