

Sustainability Report

2017



BOSCH
Invented for life



About this report

Both in terms of contents and structure, Bosch observes current standards of sustainability reporting as defined by the UN Global Compact, the German Council for Sustainable Development (RNE), and the Global Reporting Initiative (GRI). This publication serves as a progress report within the framework of the Bosch membership in the UN Global Compact. A detailed overview of non-financial information based on the GRI standards (of 2016) can be found online at

[bosch.link/gri-index-en](https://www.bosch.link/gri-index-en)

| ENVIRONMENT | Reference year 2007 | 2015 | 2016 | 2017 |
|-----------------------------------------------------------------------------------------------|-------------------------------|-------------------------|-------------------------|-------------------------|
| CO₂ emissions⁽¹⁾ in millions of metric tons | 2.6 0%* | 3.0 -29.8%* | 3.1 -30.6%* | 3.2 -32.8%* |
| Nitrogen oxide emissions⁽¹⁾ from combustion processes in metric tons | 585.1 | 585.5 | 632.7 | 687.9 |
| Sulfur dioxide emissions⁽¹⁾ from combustion processes in metric tons | 347.6 | 227.7 | 202.7 | 217.7 |
| Total energy demand in terawatt hours | 6.7 0%* | 7.5 -33.7%* | 7.6 -35.1%* | 7.8 -37.2%* |
| Electricity⁽²⁾ | 4.6 | 5.2 | 5.3 | 5.6 |
| Natural gas⁽³⁾ | 1.2 | 1.5 | 1.5 | 1.5 |
| Heating oil⁽⁴⁾ | 0.2 | 0.1 | 0.1 | 0.1 |
| Waste in thousands of metric tons | 520.1 0%* | 675.2 -22.5%* | 692.5 -23.7%* | 717.4 -25.7%* |
| Water in millions of cubic meters | 17.3 0%* | 19.3 -33.3%* | 19.4 -35.9%* | 19.3 -40.0%* |
| Wastewater in millions of cubic meters | 13.9 | 15.5 | 15.2 | 14.8 |

* improvement relative to value added

PRODUCTS

Patents: 5,817

Environment/Safety portfolio:⁽⁵⁾

Share of group sales: 41%

Share of R&D expenditure: 54%

Procurement:⁽⁶⁾

Steel: 1.7 million metric tons with 2.8 million metric tons of CO₂

Aluminum: 0.3 million metric tons with 0.9 million metric tons of CO₂

Plastic: 0.3 million metric tons with 1.4 million metric tons of CO₂

THE COMPANY

Sales revenue: 78.1 billion euros (+6.8% year on year)
 R&D expenditure: 7.3 billion euros (+5.1% year on year)
 Profit after tax: 3.3 billion euros (+39.7% year on year)
 Capital expenditure on property, plant, and equipment: 4.3 billion euros (+2.2% year on year)
 Personnel expenses: 22.3 billion euros (+4.5% year on year)
 Capital expenditure on environmental protection: 50.2 million euros (+8.0% year on year)
 Other expenditure on environmental protection: 135.2 million euros (-3.3% year on year)

Ownership structure: shareholdings

92% Bosch Stiftung
 7% Bosch family
 1% Robert Bosch GmbH

Sales by business sector:

Mobility Solutions: 61%
 Industrial Technology: 8%
 Consumer Goods: 24%
 Energy and Building Technology: 7%

SOCIETY

Bosch donations to charitable initiatives: 24.6 million euros
 Total Bosch Stiftung expenditure in 2017:
 100.5 million euros for 742 projects

Regional commitment

Bosch Community Fund (Farmington Hills, USA): 4.1 million euros
 Bosch China Charity Center (Shanghai, China): 2.3 million euros
 Instituto Robert Bosch (Campinas, Brazil): 0.9 million euros
 Bosch India Foundation (Bengaluru, India): 1.5 million euros

ASSOCIATES

| | Reference year 2007 | 2015 | 2016 | 2017 |
|-----------------------------|---------------------|--------|--------|--------|
| Accidents | | | | |
| per million hours worked | 6.8 | 3.2 | 2.7 | 2.3 |
| Industrial accidents | | | | |
| number | 2,960 | 2,125 | 1,849 | 1,649 |
| Days lost | | | | |
| number | 38,417 | 34,437 | 28,992 | 27,941 |

Total number of associates: 402,166 (31.12.2017)

Share of women: 25.4%

Share of women executives: 16.1%

Voluntary resignations: 6.0%

Training days: 671,000

Training program participants: 560,000

Training expenditure: 260 million euros

⁽¹⁾ Scope I+II, Greenhouse Gas Protocol

⁽²⁾ power consumption, not including resold electricity and self-generated power

⁽³⁾ standardized

⁽⁴⁾ not including vehicles, standardized

⁽⁵⁾ excluding BSH Hausgeräte

⁽⁶⁾ Scope III, Greenhouse Gas Protocol

10.2%

reduction in water consumption
compared with 2015*

66%

fewer accidents
per million hours worked
compared with 2007

4.1%

less waste compared
with 2015*

16.1%
women
executives

KEY FIGURES

32.8%

reduction in CO₂ emissions
compared with 2007*

740
environmental and
occupational safety
audits since 2010

Objectives

CO₂ emissions:

35% reduction by 2020 compared with 2007*

Waste and water:

6% reduction by 2018 compared with 2015*

Environmental and occupational safety audits of suppliers:

1,000 by 2020

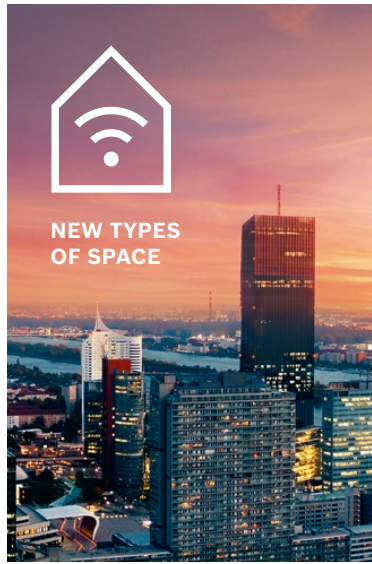
Accidents per million hours worked:

1.7 (or fewer) by 2020

Women executives:

20% by 2020

* improvement relative to value added



APPROACHES TO TRANSFORMING CITIES

By 2050, around two-thirds of the world population will live in cities. Traffic is expected to triple in urban centers, which already account for 75 percent of global energy consumption. Air quality will thus remain a central issue, especially in global megacities such as London, New York, and Beijing. Social inequality and unequal access to education will also pose major challenges. How can we respond to these challenges? How can cities be made more sustainable? And how can quality of life be improved in urban environments? These are the questions that Bosch is addressing across business sectors and divisions, with the aim of rethinking the city.



SUSTAINABLE CITIES:

ONE CHALLENGE, TWO PERSPECTIVES

Cities' high energy consumption and heavy traffic and population density can increase emission levels and aggravate climate change. Conversely, cities present many opportunities to promote sustainable development, as they accelerate social and technical progress. Here, Dr. Volkmar Denner, Chairman of the Board of management of Robert Bosch GmbH, and the climate researcher Professor Ottmar Edenhofer discuss the elements of effective urban transformation.



Mr. Edenhofer, at the Climate Change Conference COP 17, the first-ever alliance of 1,000 cities around the world was formed. It aims to take a concerted approach to fighting climate change. What role do cities play when it comes to sustainable development?

Edenhofer: Cities play a decisive role, and a great deal of potential has yet to be tapped. Many cities are no longer waiting for national guidelines, they are tackling the issues themselves. And this is a good thing. The way we design today's transport systems, buildings, and other types of infrastructure is heavily influenced by future CO₂ emission standards. If we make urban infrastructure more climate-friendly, we can reduce future CO₂ emissions by half.

About Professor Edenhofer

Professor Ottmar Edenhofer (born in 1961, I.) is the Director of the Mercator Research Institute on Global Commons and Climate Change (MCC). He is also Deputy Director and Chief Economist at the Potsdam Institute for Climate Impact Research (PIK) and Professor for the Economics of Climate Change at the Technical University of Berlin.

When it comes to reducing CO₂ emissions, what can cities start doing now?

Denner: Connectivity can play a major role in protecting the environment. Take the power supply, for instance: in intelligent buildings, devices communicate with one another, automatically adapt to changing conditions, and thus reduce energy consumption. Virtual power plants store the clean energy from decentralized power generation and distribute it according to need. And thanks to intelligent control technology, street lights are turned on only when light is needed. The smarter the city, the more sustainable it is. Bosch has been testing smart-city technologies in 14 urban centers around the world, in Berlin and Stuttgart, and most recently in Tianjin, northern China.

Edenhofer: If we want to achieve the Paris climate goals, we must also significantly reduce emissions from urban traffic. Driving the car into the city center for work every morning isn't particularly climate-friendly.

How can urban mobility be made more sustainable?

Edenhofer: First of all, electric cars have to be powered by renewable sources of energy. For this to happen, we have to levy a charge of at least 30 euros per ton of CO₂ – as opposed to the current 7 euros in European emissions trading. Second, the recharging network has to be expanded and public transit electrified. In addition to this, legislation is needed to replace old technologies that run on fossil fuels – new technologies cannot simply coexist with them indefinitely. The current diesel debate has shown that emission standards alone cannot reach climate targets and improve air quality. Instead of prohibiting diesel altogether, tax incentives for diesel within the EU should be done away with. The money saved could then be spent on public transit, or on research and development for clean drive technologies.

Mr. Denner, do you share this view?

Denner: I share the view that new technologies are needed. But considering the urgency of climate change, I don't think focusing exclusively on e-mobility is the right approach. The transition will take time. To achieve climate targets, we must thus do everything we can to improve existing technology as well. More than any other company, we are working to drive e-mobility forward. But at the same time, we continue to invest in the further development of diesel and gasoline engines. Here, emission standards still provide an important framework. From 2020 onward, emissions in real driving conditions will only be allowed to deviate by a specific factor from the levels measured in the test cycle. Our diesel test vehicles already meet this requirement today. And we are already developing systems whose emissions are well under the legal limits.

Vehicle technology is just one of the elements needed to achieve emissions-free mobility ...

Denner: True. We have to motivate more people to combine modes of transportation, share vehicles, and discover alternatives to their own cars, such as e-scooters. What's more, new digital services like parking apps can reduce the number of kilometers driven and thus also emissions. Sensors, software, and services: these "three s's" not only reflect core areas of Bosch expertise, they also shape the foundation of smart cities.

Mr. Edenhofer, what role do you see for Bosch in making cities more sustainable?

Edenhofer: As the world's largest automotive supplier, Bosch has an enormous responsibility. In terms of commitment to developing innovative electrical powertrain systems, I think Bosch is generally on the right path. But more intensive efforts are needed.

Denner: In 2018, we will again spend about 400 million euros on e-mobility. At the same time, we are working flat out to develop a CO₂-neutral internal combustion engine. In our view, synthetic fuels based on renewable sources of energy have a great deal of potential. We have already initiated projects to mass-produce the technologies needed for this. In addition to this, we are working on solutions that reduce particulate matter, which is the result of wear from brakes and tires. This year, we are starting production of our iDisc. This innovative brake disc produces 90 percent less brake dust.

In closing, let's have a look into the future: what do you think the city of 2050 should look like?

Edenhofer: By the middle of the century, I hope that emissions in cities will have been dramatically reduced. I am optimistic that it can be done. We need a mix of intelligent, efficient urban planning with short routes, as well as a transformation of the automotive sector toward carbon-neutral powertrain systems. If we achieve this, we will have come a major step closer to our climate targets.

Denner: The city of 2050 will rely on renewable sources of energy, cleverly combine different modes of transport, and conserve resources. It will help protect our health and make our everyday lives easier. In short: the city of the future will be connected, sustainable, and livable. With technology "Invented for life", we aim to make this vision reality.

RESPONSIBILITY AT BOSCH

The Bosch Group is a leading global provider of technology and services, with some 402,000 associates around the world. It comprises roughly 440 subsidiaries and regional companies in 60 countries. Bosch places a great deal of importance on doing business in a sustainable manner. The company focuses on securing its long-term success, all the while protecting the natural environment for future generations.

ABOUT BOSCH

Developing technology “Invented for life” – and indeed for today’s connected life – is the Bosch Group’s strategic target. Its products and services aim to improve quality of life for people around the world and to conserve resources. To achieve this, Bosch shapes change and seizes opportunities, especially in the areas of connectivity, electrification, energy efficiency, and automation. This approach has proved successful: in 2017, Bosch Group sales grew 6.8 percent year on year, to 78.1 billion euros. What is more, the Bosch Group has continued to pursue its aim of becoming a leading provider of technology for the Internet of Things (IoT) and mobility solutions. Thanks to its broad portfolio of products and services, and its expertise in sensor technology, software, and services, the company has developed pioneering solutions for smart homes, smart cities, connected mobility, and Industry 4.0.

In developing these solutions, Bosch continues to benefit from its global research and development network, which counts some 64,400 associates around the world. In 2017, the company spent a total of roughly 7.3 billion euros on research and development – some 9.3 percent of its sales.

Corporate structure

The Bosch Group’s activities are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. 92 percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH. This special ownership structure guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and make significant up-front investments in the safeguarding of its future. What is more, the Bosch Group’s profit-oriented approach shapes the foundation of the company’s charitable activities, as well as those of Robert Bosch Stiftung.

RESEARCH AND DEVELOPMENT 2017



64,400

associates are part of the Bosch Group’s global research and development network

9.3

percent of Bosch sales went toward research and development in 2017

54

percent of the research budget was spent on the environment and safety portfolios

SALES BY BUSINESS SECTOR



Mobility Solutions
61%

Consumer Goods
24%

Industrial Technology
8%

Energy & Building Technology
7%

Around 64,400 associates around the world are working to develop connected solutions that conserve resources – technology “Invented for life”



SUSTAINABILITY AT BOSCH

Our “Invented for life” ethos not only applies to our core business, but also to the subject of sustainability. We aim to make renewable sources of energy more efficient, mobility emissions- and accident-free, and, in all our fields of business, to develop eco-friendly products that conserve resources. We see ecology as an engine of innovation and a pillar of our company’s success.

At Bosch, “Invented for life” also means making sure our own production processes are safe and not harmful to the environment. To reduce its carbon footprint, the company relies on consistent environmental management. At all relevant locations worldwide, the ISO 14001 environmental management system is already in place, and 221 locations have received external certification. This is a share of around 76 percent. In addition to this, Bosch continuously improves the environmental performance of its products, across all business sectors. To this end, the company uses the “Design for Environment” approach, a systematic approach that is applied even in the early stages of product development, and which takes the entire product life cycle into account.

To improve safety in the workplace, Bosch applies an occupational safety management system based on the globally recognized OHSAS 18001 standard. Within the next three years, all manufacturing and engineering locations will have environmental and occupational safety management systems in place, as well as external certification.

Bringing economic, ecological, and social concerns into balance

Bosch has also defined rules and processes that its suppliers are required to observe in their sustainability management practices. All contracts with suppliers thus include a clause on compliance with ILO (International Labor Organization) standards, as well as general environmental standards. These include, for instance, notification requirements and bans on hazardous substances. With supplier audits, Bosch monitors whether these requirements have been met and observed. Until now, 740 environmental and occupational safety audits have already been conducted. Moreover, some 500 preferred suppliers must demonstrate that they apply a certified environmental management system.

A commitment to addressing social issues is another aspect of the Bosch definition of sustainability. Today, the gap between rich and poor is one of the biggest challenges society faces. With its presence in emerging and developing countries, Bosch is responding to this challenge by creating jobs and contributing to strengthening local economies. The company also provides financial support to corporate foundations in Brazil, China, India, and the United States, each of which focuses on improving access to education. Robert Bosch Stiftung is also active in this field. With the dividend it receives from Bosch, the foundation supports a broad range of civic initiatives. Besides education, it also funds projects in the areas of healthcare, society, science, and international relations.

Four areas of action with clear objectives

In the company's efforts to keep economic, ecological, and social concerns in balance, sustainability-related activities at Bosch focus mainly on four areas of action: environment, products, associates, and society. Bosch has set five central sustainability targets for the medium and long term.

SUSTAINABILITY TARGETS



35

percent fewer CO₂ emissions by 2020 compared with 2007*

6

percent less waste and water consumption by 2018 compared with 2015*

1,000

environmental and occupational safety audits of suppliers between 2010 and 2020

20

percent share of women in management positions by 2020

1.7

or fewer accidents per million hours worked by 2020

Information on how Bosch came closer to reaching these goals in 2017 is available on the first cover page. With regard to CO₂ emissions, Bosch is planning to move toward an absolute target that takes its lead from science-based targets (SBT). In addition, the company is pursuing several qualitative and quantitative sustainability targets at some 300 locations. These include further reducing packaging waste, optimizing logistics processes, and implementing energy management systems.

A cross-sectoral sustainability organization

To monitor progress toward its sustainability targets, Bosch has established a sustainability steering committee, which comprises heads of corporate departments and members of the board of management. Bosch strongly believes that its sustainability targets can only be reached if sustainability-related issues and tasks, as well as the corresponding monitoring duties, are made an integral part of processes and business activities. At Bosch, the range of tasks is based

on the product life cycle, and includes the area of materials procurement as well as engineering, manufacturing, logistics, and product use and disposal. In brief, organizing sustainability is a cross-sectoral task based on comprehensive sustainability management, with clear roles and responsibilities (see illustration).

ROLES AND RESPONSIBILITIES

SUSTAINABILITY STEERING COMMITTEE

Responsibilities: setting targets, management review

Chairman of the board of management, director of industrial relations, and the core team of the advisory board



reports to

SUSTAINABILITY ADVISORY BOARD

Responsibilities: recommending targets and focal points

A core team comprising the heads of the corporate environment, HR, and communications departments, in addition to a group that includes the heads of the corporate compliance, manufacturing, purchasing, infrastructure, and internal audit departments, as well as divisional presidents.



monitors



informs

SUSTAINABILITY OFFICE

Responsibilities: answering internal and external questions, engaging in dialog with internal and external stakeholders, identifying topics, challenges, and areas of improvement

* improvement relative to value added

Promoting sustainable development

With its activities, Bosch supports the United Nations Sustainable Development Goals (SDGs), which were established in 2015. The company is thus actively addressing the challenges society faces. By comparing its sustainability activities with the 17 SDGs, Bosch found that its efforts are especially relevant in the following areas: sustainable cities and communities (SDG 11), measures to reduce CO₂ emissions (SDG 13), the development of innovations (SDG 9), economic performance (SDG 8), promoting health and safety (SDG 3), gender equality (SDG 5), access to education (SDG 4), and responsible consumption and production (SDG 12). The broad range of sustainability-related activities at Bosch can also contribute to achieving other UN targets.

In 2017, Bosch paid special attention to the sustainable development of cities. More than half the global population is already located in urban centers, where people live, work, and move about in a limited space. This offers many opportunities for saving energy and reducing greenhouse gas emissions. To reach the goals of the 2015 Paris agreement and limit global warming to two degrees Celsius or less, emissions in urban centers must be reduced more quickly. With the help of innovative technology, Bosch sees many possibilities to reduce emissions from traffic, power generation, and industrial production. This report presents a summary of these solutions.

More information about Bosch and Robert Bosch Stiftung can be found at bosch.com and www.bosch-stiftung.de

CONTRIBUTIONS TO THE SUSTAINABLE DEVELOPMENT GOALS IN 2017



Source: United Nations



Bosch also relies on renewable sources of energy at its locations, such as the hydropower plant it operates in Blaichach, Germany.



NEW TYPES
OF SPACE

SMART LIVING

AN INTELLIGENT POWER GRID

Reducing energy consumption and promoting the use of renewable sources of energy are two important building blocks for more sustainable cities. Microgrids are one promising way of establishing a smarter power supply. The comparably small, independent energy management systems supply large buildings with power from a range of renewable sources. Not only do microgrids make a major contribution to protecting the environment, they are also reliable. For instance, in the event of a weather- or security-related power outage in the main grid, they can supply power to residents and essential services. The Bosch DC Microgrid operates with direct current rather than alternating current, and thus consumes up to ten percent less energy than conventional power plants.

More information about Bosch activities in the realm of “new types of space” can now be found online at bosch.link/sustainability-new-types-of-spaces

With IoT solutions, Bosch is helping make hospitals more efficient, safer, and more comfortable

In the “products” area, Bosch activities support the following Sustainable Development Goals (SDGs):
SDG 3, SDG 9, SDG 11, SDG 13

As a growing number of people move to cities, the demand for space in urban centers is also growing. Whether or not this has to mean greater consumption of resources is the subject of debate. Smart Bosch solutions based on the Internet of Things are one way of ensuring that urban growth is sustainable. These solutions can be used, for instance, to improve the energy efficiency of existing buildings, which currently account for 40 percent of global energy consumption. To make the cities of the future sustainable, solutions will be needed for everything from large buildings to even the smallest of living quarters.



Hospitals are an indispensable part of cities, and they must function as seamlessly as possible, while also trying to keep their operating costs down. With its smart hospital solutions, Bosch helps hospitals keep their costs in check. These innovative technologies connect different parts of the building with one another, thus creating a comfortable and efficient whole. In North America, the Bosch subsidiary Climatec has provided Banner Health – one of the largest non-profit healthcare service providers in the United States – with connected solutions for building automation, ventilation, and fire-alarm systems, as well as nurse-call and infotainment systems for patients. In total, Climatec supplies 15 Banner Health centers, and has thus made a significant contribution to reducing its customer’s energy costs. In Bengaluru, India, the Mazumdar Shaw Medical Center cut its energy costs by about twelve percent in less than a year. This is because sensor and software-based solutions ensure that energy is supplied ac-

ording to need. At the same time, an energy management system enables staff to access data at any time and respond immediately in the event of deviations.

The heat generation of the future

According to the International Energy Agency’s World Energy Outlook, global energy demand will grow 30 percent by 2040. Both large institutions such as hospitals and every individual household must take measures to counteract this trend. In residential buildings, heat generation accounts for the lion’s share of energy consumption. Since 2017, Easy Control technology has made it possible to reduce heating costs by as much as 25 percent in a range of buildings. The Bosch Junkers smart heat management technology is the first of its kind. In combination with the right radiators and thermostats, Easy Control can monitor as many as 24 individual rooms at once. Perhaps the system’s best feature is that

it thinks ahead: using GPS data from a smartphone, it can calculate when the user will be at home and adjust the heating accordingly. Since the beginning of this year, Easy Control has been capable of recording residents’ routines and further honing its heat management strategies on that basis.

Another technology that makes homes more energy efficient is Bosch Sensortec’s BMA400 acceleration sensor. The sensor can detect, for instance, whether windows have been closed, tilted, or left completely open. With this information, it reduces the energy consumption of heating or air conditioning systems. Yet the BMA400 requires ten times less power than other acceleration sensors. This combination of consistently precise measurements and low energy consumption earned the sensor a prestigious Innovation Award at the Consumer Electronics Show in October 2017.

Bosch Thermotechnology’s EMMA has also received critical acclaim. In July 2017, the energy management system was nominated for an environmental technology prize in the German state of Baden-Wuerttemberg. EMMA already connects heat pumps, photovoltaic arrays, and battery storage systems to one another, and will add electric vehicles in the future. It controls all these devices and systems to optimize household energy consumption. As a result, the energy costs of the heat pump can be reduced by ten percent.



NEW FORMS
OF MOBILITY

THE NEXT FUEL REVOLUTION

Limiting global warming to less than two degrees Celsius is one of the central targets of the Paris climate agreement. In the future, synthetic fuels could make a significant contribution to achieving this goal. When they are produced, these fuels absorb CO₂, thus turning the greenhouse gas into a raw material. With the help of power generated from renewable sources of energy, synfuels can be used to produce gasoline, diesel, or natural gas. Such fuels can make gasoline and diesel carbon-neutral, and thus contribute to limiting global warming. Synfuels can be mixed with conventional fuels, and in this way make a direct contribution to reducing the CO₂ emissions of existing vehicles. According to a Bosch study, 2.8 gigatons of CO₂ emissions could be saved by 2050 if synfuels were used consistently.

More information about Bosch activities with regard to "New forms of mobility" can now be found online at [bosch.link/sustainability-new-forms-of-mobility](https://www.bosch.com/sustainability-new-forms-of-mobility)

SUSTAINABLE MOBILITY



In the “products” area, Bosch activities support the following Sustainable Development Goals (SDGs): **SDG 3, SDG 9, SDG 11, SDG 13**

Besides emissions from power generation based on fossil fuels and from agricultural activity in surrounding areas, road traffic is the greatest cause of particulate-matter pollution in urban centers. This makes smart mobility concepts decisive for improving air quality and quality of life in cities. Innovative products and services form the basis of the approaches that will make the mobility of the future emissions-free, stress-free, and accident-free. Bosch is driving this development forward with climate-friendly technologies, connected infrastructure solutions, and comprehensive initiatives.



In smart cities, residents benefit from intelligent mobility solutions such as emissions-free modes of transport and connected parking

Around 32 percent of particle emissions in urban traffic are the product of brake and tire wear. This means that this type of pollutant emission – and not fuel combustion – is the main cause of particulate matter in urban centers. To keep city air clean, reducing brake dust is thus decisive. In the shape of its iDisc, an innovative brake disc, Bosch premiered a solution for this problem. Thanks to a special tungsten carbide coating, the iDisc produces up to 90 percent less brake dust than conventional discs. At the same time, the iDisc is more durable and less susceptible to corrosion. This is especially beneficial with electric cars: Thanks to regenerative braking (recuperation), they place less stress on the brakes, and thus rather face the challenge of rust film formation on the friction rings. This problem can be avoided with the iDisc, which is corrosion-resistant. In turn, this improves the operating safety of braking maneuvers.

Driving further and more efficiently

The current average range of an electric vehicle is 270 kilometers. For many drivers, this is a reason to stick with diesel or gasoline engines. More high-performance batteries, energy efficient lightweight components, and innovative powertrain systems can help achieve a breakthrough for e-mobility. Developed in 2017, the e-axle is one example of a technology that is helping e-mobility to a breakthrough. By combining the motor, power electronics, and transmission, it not only saves space,

but also makes the powertrain system more efficient. The e-axle can be used in hybrid and electric vehicles, passenger cars, SUVs, and light commercial vehicles. Production is set to begin in 2019.

Renting rather than buying

More than seven million people around the world already use car-sharing services. Experts expect the number to increase to some 36 million users by 2025. Digital applications are driving this potential. One of them is the Bosch myScotty app, which pools access to different sharing platforms. As a result, users only need to register once to gain access to thousands of cars, scooters, and bicycles. This enables city dwellers to plan their routes flexibly and thus reduce their carbon footprint. MyScotty was launched in Berlin in 2017. Other cities and countries are set to soon follow.

Preventing traffic jams and improving air quality in cities is also the idea behind the new BePart smart mobility network. It connects drivers to transport control centers to provide customized alternative routes. This results in a better flow of traffic and a reduction in pollutant emissions. This type of intelligent networking makes daily life easier for city residents and commuters, and is paving the way for mobility in the smart cities of the future. The first pilot projects with BePart are set to begin in German municipalities in 2018.





Smart mobility concepts are improving air quality in urban centers

OTHER PROJECTS

Road assistance by e-bike

In Vienna, the Austrian Automobile Club's (ÖAMTC) "yellow angels" come to the rescue on e-bikes: in urban traffic, the road assistance service relies on emissions-free Bosch e-bikes. So far, the project has successfully assisted 800 customers and won the Innovation Award of the Fédération Internationale de l'Automobile (FIA).

Mobility Hackathon in London

At the Mobility Hackathon in London, students discussed topics such as optimum traffic flows, multimodal mobility, and improving air quality. The three best ideas were awarded a prize, and Bosch is helping the winning teams put their concepts into practice.

A postgraduate program for hybrid and electric mobility

In cooperation with local partners in Brazil, Bosch is promoting the education of engineers with an eye on the mobility of the future. In 2017, the first postgraduate program for hybrid and electric powertrain systems was established at the industrial college in São José dos Pinhais.

Road Safety Award 2017

The ESP® electronic stability program, which Bosch helped develop, was the first-ever winner of the Premier Prince Michael Road Safety Award. Since it was launched in 1995, ESP® has made a major contribution to improving road safety. It has prevented some 188,500 accidents, and thus also saved thousands of lives.

Committing to better air quality

Improving air quality in a lasting manner calls for a comprehensive commitment. This is why Bosch has established the Air Quality Initiative Europe. The project aims to give communities affected by air pollution advice and to cooperate with them to develop strategies that can contribute to reducing air pollution. To do this, the Air Quality team brought decision makers from politics, NGOs, the media, and professional associations together several times at innovative dialog events. More than 70 cities in four European countries – Germany, France, Italy, and the UK – are now members of the network.

In the participating countries, Bosch has already put concrete solutions in place in cooperation with local partners. These include a pilot project in cooperation with the city of Stuttgart, which aims to improve the flow of traffic there. In western England, too, the Air Quality Initiative is cooperating with local authorities to come up with solutions that will help reduce traffic in downtown areas and thus reduce pollutant emissions. In France, Bosch is working

with AirParif, an NGO, to develop a smart mobile measurement system. With the help of a wireless sensor and cloud-based software, the device transmits air quality data in real time to Paris authorities and residents. The city can then use the data to define measures aimed at improving air quality.

In Italy, where emissions from buildings are a major challenge, the "Mission Ambiente – Opera d'Aria" educational program was launched at more than 1,000 schools in 2017. The initiative aims to teach students about the importance of clean air, and to offer practical solutions that their families can put into practice in their daily lives. Since air pollution does not stop at national borders, the Air Quality Initiative plans to extend the program to other countries and regions in 2018, including Scandinavia, Spain, the Netherlands, and cities in North America and Asia.



**NEW WAYS
OF WORKING**

FOCUSING ON INDUSTRY 4.0

Making manufacturing operations more efficient and processes more transparent are two of the challenges that industrial companies currently face. A Bosch project in Berlin shows what approaches to agile manufacturing can look like: the company has connected more than 80 machines for OSRAM, the lighting manufacturer. Their data are transmitted in real time to the Bosch Production Performance Manager software system, and are then available on the OSRAM Ticket Manager, an employee app. With this service, decisive improvements can be made to work processes: activities are no longer based on machines, but rather on areas of responsibility. For instance, employees with the required qualifications receive notification of a new task on their work smartphone. What is more, employees working in production can consult with process experts to continuously adapt the app's rules to production conditions. In this way, they can reduce energy consumption.

More information about "New ways of working" at Bosch can now be found online at bosch.link/sustainability-new-ways-of-working



Bosch is one of the first global corporations to use the “Working Out Loud” program to connect associates to one another

CONNECTED WORK

In the “associates” area, Bosch activities support the following Sustainable Development Goals (SDGs): **SDG 3, SDG 5, SDG 8, SDG 9**

Bosch is helping shape the working world of the future. On the one hand, the company is driving innovation in the realms of sensor technology, automation, and artificial intelligence. These new technologies not only make everyday working life easier, but also safer. On the other hand, Bosch has put new forms of collaboration into practice and seized the opportunities offered by digital transformation. In the future, fast knowledge sharing, an openness to change, and a willingness to keep learning from others throughout life will be decisive.

Working Out Loud (WOL) is a work method and a skill, as well as an informal self-learning program that Bosch uses to connect its associates with one another around the world. The aim is to make expertise accessible more quickly across hierarchical levels, make changes of perspective possible and further training an integral part of everyday working life, and thus increase innovative strength. Groups of five associates meet virtually once a week over a period of twelve weeks, either to solve a challenge they have chosen themselves, or to learn about a topic of interest in greater detail. The groups are free to organize themselves as they choose. The method has been used for three years at Bosch, and digital learning increased once again in 2017. The WOL community doubled to some 2,200 associates from 45 countries, 217 locations, and about 1,600 operating units. The program has garnered positive reviews: in the latest round of feedback, 89 percent of participants said that WOL has benefited them and helped them further develop their digital skills, including a better understanding of social media and networking.

Promoting diversity

At Bosch, networking and creativity are two decisive success factors. The company strongly believes that collaboration among people with different areas of expertise and broad-ranging experience is the best way to promote new ideas. With more than ten associate networks for a variety of different interest groups, some of which have existed for more than two decades, Bosch has been promoting networking for many years. Groups include women@bosch, family@bosch, the Bosch Turkish Forum, and RBg, which represents the interests of lesbian, gay, bisexual, and transgender associates. Last summer, the LGBT Allies Network was also launched. More than 100 Bosch associates from several countries and in different functions became ambassadors for LGBT-related topics, and work within and outside the company to promote acceptance of lesbian, gay, bisexual, and transgender people.

A new communication initiative has been launched that emphasizes the importance of diversity. At around 200 locations, posters with pithy statements like “less bias, more advantages” show how different perspectives can be beneficial in day-to-day working life. What is more, a workshop that addresses unconscious bias help associates recognize typical stereotypes in their everyday working lives, and this allows them to develop new perspectives. The workshop is already offered in 15 countries around the world. In Germany alone, some 2,700 associates took part in 2017.

Bosch is also shaping the transformation of the working world with around 100 different working time models, which make work more flexible and less dependent on place. These models help associates strike a healthy balance between their professional and personal lives. JobConnector is another offer that associates are increasingly using. The tool assists them in finding a job-sharing partner online, allowing vacancies to be filled with two people. In 2017, there were more than 450 JobConnector profiles, a 50 percent year-on-year increase.

Keeping associates safe

Bosch is also driving agile, connected manufacturing forward, both with digital services and more efficient operations. In a changing work environment, safety has become an

even greater priority. In 2017, the Bosch Changsha location in China completed the 18-month „Building a safe plant“ project. A comprehensive package of measures has made each associate at the location aware of occupational safety. The package includes a continuous improvement process, intensive knowledge sharing between associates and their supervisors, work-specific safety training, information for business partners, and internal audits. As a special feature of the project, key performance indicators have been defined for areas in need of improvement, and associates have been actively involved in making improvements to safety at a number of levels. Today, the plant has four different safety awards that honor best practices. In 2017, the location was accident-free.

At the Llica location in Spain, working with forklifts became safer this year. Before they start working, each driver must rule out vehicle defects with a checklist. During their drive, sensors record all their activities. Combined with an end device that associates carry with them, receptors on the forklift can detect approaching persons and decelerate automatically. They also slow down if the forklift is moving so quickly that a collision would be dangerous. The solution helped the Llica location reach the end of 2017 without any forklift-related accidents.

Since most accidents are the result of human behavior, Bosch places a great deal of importance on safety training for its associates. In 2017, the company took new approaches to this: at the Rayong plant in Thailand and at the Changsha plant in China, the “GAppNGo” app, which uses augmented reality, was launched on the Bosch IoT Cloud in November to raise awareness about accident risks. Associates answer quiz questions about virtual hazards, and thus learn how risks can be avoided.

In Abstatt, Germany, the Chassis Systems Control division tested a virtual reality safety training session, which created typical work environments in areas such as logistics, manufacturing, and administration – each of which have specific challenges. Participants were asked to come up with virtual solutions. In 2018, the training session will be available at all the division’s locations.

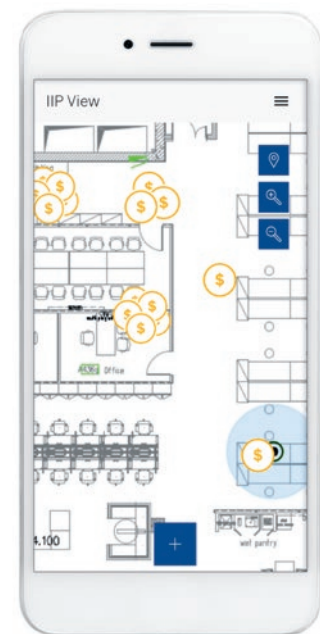
OTHER PROJECTS

dailychamps: online activities for Bosch associates around the world

Who makes the best possible use of diversity in their everyday working life? On the online “dailychamps” platform, colleagues decide by nominating an associate who has inspired them. This person then shares their experience online and nominates another colleague, and so on. Associates thus learn about the benefits of appreciation and openness. In 2017, 900 associates were nominated around the world, and 200 dailychamps shared their success stories.

Bosch Diversity Day

For the fourth year running, Bosch held its annual Diversity Day in May 2017 at locations around the world. The aim of the event is to encourage debate about what drives and hinders diversity. In Japan, executives engaged in discussion with the association “Fathering Japan”. They concluded that executives play a decisive role in determining the extent to which male associates participate in family life. In Vietnam, associates born before 1975 met to discuss unconscious bias (about the relationship between age and performance, for example) and how this affects everyday working life.



At the Changsha plant in China, the “GAppNGo” app raises awareness about occupational safety in a playful manner



NEW APPROACHES
TO MANUFACTURING

ECO-FRIENDLY MANUFACTURING

THE ENERGY SAVERS

The Bosch location in Homburg, Germany, is inching ever closer to becoming an energy-efficient, self-learning plant. The manufacturing work done by roughly 5,500 Mobility Solutions and Industrial Technology associates saves significant amounts of energy. Their approach is to combine maximum transparency with technical innovation. With the help of around 10,000 data points, data from the machinery is pooled on an internal Bosch online platform. Associates can thus monitor the energy consumption of each individual machine and optimize it accordingly. Technical solutions include the demand-based control of ventilation systems, the utilization of waste heat from various processes, and shutdown management of production machinery. With these and other measures, the location saved around 4,600 metric tons of carbon dioxide in 2017, and reduced CO₂ by 23,000 metric tons compared with 2007.

More information about Bosch activities in the realm of “New approaches to manufacturing” is now available online at [bosch.link/sustainability-new-approaches-to-manufacturing](https://www.bosch.com/sustainability/new-approaches-to-manufacturing)

In 2017, Bosch started operation of the largest solar power plant in the Indian automotive sector

In the “environment” area, Bosch supports the following Sustainable Development Goals (SDGs):
SDG 9, SDG 11, SDG 12, SDG 13

By 2020, Bosch aims to reduce its own carbon dioxide emissions by 35 percent relative to value added over the 2007 reference year. Last year, the company took significant steps toward reaching this goal. At present, the relative improvement stands at 32.8 percent. This can be attributed to the broad range of green innovations and improvements at Bosch locations around the world. Energy efficiency and resource conservation remain two focal points. Today, it is clear that the production of the future not only has to respond quickly to changing market requirements, it must also be eco-friendly.



At Bosch Rexroth, CO₂ reduction has a name: Go-Green. Since 2011, the program has promoted energy-saving approaches to manufacturing. Each year, several new international initiatives reduce the company's CO₂ emissions. With hundreds of measures, CO₂ emissions around the world have been reduced by more than 150,000 metric tons since the program was launched.

In 2017, the newly structured energy supply at the Bosch location in Lohr am Main, Germany, was a program highlight. Among other things, cast products for industrial hydraulics are produced here. For this purpose, two medium-frequency furnaces melt ten metric tons of iron per hour. In the past, the need to cool the furnace shell with cooling water meant that more than two megawatts of heat output were lost per melting unit. Today, this heat is fed into the heating network via heat exchangers. The intelligent management of the furnace cooling system and a complete redesign of the plant's energy supply and heating network made this possible. Modern burner technology with heat recovery, efficient air compressors, and the frequency-controlled management of IE4 efficiency-class pumps and motors save up to 7,500 megawatt hours – the same amount of heat needed for a town of 1,200 inhabitants. In turn, this has saved about 1,700 metric tons of CO₂ at the Lohr location.

The Bosch Rexroth plant in Beijing has introduced a similar solution. Thanks to a heat exchanger, waste heat from the hardening shop is now fed into the

heating networks, thus replacing about 500 megawatt hours of district steam. Since the latter is often generated with coal in China, the new method not only saves about 400 metric tons of carbon dioxide, it also prevents dust and other harmful emissions in a country where smog is a major problem.

Smart energy and water management

At the Bosch location in Nashik, India, the country's largest solar power plant in the automotive sector went into operation in 2017. With 36,000 solar panels on roofs, in parking lots, and on open surfaces, the plant has achieved peak output of ten megawatts and already covers more than 40 percent of the site's energy needs. The aim is to fully cover the location's energy needs with solar power in 2018. Bosch experts have also come up with an eco-friendly solution to cleaning the panels: the water is recycled several times and cleaned in an eco-friendly manner with a new ozonation system. While the third phase of wastewater cleaning used to require chlorine, Bosch now cleans the water with ozone. This highly reactive gas serves as a disinfectant and reacts quickly to organic substances in water. As a result of the smart energy and water management system, the Bosch location in Nashik reduced its CO₂ emissions by 13,700 metric tons in 2017, reduced energy consumption by about 14,600 megawatt hours, and saved 1.4 million liters of water.

A NEW PRODUCT DEVELOPMENT CODE

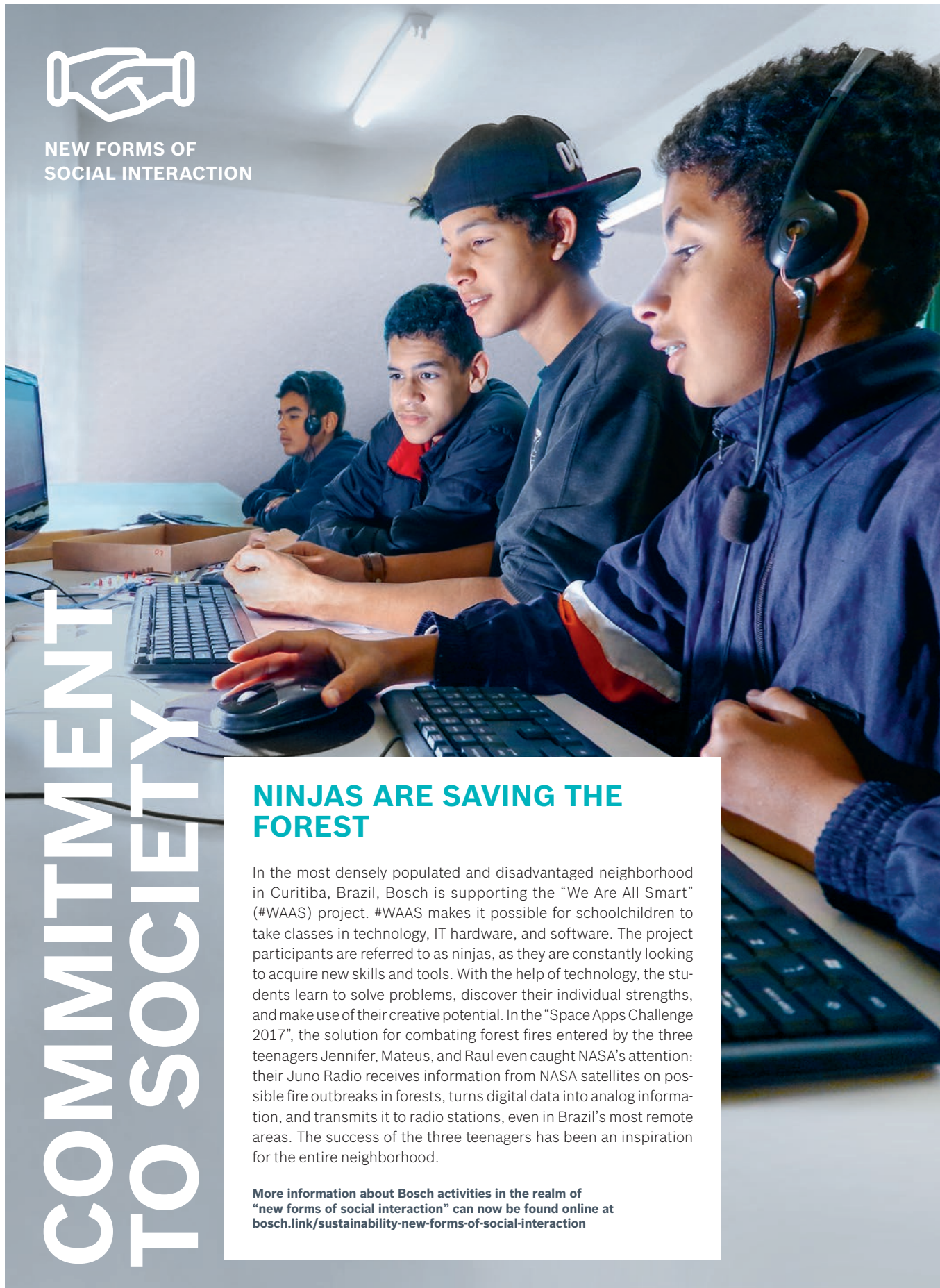
For all of its products, Bosch has introduced a new and mandatory product development code. It stipulates that an entrepreneurial approach and the principle of legality always form the basis of technology “Invented for life”. Technology should benefit people and conserve resources. The principle of legality and Bosch values always take precedence over customer wishes. For the development and application of functions, the board of management has formulated the following guidelines:

- The development of functions for cycle or test detection purposes is prohibited.
- Technology “Invented for life” requires that products fully meet performance and quality standards for everyday use by consumers. Optimizing product characteristics purely for testing purposes is not permitted.

At the start of 2018, more than 40,000 Bosch associates had received training on the product development code. By the end of 2018, the entire target group of some 70,000 associates involved in product development will have completed training. It is the biggest mandatory training program in the company's history. What is more, the basic principles of the product development code have been included in the revised Code of Business Conduct. The new version was published in December 2017.



NEW FORMS OF
SOCIAL INTERACTION



COMMITMENT
TO SOCIETY

NINJAS ARE SAVING THE FOREST

In the most densely populated and disadvantaged neighborhood in Curitiba, Brazil, Bosch is supporting the “We Are All Smart” (#WAAS) project. #WAAS makes it possible for schoolchildren to take classes in technology, IT hardware, and software. The project participants are referred to as ninjas, as they are constantly looking to acquire new skills and tools. With the help of technology, the students learn to solve problems, discover their individual strengths, and make use of their creative potential. In the “Space Apps Challenge 2017”, the solution for combating forest fires entered by the three teenagers Jennifer, Mateus, and Raul even caught NASA’s attention: their Juno Radio receives information from NASA satellites on possible fire outbreaks in forests, turns digital data into analog information, and transmits it to radio stations, even in Brazil’s most remote areas. The success of the three teenagers has been an inspiration for the entire neighborhood.

More information about Bosch activities in the realm of “new forms of social interaction” can now be found online at [bosch.link/sustainability-new-forms-of-social-interaction](https://www.bosch.com/press/2017/09/12/bosch-link/sustainability-new-forms-of-social-interaction)

In the “society” area, Bosch supports the following Sustainable Development Goals (SDGs): **SDG 3, SDG 4**

In cities, many people are living in a limited amount of space – this is and will continue to be a major social challenge in urban areas. Bosch and its four regional foundations in Brazil, China, India, and the United States are already working on addressing this challenge at Bosch locations around the world. Initiatives that support up-and-coming talents receive special attention. The current generation of young people will have the opportunity to shape new forms of community life in the cities of the future. However, not all children and young people can make full use of their potential. With a broad range of educational projects, Bosch is committed to providing today’s youth with opportunities for a better future, regardless of their background.

Education is vital for children and young people, as it allows them to develop their personalities and grow into independent adults. Since January 2017, Bosch has thus supported “Inspire Suffolk’s” team program in the United Kingdom. The program helps young unemployed people between the ages of 16 and 25 build self-confidence and find a path into the working world. Last year, 600 young people completed the program, with 76 percent of them going on to start a job or a training program.

In Buenos Aires, Bosch Argentina actively contributes to the “Mecenazgo” youth training program, which provides access to education for young people aged 16 years and older who live in precarious conditions. The job training program reaches about 20,000 young people, who acquire social skills in addition to specialist knowledge. In 2017, Bosch contributed some 25,000 euros for the purchase of a building and power tools, and to finance future training programs.

In China, Bosch took part in a project of the “New Sunshine Charity Foundation” in 2017. The initiative gives around 2,700 children with leukemia the opportunity to attend classes at the hospital. The lessons means that five- to eight-year-old children undergoing treatment do not have to miss school. The Bosch China Charity Center donated 851,000 yuan (some 109,000 euros) for school supplies and two new schools in Xian and Huhehaote.

Committed associates

Bosch associates around the world are also committed to promoting active community life. They encourage contact between community members and help shape life in their respective cities. Bosch associates in

the UK can take a day off work to volunteer on a broad range of projects. During the “Help me grow” garden project in 2017, around 30 Bosch associates from Worcester and Denham embellished the gardens of a hospice and an outdoor museum.

In Germany, Bosch associates in metropolitan Stuttgart volunteer with the “KinderHelden” project, which matches mentors with children from disadvantaged families. In 2017, around 90 Bosch mentors acted as tandem partners for the children of associates, elementary school students, and refugee children. They helped the children with school and personal issues. The aim is to help disadvantaged children get a good education. The project receives funding from the Bosch “Primavera” initiative, a non-profit that was founded and is run by Bosch associates.

Knowledge-sharing with scientists

In addition to social projects, Bosch supports institutions of higher education. At present, a cooperation project with young researchers at the University of Amsterdam has allowed the company to carry out applied research in the realm of artificial intelligence (AI). With three million euros in funding until 2020, PhD students and post-doctoral researchers are working with Bosch experts at the Bosch Research Center for Artificial Intelligence, as well as on projects at the university. Together, the researchers are working on AI technologies for the city of the future at the Delta Lab, for instance with applications that prevent accidents.



Bosch supports young scientists in the realm of artificial intelligence





February – Worldwide
Celebrating diversity

In 2007, Bosch was one of first companies to sign the Charta der Vielfalt (Diversity Charter). The German initiative aims to create a work environment at companies and institutions that is free of prejudice. Regardless of gender, nationality, or age, all associates should be treated with the same level of respect. In the past decade, diversity has become an integral part of everyday life at Bosch.

www.bosch.com/diversity

**2017
IN REVIEW**

01

02

05

January – Brazil

Modernizing mining

In Brazil, the mining industry is an important economic sector. However, safety in the extraction of minerals can still be improved. In 2017, the new Bosch Integrated Solutions Brazil subsidiary tackled this challenge and developed an IoT solution. Connected Mine connects objects, devices, services, and machines with an IP address. Moreover, the intelligent production network runs automatically, increases energy efficiency, and reduces both operating costs and emissions. With the new solution's start-stop feature alone, Bosch estimates that 44 metric tons of CO₂ can be saved per vehicle each year.



May – Nashik, India

Providing access to clean water

The Bosch location in Nashik, India, had a dam built within just twelve weeks to improve local agricultural conditions. The Lakshmanpada project was successfully completed at the end of May, ahead of the monsoon season. The dam can store around 400 million liters of water, and thus provide clean drinking water to some 200 households from five villages. In addition to this, more than half of local farmers can now plant a second cereal crop each year. And thanks to the rise in groundwater levels, eight drinking water wells and four hand pumps now have a stable water supply.





06

June – Austria

Promoting talent in technical fields

For the tenth year in a row, the Bosch Group in Austria has presented the “Invented for life” prize. In the fall of each year, students in their final year of study at the polytechnic are invited to submit their thesis projects in a range of categories. An expert jury of Bosch associates then evaluates the submissions. The winners selected are awarded a six-month internship at a Bosch location in Austria – the perfect start to their careers.

November – Worldwide

Honoring innovation

Each year, innovative projects aimed at improving occupational safety and energy efficiency are initiated at Bosch locations around the world. To raise awareness about these new approaches across the company, in 2017 Bosch began honoring the best ideas with the Bosch EHS Award. The winners included projects from Brazil, China, and Germany. “Energy Management 4.0” makes energy consumption transparent. Among other things, the “Cold Degreasing” project has reduced energy consumption with a newly developed detergent that is effective at low temperatures. In turn, the “GoGreen” initiative takes a comprehensive approach to saving energy. The locations also demonstrated creativity with regard to safety: with the “Building a safe plant” project, executives and associates showed their commitment to occupational safety. With “System CIP for Safety”, they have improved workplace safety with a continuous improvement process. And with “Virtual Reality Safety Training @ CC”, associates receive training in a digital working world.



07

July – Metropolitan Stuttgart, Germany

Discovering science

In cooperation with Robert Bosch GmbH, for the past ten years Robert Bosch Stiftung has been offering tenth-grade girls from the Stuttgart area an opportunity to discover the fascinating worlds of science and technology. With the Girls’ Campus, the girls attend weekend seminars that provide practical insights into the mobility of the future. The program also includes presentations, guided tours, and presentation training.



08

August – Southern Europe

Giving young people prospects for the future

With the Southern Europe Training Initiative, Bosch began offering apprenticeships to young people from Italy, Portugal, and Spain in 2014. The aim is to contribute to fighting youth unemployment in these countries. Over the past four years, Bosch has created a total of 175 extra apprenticeships and spent 14 million euros on the program. In 2017, 72 young people started apprenticeships: 25 are now learning in their home countries, and the remaining 47 have come to Germany. Thanks to language lessons that last several months and continuous support at their locations, these young women and men are gradually integrating into their places of work and German society. Around 85 percent of the apprentices successfully complete the program.

[bosch.link/apprenticeship-initiative](https://www.bosch.com/press/press-releases/2017/08/2017-08-16-01)

PROGRESS REPORT

ACTIVITIES – AN OVERVIEW



Robert Bosch GmbH has been a member of the United Nations Global Compact since 2004, and is committed to this initiative’s ten global principles in the areas of human rights, working standards, environmental protection, and the fight against corruption. The following table provides an overview of the progress made in the 2017 reporting period in relation to these ten principles of responsible corporate governance.

| Principle | Targets/Basic principles | Actions | Results |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Human rights Principle 1: Support and respect human rights Principle 2: No complicity in human rights abuses | Corporate target 1,000 supplier audits by 2020 Basic principles Code of Business Conduct for suppliers Basic principles of social responsibility at Bosch Bosch purchasing guidelines “We are Bosch” mission statement | Supply chain-related activities Environmental and occupational safety audits of the supplier portfolio | 740 audits conducted since 2010 Established in 2008, the Code of Business Conduct has been fully revised |
| | | Social responsibility Bosch has made economic, social, and ecological concerns an integral part of its approach to social responsibility | Bosch is an active member of the German Network for Business Ethics Compliance & Integrity Forum. In 2017, the company sponsored the Human Rights working group |
| | | Purchasing guidelines In all contracts, Bosch requires that its suppliers adhere to the core labor standards of the International Labor Organization (ILO) on the basis of the UN Global Compact | Suppliers make necessary improvements; failure to do so can lead to sanctions (e.g. termination of the supplier agreement) |
| Labor standards Principle 3: Uphold freedom of association Principle 4: Elimination of all forms of forced and compulsory labor Principle 5: Abolition of child labor Principle 6: Elimination of discrimination | Corporate target 20 percent share of women executives by 2020 Basic principles Basic principles of social responsibility at Bosch Bosch Human Resources System “We are Bosch” mission statement The “We LEAD Bosch” management guidelines Diversity Charter Guidelines for a flexible and family-friendly working culture | Women executives Increase the share of women in management positions women@bosch For more than 20 years, the associate network has promoted the interests of women at Bosch | Share of women in management positions in 2017: 16.1 percent The global network counts some 3,000 members in 20 countries – with a broad range of events that promote knowledge sharing/development |
| | | Diversity management Expand group-wide programs that aim to promote diversity and attract the best talent | In 2017, almost 200 locations took part in the 4th global Bosch Diversity Day “Impulse”, a new communication initiative on the topic of diversity, was launched at 200 locations Some 2,700 Bosch associates attended workshops on “unconscious bias” |
| | | RBg associate network The Bosch associate network is committed to promoting acceptance of lesbian, gay, bisexual, and transgender (LGBT) people | Some 300 members in ten countries are working to making the LGBT community more visible at the company In 2017, the LGBT Allies Network was launched: more than 100 Bosch associates from different divisions are committed to showing support for LGBT issues, both internally and externally |
| | | The “Chefsache” initiative In a network with well-known German companies and organizations, Bosch launched the “Chefsache” initiative, which aims to support women in management positions | 15,000 participants took part in 50 events, where they helped shape the initiative with mentoring programs, networks, seminars, and training sessions |

| Principle | Targets/Basic principles | Actions | Results |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Labor standards</p> <p>Principle 3: Uphold freedom of association</p> <p>Principle 4: Elimination of all forms of forced and compulsory labor</p> <p>Principle 5: Abolition of child labor</p> <p>Principle 6: Elimination of discrimination</p> | <p>Corporate target 20 percent share of women executives by 2020</p> <p>Basic principles Basic principles of social responsibility at Bosch</p> <p>Bosch Human Resources System</p> <p>“We are Bosch” mission statement</p> <p>“We LEAD Bosch” management</p> <p>Charta der Vielfalt (Diversity Charter)</p> <p>Guidelines for a flexible and family-friendly work culture</p> | <p>Associate aid network In 1990, Bosch associates founded the “Primavera e.V.” aid initiative, which aims to provide disadvantaged children from the world’s poorer regions with better access to education and training</p> | <p>1,170 members supported the Primavera e.V. initiative by volunteering on aid projects in many parts of the world</p> <p>In 2017, donations amounted to almost one million euros. Since the initiative was founded, more than 9.5 million euros have been donated</p> |
| | | <p>Integration of refugees With a broad range of initiatives and measures, Bosch is committed to supporting refugees. Among other things, the company takes part in the German “Wir zusammen” initiative</p> | <p>Bosch associates collected some 400,000 euros for refugees in 2015. The company doubled the amount to 820,000 euros</p> <p>In 2016 and 2017, more than 100 projects received funding. The projects were selected by a committee of employer and employee representatives</p> |
| | | <p>International foundations Regional commitment through Bosch Group foundations in Brazil, China, India, and the United States</p> | <p>In 2017, the Bosch Group spent a total of 24.6 million euros on charitable initiatives. Of this amount, the foundations supported projects with 8.7 million euros</p> |
| | | <p>Dual education Bosch occupational training model in more than 20 countries around the world</p> | <p>Around the world, Bosch is training some 7,300 young people, 2,600 of them located outside Germany. Moreover, Bosch spent 14 million euros to create additional apprenticeships in Italy, Portugal, and Spain, with the aim of fighting youth unemployment</p> |
| | | <p>A flexible work culture Bosch has global guidelines for a flexible and family-friendly work culture</p> | <p>More than 100 working-time models across hierarchical levels; from part-time work to telecommuting and job-sharing models</p> |
| | | <p>OHSAS 18001 Certification of Bosch locations based on the international occupational safety standard</p> | <p>Occupational safety measures were introduced at all manufacturing sites and major engineering locations. Until now, 126 locations have received external certification. This represents a share of 44 percent</p> <p>In 2017, the number of accidents per million hours worked was reduced to 2.3 (a 66 percent decrease over 2007)</p> |
| | | <p>Promoting continuous improvement Bosch relies on the company suggestion scheme</p> | <p>In Germany alone, some 25,000 associates made suggestions for improvement, which were honored with cash rewards totaling 6.4 million euros</p> |
| | | <p>Internationality Bosch seizes the opportunities of its diversity, pools intercultural knowledge, and ensures that it is passed on</p> | <p>Active participation in the afric@bosch, For Bosch abroad, Türkisches Forum Bosch, and chinese@bosch associate networks</p> |
| | | <p>Generations Bosch promotes cross-generational co-operation through lifelong learning, health management, and knowledge transfer</p> | <p>In 2017, some 1,600 senior experts and a cross-generational tandem exchange project ensured knowledge sharing across generations for all associates</p> |
| | | <p>Integration of people with disabilities Bosch increases its innovative strength by focusing on the unique abilities of its associates rather than on their limitations</p> | <p>At German locations, there are representatives for associates with severe disabilities. Moreover, Bosch cooperates with sheltered workshops and is active in a German working group for workshops employing people with disabilities</p> |

| Principle | Targets/Basic principles | Actions | Results |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental protection Principle 7: Precautionary environmental protection Principle 8: Initiatives to promote greater environmental responsibility Principle 9: Development and distribution of environmentally friendly technologies | Corporate target 35 percent reduction of relative CO ₂ emissions by 2020 over the 2007 reference year In 2018: two percent reduction of relative waste volumes and water consumption over the previous year Basic principles Guidelines for occupational safety and environmental protection Bosch Product Engineering System Bosch Production System Design for Environment (DfE) “We are Bosch” mission statement | CO₂ reduction Global reduction of CO ₂ at all manufacturing and larger development locations | CO ₂ emissions relative to value added reduced by 32.8 percent over the 2007 reference year CDP reporting on greenhouse gas emissions earned a grade of “A-” in 2017 |
| | | Sustainable products Investments in the further development of sustainable products | 5,812 patents filed around the world Almost 54 percent of R&D expenditure went into the development of sustainable products* The environment/safety portfolio accounted for almost 41 percent of group sales* |
| | | Waste volume and water consumption Reduced waste volume and water consumption at Bosch locations | Reduced relative volumes of waste by 2.7 percent and relative water consumption by 6.5 percent over the previous year CDP reporting on water consumption |
| | | ISO 14001 Bosch locations certified in accordance with the international environmental standard ISO 50001 Energy management systems introduced | Environmental management systems have been introduced at all manufacturing sites and major engineering locations; until now, 221 have received external certification. This represents a 76 percent share Energy management systems have been implemented and certified at 54 manufacturing sites (19 percent). A Bosch-wide energy and CO ₂ monitoring program is in place at all manufacturing sites and major engineering locations |
| The fight against corruption Principle 10: Work against corruption | Basic principles Code of Business Conduct “We are Bosch” mission statement Member of Transparency International e. V. (since 1995) Member of the Forum for Compliance & Integrity (since 2007) | Business partner check A new IT tool was implemented to assess whether business partners observe compliance guidelines | Compliance lists are used to assess the activities of customers and suppliers. In the event of breaches of compliance, a special evaluation process is carried out |
| | | Anti-corruption risk analysis Conducted around the world in 2017 | The overall results did not reveal any major risks for Bosch; wherever necessary, appropriate measures were defined and initiated |
| | | Compliance training In-house training program Whistleblower portal Compliance hotline Anyone – associates (including interns and PhD students), external parties (such as temps or employees of external service providers), or business partners (including suppliers, customers, or cooperation partners) can report breaches of compliance (observance of laws and internal regulations relating to business activities). If desired, they can even do so anonymously | The mandatory compliance training program includes sessions on the Code of Business Conduct, product safety and liability, anti-trust laws, and export controls, as well as the product development code. In 2017, 261,057 associates took part in the program First published in 2008, the Code of Conduct was fully revised in 2017 |

* excluding BSH Hausgeräte

Further key principles for sustainable activities in the Bosch Group: in 2010, an office, expert and steering committee were founded. Since then, these bodies have been responsible for the effective implementation of all of the Group’s sustainability-related activities.

Scope of reporting: the scope of the information is indicated in the texts, key figures, and targets. This report presents a summary of the Bosch Group’s current sustainability-related activities across sectors and divisions. It therefore serves as a progress report as part of the group’s membership of the UN Global Compact.

Reporting period: January 2017 to spring 2018. The cut-off date for key figures is December 31, 2017. The editorial deadline was March 1, 2018.

Memberships (examples): B.A.U.M. (1990), Transparency International (1995), econsense (2000, founding member), United Nations Global Compact (2004), Global Reporting Initiative (2006, GOLD Community member), Forum Compliance & Integrity (2007).

Other sustainability reports: WIN-Charta Baden-Wuerttemberg (2017), German Sustainability Code (2017), orientation to GRI standards (2016).

Legal Notice

Published by

Robert Bosch GmbH
Postfach 10 60 50
70049 Stuttgart
Germany
Phone: +49 711 811-0

Corporate Communications and Brand Management (C/CC)

Senior Vice-President:
Dr. Christoph Zemelka

Corporate Health, Safety, Environmental and Fire Protection as well as Sustainability (C/PS)

Vice-President: Torsten Kallweit

Contact

Head Sustainability Office
Bernhard Schwager
bernhard.schwager@de.bosch.com
Phone: +49 711 811-6402

Project team

Annkathrin Ernst,
Sven Kahn, Kyra Meckel,
Bernhard Schwager

Realization

Ketchum Pleon GmbH, Düsseldorf

Picture credits

All rights rest with Bosch except p. 1
borchee/istockphoto.com (2), ©Bosch/
www.offenblen.de (3), Theo Marques (5);
p. 2 Thomas Trutschel (1); p. 7 Vereinte
Nationen; p. 8 borchee/istockphoto.com;
p. 13 ©Bosch/www.offenblen.de; p. 18
Theo Marques; p. 20 Charta der Vielfalt (1),
Aarre Rinne/istockphoto.com (3)

Additional information on the company and sustainability at Bosch is available at:

[bosch.com](https://www.bosch.com)
sustainability.bosch.com
sustainabilityblog.bosch.com
bosch.link/sustainability-report

Robert Bosch GmbH

Postfach 10 60 50
70049 Stuttgart
Germany
www.bosch.com

