



ABB Group
Sustainability Performance Report 2015
Creating value through collaboration



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While this report provides certain information with respect to ABB products, services, technologies and standards of conduct, its contents must not be construed as constituting an expressed or implied warranty or representation.

ABB in summary

ABB is a pioneering technology leader in the fields of power and automation. We help our customers address the challenges of changing markets, technologies and regulations.

We deliver solutions that raise productivity and reduce environmental impacts for utilities, industry, transport and infrastructure.

Sustainability considerations cover how we design and manufacture products, what we offer customers, how we engage suppliers, how we assess risks and opportunities, and how we behave in the communities where we operate and towards one another, while striving to ensure the health, safety and security of our employees, contractors and others affected by our activities.

We build long-lasting, value-creating partnerships with customers, suppliers, business partners, employees and the communities in which we operate.

Our portfolio ranges from switches to industrial robots to engineering and expert service, from transmission and distribution networks to software that manages entire factories.

Our sustainability performance reporting is guided by the Global Reporting Initiative's (GRI) G4 Guidelines. A summary table of numerical performance indicators is included. The independent assurance provider DNV GL has provided assurance of selected indicators and reviewed key data and claims in the report. Its [assurance statement](#) appears on p. 58 of this report.



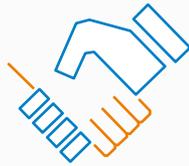
\$ 1.4
billion
invested in R&D in 2015



135,000
employees

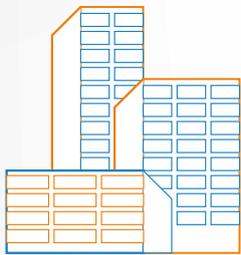
490
TWh energy saved
by ABB drives

5,600
training sessions
during global
safety week



\$ 36.4
billion
orders
in 2015

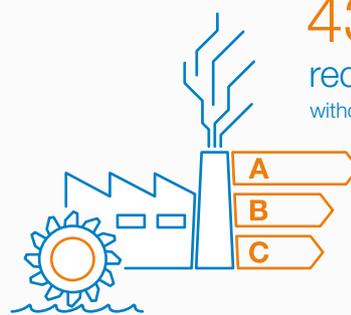
50%
of revenues
related to energy efficiency
and renewable energy



1 company helping
to create the future



700
community projects
and charities
supported in 2015



430,000 m³
reduction in water
withdrawals in 2015

9%
reduction in GHG
emissions (Scope 1 + 2)

19
awards
for good corporate
citizenship worldwide



415+
locations
certified to ISO 14001
and OHSAS 18001

777
in-depth supplier
sustainability assessments
since 2010



97%
of employees trained
on anti-bribery principles 2014-2015

3,200+
critical suppliers trained
since 2011

Proven technologies for the vital issues of our time



World leaders reached several crucial global agreements in 2015 designed to safeguard the sustainable development of the planet. ABB is already contributing towards achieving some of the core goals of the Paris climate conference and the Sustainable Development Goals, and we will do more because they are vital to our future.

These global agreements highlight the major environmental and social challenges we face, and provide a clear signpost to the future.

Attending the Paris conference, I made it clear that proven technologies and solutions already exist to improve energy efficiency and to enable the scale-up of renewable energy, both of which help to mitigate greenhouse gas emissions. To support these efforts, we still need more robust and consistent political and regulatory frameworks.

ABB's greatest contribution to the reduction of greenhouse gas emissions has been and will be through our energy-efficient and renewable energy products, systems and services that increase our customers' productivity while lowering the impact on the environment.

Take energy-efficient motors as an example of the difference we can make. Tens of millions of electric motors operate machines, fans, compressors and pumps worldwide, consuming about 28 percent of all electricity, and yet only around 10 percent of these motors are equipped with drives which would allow them to adjust their speed and operate more efficiently, reducing power consumption, emissions and costs.

ABB's variable speed drives produce energy savings in motors of 20-50 percent with relatively quick pay-back time, and our installed base saves about 490 terawatt-hours of electricity annually or the consumption of 120 million European Union households.

This is low-hanging fruit with the technology available now; if supported by the global introduction of common and stringent Minimum Energy Performance Standards, covering the energy efficiency of all products, global energy consumption could be cut by 9 percent, according to a study by the European Commission.

Our collaboration over the past year in the United Nations Sustainable Energy for All initiative – where we are inputting advice on energy-efficient motors and distribution transformers – highlights our desire to see lower emissions and new performance standards.

On the supply side, ABB is a global leader in supporting the generation and transmission of energy from renewable sources. Renewables form an increasing share of the energy mix and, in some countries, make an important contribution to meeting ambitious carbon reduction targets.

But expanding wind and solar power generation capacity is not sufficient on its own. To ensure the reliability of energy supply, the growth of renewable generation must go hand-in-hand with investment in technology to integrate their valuable, but intermittent, output into the grid.

ABB has continued to make advances in the high-voltage direct current technology we pioneered 60 years ago so that massive amounts of clean energy – produced by solar, wind or hydro generation - can be transmitted over long distances with minimal losses.

The ability to ensure reliable integration of renewables into the grid was reflected in key orders in 2015. In China, for example, we won orders for two ultrahigh-voltage links, both able to transmit 8,000 megawatts of wind and solar power, which will meet the electricity needs of 26 million people. And in India, we energized the first phase of an electricity “superhighway” supplying clean hydro-electric power from the Himalayas to Agra, which will serve some 90 million people.

We also see opportunities for greater deployment of low-carbon microgrids to bring clean energy – generated by solar or wind - to millions of people in remote communities, particularly in Africa and South Asia, who have no access to electricity. We know from our existing projects how distributed energy solutions can lead at the community level to economic progress, improvements to health and education, and better management of the local environment.

The deployment of such technologies support the aims both of the Paris Agreement and of some core elements of the Sustainable Development Goals. For example, ABB is delivering solutions to ensure access to affordable, reliable, sustainable and modern energy for all (Goal 7) through our innovative products and systems which focus on energy efficiency, renewable energy, and sustainable transport and infrastructure development.

As already mentioned we are focusing through our business on efforts to mitigate climate change (Goal 13). We are similarly well positioned to help build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation (Goal 9). This is also part of our core business. Our community programs, concentrating on health and education, are already supporting two of the other main goals.

These efforts are also a reflection of our sustainability objectives, introduced in 2014 in full alignment with our Next Level corporate strategy. We are targeting greater energy and resource efficiency, and societal benefits through our business activities and community programs. We review our contributions and progress later in this report.

We also face challenges in different parts of the sustainability agenda. We have seen ongoing improvement in health and safety performance as a result of a sustained Group-wide campaign. But the results are still not good enough, and we

“We are focusing through our business on efforts to mitigate climate change. We are also well positioned to help build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.”

must continue to work towards a zero target of injuries and fatalities. We also face social challenges – attracting, developing and retaining top people, ensuring that our operations benefit and do not detract from the welfare of communities, and safeguarding our people and assets in a volatile world.

Collaboration is key to these efforts. We need the support of our stakeholders – customers, investors and governments, as well as our own employees and representatives of civil society – to meet the great challenges we all face. The business and sustainability agendas have never been more closely inter-linked. The success of one is unthinkable without the other.

Within ABB I often speak of the need to work and move forward together. The international agreements reached this year, as well as the crises we have faced around the globe, have highlighted the need for broader, innovative thinking and collaboration to meet the increasing challenges to society and our environment.



Ulrich Spiesshofer
CEO

Progress and challenges

The most frequent questions we receive from our stakeholders are: How is ABB contributing to a better world? How is the company advancing towards achieving its [Group Sustainability Objectives](#) 2014-2020 and what are the main challenges we face?

This report looks at those issues in some detail. In brief, our contributions to mitigating climate change and enhancing societal progress take different forms; advances were made in several areas in 2015 in implementing our objectives, and we continued to face a number of diverse challenges.

Our nine Group-wide sustainability objectives are designed to ensure we reach our goal by 2020 of being recognized as a leading contributor to a more sustainable world through our business offering and sustainable business practices. The objectives cover areas such as our products, systems and services, climate change, resource efficiency, integrity, sourcing, safety and security, and our role as an employer and in society.

All of these issues have a direct or indirect impact on ABB's business success, and considerable work is ongoing to set and reach targets as we head towards 2020.

Our stakeholders, internal and external, re-affirmed in 2015 that the goals we have set ourselves are the right ones and material to ABB's business, while offering additional advice on the challenges we face.

How we contribute

The objectives acknowledge that we can contribute further to improving the environmental and social conditions in which we live. Our prime contribution towards mitigating climate change is to provide our customers with energy-efficient products, systems and solutions which lower energy consumption and cut emissions.

However, the benefits do not stop with the customer – they translate into wider benefits for society.

As an example, in 2015 ABB energized the first pole of the North-East Agra ultrahigh-voltage direct current transmission link which will supply power from north-eastern India to a substation in Agra, and from there, feed it across north India. When fully commissioned in 2016, the link will be capable of transmitting enough electricity to serve around 90 million people, based on average national consumption. A reliable energy supply leads to economic growth, and improved social services in health care, education and housing.

Our commitment to research and development, with spending of \$1.4 billion (4 percent of revenues) in 2015, strengthens our

ability to deliver energy-efficient technology to such projects and meet the needs of a rapidly changing world.

We contribute to societal progress in different ways: through the wealth and jobs we create, the taxes we pay governments, our presence in communities where we stimulate trade and employment, through the way in which we work with and train stakeholders such as suppliers and employees, and through our community programs and projects which target improvements to education and health.

Our sustainability objectives highlighting responsible sourcing, safe and secure operations, and strengthening our role in the community, underpin these contributions to social progress.

Progress on objectives

ABB made progress on implementing the objectives in 2015, and these are highlighted in the [dashboard](#) later in this report.

In the objective related to expanding revenues from our “eco-efficient” portfolio of products, systems and solutions, revenues in 2015 remained around 50 percent of total earnings. This can be seen against the background of an overall decline in revenues for the full-year. One of the key areas of work was to update the way in which we define our “eco-efficient” portfolio, strengthening the criteria and expanding its scope for introduction in 2016.

As far as our own performance is concerned, absolute energy consumption has now dropped by 6.8 percent since 2013. There was a further 4 percent reduction in water withdrawals and a total of 20 percent of waste was sent for final disposal.

Improving the safety of our [employees and contractors](#) is a top priority at ABB but is also one of our most pressing challenges. We strive for zero incidents throughout our operations. Unfortunately in 2015, ABB recorded the deaths of two contractors.

In addition to the safety programs and training under way globally, ABB has set leading indicators as we target a change of culture on safety. In 2015, employees completed 139,000 site observation tours to improve safety compliance in offices, factories and customers sites - on track to meet the 2020 target of 180,000 such tours. The rate of hazard reporting has already outstripped the 2020 target.

Despite the incidents which still occur, there was an underlying improvement in most safety performance areas in 2015. The number of serious injuries dropped by 36 percent compared to 2014, the total recordable incident frequency rate was down by 10 percent; and the lost time incident frequency

rate was down from 4.34 per 200,000 hours worked to a rate of 3.55 in 2015.

As part of the drive to strengthen our safety culture, performance against leading indicators, including the reporting of hazards and the number of site observation tours, are not only part of the Group sustainability objectives but also feature in the Group scorecard which determines bonus levels.

Safety and integrity are the leading value pair within ABB, and further progress was also reported in integrity training and communication. A total of 97 percent of employees had completed the latest round of anti-bribery and integrity training by year-end 2015.

We have also stepped up efforts to meet our supply chain target of ensuring we understand and manage environmental and social risks in our global sourcing operations. The [Supplier Sustainability Development Program](#) to assess and train suppliers and build assessment capacity in ABB expanded further in 2015. The scope of the program was extended in south-east Asia and eastern Europe, and further risks were assessed and mitigated.

More detail on our performance and programs, as well as our approach to the sustainability agenda, can be accessed throughout this report.

Challenges

While progress continues to be made in many areas, we still face challenges.

ABB is in a period of change, having launched the second stage of our Next Level strategy in 2015 to accelerate the transformation of the company and enable us to better address the needs of our customers. Key measures such as a divisional realignment and the reduction of five divisions to four, took effect at the start of 2016 with the aim of delivering additional customer value from our unique power and automation offering.

One of the key elements of the transformation is our white-collar productivity program which is aimed at making the company leaner, faster and more customer focused. In any such process, new measures have to be put in place to chart the way forward and provide employees with strong guidance and support so they can continue to give their best.

Considerable work was undertaken in 2015 to prepare the way for [improved ways of working](#). These efforts are ongoing, and they are being complemented by programs to increase diversity, which focus primarily on gender issues, and ensure that we retain our ability to attract, develop and retain

employees. Both of these issues are key to business success in an increasingly competitive, globalized market.

We face other challenges: how to ensure the safety and security of our people in an increasingly volatile world. To consolidate the safety improvements made in 2015, we are seeking to strengthen business line manager responsibility and accountability, carry out further widespread training and improve the auditing of sites; similarly, additional security assessments and training are also of paramount importance.

How we manage our risks is an area of constant focus. While considerable work continues on managing environmental and social risks at our suppliers, we face an obvious challenge of scale since we have some 70,000 direct material and project service suppliers. This is why the focus of our Supplier Sustainability Development Program has been on potentially high-risk suppliers in high-risk countries.

We have not seen incidents of child or forced labor in recent years or other egregious forms of human rights abuse. But, as the chapter in this report on [Responsible Sourcing](#) shows, there are many other areas of non-compliance with national law and/or the standards we set out in the ABB Supplier Code of Conduct. Considerable efforts are ongoing to make sure that, once problems are identified, our suppliers introduce the changes we require under the corrective action plans we agree with them.

There are other areas where we are seeking to improve results: the objective to decrease energy intensity per dollar of sales by 20 percent by 2020 will see further efforts to drive energy efficiency at our own sites; our work to increase understanding and management of human rights risks has been ongoing for several years – well before the 2011 adoption of the United Nations Guiding Principles on Business and Human Rights – but can be stepped up; and we will make further efforts to reduce water consumption and waste sent for final disposal from our sites.

Sometimes these efforts are affected by the need to prioritize activities or a lack of capacity. For example, to free up more time for direct engagement with stakeholders such as investors, we chose not to participate in the Dow Jones Sustainability Index questionnaire in 2015, having been ranked as an industry leader for 14 of the past 15 years.

Overall, ABB remains committed to delivering on all of our Group sustainability objectives by 2020. The objectives are aligned with the goals of our corporate Next Level strategy, and are part of our ability to deliver sustainable business success and contribute to environmental and societal improvement.

Performance against targets 2015

Products and services

Ambition and Targets	Status	Main Activities, Achievements and Challenges 2015	Priorities 2016
<p>Ambition 2020: ABB is a world leading supplier of innovative, safe and resource efficient products, systems and services that help customers increase productivity while lowering environmental impact</p> <p>Targets: 20% revenue increase from energy efficiency-related products, systems and services</p> <p>Qualitative assessment of technology contribution to environment, profit, and society</p> <p>Number of R&D engineers trained in HSE Checklist</p>	<p>🔄</p> <p>🔄</p>	<p>50% of ABB revenues relate to energy efficiency and renewable energy in 2015, (51% in 2014)</p> <p>Updated “eco-efficiency” portfolio methodology for 2016, strengthening criteria and expanding scope</p> <p>Innovations and achievements in 2015: see page 22</p> <p>Updated material selection guidelines and health, safety and environment (HSE) Checklist for research & development (R&D) to strengthen “design for environment” principles</p> <p>Trained 139 R&D engineers to use HSE Checklist and material selection guidelines</p> <p>Established sustainability network for global research centers to share good practices and achievements related to sustainability objectives</p> <p>Challenges to define eco-efficiency portfolio and assess technology contribution:</p> <ul style="list-style-type: none"> – Very heterogeneous Group product portfolio with unique energy efficiency / productivity aspects – challenging to find one common denominator to serve them all – No established industry standard / guideline for sustainability product portfolios 	<p>Grow sales of best-in-class products, systems and service offerings that help customers cut energy use and reduce environmental impact</p> <p>Ensure that ABB’s HSE Checklist is applied in the development of products and systems</p>

Integrity

Ambition and Targets	Status	Main Activities, Achievements and Challenges 2015	Priorities 2016
<p>Ambition 2020: ABB recognized as one of the world’s most ethical companies by customers, suppliers, investors and employees</p> <p>Targets: 100% of employees trained on integrity issues and processes</p> <p>Monitoring of reporting channels, investigations, remediation and survey results</p> <p>Proactive & regular communication</p>	<p>➔</p> <p>➔</p> <p>➔</p>	<p>97% completion rate of anti-bribery training and of integrity e-learning</p> <p>Updated anti-bribery training material, with next campaign launched in 2016</p> <p>Released new set of hotline posters promoting hotline reporting</p> <p>Piloted new, global pre-approval tool for gifts, entertainment and expenses to improve transparency and review of the process. For roll-out in 2016</p>	<p>Continue to foster a culture of integrity through proactive integrity training and communication; launch updated anti-bribery training campaign in first half of 2016</p> <p>Roll out new cloud-based global pre-approval tool for gifts, entertainment and expenses</p> <p>Implement and promote the Don’t Look the Other Way initiative to increase transparency and reporting of potential concern</p>

✔ Achieved
 ➔ On track
 🔄 In process
 ✘ Not on track

People and society

Ambition and Targets	Status	Main Activities, Achievements and Challenges 2015	Priorities 2016
<p>Ambition 2020: ABB attracts, retains and develops dedicated and skilled people from diverse backgrounds, and engages with a wide range of stakeholders, including communities, to maximize benefits for our business and society</p> <p>Targets: Employee engagement score</p> <p>ABB community engagement tool implemented in major ABB countries</p>	<p>🔄</p> <p>➔</p>	<p>Defined capability management and workforce planning process. Ran pilot successfully in one division, setting stage for Group-wide roll-out in 2016</p> <p>Finalized new Competency Model</p> <p>Completed Next Level organization roll-out</p> <p>Launched White Collar Productivity program covering business and support functions</p> <p>Defined and finalized more rigorous people review sessions and succession planning process</p> <p>Rolled out new scorecard process to strengthen performance orientation</p> <p>48 of 66 countries reporting on social activities supported community projects and reported on them in community engagement tool. Level of reporting has remained static</p> <p>Challenge: Ensuring take-up through all parts of business</p>	<p>Implement the capability and workforce planning process across all divisions</p> <p>Embed new Competency Model in key Human Resources processes</p> <p>Implement White Collar Productivity program, setting up shared services centers and Centers of Expertise</p> <p>Improve learning and development offerings to reflect new competency model</p> <p>Bottom-up people review sessions, leading to clearly articulated succession plans, particularly for mission-critical roles</p>

Human rights

Ambition and Targets	Status	Main Activities, Achievements and Challenges 2015	Priorities 2016
<p>Ambition 2020: Human rights issues are well understood and managed in all ABB operations along the value chain</p> <p>Targets: Network of sustainability employees trained on human rights by 2016</p> <p>600 managers trained by end of 2016</p>	<p>✅</p> <p>➔</p>	<p>Held four more two-part training courses to build required capacity for human rights network</p> <p>Held two meetings of network, following inaugural session at end of 2014</p> <p>Carried out due diligence on several potential projects in Europe, south-east Asia and South America</p> <p>Limited progress with awareness-raising training due to time restrictions for face-to-face courses</p> <p>Rolled out e-learning; limited uptake leading to further marketing efforts in 2016</p> <p>510 managers trained by end of 2015</p>	<p>Consolidate human rights network so that target is achieved in 2016</p> <p>Develop roadmap for further progress towards the goal for 2020, including the introduction of country human rights impact assessments</p> <p>Build capacity within the company so that international human rights standards are better understood and can be applied to ABB operations</p>

✅ Achieved
 ➔ On track
 🔄 In process
 ❌ Not on track

Safe and secure operations

Ambition and Targets	Status	Main Activities, Achievements and Challenges 2015	Priorities 2016
<p>Ambition 2020: Safety is a core value. All ABB operations have an excellent health, safety and security culture embedded in their day-to-day business, targeting zero incidents</p> <p>Targets: Safety Observation Tour (SOT) rate = 1.2 per employee, run rate 180,000</p> <p>Hazard reporting rate = 2 per employee, run rate 300,000</p> <p>>95% certified Health and Safety Management Systems</p>	<p>→</p> <p>→</p> <p>→</p>	<p>Conducted more than 139,000 SOTs, at a rate of 0.92 per employee</p> <p>Reported more than 520,000 hazards, at a rate of 3.51 per employee</p> <p>Total recordable incident rate for employees declined by 10% from 2014 and by more than 30% since 2011</p> <p>Developed and piloted safety master-classes, to be rolled out across Group in 2016</p> <p>Implemented new Lessons Learned assurance process, requiring review and action by each local business unit manager</p> <p>Developed internal audit HSE protocol, trained internal auditors and conducted audits in all divisions and all regions</p> <p>Certified OHS management system at 421 of 602 reporting locations (70%)</p> <p>Held 22 face-to-face country management crisis training courses. Additional sessions held on physical and personal security, travel and project security, workplace violence, extortion awareness</p>	<p>Roll out safety master-classes: Promote leadership and accountabilities through training and coaching for managers</p> <p>Reinforce accountability on roles and responsibilities for managing HSE-related issues and activities</p> <p>Continue and develop internal audit program, expand scope and extend application</p> <p>Continue to improve business resilience through crisis management trainings</p> <p>Conduct trainings on project security best practice</p> <p>Further global training on crisis management and project security</p> <p>Introduction of updated travel advisory and mapping service</p>

Responsible sourcing

Ambition and Targets	Status	Main Activities, Achievements and Challenges 2015	Priorities 2016
<p>Ambition 2020: Social and environmental risks and impacts of sourcing practices are well understood and managed</p> <p>Targets: Number of suppliers assessed (internal / by third party)</p> <p>Total number of risks identified</p> <p>Total number of risks mitigated</p>	<p>↻</p> <p>↻</p> <p>↻</p>	<p>421 suppliers trained. Training scope expanded to Indonesia, Thailand and Vietnam. Supplier Sustainability Development Program launched in Poland</p> <p>Trained further 259 ABB people in responsible sourcing. New lead assessor certifications for ABB employees in Brazil, China and India</p> <p>Assessed 441 risks; mitigated 311 risks</p> <p>Formally assessed 179 suppliers, another 22 suppliers reassessed</p> <p>Updated assessment protocol to include root cause analysis, and conducted trainings</p> <p>Developed and piloted ABB Training and Development Program for Factory Working Hours with selected suppliers</p> <p>Developed and started roll-out of new supplier qualification and classification process</p>	<p>Global implementation of the new processes for supplier qualification and classification</p> <p>Global roll-out of new SCM Supplier Relationship Management system (Pro-Supply)</p> <p>Establish baseline status of targeted supplier types/countries, to enable development of quantitative targets</p> <p>Intensify continuous improvement efforts to mitigate risk of sourcing Conflict Minerals</p>

✓ Achieved
 → On track
 ↻ In process
 ✗ Not on track

Energy efficiency and climate change

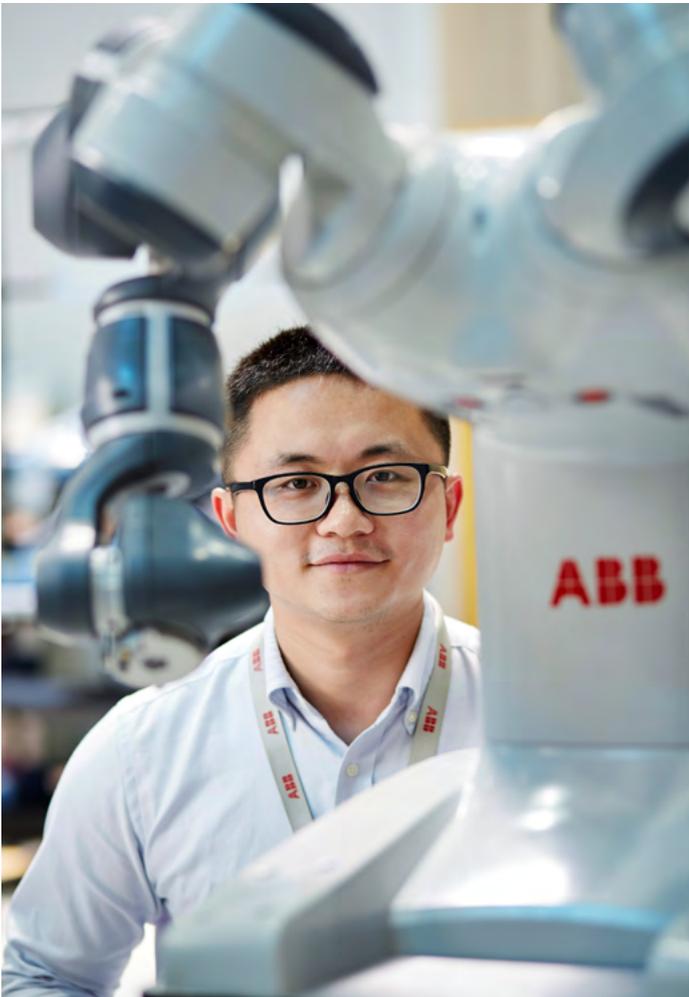
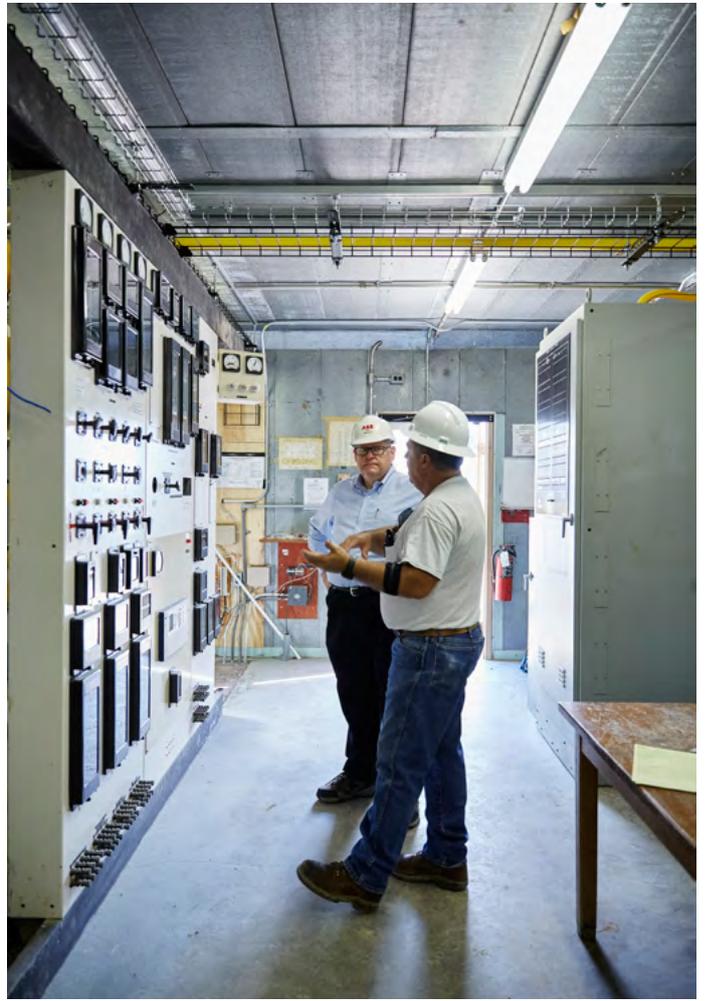
Ambition and Targets	Status	Main Activities, Achievements and Challenges 2015	Priorities 2016
<p>Ambition 2020: ABB is an industry leader in energy efficiency, use of low-carbon fuels and renewable energy. We cut greenhouse gas (GHG) emissions</p> <p>Targets: 20% decrease in energy intensity per \$ sales from 2013 (megawatt hours/million \$ sales)</p>	✘	<p>Absolute energy consumption reduced by 6.8% (190 GWh) from 2013 baseline</p> <p>Energy intensity increased by 10% from 2013 baseline; energy saving activities overtaken by decline in revenues and lower capacity utilization in some areas</p> <p>195 energy saving projects underway at ABB sites</p> <p>88 sites with formal energy management systems, with 47 certified to ISO 50001 or EN 16247</p> <p>Energy audits conducted at 71 ABB facilities</p> <p>71 GWh (4.4%) of electricity from renewable sources</p> <p>GHG emissions decreased by 8.8%, mainly due to decreased SF₆ emissions</p>	<p>Drive energy efficiency efforts at sites</p> <p>Increase use of low-carbon fuels and renewable energy</p> <p>Control and reduce emissions of SF₆</p>

Resource efficiency

Ambition and Targets	Status	Main Activities, Achievements and Challenges 2015	Priorities 2016
<p>Ambition 2020: Materials and water use is optimized. Facilities in very scarce, scarce and water stressed areas to reduce water use. We target zero waste</p> <p>Targets: Cut water consumption by 25% in water scarce/water stressed areas</p> <p>Reduce waste sent for final disposal by 20%</p>	 	<p>Updated facility mapping according to watershed, using updated Global Water Tool; 64 sites in water stressed watersheds selected for water use reduction program</p> <p>4% reduction in water withdrawals; 5.2 million m³ of water saved through recycling and reuse</p> <p>20% of waste sent for final disposal, down from 21% in 2014; total generation of waste was essentially unchanged</p> <p>90 waste reduction or recycling projects under way</p>	<p>All sites to analyze sources of waste and identify areas where generation of waste can be reduced</p> <p>All sites to establish a plan with milestones to increase share of waste reused or recycled</p> <p>Sites in very scarce, scarce, and water stressed areas to measure, analyze and establish a plan with milestones to reduce use of water</p>

Right materials

Ambition and Targets	Status	Main Activities, Achievements and Challenges 2015	Priorities 2016
<p>Ambition 2020: We aim for materials that are sustainable. Hazardous substances are used in closed loops or not at all</p> <p>Targets: Reduce amount and type of hazardous substance used/emitted</p> <p>EU REACH compliance</p>	 	<p>Updated prohibited and restricted substances list in line with regulations in ABB's main markets</p> <p>Further developed internal REACH experts network; conducted 13 training sessions on different aspects of REACH regulation</p> <p>24 projects under way to reduce hazardous substances</p> <p>Conducted workshops with Supply Chain Management personnel on material compliance</p> <p>Conflict minerals:</p> <ul style="list-style-type: none"> — Completed product applicability assessment in each division, covering large part of ABB product portfolio — Expanded training efforts for suppliers and ABB personnel — Engaged with Conflict-Free Sourcing Initiative, contributed funding for smelter audits 	<p>Ensure ABB products and manufacturing processes comply with "ABB List of Prohibited and Restricted Substances"</p> <p>Include legal requirements on material compliance (eg, EU REACH and RoHS) in local ISO 14001 management system</p> <p>Conduct training on material compliance and use of right materials</p>



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This is ABB

Shaping a global leader in power and automation

As a global leader in power and automation, we serve utility, industry, and transport and infrastructure customers in a combined market worth more than \$600 billion per year. In all three customer segments, our combined offering of power and automation provides a unique value proposition for customers as we provide solutions for secure, energy-efficient generation, transmission and distribution of electricity, and for increasing productivity in industrial, commercial and utility operations.

To enable us to deliver value for our customers and to provide sustainable, profitable growth for our shareholders, ABB interacts with a wide range of business partners along our value chain. We aim to build long-lasting partnerships to create shared value - with suppliers, customers, business partners, employees and the communities in which we operate.

Sustainability principles are embedded in our business values and ABB's Code of Conduct, which guide how we conduct our relationships with all stakeholders.

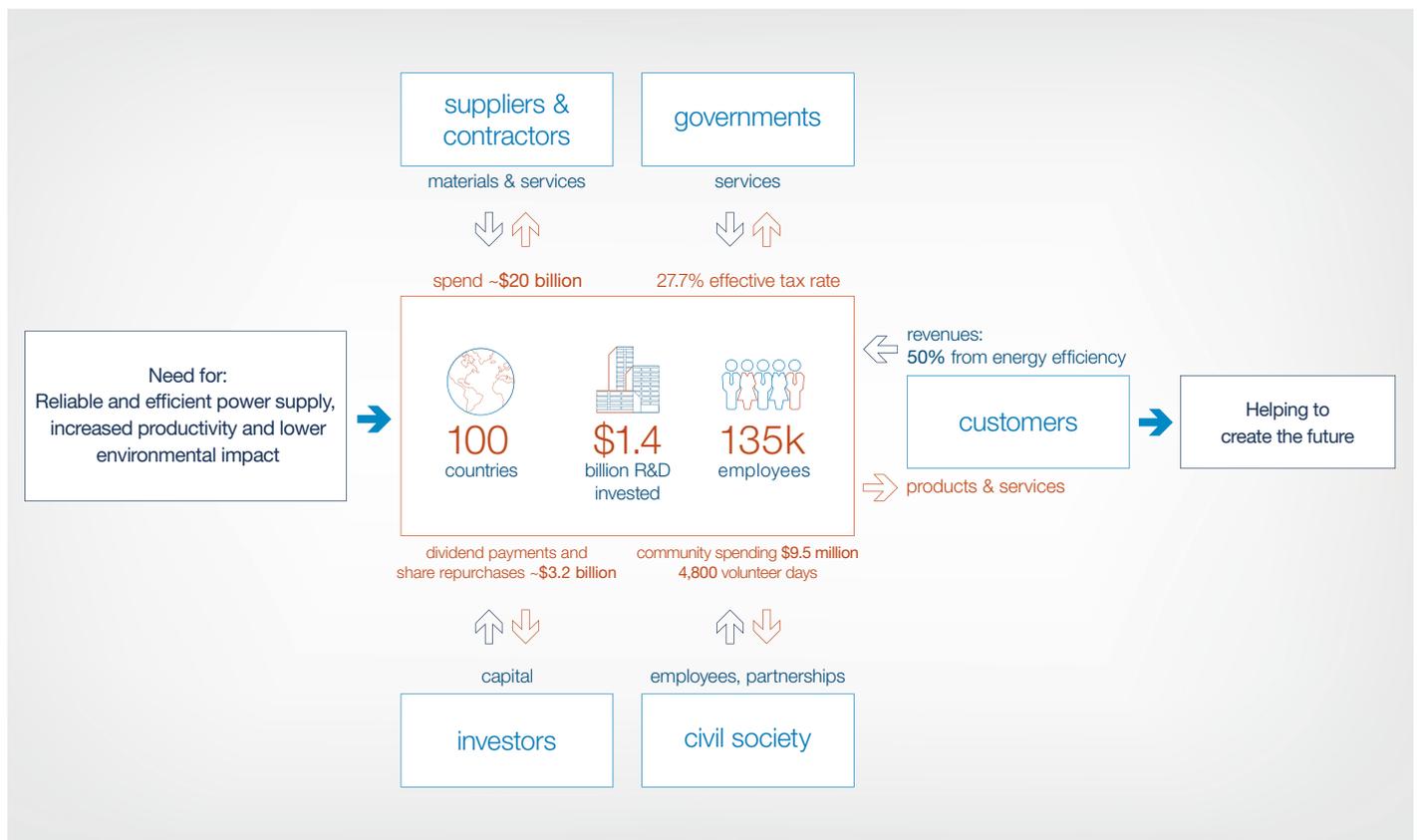
When we source the raw materials, components and services for our operations, our [strategy](#) is to partner with best-in-class suppliers who adhere to similar standards of quality, operational excellence, business ethics, and social and envi-

ronmental responsibility. ABB's Supplier Sustainability Development Program further supports performance improvement for selected suppliers, creating value for the suppliers, their employees and their local community.

When we design and manufacture products, our processes are designed to ensure appropriate consideration of legal, strategic, customer, environmental, and health and safety requirements. Dialogue with our customers, external experts in universities and other organizations, our suppliers and government authorities helps us to respond to our changing environment and to retain our innovative edge, helping to create value for our customers and society.

Governments provide the regulatory frameworks for our business, including the determination of corporate income and other taxes. These taxes are a significant source of funding for public services by government institutions worldwide. The planning of ABB's tax position reflects our corporate strategy and is consistent with applicable tax laws and international best practice guidelines such as the OECD Guidelines for Multinational Enterprises.

ABB value chain



Central to our ability to maintain technology leadership and create value is our need to attract, develop and retain the right people in the right jobs. Our interaction with different parts of society helps us to attract the best employees and secure our standing in the communities where we operate.

It is these relationships that help us to create mutual value and to contribute to a better world.

Next Level strategy

In 2014, we launched the Next Level strategy, designed to accelerate sustainable value creation. The strategy is built on the three focus areas of profitable growth, relentless execution and business-led collaboration.

We have been increasing profitable growth by strengthening our competitiveness, driving organic growth and lowering our risk profile, as well as launching new partnerships in different markets, such as data centers with Ericsson.

We promote relentless execution by continuing to deliver on our ongoing cost savings program and the Power Systems 'step-change' program. To increase operational performance, we have rolled out a new compensation model to better incentivize management performance, using both company and individual key performance indicators.

In the business-led collaboration focus area, we are increasing operational efficiency by improving processes and organizational structures. We have simplified the organization and set clear roles and responsibilities throughout the Group.

Our Next Level Stage 1 actions have laid a solid foundation for our future development amid a tough market environment.

In 2015 we announced Stage 2 of the Next Level strategy to accelerate the shift towards higher organic growth, greater competitiveness and lower risk, while accelerating existing improvement projects.

Profitable growth

Profitable growth continues to be a key focus area to accelerate sustainable value creation and is driven through the framework of penetration, innovation and expansion (PIE).

We continued to promote growth in 2015 through increased market penetration in targeted geographic and industry segments. For example, we have a pioneering track record in supporting the development of India's power infrastructure. We are also supporting the rapid urbanization in India through a range of initiatives including solar plants, microgrids and metro rail projects in fast growing cities.

Technology innovation remains a cornerstone of our competitive position and a key driver of profitable growth; we introduced several [ground-breaking offerings](#) in 2015. We also continue to focus on the opportunities brought by the Industrial Internet, the so-called "Internet of Things, Services and People" (IoTSP). More than 50 percent of our current portfolio is software-related.

Profitable growth is also being driven by expansion into new high-growth markets, such as microgrids and electric vehicle charging. We also plan to focus on value-creating acquisitions and partnerships to accelerate growth in attractive segments.

To better address customer needs and deliver operational efficiency, we realigned our organizational structure from the start of 2016. Our new streamlined structure is comprised of four operating divisions: Power Grids, Electrification Products, Discrete Automation and Motion, and Process Automation. More details can be found in the [ABB Group Annual Report 2015](#).

Relentless execution and business-led collaboration

In Stage 2 of the Next Level strategy, we aim to close the gap in our operating performance compared with our best-in-class peers. The goal is to further transform our company towards a leading operating model with business processes more focused on customer needs, and an enhanced performance management system, including compensation tied more closely to performance, as well as the development of a world class people and true performance culture.

Our white collar productivity program is aimed at making us leaner, faster and more customer-focused. Business functions, support functions and organizational complexity are in the scope of this program. Productivity improvements include the rapid expansion of regional shared services and the streamlining of global operations and head office functions, with business units moving closer to key markets.

The long-term demand outlook in our three major customer sectors - utilities, industry and transport and infrastructure - remains positive. Key drivers are the big shift in the electricity value chain, industrial productivity improvements through the IoTSP, as well as rapid urbanization and the need for energy efficiency in transport and infrastructure.

We believe we are well positioned to tap these opportunities for long-term profitable growth with our strong market presence, broad geographic and business scope, technology leadership and financial strength.

Trends influencing ABB



Power and automation, our core activities, are undergoing a transformation.

With the surge in demand for renewable energy, power grids are becoming increasingly complex. Wind and solar are unpredictable sources of power, and the proliferation of rooftop solar panels is turning millions of consumers into producers of electricity.

Furthermore, hundreds of millions of people are still without access to electricity, while the best sources of renewable energy – such as windy offshore sites, sunny deserts and steep valleys – are usually far from the cities and industries that use the power. In these conditions, new solutions are needed to improve the efficiency and reliability of the power supply that is so critical to the wellbeing of families and businesses alike.

In industry, the revolution in digital technology is opening up new possibilities to increase productivity. A new industrial era is beginning, in which machines are increasingly able to perceive their surroundings and interact with human beings, creating the Internet of Things, Services and People.

In the next stage, these developments will converge with advances in industrial artificial intelligence and machine learning. Machines will in future not only be able to perceive the world and communicate with each other but also to reason and make decisions, without the need for human intervention.

The grid of the future

Rising demand for renewable energy is transforming the power grid and driving a new wave of innovation in the generation and distribution of electricity.

The power sector is undergoing change on a scale not seen since the era of mass electrification began over a century ago. The old model of power flowing in one direction, from generating plant to consumer, is being turned upside down, as rooftop solar turns consumers into producers of electricity. At the same time, electricity is being transmitted over longer distances as offshore wind farms and remote solar plants are integrated into the grid.

Managing this complexity is only possible with new technologies. These technologies can prevent intermittent wind and solar power from disrupting the grid, can handle multi-directional flows of power, and can balance supply and demand. Innovative solutions are managing the flow of electrons. But increasingly they also have to manage the flow of data needed to control the whole system.

With its unrivalled knowledge of electrical energy and industrial automation, and an innovation track record stretching back over a century, ABB is ideally positioned to drive the digital grid. Our offerings cover the entire electrical value chain – from generation, transmission and distribution, to electric mobility. We are at the forefront of technologies such as high-voltage direct current, grid automation and smart grids, as well as energy-efficient motors, drives and industrial automation technologies.



Among ABB's latest power technologies are ultrahigh-voltage direct current transmission, which reduces losses by around 30 percent over long distances compared with conventional power lines, as well as microgrid solutions which incorporate renewables to electrify off-grid communities in places such as Africa and India, where hundreds of millions of people lack access to electricity.

A new industrial era

The revolution in digital technology is ushering in a new industrial era, centered on the "Internet of Things, Services and People" (IoTSP).

Key drivers are the increased availability of data, ubiquitous connectivity, and the exponential growth in processing power. Thanks to these developments, the performance and health of machines can be tracked and monitored throughout their life cycle, boosting productivity and efficiency, for instance by enabling interventions before a service interruption.

At the same time, advances in robotics technology, exemplified by ABB's YuMi – one of the most advanced industrial robots in existence today – are enabling a new era in human-robot collaboration, notably in small-parts assembly.

The next stage in this new industrial era will be driven to a significant extent by advances in artificial intelligence, such as machine learning. Machines will be able to take decisions based on their own analyses of data and to learn from the outcomes of those decisions.

In the industry of the future, we will see factories, mines, mills and offshore platforms run entirely by machines and robots. Human beings will be alerted only when machines encounter problems or issues they cannot solve themselves. The outcome will be a dramatic increase in productivity, leading to new business models and the transformation of industry.

As a world leader in industrial automation and robotics, ABB is leading the way to this new era through the IoTSP, not only with our hardware and engineering expertise, but also with our consulting, service and software solutions.

With our in-depth understanding of industries and their applications, and of the IoTSP, ABB has the knowledge and expertise to deploy the optimum mix between artificial intelligence and classical model-based technologies to bring safety, productivity, and energy efficiency in industry to the next level.

Products and services

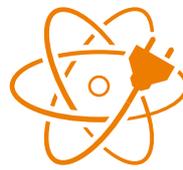
Contributing to a better world

Many of the benefits of the modern world, from electricity at the touch of a switch to the consistent high quality of industrial goods, are made possible by technology that was pioneered, improved and adapted by ABB over more than a century of innovation.

Technological innovation remains a cornerstone of ABB's competitiveness and a key driver of profitable organic growth. In 2015, we invested \$1.4 billion, or 4 percent of revenues, in research and development by our 8,200 technologists. In this way, we create and support a comprehensive range of products, systems and services that increase energy efficiency, reliability and productivity for our industrial, utility, and transport and infrastructure customers.

It is through this comprehensive offering that ABB makes a key contribution to a 'better world.' Our energy efficient and renewable energy portfolio directly contributes to the reduction of greenhouse gas emissions, while our technologies also facilitate access to reliable, modern energy, contributing to economic growth and improved quality of life for communities.

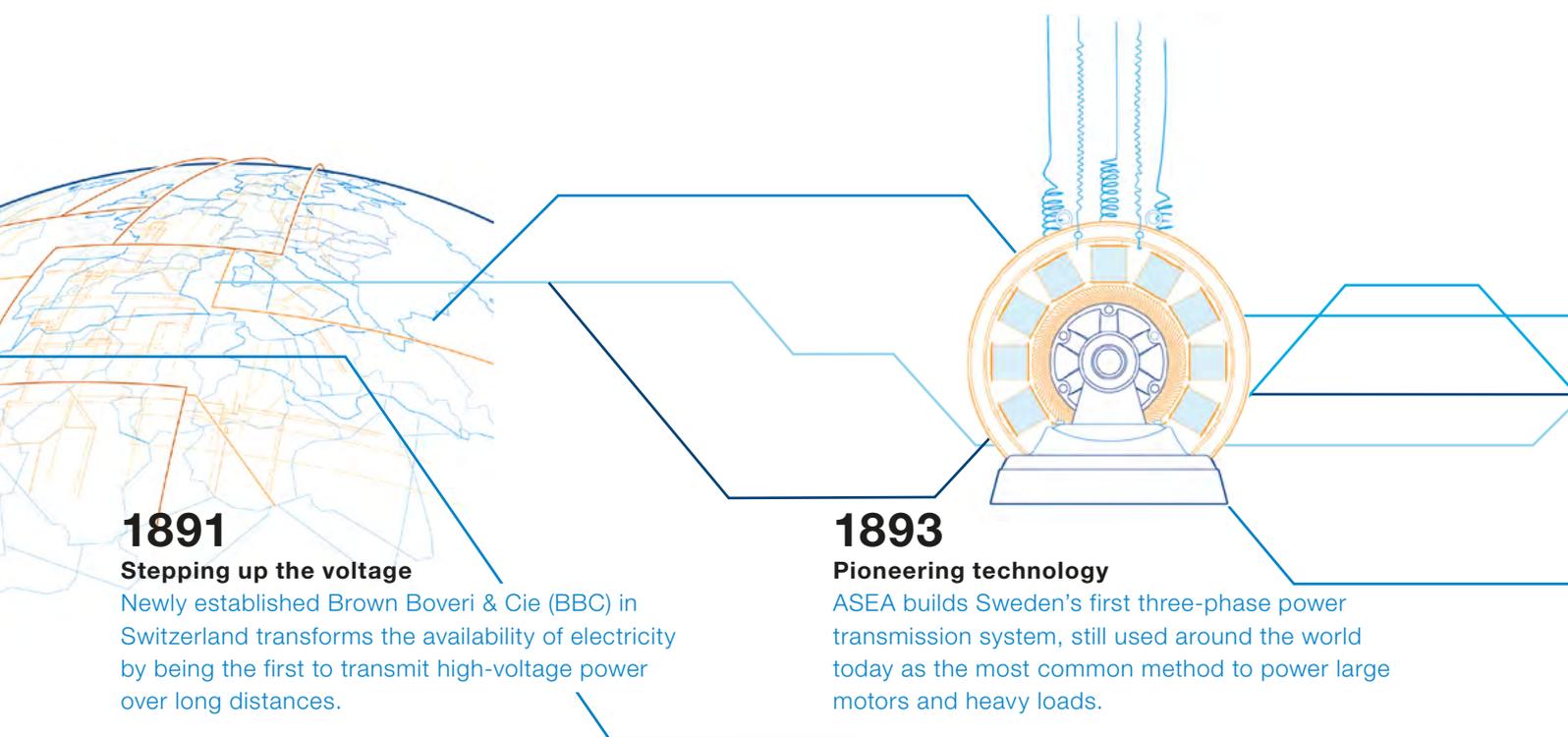
As part of our sustainability objectives, ABB is committed to increase revenue from our portfolio of energy efficiency-related products, systems and services by 20 percent by 2020, from a 2013 baseline. In 2015, these portfolio revenues declined slightly to 50 percent of total sales (51 percent in 2014), against a background of lower full-year earnings.



490 of electric power
TWh saved by our
variable speed
drives

The criteria defining the ABB energy efficiency portfolio were developed in 2011, based on current technology standards and ABB's business scope. Given the subsequent technology improvements, significant organic and inorganic changes to ABB's business portfolio, and the launch of our Next Level strategy in 2014, we decided to review the basis of the energy efficiency portfolio during 2015 to ensure relevance in the coming years.

After extensive consultation throughout our business and with the help of external reviewers, we developed an expanded "eco-efficiency" portfolio that now includes energy efficiency, renewable energy and resource efficiency criteria. To improve transparency and consistency, we have established more stringent selection criteria and detailed guidelines, and have defined a regular portfolio review process. We expect to finalize and roll out this strengthened methodology during 2016.



1891

Stepping up the voltage

Newly established Brown Boveri & Cie (BBC) in Switzerland transforms the availability of electricity by being the first to transmit high-voltage power over long distances.

1893

Pioneering technology

ASEA builds Sweden's first three-phase power transmission system, still used around the world today as the most common method to power large motors and heavy loads.

Research and development

Historically, the core of ABB's innovation success has been the close proximity to customers that has allowed us to understand their needs, as well as the collaboration between the Corporate Research organization that serves the entire company and the research and development (R&D) teams in the businesses. These partnerships have provided the foundation for many of our pioneering technologies and are driving the transformation of power and automation.

With research centers in China, Germany, India, Poland, Sweden, Switzerland and the US, we are well positioned to access local talent, evaluate ideas emerging from academia all over the world, test the commercial viability of new products and solutions and, most critically, share technology to make it accessible throughout the entire group.

ABB follows a Group-wide approach to product and technology development, known as the ABB Gate Model. Sustainability aspects are built into this process, including a handbook to guide consideration of health, safety and environmental (HSE) aspects, an HSE Checklist and material selection guidelines. Read more about our design processes in the [Resource efficiency](#) chapter.

Internet of Things, Services and People

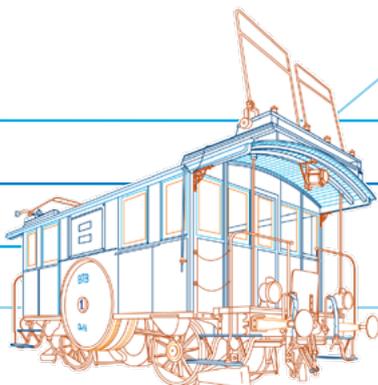
One core area of R&D for ABB is the [Internet of Things, Services and People](#) (IoTSP) that enables web-based automation and control solutions to improve productivity and quality. For

more than a decade we have been working to develop and enhance process control systems, communications solutions, sensors and software for the IoTSP.

The technologies that enable ABB's IoTSP strategy also allow the development of entirely new service offerings. To support this development, service requirements are now included in ABB's standard R&D process, and product developers are required to work with our service organization to ensure the required service capabilities and resources are available at product launch.

One of the recent successes of our service R&D approach is the development of several [smartphone applications](#) to ease and enhance the use of ABB drives. These tools provide an easy-to-use approach for the commissioning, servicing and use of ABB drives. As well as reducing cost and complexity for our customers, the wireless connections also mean that engineers don't need to enter hazardous or difficult-to-reach work areas to access information needed to help them commission and tune a new drive.

ABB has also developed [ServicePort™](#), a secure, remote-enabled service delivery platform that allows customers and ABB experts to view, scan and track key performance indicators to ensure maximum performance of equipment and processes. The platform helps users make better informed decisions resulting in higher operational efficiency while reducing raw material use and energy costs.



1899

European first

Europe's first electric standard-gauge locomotive with two motors ushers in a new era in railway electrification, improving acceleration and passenger comfort.

1944

Railway efficiency

BBC develops the first high-speed locomotive with a direct-drive system, improving efficiency and reliability.

1954

ABB pioneers HVDC

First project delivered in Sweden using high-voltage direct current (HVDC), today's technology of choice for transmitting power efficiently and reliably over long distances.

As opportunities of the IoTSP evolve, so too does the need to be protected from cybersecurity threats. For ABB, protection of the IoTSP's interwoven systems of information technology and operational technology is central to our strategy and we work with customers to create a defense-in-depth approach where multiple security layers detect and deter threats in all of our products, systems and services.

The technical possibilities and business advantages that accompany the IoTSP rely on a safe, reliable supply of electricity. With increasing generation from renewable sources, often in remote locations, utilities face the challenge to transmit large amounts of power over long distances, efficiently and reliably, and to integrate this more dynamic and intermittent power into the grid. High-voltage direct current (HVDC) is the technology of choice for the efficient transmission of electricity over long distances and to create cross-border interconnections to strengthen grids. ABB pioneered HVDC technology over 60 years ago and accounts for about half of the global installed capacity.

ABB is also pioneering an innovative method to allow greater access to affordable electricity. Small communities often have no access to electricity, not because they are remote from the grid, but due to the cost of installing the substation that is needed to tap the high-voltage transmission lines. ABB has now developed a micro-substation that enables local power supply with a small capital outlay and low maintenance requirements.

We are also actively driving our technology development by working with leading institutions. Our investments in research initiatives, fellowships and strategic partnerships with over 70 universities and research institutions around the world continue to enhance the ABB portfolio and lead to international and cross-industrial cooperation in almost every ABB business.

Start-ups and partnerships

The pace of innovation required today is increasing due to societal changes and environmental concerns, as well as to the

rapid development of technologies such as those related to the IoTSP. For these reasons, we are also pursuing new ways of driving innovation.

ABB Technology Ventures (ATV) was set up as the strategic venture capital investment arm of ABB five years ago to invest in high-potential industrial technology and energy companies aligned with our mission.

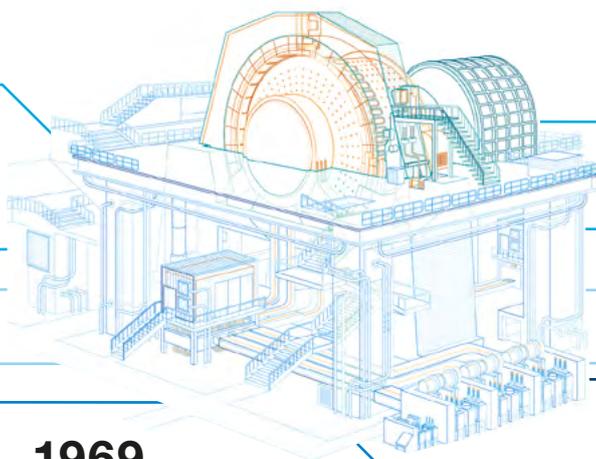
The unit's most recent investments are in businesses with disruptive technology in areas such as artificial intelligence and 3-D printing. ATV has acquired a stake in Vicarious, for example, which is building a unified algorithmic architecture that will take us closer to achieve human-level intelligence in vision, language and motor control, and could be applied to select applications in ABB's portfolio.

We are also establishing partnerships with strong global or local players who can help us penetrate new markets and develop new offerings. A recent example is the electric vehicle fast-charging services platform launched with Microsoft, which combines our charging stations with Microsoft's cloud-based services. The collaboration will take advantage of machine learning and predictive analytic capabilities to drive future innovations.

ABB has also established a global commercial alliance with Samsung SDI to develop and market modular and scalable microgrid solutions, utilizing lithium-ion batteries for energy storage. Effective microgrid solutions will promote and broaden access to electricity in emerging markets and remote areas while providing power reliability, resilience and security to developed markets.

Shaping the future

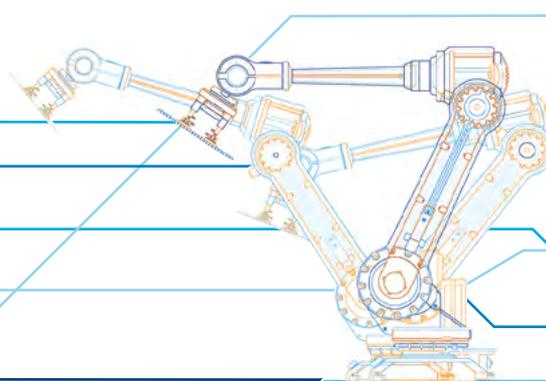
With roots in power and automation that go back to the 19th century, ABB innovations have helped to build the world we know today and are helping to fashion the world we will live in tomorrow.



1969

Pioneering automation technology for industry

BBC creates the world's first gearless mill drive, transforming the crushing process for the mining and cement industries globally.



1974

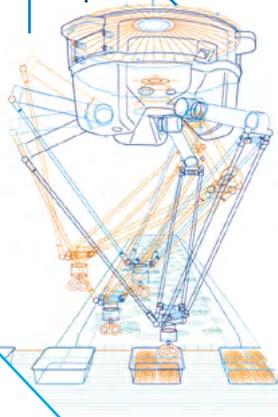
Robots enter the workforce

First industrial robots controlled by microprocessors introduced to the market. Since then ABB has sold more than 250,000 robots.

2004

Improving industrial automation

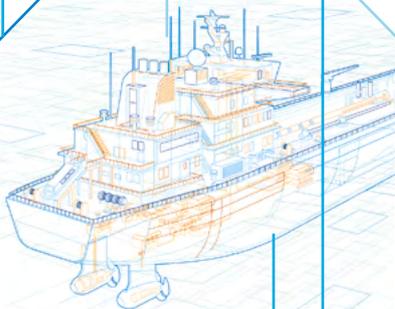
Introduction of the first industrial automation system that integrates automation and information systems within a single entity, enabling more cost-efficient and safer operations.



1998

Robots get picky

Launch of revolutionary parallel arm robot for high-speed picking and packing in food and pharma, optimizing their value chain.



1990

Ruling the waves

ABB transforms ship maneuverability and energy efficiency with a new propulsion system fixed outside the hull.

1975

Energy-efficient motor control

Launch of groundbreaking device to control electric motors, enabling reductions in power consumption of around 50 percent in many applications.

2008

Connecting power grids

ABB commissions the world's longest submarine high-voltage cable, strengthening the reliability of the power supply in Norway and the Netherlands.

2012

Shaping the grid of the future

Development of world's first HVDC circuit breaker, solving a 100-year-old electrical engineering puzzle and paving the way for a more efficient and reliable electricity supply system.

2013

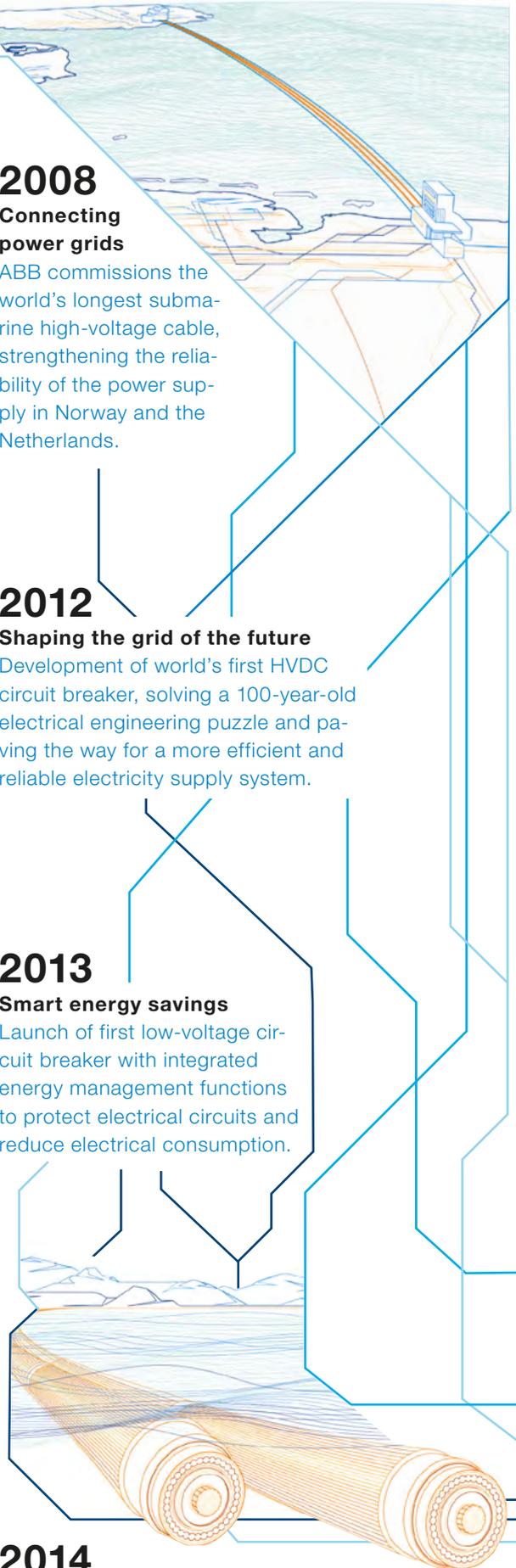
Smart energy savings

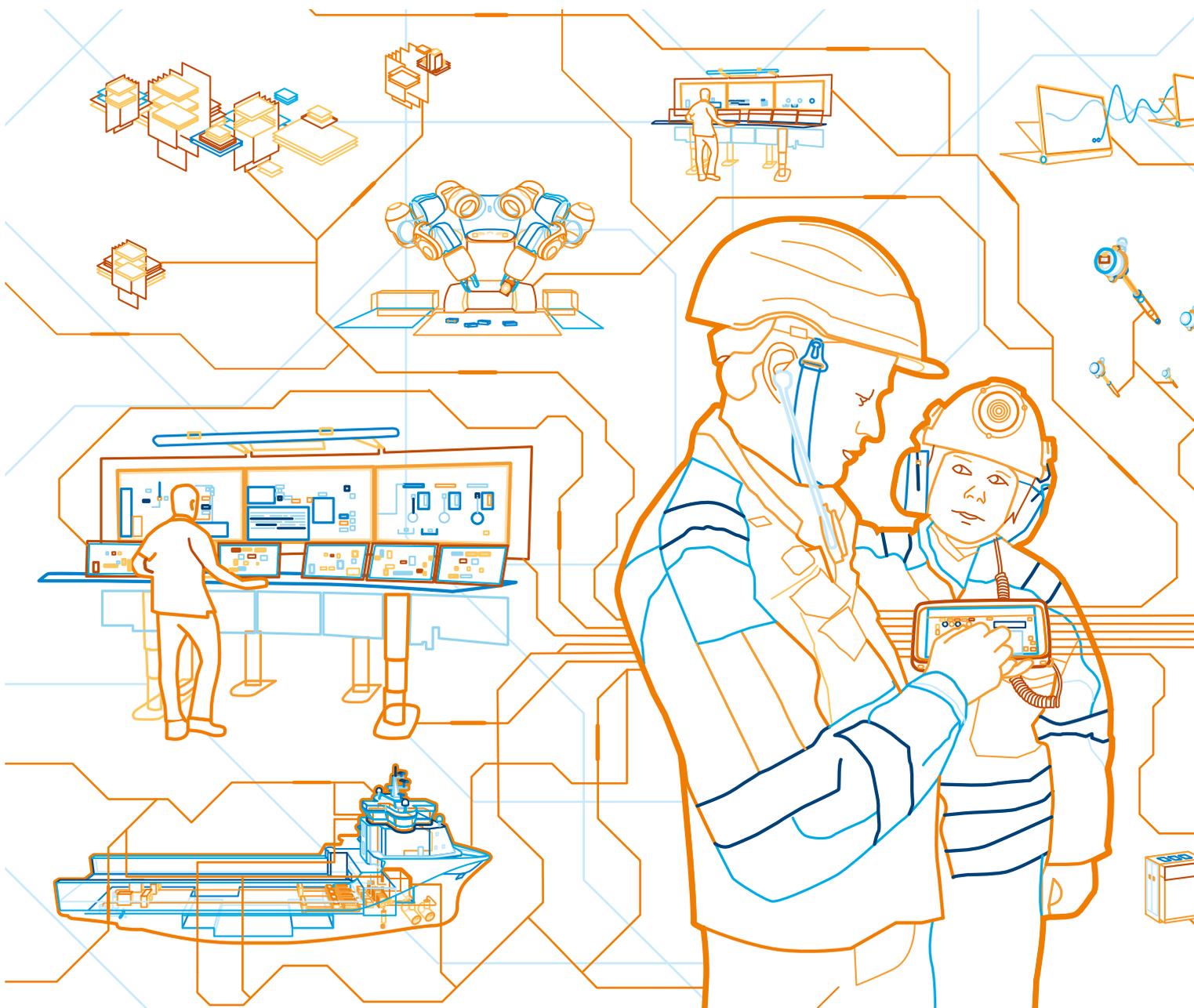
Launch of first low-voltage circuit breaker with integrated energy management functions to protect electrical circuits and reduce electrical consumption.

2014

High-voltage breakthrough

Introduction of world's most powerful cable system, making renewable energy installations more efficient and cost effective.





Achievements and innovations in 2015

Utilities

Lower environmental impact

ABB commissioned the world's first gas-insulated switchgear with a new eco-efficient gas developed as an alternative to sulfur hexafluoride (SF₆). The new gas mixture, which has a global warming potential almost 100 percent lower than that of SF₆, was developed with 3M.

Software improves asset management

Ellipse Select is a new enterprise software solution that helps customers to manage their assets more effectively through the life cycle and make better operational decisions, boosting both their performance and productivity. The solution illustrates ABB's unique ability to facilitate the convergence of operational and information technologies.

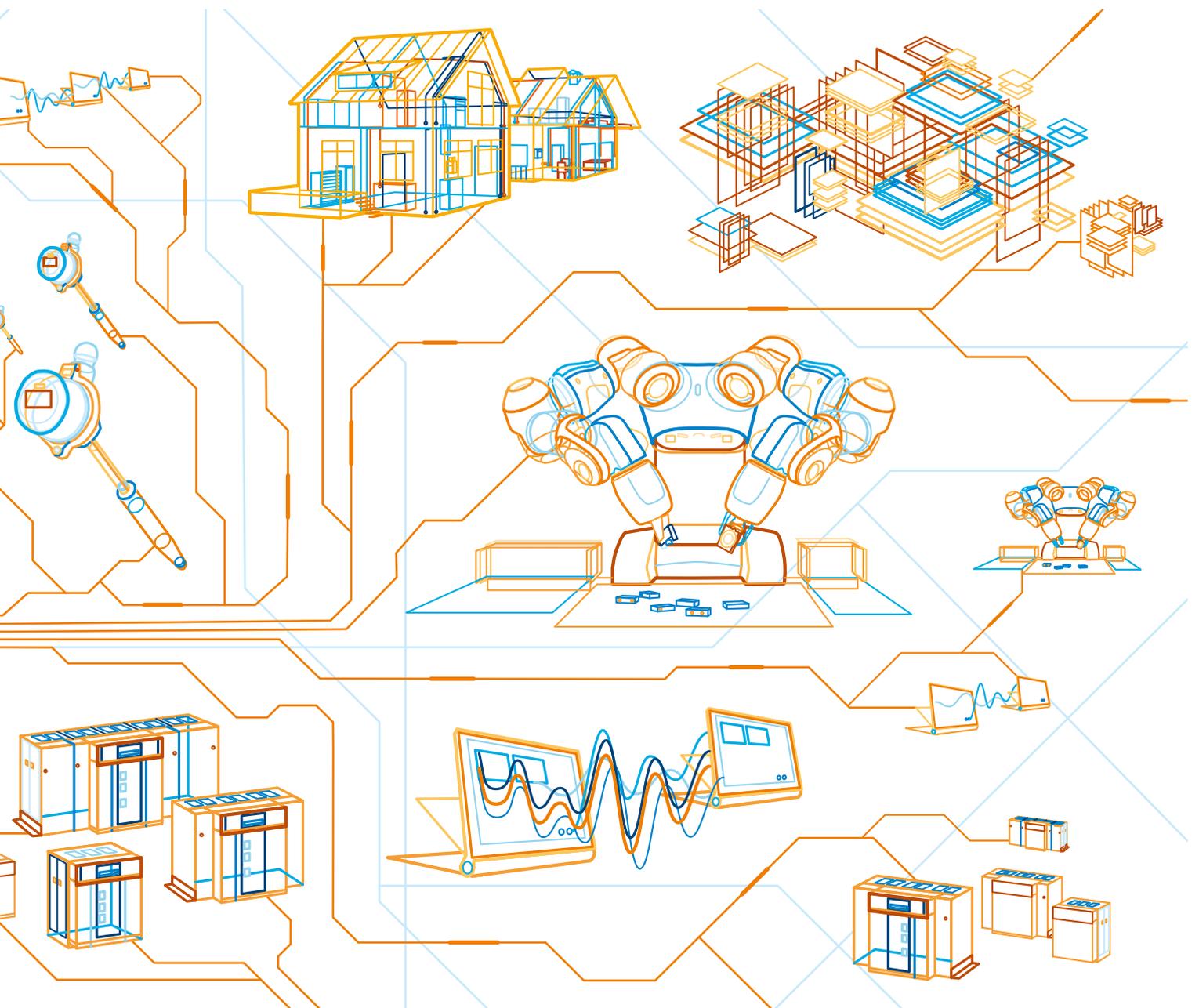
Industry

Mine of the future

ABB deployed its System 800xA automation platform to transform Boliden AB's Garpenberg lead, silver and zinc mine in central Sweden into one of the world's most efficient and productive mines. Autonomous processes stretching a kilometer underground are unified in a single system driving efficiency and productivity to the next level.

First truly collaborative robot

YuMi, the first truly collaborative robot, was introduced to the market at Hanover Fair. Designed for a new era in manufacturing, where robots and humans work side-by-side on the same tasks, YuMi is flexible and dexterous. It can be integrated into production lines without the need to redesign the space.



Transport

Automated fast charging for electric buses

A new automated fast charging system removes the main hurdles to the more widespread use of electric buses. With a typical charging time of 4-6 minutes, the system speeds up the charging process and is easily integrated in existing bus lines thanks to its automated rooftop connection.

Software for marine efficiency

ABB is collaborating with Dutch weather forecasting specialist, MeteoGroup, to equip 140 container ships from Maersk Line with advisory software to optimize routes, boost maritime safety and avoid conditions that could be harmful to the ship, its crew or its cargo.

Infrastructure

Voice-operated smart homes

ABB presented its voice-operated smart home automation system, ABB-free@home, at the IFA consumer electronics fair in Berlin. The system allows users to control over 60 smart-home automation functions, such as lighting, heating, blind control and door communication, with voice commands.

Governance and integrity

Embedded in our business values

ABB's technology makes a major contribution to businesses and communities around the world. However, it is not only what we do, but how we do it that determines our reputation with stakeholders and ensures our continued success.

ABB sets high standards of integrity, which are expected of every employee in every country where we do business. We use a systematic approach, supported by tools and processes, to embed integrity in the organization and apply a zero tolerance policy for violations.

Standards of business conduct

ABB's approach to integrity is based on a clear set of values and strong communication from top leadership – to our employees and also to our business partners. These values and expectations are described in our Code of Conduct and Supplier Code of Conduct, which are underpinned by a robust set of internal standards and policies.

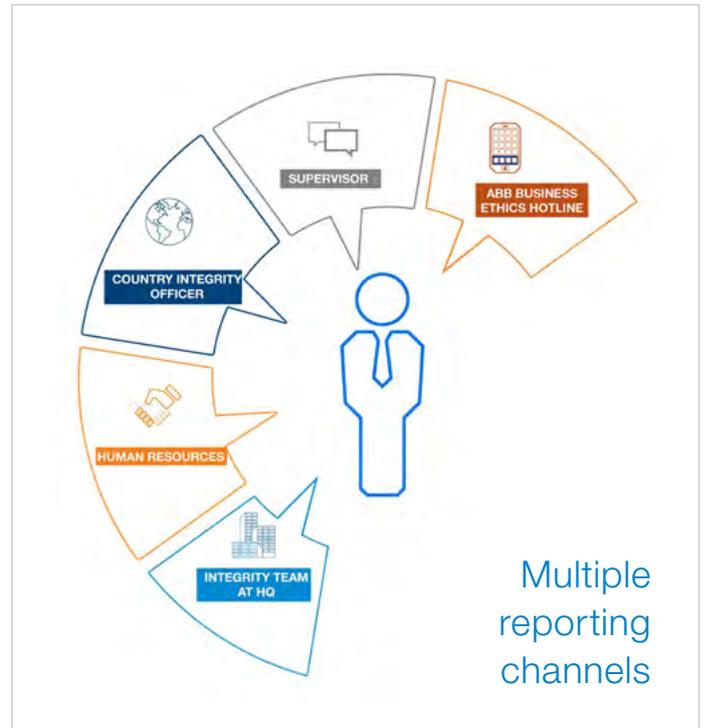
Our integrity policies reflect the importance of individual accountability, oversight, integrity leadership and transparency. These policies include the prohibition of facilitation payments, zero tolerance of any involvement in bribery or corruption, robust policies on gifts, entertainment, and expenses, political and charitable contributions and external representatives, and measures to ensure ethical supply chains. The key elements of our integrity standards and policies are available on our [website](#).

To take account of changes in the external environment and our own organization, ABB regularly reviews these standards to ensure continued relevance and effectiveness.

Prevention: educating and empowering our employees

ABB's integrity program is based on three pillars: prevention, detection and resolution. Our primary focus for all employees is on training and communication, which are key to ensure that ABB's values are understood and to prevent non-compliant behavior.

Within three months of joining, every new ABB employee must complete online e-learning and face-to-face training on the ABB Code of Conduct. This training is refreshed / updated for



all employees on a two-year cycle. In addition, employees in sensitive roles receive specialized online and face-to-face trainings for specific integrity risk subjects.

Country integrity training plans are developed annually, based on the global ABB Group requirements, as well as local integrity risk topics. Local risks are identified through audits, investigations and integrity program implementation reviews. Country Integrity Officers are required to conduct these implementation reviews every six months to assess their status related to a defined set of risk subjects. Results of these reviews provide input to the further development of both local and Group integrity initiatives.

Additionally, all agents and representatives acting on behalf of ABB must participate in mandatory e-learning or face-to-face integrity training.

In 2014 and 2015, more than 96,000 ABB white collar employees (97 percent) completed the Global Anti-Bribery: Don't Look the Other Way online training, while approximately 97 percent of blue collar employees completed face-to-face training on ABB's Code of Conduct. A new two year anti-bribery training campaign will be launched in 2016.

During the year, we piloted a new cloud-based tool for pre-approval of gifts, entertainment and expenses that will enable us to provide globally consistent review and transparent ad-



97% employees trained on anti-bribery principles in 2014 and 2015

vice for our employees. Roll-out will commence in 2016, supported by on-demand training and standard documentation.

Detection

ABB also maintains additional initiatives to prevent non-compliant behavior and to detect integrity concerns. Anti-bribery reviews of business units and countries are conducted throughout the year by ABB's internal audit department. In these reviews, the auditors review business processes, accounts and balances, and test transactions to assess the robustness of controls and identify possible violations of ABB's anti-bribery procedures. Our anti-fraud program is also monitored by internal audit who regularly evaluate fraud risk exposure and developing trends.

Multiple channels are available to all employees to report integrity concerns, including a multi-lingual business ethics hotline run by a third party, which is available 24 hours a day, seven days a week. The different reporting channels are advertised through a hotline poster campaign, which was updated at the beginning of 2015. Whistleblowers are promised protection from retaliation. A stakeholder hotline is available to our external business partners, with details available on our [website](#).

Resolution: zero tolerance for violations

ABB enforces a strict zero tolerance policy for violations of the law or the ABB Code of Conduct, and we take the appropriate disciplinary action – including termination of employment – against employees who violate them.

The Office of Special Investigations (OSI), part of ABB's Legal and Integrity team, is responsible for conducting investigations globally. Reported integrity concerns are handled by OSI and are brought to closure through investigation and remediation. Where disciplinary action is required, the process is governed by ABB's Human Resources Disciplinary Protocol and administered by Human Resources Disciplinary Committees at headquarters and in the regions.

While we are confident of the robustness of our integrity training and processes, we continuously consider ongoing improvements. During 2015, there were not any substantiated corruption cases. The company did not face any significant fines or sanctions for non-compliance with laws and regulations in 2015. For further information, please refer to the Commitments and contingencies note in the Notes to the Consolidated Financial Statements contained in the ABB Group Annual Report.



Engagement and external recognition

ABB also supports international efforts such as collective action and projects aimed at promoting integrity in the industries where we work and in the public sector. We are a founding member of the Partnering Against Corruption Initiative and also became a founding member in 2014 of Ethics and Compliance Switzerland. This engagement enables ABB to develop and contribute to the overall development of systematic values and integrity in various organizations throughout Switzerland and abroad.

ABB's integrity program has been benchmarked and recognized externally. In 2015, we received the Ethisphere Compliance Leader Verification and Anti-Corruption Program Verification seals based on a review of our integrity program by NYSE Governance Services. For the third consecutive year, we were also recognized as one of the World's Most Ethical Companies.

Risk management

In addition to the risk identification processes conducted by the Internal Audit and the Legal and Integrity departments, ABB maintains a global integrated and Group-wide risk management process. Once a year, the executive management and the Board of Directors perform a risk assessment in accordance with the company's risk management processes and take appropriate actions where necessary.

ABB takes a comprehensive top-down and bottom-up approach to Enterprise Risk Management (ERM), which directly involves all ABB Group functions, regions, divisions and the majority of ABB's country organizations and global business units.

The ERM process is supported by a common ABB risk catalogue and training sessions for the participating entities. The common risk catalogue covers a wide range of issues including external, finance, organizational, people, cultural and operational risks, as well as issues related to the legislative environment, climate change and cyber security.

The participating entities organize ERM roundtables where top risks are identified, assessed and reported along with a detailed risk description, the likelihood of such risks occurring, the potential impact on profitability, and respective mitigation plans. Participating entities also report key performance indicators that they will use to measure their progress on mitigating the risk and reflect on their risk profile in 12 months (residual risks).

The risk management approaches of Group ERM and Internal Audit are aligned. The current and residual risks are consolidated and analyzed at a Group level by the Group ERM team and discussed at the Group ERM roundtable, which involves senior managers from different parts of the Group, including the sustainability function.

ABB is now integrating in one platform all financial, non-financial and internal audit risks and risk-mitigating actions to enable closer monitoring of all risk-mitigating actions in the countries and business units.

In addition to the ERM process, ABB's Insurance Risk Management function works closely with our global insurance providers to identify global risks and to assess the relative

Power and productivity™ **ABB**
for a better world™

**Don't look the other way.
Distance yourself from inappropriate conduct.**

IF YOU SEE A RED FLAG, DON'T LOOK THE OTHER WAY
Integrity is everyone's responsibility. Contact your manager, HR representative, local and Business ethics hotline: +41 43 517 53 66

risks to our assets and operations. All facilities are required to develop, implement and test business continuity and crisis preparedness plans, and [security and crisis management exercises](#) are carried out in all regions.

The ongoing instability around the world and emergence of different types of challenges underline the value of good risk management in contributing to an agile and resilient organization.

Sustainability governance

Sustainability principles and considerations are embedded in ABB's business strategy and guide what we manufacture, how we operate the company and the way we behave towards stakeholders.

Our sustainability strategy is aligned with corporate strategy and is supported by objectives that address ABB's activities and impacts along the value chain. Progress towards our objectives is driven through all levels of the business, from Executive Committee endorsement, through operational review and target setting in business units and countries to local training and execution at sites, supported by sustainability specialists at Group, country and local level. We rely on every employee to take responsibility to help us achieve our goal: a better world.

Sustainability policies, principles and external initiatives

We have implemented environmental, social, human rights, and health and safety policies and a Supplier Code of Conduct. These [policies](#) include references to international standards.

All ABB facilities are encouraged to implement management systems for environmental, health and safety and quality issues, while manufacturing and service locations are required to implement such systems. Globally, we have achieved external certification for environmental management systems at 418 sites and offices and for health and safety management systems at 421 locations and have made significant progress in implementing these systems at our recently-acquired operations. 

As a founder member of the United Nations Global Compact, ABB has been closely involved in its development. We have also been working to implement the UN Guiding Principles on Business and Human Rights and use the recommendations to assess expectations of corporate behavior.

Sustainability Board

Our Sustainability Board, comprising the ABB Executive Committee, oversees sustainability policies and programs, reviews developments and monitors progress towards our targets on an annual basis.

During 2015, the Sustainability Board reviewed the Group sustainability strategy and objectives and confirmed the proposed 2016 focus activities and performance metrics. The Board critically reviewed progress against targets, noted slow progress on some targets, such as energy efficiency, and requested the development of Group-level roadmaps to enable better tracking and forecasting of performance.



415+

locations certified to
ISO 14001 and OHSAS 18001

Group sustainability team and global network

The ABB Sustainability Affairs organization is responsible for the development and coordination of policies and programs covering health and safety, environment, corporate responsibility and security. Sustainability Affairs reports directly to Executive Committee member and Chief Human Resources Officer, Jean-Christophe Deslarzes.

A network of sustainability specialists worldwide reports to and supports the Sustainability Affairs management team. In countries where ABB entities have or could have significant sustainability impacts, we have appointed health, safety and environment (HSE) managers and country security managers responsible for ABB's sustainability management program and for gathering the data consolidated in this report. All regions where ABB operates have region HSE managers and corporate security managers.

The country and regional specialists are supported by local HSE officers. Overall, the sustainability network is supported by a team of some 950 employees, full-time and part-time, at headquarters and around the world.

During 2015, we completed a comprehensive workforce mapping and skills inventory to ensure that we have the right sustainability resources and structures in place to support our businesses with the implementation of the corporate Next Level strategy. We are using the results to ensure appropriate allocation of resources at different levels in our businesses and to guide the design of development programs, such as HSE leadership training.

The sustainability network operating model is now being refined to reflect the required resource allocations and the recent changes in ABB Group structure. Group sustainability instructions and standards are being adapted to reflect the organizational changes.

As part of our continuing work to strengthen the capability of our sustainability network, we also launched seven e-learning modules in 2015 covering different aspects of sustainability management.

Material issues

Material issues

We have undertaken considerable work in recent years to understand what internal and external stakeholders expect of ABB's sustainability performance and where we should focus our strategy and improvement goals.

In 2011 we fundamentally reassessed our material issues, using input from nearly 600 people, including senior ABB executives and employees from all parts of the business, customers, and external stakeholders specialized in key sustainability areas. We also mapped regulatory risks and macro trends, and benchmarked against peer companies to help us establish a comprehensive sustainability issues landscape. The resulting materiality matrix then shaped the development of our sustainability strategy during 2011.

We undertook further reviews with a smaller selection of stakeholders in 2013 and in 2014 to update our assessment of material aspects and to seek their views on how best to report on our sustainability strategy, performance and progress. These reviews were conducted by a third party who interviewed representatives across our key constituencies: ABB employees, customers, suppliers, investors, civil society, including NGOs, international organizations, sustainability experts and young people.

The results from the interviews confirmed the main conclusions from our 2011 consultation. Overall, stakeholders found that the materiality matrix provided a good snapshot of relevant issues for ABB, but did request clear definitions of the specific topics considered within each material issue, which we have since developed and [published](#).

These stakeholder consultations have helped us to develop and further refine our Sustainability Objectives 2014–2020.

Evolution of the consultation process: stakeholder panel

The third-party interview process has enabled us to obtain the views of a broad selection of stakeholders in a relatively efficient way and the feedback received has been extremely valuable. However, the one-way flow of information has not allowed for clarifying conversations – either for the stakeholders or for ABB – nor has it allowed for exchanges of views on broader topics. We felt that this was a lost opportunity.

In order to continue and enrich our stakeholder consultation process, we set up a sustainability report review panel in 2015 to replace the third-party stakeholder interviews. The panel's objective is to challenge the company's approach to sustainable development, review the most material issues and form an opinion on the company's sustainable development performance and reporting.

Panel members represent the key market and non-market stakeholders of the company and were selected for their level of knowledge and skills regarding sustainable development issues relevant to the company. We sought to achieve both geographical and gender balance, as far as was possible. Three of the eight panel members have participated in stakeholder interviews in previous years.

Panel members have met with senior executives of ABB twice during the preparation of the ABB Sustainability Performance Report 2015. Meetings were held virtually and chaired by an external facilitator. The majority of panel members joined these meetings and those unable to participate were interviewed separately at a later date.

During the initial meeting in October 2015, we received extensive feedback on ABB's Sustainability Objectives, along with commentary on ABB's 2014 sustainability reporting and online sustainability presence. The panel also reviewed the draft outline of the 2015 report and provided input regarding material issues.

The panel's recommendations covered both longer term issues, such as adjustments to objectives, targets and KPIs, and more immediate issues such as content and narrative in the sustainability report and material issues.

These stakeholder views have helped to determine the structure and content of this report. We also updated our materiality matrix accordingly and will work to address the longer term issues starting in 2016.

The panel's consensus [statement](#) appears later in the report and we will describe our response to the panel's recommendations in our next sustainability report.

We will continue to review these issues annually with our stakeholder panel and will use this input to inform our improvement goals and programs, as well as our reporting activities.

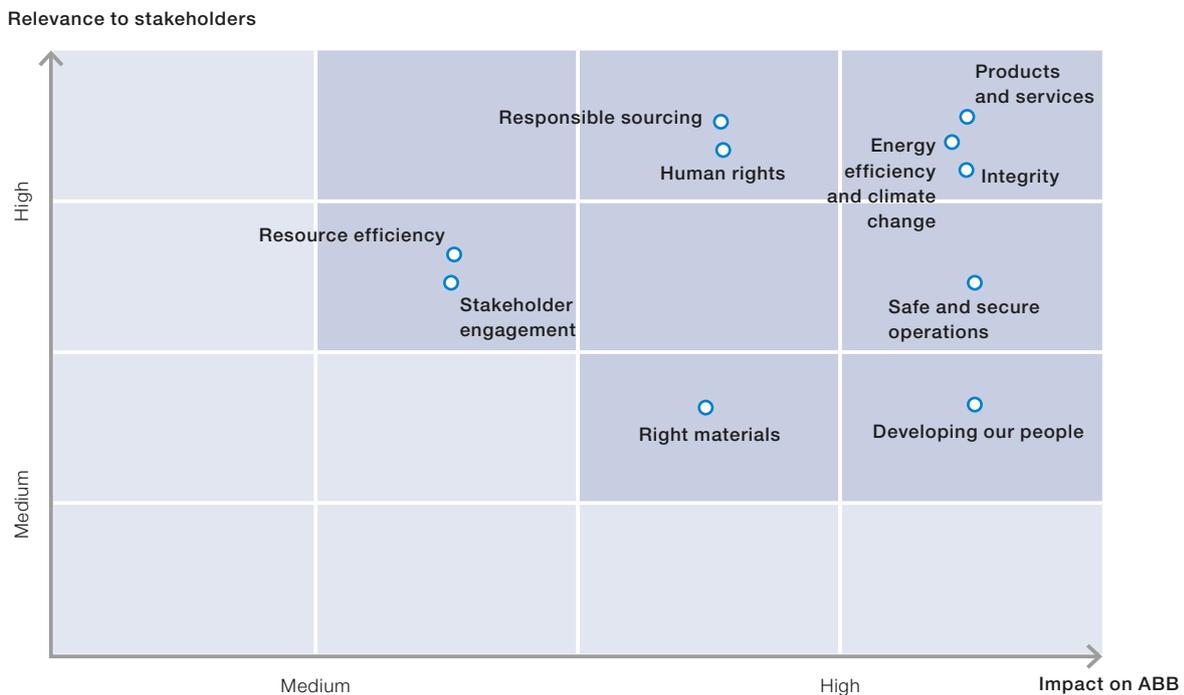
Sustainable Development Goals

ABB welcomes the adoption of the UN Sustainability Development Goals (SDGs), believing they provide a framework for tackling a number of core economic, social and environmental challenges in the coming years. ABB's business focus on utilities, industry, infrastructure and transportation correspond to several of the improvement areas prioritized in the SDGs.

Our resource-efficient products and services, and our focus on strengthening access to reliable and renewable sources of energy, mean the company is well placed to contribute to some of the key aims highlighted in the SDGs. In addition, our product offerings and programs to foster social progress are aligned with some of the key SDG to increase inclusiveness, and strengthen education and healthcare.

We have conducted a [first analysis](#) of where ABB believes it can support the realization of the SDGs. During 2016 we will start to work on integrating activities to support the SDGs into our sustainability objectives and roadmaps.

2015 materiality matrix





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Our people

Key to our transformation

ABB launched the second stage of our Next Level strategy in 2015 to accelerate the transformation of the company and enable us to better address the needs of our customers. How we reshape the company and ensure our employees have the appropriate leadership, skills and responsibility will help to determine the success of the strategy.

Key measures announced in 2015 included a divisional re-alignment and the reduction of five divisions to four, taking effect at the start of 2016, in order to deliver additional customer value from our unique power and automation offering. Organic growth remains the key focus of ABB's efforts to accelerate sustainable value creation.

One of the key elements of the transformation is our White Collar Productivity (WCP) program, one of the seven 1,000 day programs supporting the Next Level strategy. The WCP program aims to simplify our organization and make it more agile, to increase our customer focus, and to improve the efficiency of our business and support functions. We have designed a blueprint and a roadmap that will help us drive transformational initiatives across white collar processes, leverage our global scale and streamline processes.

Among other measures, we will be equipping our sales force with better training and tools; we plan to consolidate more of our research and development (R&D) resources into fewer, at-scale centers, using our global R&D network to improve the innovation process, and we plan to better utilize our supply chain expertise by pooling resources across the organization. We will also consolidate our more than 60 shared services centers, many of which are country based, into two global and four regional centers, and we intend to move our businesses closer to the markets.

WCP will result in increased customer focus, standardized processes that will improve the way we work internally and clearer roles and responsibilities for our employees. As a result of this planned transformation, we will also achieve cost savings of \$1billion run rate by the end of 2017, enabling us to better support our growth ambitions.

Based on the strategy and our company values, we finalized a new competency model to better define our expectations of all our employees. This behavioral model is being embedded in all key Human Resources processes, from recruitment to performance management and training.

In parallel, a Group-wide capability and workforce planning process was established, and a pilot was run successfully in one division, setting the stage for its adoption throughout ABB in 2016.



2015: just under
500,000
online applications
to work at ABB

The bonus scorecard, rolled out in 2015, was re-designed, balancing company and individual/team objectives. Individual scorecards were submitted to 70,000 employees. An updated performance and development appraisal process was also set up in 2015 to link performance to compensation more effectively. In parallel, greater emphasis has been placed on bottom-up people review sessions, and an improved succession planning process.

As can be seen in the [sustainability objectives dashboard](#), implementation of the many changes is a priority for 2016.

Diversity and inclusion

As a truly global company operating in over 100 countries on all continents, we see the value of having a highly diverse workforce, and are committed to improving our performance on diversity and inclusion. One of the Group-wide programs being launched in 2016 is a diversity and inclusion framework which is focused on recruiting and promoting more women, and strengthening female representation at every level of the organization.

The framework is based on a three-part strategy – to further strengthen our talent attraction and talent management processes to ensure diversity, to improve work-life balance and implement career life-cycle support systems, and to build internal, as well as external awareness. Central to this are plans to hire and nurture female talent, improve diversity in project management, and review existing support policies and benefits, as well as greater options for flexible working arrangements. The framework also aims to strengthen awareness of diversity and inclusion issues among senior managers and employees.

Complementing this framework, ABB continues to support and sponsor the Women's Forum which we see as an opportunity to contribute to and learn from best practices in other leading business. A total of 650 companies from 92 countries were represented at such meetings in 2015. Among the meetings in 2015 was one in France attended by 10 ABB women, from eight countries, including a member of the Group Executive Committee.

Our headquarters reflects the value we place on a diverse culture. At the end of 2015, 743 people (including 289 women) from 50 different countries worked at headquarters. The same multi-cultural environment is true for many of our operations around the world. It is also reflected in our Board of Directors and our executive management. At year-end 2015, there were eight members of the Board - all from different countries. The Executive Committee comprised 11 people from eight countries.

Diversity can take many forms: They range from individual achievement such as the success of an accomplished female engineer to work on the [Solar Impulse record-breaking solar-powered flight in 2015](#) through to country-wide initiatives such as several programs in India to reinforce development opportunities for women.

ABB in South Africa won an [award](#) from a regional industry organization for the transformation of the company, in particular for increasing the number and roles of women in senior positions, and for the company's efforts to develop women engineers through the newly established ABB Education Trust.

In Australia, ABB is involved in a number of schemes to support the education and development of Aboriginal people. 

Attraction

ABB remains a highly attractive opportunity for people seeking to develop and promote top-notch power and automation technologies in a multi-cultural environment around the world. In 2015, ABB was voted employer of choice in surveys in several European countries, including Finland, Italy, Switzerland and Sweden, and received recognition as a highly rated employer in countries such as Canada, Germany, Poland and Saudi Arabia.

As a further indication of the attractiveness of the company, ABB received online recruitment applications from just under 500,000 people from 193 countries in 2015 - 10,000 more applications than the previous year. Being able to attract applications from all round the globe highlights the strength of the ABB brand and as an employer of choice.

Considerable focus is placed on attracting talented young people and developing their skills for future leadership roles. An updated employer branding campaign was rolled out in 2015, seeking to attract young people by emphasizing the importance and opportunities for young engineers.

Development

ABB invests heavily in the development of employees, offering structured career plans and many opportunities to realize potential. We offer employees a wide range of programs run at country, region, function and Group levels. Here are a few examples of Group-level training and development initiatives:

- Our annual appraisal scheme offers an opportunity to review and provide feedback on performance, development opportunities, and career discussions. Over 90,000 employee performance and development appraisals were carried out in 84 countries in 2015.
- Leadership development programs: 90 senior managers attended two courses of the Senior Leadership Development Program held in partnership with the IMD business school in Lausanne, Switzerland.
- The Middle Manager Program and the First Line Manager global programs covered a further 420 middle managers and more than 1,800 first line managers.

Retention

Our ability to retain our employees is crucial both from a current and future standpoint. All our countries strive to strengthen employee loyalty and engagement. In some countries such as India, turnover levels have come down in recent years and are below the industry average among peer companies.

International mobility strengthens our ability to transfer knowledge, deliver customer value, support individual development and build loyalty. The Group had 922 people on long-term international assignments in 2015. India and China are now established among the top 10 countries in ABB that send employees on international assignments.

As the company moves forward on our transformation process, there will be further challenges. These include ensuring our employees receive strong guidance and support in times of change so they can continue to give their best; we need to be able to continue to attract, develop and retain the best people in an increasingly competitive market; and in years to come we will seek to extend our diversity program, knowing that a highly diverse workforce contributes to business success.

Stakeholder engagement

Learning through collaboration

ABB has been making greater efforts in recent years to engage formally with different stakeholders on sustainability issues. It is a recognition that our business success is closely tied to such exchanges, and the potential benefits of acting on the feedback we receive.

Apart from exchanges as part of daily business, we have been formally surveying stakeholders since 2011 to better understand which issues they consider to be material to our business and where we can improve performance. Overall, we see stakeholder engagement as an important enabler to achieve our [sustainability objectives and targets](#). We set up an external [stakeholder panel](#) in 2015 to analyze the objectives and targets, and to review the strengths and weaknesses of our reporting. We also revamped our sustainability website to improve access to performance information.

Here we look at some of the main areas of engagement with key stakeholders:

Customers

In recent years, customers have sought increasing assurance from ABB that what they buy from us has been ethically produced, and will deliver the business benefits of greater resource efficiency and lower energy use. We continue to meet customers and receive regular requests for information from them about the different sustainability aspects of our offerings and how we are managing different types of risk.

The most frequent inquiries are about the energy efficiency of our products, systems and solutions, how we manage social and environmental risks in our supply chain, and how we implement our policies on the environment, health and safety and human rights. Our ability to provide detailed information on most issues underscores our reputation as a leading-edge and trusted supplier with robust risk management policies and processes in place.

Suppliers

As a company with a global supply chain, we are naturally in contact with suppliers on a daily basis on business-related issues. Our business aims are clear: We seek high quality, low cost and on-time delivery of products. We work hard to ensure that our suppliers meet not only our business needs, but also our sustainability requirements and standards.

ABB has stepped up oversight of sustainability issues in the supply chain in recent years. These efforts are run through our [Supplier Sustainability Development Program](#), which fo-

cuses on assessing conditions at suppliers, working with them to improve their performance, and training - both our suppliers and in-house auditor teams in different countries. In 2015, we engaged most with suppliers in Brazil, China, India, Mexico and south-east Asia.

Investors

ABB held sustainability roadshows in London, Paris and Stockholm during 2015, as well as engaging in one-on-one sessions with fund managers and analysts. An increasing number of mainstream, as well as socially responsible, analysts and funds are showing greater interest in our environmental, social and governance (ESG) performance and its impact on our business. 

They focus on how ABB intends to increase our revenues from energy-efficient products and systems, market development for renewable sources of energy, and how ABB manages integrity issues, particularly in high-risk countries.

We also work with export credit agencies and ratings agencies who factor a company's ability to manage potential social and environmental risks into their decision-making models. In 2015, ABB decided not to respond to the Dow Jones Sustainability Index, after ranking as a global sustainability leader for 14 of the past 15 years. We opted to spend more time on direct engagement with stakeholders, including investors.

Civil society

We engage on an ongoing basis with representatives of civil society, unions and the media as part of our business activities. A company is a core component of society, and our activities are closely monitored to see whether we abide by laws, stakeholder expectations and the high standards we set ourselves. Our approach is to engage in meaningful dialogue and collaboration, to explain ABB's positions and policies and, at times, different viewpoints.

One of our major areas of engagement is with our employees. As a company going through a period of transformation as part of our Next Level strategy, it has been important to inform as many employees as possible about changes within the company over the coming years, and their roles in moving ABB forward. Town hall meetings were held globally in 2015 and online information was published, as part of the company's communication with employees.

ABB also engages with a number of [non-governmental organizations](#) in several countries on individual issues or in partnerships such as humanitarian aid and rural electrification projects.

The academic world is another important partner for ABB. The company has dozens of research and development partnerships around the world, sponsors educational programs for engineering students, and seeks to be an employer of choice among graduates. There is a strong interaction with universities and academic institutions on issues ranging from collaborative research projects to running corporate responsibility courses for students in Sweden and Switzerland.

Involvement in a number of multi-stakeholder organizations in 2015 also provides additional benefit. Taking part in initiatives on ways of strengthening sustainable energy supply and use, run by the World Business Council for Sustainable Development and the United Nations, were valuable platforms for further insights and learning from peer companies and institutions, and also provided opportunities for ABB to showcase our practical research and solutions.

Tracking progress

As far as the company's sustainability objectives are concerned, we can track progress internally and outside the company. Our many different external stakeholders provide us with formal and informal commentary on where we should be placing greater emphasis or where they might expect greater levels of clarity and ambition. Within the company, the [Sustainability Board](#), made up of the Group Executive Committee, again provided guidance in 2015 on areas where we should be moving forward.

As far as customers are concerned, ABB employed a customer satisfaction survey called the 'net promoter score' program for the sixth consecutive year in 2015. It measures customer feedback to help us improve our business performance. The 2015 result showed customer satisfaction is growing steadily with 48 percent saying they would recommend ABB to a colleague – a four percent increase over 2014.

ABB also compiles, validates, tracks and analyzes all customer complaints in a single, global system that helps to resolve problems quickly and efficiently. This system – the Customer Complaints Resolution Process – also provides valuable pointers for improvement.

Public policy

ABB strengthened our public affairs capability in 2015 and continued to be active in discussions related to energy and industrial policy in different parts of the world. The main focus in Brussels, for example, has been on European Union energy policy. 

Community

ABB contributed to 700 community projects and charities worldwide in 2015. A total of 48 countries out of the 66 reporting on their social activities in this report supported community projects and reported them in the Group community engagement tool. About two-thirds of the projects were in North America. Globally, our employees and companies donated approximately \$9.5 million and provided 4,800 person-days in volunteering time.

We focus on supporting education and healthcare. The educational schemes and institutions we support serve to improve learning opportunities, raise ABB's profile and help us to recruit qualified engineers and other staff. Strengthening healthcare can have positive social and economic impacts among key company stakeholders, including our employees, suppliers and customers, as well as the communities around our facilities.

ABB supports
700
communities
and charities
worldwide



Major programs, such as corporate-level agreements with the International Committee of the Red Cross, are decided and run at Group headquarters. Local initiatives are decided at a country level and usually focus on communities where we have operations.

Our contributions can make a difference to people's lives, how welcome we are in the communities where our business operates, and our corporate reputation. We introduced an internal tool in 2014 to measure project impacts; it gives us both an overview of the projects supported and results, and also serves to question whether there is sufficient return on investment for particular projects.

Education

ABB works with students, schools and colleges in a variety of ways. In the United States, for example, ABB provides both funding and equipment for colleges and universities in areas where we have operations to support those institutions and attract successful graduates. In China, ABB sponsors engineering students through a variety of schemes, as well as providing laboratory equipment for university research. And in countries like Saudi Arabia and South Africa, ABB holds vocational summer schools for budding engineers.

Such support takes many other forms: The refurbishment of school classrooms in Egypt, India and Thailand; participation in a scheme in Sweden to raise young people's technical interest and skills; and extra-curricular schooling at ABB factories in Brazil for children from impoverished neighborhoods to help them prepare for a working life.

ABB also has a focus on helping disadvantaged students. Our [Group-level foundation](#) to support talented but disadvantaged engineering students now has partner universities in 12 countries, having added Egypt in 2015. Several of the student scholars now work at ABB.

Health

ABB is involved in a range of projects related to health. For example, ABB volunteers in Germany, Italy and the United Kingdom support people with mental disabilities taking part in summer and winter Olympics. Cancer research initiatives receive long-term support from ABB in several countries, including Canada, Mexico, the United States and United Kingdom, with employees giving in different ways – from donations to sponsored golf tournaments.

Humanitarian assistance

ABB has both a strategic and on-the-ground approach to humanitarian crises. We have a decade-long partnership with the International Committee of the Red Cross (ICRC), and our annual contribution is currently used to support clean water access in areas of humanitarian need in Iraq and the Democratic Republic of Congo. Among other areas of cooperation, ABB engineers lead training sessions for ICRC engineers on technology such as pumps and motors that the ICRC uses in the field.

ABB also provides support in the event of humanitarian and natural disasters. In 2015, ABB in India provided aid after the devastating earthquake in Nepal, while financial support for flood victims was provided in Argentina, Myanmar and Malaysia.

Access to Electricity

ABB works on a number of rural electrification projects to ensure power reaches off-grid communities. One of the longest-running projects, providing distributed solar power to desert hamlets in the Indian state of Rajasthan, was expanded in 2015, and we also started backing a new project in Myanmar.



Awards

ABB received a range of awards in 2015 in recognition of our social, environmental and community engagement activities. In one country, Sweden, our performance was recognized by two awards: The country's leading journal for sustainability reporting Miljörapporten named ABB as the winner of the best sustainability report for 2014. In a separate recognition, our country Managing Director won a prestigious award for his sustainability leadership.

These were among 19 awards worldwide in 2015. Several of the awards were won for health and safety, and environmental performance. Such awards are not only valuable recognition of how we are making a difference, but also serve to build employee commitment both to the causes that ABB supports and to the company as a whole.



Human rights

Strengthening awareness and processes

ABB made further progress in 2015 on our journey to embed human rights awareness in business activities, and towards the Group objective that by 2020, we will ensure that human rights issues are well understood and managed in all ABB operations along the value chain.

One of the two targets set for human rights - the launch of an international network of human rights advisors at ABB by 2016 - has been achieved ahead of schedule. Progress on the other objective of raising the human rights awareness of 600 managers by the end of 2016 was more modest, but we remain on track.

The aim of launching a network is to ensure there are trained employees in all parts of the world who can advise the business on ways of identifying, mitigating and avoiding human rights risks. The individuals concerned - mostly existing sustainability professionals, but also lawyers, supply chain and business people - are encouraged to share best practice and air dilemmas and challenges. The aim behind the second program - raising awareness among managers - is to ensure they can more readily identify risks at an early stage of the business process and then consult with qualified advisors.

The bottom line is understanding there is a moral imperative for ensuring the best possible performance on human rights, and that failure to do so can have legal, financial and reputation consequences for the company, as well as negatively impacting our ability to attract potential employees. Human rights impact all parts of the value chain – from our relationships with customers and suppliers through to the way we behave within the company and in the communities where we operate.

Capacity building

As part of the preparatory work to launch a network of advisors, certain employees were invited to take part in a two-part theory and practice training course.

Four such courses were held in 2015 with participants joining via video conferencing from all parts of the world. The first part of the training focuses on the international standards, guidelines and laws covering human rights, and includes a detailed review of the United Nations Guiding Principles on Business and Human Rights (UNGPs).

The second part of the course is very practical, looking at areas where ABB comes into contact with human rights and using case studies from different business areas and regions to illustrate issues such as the importance of due diligence and robust risk management.

A preliminary meeting of the network was held at the end of 2014 with 12 participants focusing mainly on ABB case studies from Asia, and North and South America. Two subsequent meetings in 2015, with 25-30 people involved in each session, focused on a variety of issues affecting or involving ABB.

The subjects covered included the National Action Plans being introduced by governments to operationalize the UNGPs, the implications of human trafficking legislation in the United States and United Kingdom, the different types of labor issues we face in the supply chain, and two cases where ABB engaged with non-governmental organizations on human rights-related issues.

Different aspects of community engagement were also discussed in detail. They included efforts to engage with a community in the US during remediation work for an environmental spill. And in another case, as part of a contract with a customer, ABB was required to work with an NGO on stakeholder relations in a sensitive area of a North African country. These are issues from which advisors in other parts of the world can learn and this helps them to support our business.

Progress on the second objective - to train 600 managers on human rights issues by the end of 2016 - was more modest. This face-to-face training, which has been ongoing since 2011, has now reached about 510 managers. However, training was curtailed in 2015 by travel restrictions.

The Guiding Principles – and what ABB is doing to implement them – are a cornerstone of awareness raising training programs. Such training focuses on understanding what human rights are, the impact on business activities of key international laws and standards, and how ABB can potentially impact human rights, positively and negatively.

Priorities for 2016

A number of priority areas have been set for 2016. They include:

- Continue to build capacity within the company so that international human rights standards are better understood and can be applied to ABB operations. To achieve this, we will extend awareness raising training to several more of ABB's largest countries and certain business units.
- Consolidate the human rights network so that it is better able to advise the business. This will be done through further meetings, and a new human rights database for the reporting of alleged incidents and any lessons learned.

- Develop a roadmap for further progress towards the goal for 2020. This will include strengthening the framework and criteria of key business decision-making processes, further training schedules and starting to work on human rights impact assessments.

Challenges

ABB has been working hard to implement the main applicable features of the UNGPs for several years. The early adoption of a [Human Rights Policy](#) in 2007, supported by internal standards, was followed by an increased focus on due diligence, the strengthening of key policies such as the Supplier Code of Conduct, and greater reporting on the issues we face.

In recent years, human rights experts in the company have increasingly been carrying out due diligence on projects as part of the business process. The level of due diligence varies according to the nature and size of the business activity. Some projects are selected for desktop research; others may involve external third-party research, or visits to sites and stakeholder engagement.

One of the challenges we face is having the resources needed to cover the large volume of projects we seek to be involved in, and achieving a consistent approach throughout the Group.

Human rights criteria are already contained in the risk review process for screening major projects, the pre-qualification and assessment work with suppliers, and in our process for examining potential mergers and acquisitions. We will be seeking to make the criteria and processes more robust, and be better able to respond to increasing reporting and legislative requirements.

We are also considering additional ways to address the issue of access to remedy for people whose rights may have been violated, as defined in the third pillar of the UN Guiding Principles.

ABB has a series of hotlines, such as the Business Ethics Hotline, and reporting mechanisms for internal and external stakeholders provide all ABB employees and stakeholders worldwide with a means to report suspected violations of the ABB Code of Conduct or applicable laws. They are mostly used by current employees. Contact details for all stakeholders are provided on ABB's website but few external stakeholders use this mechanism.

As in many large organizations, we also face violations within the company. There were eight substantiated cases of harassment in 2015, resulting in five terminations, and a range of other measures, including formal warnings, counseling and further training.

All countries in ABB's sustainability management program are asked to report any incidents relating to employee rights of freedom of association and collective bargaining, incidents of child or forced labor, or any indigenous peoples' rights violations. None were reported in 2015.

Our reporting also shows that security staff in several countries received training on human rights issues in 2015. Human rights clauses were introduced into new contracts with private security providers, using wording based on the Voluntary Principles on Security and Human Rights and the International Code of Conduct for private security providers.

Engagement

We engage with a wide variety of stakeholders about our human rights policy, processes and activities. Customers have increasingly been requiring ABB, as a supplier, to detail our work on human rights; export credit agencies want to be satisfied ABB has researched potential social and environmental consequences of major infrastructure projects as a condition for financing them; and an increasing number of investors and ratings agencies are asking about our social and human rights performance, as well as our activities in sensitive countries.

ABB has been involved in consultations with certain governments which are developing National Action Plans. Human rights experts also have both formal and informal contacts with non-government organizations about policy issues and individual cases, during which we exchange perspectives.

We are members of the Global Business Initiative (GBI) on Human Rights and the UN Global Compact and some of its local networks. From the GBI, we learn from peer companies, have an opportunity to discuss dilemmas and receive valuable information about business and human rights developments. 

Our external activities in 2015 also included speaking at a number of international meetings, taking part in podium discussions, and teaching at universities in Switzerland and Sweden.

ABB has been on our human rights journey for over a decade. We have many building blocks in place such as our Human Rights Policy, criteria embedded in decision-making processes and training programs, all of which are helping us to advance. We know we still have quite some way to travel.

Safe and secure operations Embedded in our culture

Safety, along with integrity, is one of ABB's core value pairs and, as such, determines the way we work. It influences the type of business we accept, the personal responsibilities expected of each employee, and the way we manage people and interact with our colleagues.

Our objective is that by 2020 all ABB operations will have an excellent health, safety and security culture embedded in their day-to-day business, targeting zero incidents.

To achieve this ambition, we have established targeted, Group-wide initiatives to supplement our long-standing safety program. These initiatives are underpinned by key performance indicators (KPIs) with quantitative targets that are tracked and reported regularly to top management.

The KPIs – rate of safety observation tours (SOTs) conducted, rate of hazard reporting, percentage of operations covered by certified health and safety management systems – were deliberately selected as “leading” indicators, with the goal to identify and eliminate hazards before they cause harm or injury. We continue to monitor the outcome of our programs – our safety performance – using “lagging” indicators, such as total recordable incident rates.

Consistent message from the top

ABB's Next Level strategy explicitly defines responsibilities at all levels of the organization, with accountability for safety assigned along business lines. These responsibilities and accountabilities clearly link business value with the ability to deliver safely and with integrity - prerequisites to achieving our ambitious growth targets.

To reinforce this link, the “hazard reporting rate” KPI has now been included in ABB's internal dashboard that is used to monitor business performance across the Group. The performance improvement of each division and business unit is reviewed annually, according to a defined scoring system, and outcomes are factored into managers' variable compensation.

Additionally, all ABB employees must include a health and safety behavioral goal in their annual objectives. To support consistency and rigor, we have developed a package of defined objectives with appropriate underlying metrics that can be selected according to the individual and their role, responsibilities and seniority.

Our CEO continued to reinforce the Group safety message with the presentation of the inaugural CEO Safety Awards at the Group Leadership Forum in 2015. The awards, open to all ABB employees around the world, acknowledge significant individual and team achievements that promote a strong safety culture.

From more than 150 nominations, winners and runners-up were selected in each of three categories. Catherine King, Health, Safety and Environment (HSE) Manager at ABB in Australia was named winner of the Safety Leader award for demonstrating exceptional HSE leadership in the workplace. The ABB team responsible for the Al-Rayyan Village substation project in Qatar won the Project Safety Performance award, while the Team Safety Improvement award went to the ABB Shanghai Motors Co. Ltd. for major progress in HSE workplace improvement. 

Following the success of ABB's first global Safety Week in 2014, Safety Week 2015 more than doubled the number of training sessions delivered globally (5,600 compared to 2,500 in 2014), and also expanded its reach from 140,000 participants to 186,000 in 2015. Training sessions included three main topics - key safety risks, safe ways of working, and working safely with contractors - while additional trainings were prepared according to locally identified needs, such as office ergonomics, use of defibrillators, first aid training, health awareness and stress management, among many others.

Programs and tools supporting our strategy

To support the achievement of our safety objectives, we prioritized three work areas during 2015: development of safety master-classes for line management, strengthening of safety instructions and standards, and development of enhanced internal HSE audit arrangements.

The safety master-classes are leadership and HSE competence workshops for line managers, designed to extend their HSE knowledge and leadership skills, and helping them to apply impactful leadership practices in their daily work. The workshops will train managers to identify hazards and manage risks, to identify the roles and responsibilities required to achieve a culture of excellence in HSE and to influence behaviors to achieve these outcomes. The workshop format and content were developed in 2015, with pilots and initial roll-out to plant, local business unit (BU) and product group managers planned for 2016.

We also conducted a global review of our safety instructions and standards, to create a high profile, common base for improved alignment, and as the common base for a comprehensive audit program to drive compliance and continuous improvement in HSE. Additionally we have developed and implemented a new Lessons Learned process, underpinned by an assurance procedure that requires review, gap analysis and action by each local BU manager. This process helps

Injuries, lost days, diseases and fatalities

	2015	2014	2013 ^a	2012 ^b	2011
Employee work-related fatalities ^c	0	1	0	1	0
Incident rate ^d	0.00	0.01	0.00	0.01	0.00
Employee business travel fatalities ^{c,f}	0	0	0	1	0
Incident rate ^d	0.00	0.00	0.00	0.01	0.00
Contractor work-related fatalities ^{c,e}	2	2	7	2	0
Contractor business travel fatalities ^{c,f}	0	0	0	0	0
Members of the public fatalities ^c	1	0	1	0	0
Employee total recordable incident number ^{e,g}	1,310	1,500	1,664	1,750	1,505
Incident rate ^d	8.79	9.95	10.94	13.04	13.17
Contractor total recordable incident number ^{e,g}	343	333	310	348	307
Incident rate ^d	8.02	7.76	7.52	8.21	7.47
Employee lost time incident number ^e	531	652	686	683	722
Incident rate ^d	3.55	4.34	4.70	4.80	5.70
Contractor lost time incident number ^e	163	200	158	159	148
Incident rate ^d	3.81	4.65	3.83	3.76	3.60
Employee lost days due to industrial incidents ^h	7,831	8,415	10,591	10,345	9,478
Days lost rate ^d	52.56	55.22	77.50	74.64	69.56
Employee occupational health diseases	46	17	10	10	7
Employee occupational health disease rate ^d	0.31	0.11	0.14	0.07	0.06
SOT number ^e	139,124				
SOT rate	0.92				
Hazard number ^e	520,942				
Hazard rate	3.51				

^aData from Thomas & Betts, a company acquired by ABB during 2012, does not include contractors.

^bThis data does not include incidents from Thomas & Betts, a company acquired by ABB during 2012.

^cFatalities also include deaths occurring within one year as a result of injuries sustained.

^dIncident rates are according to the ILO rate per 1,000 employees.

^eData covers incidents that happened at workplace (ABB facility, customer site, project site).

^fIncidents during air travel on business trips are excluded.

^gTotal recordable incidents include fatal, lost time injuries, serious injuries, medical treatment injuries, occupational diseases and restricted work day cases.

^hDays lost are calendar days and are counted from the day after the incident.

ensure critical lessons are shared across all our operations, with line managers accountable for full application of required actions. A further tool and process to help businesses share good practices across the Group was also launched during the year.

To strengthen HSE governance and reinforce line management accountability, we developed an HSE audit protocol to be applied in the Group internal audit program, trained all internal auditors and conducted audits in all regions and in all divisions. During 2016, we plan to expand the scope and application of the audit program. This new program will facilitate peer to peer auditing to promote sharing and learning across operations, identification of improvement opportunities and standardization of HSE processes across ABB to best practice level.

Occupational hygiene

The impact of an infectious disease in the workplace can be significant, even when few employees are affected. ABB takes action to protect our employees from such occurrences and has developed a Sanitary Threat Tool and Pandemic Guidebooks designed to give our operations the tools to cope with fast-moving incidents of infectious disease, such as MERS-CoV, Ebola or Zika virus. The guidebooks contain generic corporate action plans applicable to most commonly occurring infectious diseases in ABB's areas of operations, and ensure local adaptation to meet legal and medical requirements and best practice. The tools were rolled out to all ABB country and region crisis task forces during 2015.

Our health and safety performance

We saw significant improvement in many of our key safety metrics in 2015, but sadly we recorded two fatal incidents involving ABB contractors working at project sites in India and Saudi Arabia.

Ensuring safe ways of working with contractors is an ongoing challenge, which we are addressing at many different levels: in our supplier qualification and classification processes, in our contractor management and safety leadership training and through project safety audits.

In other areas, we are already seeing the benefits of our increased focus on safety performance. We have seen a significant reduction in severity of incidents, as measured by the days lost rate, while the employee total recordable incident rate declined by 10 percent from 2014 and has improved by more than 30 percent since 2011.

We also made good progress towards the 2020 targets for our leading indicators. The rate of hazard reporting exceeded the 2020 target of 2 per employee, while the Safety Observation Tour rate showed the target of 1.2 per employee is within reach. Certified health and safety management systems are in place at 421 of our 602 reporting locations (70 percent), providing an excellent platform from which to work towards our 95 percent 2020 target. Progress on this target will be pursued following the release of the new ISO 45001 occupational health and safety management system standard and following a review of our current strategy.

Secure operations

ABB has strengthened its security capability in recent years to better protect our people and assets, and to ensure business resilience.

In common with many global enterprises, we face a series of threats, ranging from terrorism, crime and kidnapping through to natural disasters and cyber security. Whereas in the past the likelihood of threats could be mapped relatively easily or was likely to be confined to high-risk areas, this is no longer the case.

The terror attacks in Paris in 2015, as well as violent incidents and social unrest in the Middle East, North Africa and other parts of Africa underline that a company increasingly has to factor in security into its policies, processes, project planning and costs.

Mapping the movement of ABB travelers - there may be several thousand people on the move at any one time - is vital. Our security personnel need to be able to warn staff members away from certain areas at short notice, to stop travel, to evacuate or advise a lockdown in the event of an incident. For this reason, significant progress has been made on online tools to advise and track the movement of our employees and contractors. Travelers who have booked their journeys through our preferred travel agents can be located and accounted

for at short notice, and be kept informed about rapidly changing events.

Training on different aspects of security is vital to our ability to exercise our duty of care. We have ongoing training programs at Group, region and country levels to help our employees to understand how to act and react under exceptional circumstances.

The face-to-face training sessions in 2015, led by internal corporate security staff, focused on country management crisis training (22 conducted), physical and personal security, travel and project security, workplace violence, extortion awareness and family liaison in which selected employees are briefed on how to approach and work with the family members of victims of violence. In many cases, training is tailored to perceived threats in a region: There are countries where workplace violence is perceived as a more likely occurrence; in other areas, the threat of kidnap for ransom or extortion are seen as a greater risk.

All these training sessions are supported by online learning. The most frequently used online tools in 2015 were those focusing on travel security, project security and crisis management.

While it is not advisable to go into detail about security challenges that ABB was confronted with in 2015, we demonstrated our ability to proactively prepare for risk and manage difficult situations in different parts of the world. We helped to safeguard our people, protect our assets and meet our customers' needs - but we know the need for such efforts is likely to increase in the future.



Responsible sourcing

Standardized processes, building relationships

ABB is committed to improving its supply base. Our strategy is geared towards building relationships with best-in-class suppliers in the areas of sustainability, business ethics, quality, on-time delivery and total cost, ensuring compliance with ABB standards and continuous sustainable improvement.

With operations in approximately 100 countries, ABB manufactures products in over 300 product lines and has approximately 70,000 direct material and project service suppliers. We view these suppliers as an extension of our global enterprise and an integral component of our long-term success.

ABB is, therefore, committed to providing skilled resources to support our suppliers' development and enable them to achieve a sustainable competitive advantage. Together, this moves us towards our goal to provide our customers with a competitive and sustainable supply chain.

ABB takes a structured approach to supplier qualification, performance evaluation, classification and development. Our process to register and pre-qualify new suppliers is operated through our partner Achilles, while supplier performance evaluation is conducted in-house, covering quality, delivery, commercial, sustainability and risk management topics. The results of these evaluations drive supplier development processes.

Strengthening processes

To support ABB's strategy to build strategic relationships with the best-performing suppliers, we developed and launched new, common supplier qualification and classification processes during 2015. These processes are mandatory for all suppliers of direct material or project services where annual ABB spend is above \$5,000. The new procedures are now being implemented step-wise, with initial focus on medium and high risk suppliers.

The supplier qualification process ensures that a supplier has the 'basics' in place and satisfies ABB minimum requirements. The new process is designed to reduce risks, improve supplier on-time delivery, quality performance and compliance, and enable sharing of qualification activities across different parts of ABB's business.

An initial company risk evaluation, covering sustainability, compliance, quality, supply chain and financial risks, determines the required steps in the qualification process, with a higher risk rating leading to more stringent qualification steps. All suppliers now must be certified according to ISO 9001 or a similar quality management standard and suppliers of materials or services classified as high HSE risk are strongly



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in-depth supply chain sustainability assessments since 2010

recommended to be certified to ISO 14001 and OHSAS 18001 for environmental and health and safety management.

The new qualification process ensures consistency when ABB defines and implements standards, such as our Supplier Code of Conduct and conflict minerals requirements. It will strengthen relationships with our key suppliers as we work with them to achieve this.

The supplier classification process takes into account the supplier's qualification status, compliance status, actual performance and overall strategic fit. It enables ABB to clearly identify the suppliers best aligned to our sourcing strategies and standards, and channel spend to those classified as 'Preferred' and 'Approved.'

Implementation of the new processes has also been supported by the launch of the MyABB Supplier portal, a new self-service, single entry point for suppliers to access relevant information, tools and training materials across ABB applications. The portal offers greater flexibility in the training process, providing 24/7 access to materials and helping suppliers identify and prioritize applicable training.

Developing supplier sustainability performance

In early 2015, ABB presented the GF foundry in Leipzig, Germany with the Global ABB Supplier Sustainability Award to honor the supplier's commitment to health and safety, social responsibility and efficient use of energy. With multiple units supplying ABB, GF - based in Switzerland - has adopted robust and effective practices and represents a model to which all ABB suppliers can aspire. 

ABB initiated the Global Supplier Sustainability Award to recognize sustainability leaders in our supply chain and will continue to identify award candidates using our supplier qualification, development and performance data.

ABB's [Supplier Sustainability Development Program](#) (SSDP) helps us to focus our efforts further to support improvement in the sustainability performance of our suppliers. The program prioritizes suppliers according to a risk matrix combining country risk, commodity risk based on operations charac-

teristics, criticality of the supplier and spend volume. Training on sustainability priorities is provided for both suppliers and ABB employees, on-site assessments evaluate performance status, and improvement plans are monitored to ensure timely completion. We focus on tier one suppliers in priority countries, mainly Brazil, China, India, Mexico and South Africa.

Expanding activities in 2015

During 2015, we launched the SSDP assessment program in Indonesia, Thailand and Vietnam and expanded the SSDP to Poland with training sessions and on-site assessments. The ABB internal assessor program continued, with additional supply chain specialists in Brazil, China and India obtaining third-party certification.

We also enhanced support material for the program during 2015 with the launch of SSDP e-learning courses for suppliers and providing local translations of SSDP training material for Indonesia, Poland, Thailand and Vietnam. E-learning on responsible sourcing and the SSDP were also developed for ABB employees during the year, while training on root cause analysis and action plan preparation was conducted for ABB teams.

The following table summarizes SSDP activities during 2015 and achievements since the start of the program.

Supplier Sustainability Development Program	2015	2010-2015
Number of ABB employees trained	259	1,634 ^a
Number of suppliers trained	421	3,222 ^a
Number of suppliers assessed ^b	179	777 ^a
Number of risks identified	441	1,523
Number of risks mitigated	311	986

^a Historical data has been corrected following internal review

^b Number does not include reassessments

After on-site assessments, suppliers are assigned a risk rating based on the assessment findings. The risk rating determines the required pace of corrective action and whether an on-site reassessment is required for the closure of corrective actions. The 10 most frequent non-compliance issues identified during assessments are shown in the table below. ABB uses this information to further develop the program and associated support processes.

While we see significant performance improvement through implementation of corrective action plans, we continue to assess how well suppliers maintain those improvements. In 2015 we revisited 22 suppliers who had successfully closed all corrective actions from previous assessments. As in 2014, we discovered some repeat findings, and are assisting those suppliers with root cause analysis to prevent recurrence.

Top 10 sustainability non-compliance issues

General management	— Procedures not in place to evaluate and select sub-suppliers and sub-contractors based on their ability to meet ABB sustainability requirements
Labor and human rights	— Excessive working hours and overtime
Health and safety	— Unsafe / unhealthy working conditions — Lack of health and safety reporting procedures and data — Inadequate first aid and firefighting equipment — Insufficient emergency preparedness, eg, fire, evacuation, first aid — Lack of health and safety risk assessment
Environment	— Lack of environmental risk assessment — Lack of environmental competence and training — Non-compliance with relevant environmental regulations

Addressing challenging issues

As we have reported previously, some of the issues identified during supplier assessments require analysis to understand the root causes and it can take time to develop lasting solutions. One such issue is excessive working hours, which is often categorized as a social compliance issue, but is at the core, a business and financial issue.

Working with a peer company and external consultant, in 2015 we developed the ABB Training and Development Program for Factory Working Hours, a detailed training program that enables factories to conduct root cause analysis, and to define and implement changes that result in positive business value, not simply working hours compliance. The program was piloted with 15 suppliers during 2015, with outcomes to be evaluated in early 2016. 

While ABB focuses on working with suppliers to improve performance, there are consequences for suppliers unwilling to align their performance standards with ABB requirements. During 2015, 20 suppliers were blocked due to unsatisfactory progress on their corrective action plans, bringing the total number of blocked suppliers to 43.

Moving forward in 2016

We will continue to scale up and replicate the SSDP in 2016, with plans to roll out the program in Argentina, Colombia, Peru and Turkey. Training for suppliers will be further enhanced with the development of new training materials and an increased number of trainings.

Once the updated supplier qualification and classification system is fully implemented in 2016, we will review the supplier base selected for inclusion in the SSDP and aim to develop new quantitative targets for the program.



Environment

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Energy efficiency, renewable energy and climate

Working on many fronts to reduce climate impacts

ABB's greatest contribution to the reduction of greenhouse gas (GHG) emissions is through our energy efficient and renewable energy products, systems and services. But we also work hard to improve the energy-efficiency and reduce the carbon-intensity of our own operations.

Internally, we have set a target to reduce ABB's energy intensity by 20 percent by 2020, from a 2013 baseline. This includes direct fuel consumption, as well as the use of electricity and district heating for manufacturing processes and to operate buildings. We also aim to cut GHG emissions from direct use of fuels, from purchased electricity and district heating, and from the handling of sulfur hexafluoride gas (SF₆).

To support our goals, all ABB manufacturing, workshop and office facilities are required to implement energy savings plans, and to assess the main sources of GHG emissions and develop action plans to cut them. Improvement activities across the Group include conducting feasibility studies, modifying processes, updating equipment and infrastructure, working with suppliers, and changing behaviors.

While our efforts in 2015 resulted in absolute decreases in both GHG emissions and energy consumption, ABB's energy intensity, measured as MWh per million US dollar sales, increased due to lower 2015 revenues and lower capacity utilization in some areas.

9% reduction in
GHG emissions
(Scope 1 + 2)



Energy efficiency in operations

During 2015, more than 190 individual energy efficiency projects were reported across the Group, estimated to result in 32.2 GWh of energy savings for the year. Many of these projects addressed the efficiency of compressed air systems and of heating, ventilation and cooling (HVAC) processes, while others focused on improving the energy efficiency of our buildings and heat recuperation from machines and processes.

As in previous years, the most common projects involved implementation of energy-efficient lighting solutions, generally in our production and testing facilities. Solutions involved increased use of daylighting, replacement of old lighting with LED technology, as well as application of lighting control systems.

To this end, we are using some of the lighting improvement projects to test new lighting concepts developed as part of our ongoing collaboration with Philips. Initiated in 2014, the collaboration aims to combine the companies' expertise in building automation and LED technology to develop innovative, scalable lighting solutions for production and logistic halls, and warehouses.

For example, ABB and Philips developed a new lighting system for an ABB production facility in [Turgi, Switzerland](#) to provide better illumination of the production hall while significantly cutting electricity consumption and maintenance requirements. The project involved replacement of metal halide lamps with LED modules and installation of detection sensors and a control system that automatically adapts lighting levels to available daylight and usage requirements in the hall. We estimate the new lighting concept has reduced the annual electricity costs – and associated CO₂ emissions – of the production hall by 50 percent. At the same time, the employees benefit from the improved brightness of the system, which greatly improves visual clarity for fine installation work.

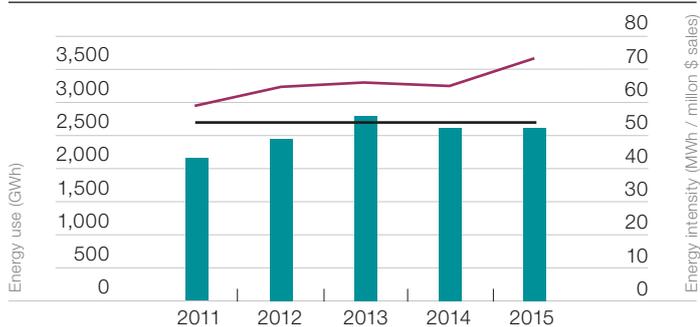
Other facilities have undertaken comprehensive reviews of processes and infrastructure and are realizing significant energy savings. For example, our medium-voltage products plant in Nashik, India upgraded its lighting system, installed more efficient HVAC technologies, modified the fume extraction system to avoid continuous running, and developed new standby programs for energy-intensive processes. The facility also invested in new technology to control conditions in its cleanroom, reducing the related electricity consumption by more than 50 percent and eliminating 54,000 liters of diesel consumption. The efficiency projects are projected to save more than 1,200 MWh per year, approximately one-quarter of the energy consumed at the site in 2015.

Energy savings are also being realized as side benefits in other projects. At our robotics operation in Västerås, Sweden, a program designed to improve water filtration and cleaning in degreasing processes also resulted in a 75 percent reduction in energy used to heat the cleaning water. At our factory in Roigheim, Germany, changing a raw material to improve product quality also allowed the facility to save around 220 MWh during manufacturing processes.

Many facilities have also chosen to implement formal energy management systems (EnMS), with 48 of the 89 sites with an EnMS now externally certified to ISO 50001 or EN 16247. ABB in Spain has implemented a unified EnMS for six main manufacturing and service sites, representing more than 95 percent of ABB's total energy consumption in the country,

and achieved certification in early 2015. Each site sets annual targets based on its unique circumstances, with the goal to achieve a 20 percent reduction in country-wide energy intensity by 2020. The country is well on track to its target having reduced energy intensity (MWh/million Euro) by almost 15 percent between 2013 and 2015.

Total energy use and energy intensity



- ABB energy use
- Energy intensity (MWh per million USD sales)
- 2020 Energy intensity target (MWh per million USD sales)

During 2015, ABB recorded a small year-on-year decline in absolute energy consumption, bringing total reduction since 2013 to 6.8 percent. Reductions in oil, diesel, district heat and electricity consumption were mostly offset by an increase in gas consumption, partially driven by fuel switching away from heating oil. Softer market conditions impacted activity levels and efficiency, partially offsetting the gains from energy efficiency programs. Energy intensity of global operations increased by 11.8 percent year-on-year (10 percent increase on the 2013 baseline) mainly due to the decline in 2015 revenues.

Energy use by type for 2015 (2014)

- Oil **3%** (3%)
- Gas **28%** (27%)
- Diesel **<1%** (<1%)
- District heating **7%** (8%)
- Standard electricity **59%** (59%)
- Green electricity **3%** (3%)



Building an efficient real estate portfolio

With a portfolio of around 8.8 million square meters of building space worldwide, ABB's corporate real estate management also plays a key role in our energy efficiency performance. The ABB Green Building Policy, introduced in 2008, sets out criteria for all new buildings, including site selection, building design and the choice of materials to optimize resources. It also details policies required for new development, refurbishment, and selection and management of rented space.

The development of the new ABB country [headquarters in France](#), located outside Paris, fully demonstrated this approach, combining energy efficiency with comfort and flexibility for the occupants. The 7,000 square meter office building was converted from a factory and is now equipped with a building management system that ensures the control of heating, air conditioning, ventilation, blinds and lighting. The system, equipped with ABB solutions, not only complies with the requirements of ISO 50001, but allows environmental control in individual offices as well as open spaces. Energy savings of 25 percent have been achieved since the site's opening in July 2014.

As a further step to improve the sustainability of our buildings, ABB has implemented a focused corporate real estate energy efficiency program across Europe. Kicked off in 2013, the project now covers 90 sites in 14 countries and entails systematic energy monitoring, technical assessments and evaluation of efficiency measures. Assessments have now been completed at 55 sites and reports on efficiency measures completed for 31 of those sites. We intend to expand this energy efficiency approach globally.

Building on the experience gained from the Energy Efficiency Europe program, we have recently launched the ABB Energy Management System for Real Estate (ABB EnMS). The ABB EnMS is a modular system designed to improve energy efficiency within ABB's global real estate portfolio and provide a step-wise approach to achieving ISO 50001 compliance. The system is applicable globally but provides the flexibility to cater to local needs and objectives. → W E B

Reducing carbon intensity of energy

As well as working to improve the efficiency of our energy consumption, ABB also seeks to reduce the carbon intensity of our energy sources. In 2015, ABB in France decided to purchase all of its electricity from renewable sources, joining ABB operations in Belgium, Netherlands and United Kingdom in a commitment to "green" electricity. Thomas & Betts plants in these countries will also join these programs as their current contracts expire. In Sweden, almost 20 percent of electricity purchased was "green" energy. Globally, 4.4 percent, or 71 GWh, of ABB's 2015 electricity was purchased as certified "green" electricity.

During 2015, we surveyed 15 of our large country operations to better understand the opportunities for and potential barriers to procurement of renewable electricity in different regions and to learn from those already doing so. Preliminary results indicate potential cost-effective opportunities, which we will further investigate during 2016.

ABB facilities have also installed on-site photovoltaic (PV) power plants to reduce environmental impacts, as well as to demonstrate ABB's solar capabilities. PV plants are now installed at 25 sites in 15 countries across Asia-Pacific, Latin America and Europe, with further installations in planning or construction phase. While contributing only a small proportion of our global electricity needs, these plants are often a key part of local energy strategies, reminding employees of ABB's energy efficiency and low carbon commitments.

Greenhouse gas emissions

ABB's total greenhouse gas (GHG) emissions (direct + indirect) decreased by 8.8 percent in 2015, from 1.81 million tons in 2014 to 1.65 million tons, mainly due to a significant reduction in SF₆ emissions from production processes and gas handling on site. During 2015, we analyzed and redesigned certain production processes to reduce and, where possible, eliminate SF₆ use. Other facilities continued their programs to improve handling, leak detection and storage procedures for the gas.

Indirect GHG emissions from purchased energy declined slightly due to decreased consumption, while indirect GHG emissions from air travel declined by more than 8 percent due to reduced travel. (See [Approach to reporting section](#) for details of our GHG calculation methodology.)

Reduction in air travel has been facilitated to some extent by the greater availability and quality of virtual meeting solutions that support collaboration within ABB and with external partners. ABB has transferred approximately 125,000 employees to Office 365 to provide a common enterprise-wide founda-

tion for business communication. Integrated voice and video desktop solutions are being rolled out to all employees over time to improve productivity, generate savings and reduce environmental impacts.

Transport, logistics and packaging

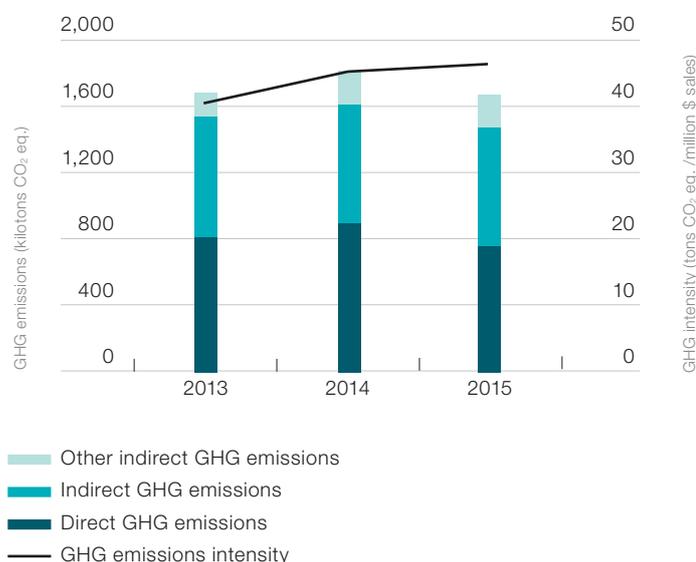
During 2015, we worked to develop a better Group-level view of our global fleet and related GHG emissions. We also learned from local good practices in low-carbon fleet and travel policies, such as the Green Fleet policy of ABB in Switzerland, which incentivizes staff to select lower CO₂ emission vehicles. Additionally, staff members who choose not to take a parking space for their private car receive a payment of CHF 400 in the form of "Reka Checks" which can be used to pay for train travel. We will continue this work in 2016, sharing best practices and developing a more detailed estimate of fleet GHG emissions.

Programs to optimize logistics continued during 2015, resulting in cost savings, improved quality and reduced emissions. Following a successful pilot in China, the Transportation Management Center (TMC) concept will be rolled out globally during the next three years. TMCs provide coordinated transport management for ABB business units, integrating domestic and international transportation needs, coordinating vendor, transport management center and factory through a unified operational process. The goal is to include up to 90 percent of ABB's freight in the program to increase efficiency.

Our global packaging optimization project also continues to make progress. The project focuses on cargo packaging, sourcing and supply base reduction and involves systematic review of packaging needs and assessment of the potential to optimize packaging type, size and weight. As well as sustainable cost reductions, improved packaging and loading can increase transport efficiency, thus reducing emissions and material consumption, improving ergonomics and providing better product protection.

Optimization programs have also been initiated at business unit (BU) level. For example, our BU Transformer factories in Lodz, Poland and Ludvika in Sweden have cooperated to develop a "round tour truck" project that has significantly reduced the number of trips from Lodz to Ludvika and identified an efficient use for the return trips. This concept has now been extended to include returnable packaging. Reusable boxes have been designed with dimensions standardized according to product designs and to fully utilize space in the trucks. Each box can be used 30-60 times, replacing single-use wooden boxes.

Total greenhouse gas (GHG) emissions and GHG intensity



Resource efficiency

Improving processes, saving costs

ABB is committed to minimizing our environmental impacts and to ensuring the health, safety and protection of people who come into contact with our products and business. This requires attention to product design and manufacturing processes, as well as to our supply chain, to optimize the use of resources, minimize waste and ensure that the materials and components we use and the products we produce comply with our own and our stakeholders' standards.



Addressing these issues contributes to our business success by reducing costs and risks, improving the work environment for our employees and helping to maintain our license to operate.

Reducing impact where it's most needed

Given the impacts of water stress are felt most acutely locally, ABB is focusing our water conservation efforts in locations where the water stress is highest. We have committed to reduce absolute water use by 25 percent between 2013 and 2020 at facilities in watersheds with extremely high, high and medium-high baseline water stress.

We have mapped our facilities using the World Business Council for Sustainable Development's [Global Water Tool](#) and classified them according to the level of "baseline water stress" of the watershed where they are located. Baseline water stress measures total annual water withdrawals (municipal, industrial, and agricultural) expressed as a percent of the total annual available flow. Higher stress values indicate more competition among users. Data on watershed water stress are based on work by the World Resources Institute¹.

Of the 470 facilities mapped², 57 are located in watersheds with extremely high water stress, 96 in areas with high stress and 76 in areas with medium to high stress. Even though approximately 50 percent of our facilities and employee headcount are located in these high water stress areas, the facilities accounted for only 33 percent of ABB's global water withdrawal in 2015.

We have selected 64 of these sites as the initial focus of our water reduction commitment. Selection was based on 2014 facility water withdrawal greater than 5,000 m³ in extremely

high and high stress watersheds (32 and 29 sites, respectively) and water withdrawal greater than 50,000 m³ in medium-high stress watersheds (3 sites). These facilities, in 23 countries, accounted for 79 percent of ABB's water withdrawal in extremely high, high and medium-high stress watersheds and for 26 percent of ABB's global water withdrawal in 2015.

Many of the selected facilities have already initiated activities to reduce their water withdrawals and improve their water efficiency. Some have redesigned processes to treat, recycle and reuse water, while others have made significant investments in new systems to reduce water consumption.

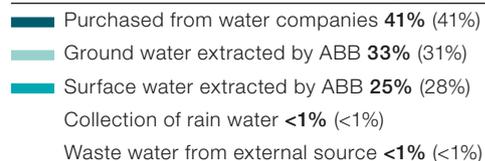
For example, our measurement products facility in Ossuccio, Italy, uses significant amounts of water to cool production machinery. The cooling system, designed originally as a continuous-flow, open-loop system taking water from the municipal water system and returning it to a small creek adjacent to the facility, has now been upgraded to a fully-closed process, saving both water and costs. The new system was commissioned in 2015, saving more than 35,000 m³ (more than 30 percent) in 2015 water withdrawal compared with 2014.

Water in our global operations

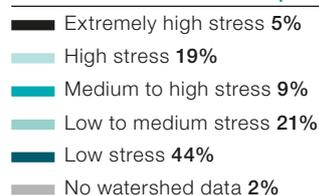
Across ABB Group, water withdrawals were reduced by 4 percent (430,000 m³) during 2015, including a 5 percent reduction in water purchased from municipalities and a 14 percent reduction in surface water extraction. Water discharge also declined by almost 4 percent, mostly due to reduction in discharge to surface and ground water.

Site-level water efficiency projects ranged from repair and refurbishment of water systems, to upgrading processes to enable increased recycling or reuse of water, to collection

Sources of water withdrawals in 2015 (2014)



Water withdrawals in 2015 per water stress status



¹ Gassert, F., M. Landis, M. Luck, P. Reig, and T. Shiao. 2014. "Aqueduct Global Maps 2.1." Working Paper. Washington, DC: World Resources Institute.
² We did not include facilities with fewer than 20 employees on site.

of rain water for use in process work or domestic facilities. Water conservation training and awareness-raising programs continued for employees at many facilities.

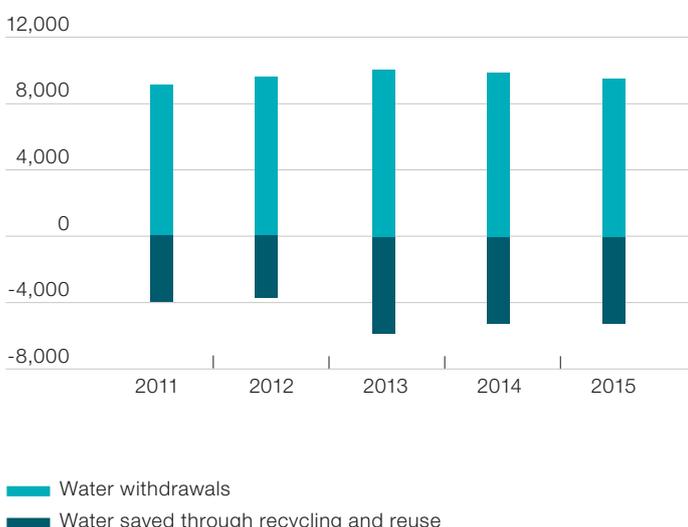
In Ludvika, Sweden, installing flow control valves and rebuilding the pipes to vapor phase ovens is helping to reduce the consumption of cooling water, as well as saving electrical energy from reduced pumping requirements. At nearby Västerås, a project to achieve more efficient filtration of water used in degreasing processes is expected to dramatically increase the number of cycles the water can be reused, resulting in a 75 percent reduction in water use.

In 2015, almost 50 percent of ABB's water withdrawals were used for cooling processes, 20 percent for manufacturing processes and the remainder for domestic purposes such as sanitation, cooking or garden maintenance.

Of those sites that use water for process purposes, more than 30 percent use closed-loop systems. Excluding cooling water returned to the source of extraction, the use of closed-loop processes and the reuse of water in other ways saved approximately 5,200 kilotons (5.2 million m³) of water in 2015. Without this recycling and reuse, ABB's water withdrawals would have been 54 percent higher.

Some 51 percent of our water discharge was to public sewers, with about 30 percent of that volume first processed at our own treatment plants. Another 42 percent was discharged to surface or ground water, with 90 percent of that volume pre-treated. The remainder was handled by hazardous waste water treatment companies.

Water withdrawals and water reused / recycled (kilotons)



80% of waste sent for recycling in 2015

Waste and recycling

ABB products contain mostly steel, copper, aluminum, oil and plastics. Consequently, the main waste streams at ABB facilities are metal, oil and plastic, as well as wood and cardboard from packaging materials and paper from office activities.

The majority of the material used in our products is reclaimable at the end of the product's life, and we aim to enhance the ability to recycle by designing products that can be dismantled more easily and by providing users with recycling instructions.

At our sites, we aim to optimize material use, reduce the amount of waste generated and increase the share of waste that is reused or recycled. We are committed to reduce the amount of waste sent to final disposal – both hazardous and non-hazardous – by 20 percent by 2020. This will be measured as the proportion of total waste sent for final disposal and compared with a 2013 baseline.

During 2015, the total generation of waste was essentially unchanged from 2014, while the proportion of waste sent to final disposal improved slightly from 21 percent in 2014 to 20 percent in 2015.

To support this objective, all sites are required to develop plans to increase the share of waste reused or recycled and to reduce the amount of waste sent for final disposal in absolute terms.

In total, we generated less than 16,000 tons of hazardous waste in 2015, 12 percent less than in 2014, and sent about one-third of that amount for recycling rather than disposal. In-house recycling, mainly of packaging materials and thermoplastics, reduced the amount of waste by more than 5,700 tons, an improvement of 17 percent from 2014.

ABB operations undertake a wide range of waste reduction and recycling initiatives that reduce environmental impacts as well bringing cost benefits for the business. The type of activities undertaken generally depends on the characteristics of the production processes and the local waste infrastructure, but common themes emerge.

As a first step, many locations focus on awareness building and on ensuring that processes are designed to support material efficiency and waste sorting for improved recycling. Process improvements have included changing purchasing practices to encourage the supply of goods in bulk containers, thus reducing packaging waste, and reusing transport crates and pallets or repurposing the wood. At the New Berlin facility in the US, wooden pallets are now recycled by a third party, with the wood used for commercial mulch or as sawdust and the metals separated for scrap recycling. This action is estimated to save the facility approximately \$100,000 per year in disposal costs.

Some facilities are working with waste management vendors to optimize recycling options, such as the San Luis Potosí site in Mexico, where improved waste separation processes enabled the sale of certain waste streams, totaling almost \$160,000 for the year. In the US, some sites have negotiated agreements with their waste vendors to manage the waste streams, facilitating a significant reduction in landfill disposal.

Other sites have reviewed processes and procedures in order to minimize waste generation. For example in China and in Spain, facilities have reduced resin waste by changing control processes to enhance resin quality and reduce resin utilization rate. Staff training and sensitization has further improved performance. In ABB's high-voltage products factory in Ludvika, Sweden, the zinc spray-coating process was redesigned and optimized, resulting not only in significant savings of raw material from reduced wastage, but also a cleaner and healthier work environment due to dust reduction.

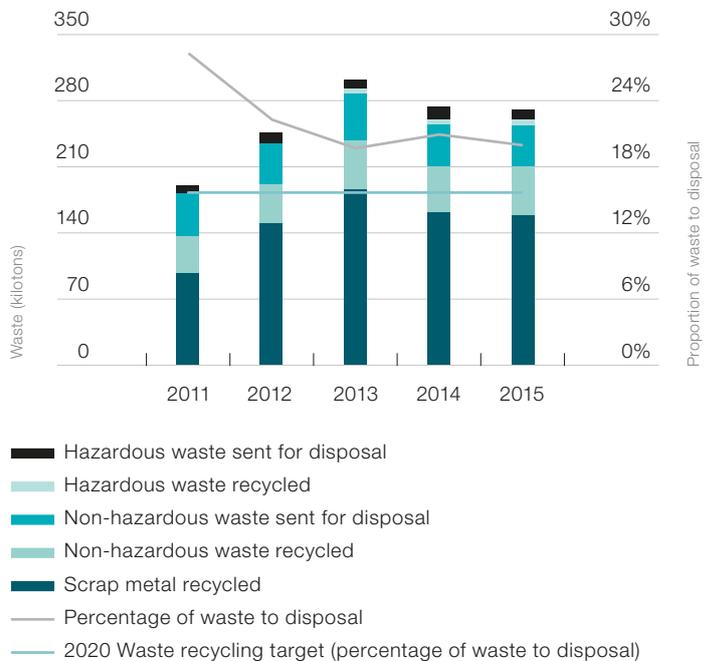
Even though there are many activities under way at our sites around the world, we are not yet seeing sufficient progress at Group level. Consequently, in 2016 all sites will be required to analyze their sources of waste and identify areas where generation of waste can be reduced. At Group level, we will systematically review the current state of waste reduction and recycling efforts, identify common elements, document best practices, and develop clear guidelines on required and recommended practices.

Improvement by design

ABB's Research and Development (R&D) engineers and scientists are key to ensuring that our environmental and health and safety ambitions are designed into ABB's products and solutions.

ABB's Group-wide approach to product and technology development follows the ABB Gate Model which defines a series of gates, or decision points, to determine the progress of projects. The intention is to ensure appropriate consideration

Waste and recycling



of legal, technical, strategic, manufacturing, customer and other requirements.

Sustainability aspects are built into the Gate Model and include a standardized Life Cycle Assessment (LCA) procedure and a handbook to guide consideration of environmental, and health and safety aspects during design. These aspects include how to:

- reduce the use of hazardous substances
- assure compliance with relevant laws and regulations
- avoid environmental and health risks during product manufacturing and operation
- minimize consumption of resources
- design for recycling and easy end-of-life treatment

We have developed support materials such as a health, safety and environment checklist (HSE Checklist) and training packages for our research technologists to improve understanding and ensure sustainability aspects are incorporated into design.

During 2015, we updated material selection guidelines and the HSE Checklist to strengthen “design for environment” principles and to include practical tools to facilitate the process. We trained a further 139 engineers and technologists, both in corporate research centers and in business units, to use the checklist and guidelines, and also established a sustainability network for our global research centers to share good practices and achievements related to ABB's sustainability objectives.

As part of our external collaborations, we also consulted with the scientific community and peer companies in 2015 to improve internal processes related to the Gate Model and to ensure that the content of the HSE Checklist remains consistent with current science.

Reduction of hazardous substances

ABB continues to phase out hazardous substances in products and processes, where technically and economically feasible. We have compiled lists of prohibited and restricted substances to guide this process and update them regularly, in line with international regulations. These lists help our engineers and suppliers to comply with regulatory requirements, ensure a high level of protection for human health and the environment, and manage risks encountered by chemicals present in various products.

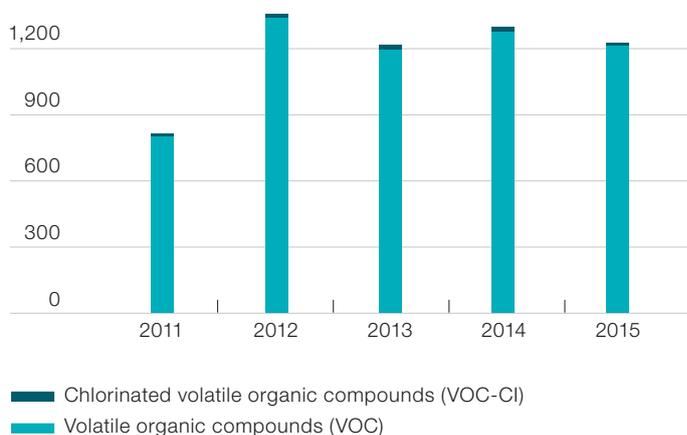
Our suppliers are requested to comply with these regulations, which are also part of ABB's Global Terms and Conditions and Supplier Code of Conduct. We have developed a [Guide for Suppliers to the ABB List of Prohibited and Restricted Substances](#) to support suppliers' understanding of their obligations.

The ABB list of prohibited and restricted substances is updated regularly, in line with regulations in our main markets. ABB facilities are required to ensure compliance with the ABB list and to work to phase out hazardous substances in their processes and products.

Use of hazardous substances (tons)

	2015	2014	2013	2012	2011
Phthalates – softener for PVC	878	258	21	28	47
PBB and PBDE – flame retardants	0	1.9	2.9	~0	~0
Lead in submarine cables	8,376	7,842	7,236	5,633	5,725
Organic lead in polymers	1.4	0.1	0.6	0.9	1.3
Lead in other products, eg, backup batteries and counterweights in robots	1,684	1,884	2,601	363	227
Cadmium in industrial batteries delivered to customers	0.8	4.4	4.4	5.6	1.6
Cadmium in rechargeable batteries	97.5	75.1	67.6	6.3	10
Cadmium in lead alloy and other uses	6.4	6.0	5.7	4.5	4.3
Mercury in products delivered to customers	0.007	0.071	0.012	0.011	0.030
SF ₆ insulation gas (inflow to ABB)	1,658	1,483	1,438	1,139	1,052
SF ₆ insulation gas (outflow from ABB)	1,648	1,466	1,425	1,118	1,040

Emissions of volatile organic compounds (tons)



As we continue to integrate our recent, large acquisitions, Baldor and Thomas & Betts, we continue to review the processes and substances used at these sites and to improve the quality of reporting, especially of complex mixtures and polymers. In 2015, a further two facilities reported on the use of phthalates, which are used as plasticizers in polymers, leading to a significant increase in reported use. Alternatives to these substances are under active investigation.

Good progress has been made to eliminate the use of polybrominated flame retardants in polymers. For example, at our plant in Scarborough, Canada, polybrominated diphenyl ether (PBDE)-containing bobbin material has been replaced with non-PBDE material, not only reducing the hazardous substances at the facility, but cutting costs by more than \$10,000 per year.

Emissions of chlorinated volatile organic compounds were reduced by one-third during 2015, as facilities continued to phase-out the use of chlorinated solvents.

Other facilities have continued to move to lead-free solder, have eliminated the use of rinsing solvent or have found alternatives to certain epoxies or flooring materials. ABB in Poland has taken a country-wide approach to enable better monitoring and systematic management of hazardous substances.

Promoting material compliance

ABB's network of environmental specialists works alongside our product development and supply chain function to promote material compliance. During 2015, we reinforced our continuing work around REACH compliance through the delivery of 13 training sessions on different aspects of the regulation to our cross-functional, REACH network.

During 2016, we will work to increase this collaboration between supply chain, environment and R&D staff to continue to strengthen our organizational capability as REACH and other regulatory requirements expand.

As well as targeting the phase-out of hazardous substances in our products and processes, ABB has also initiated programs to monitor the source of certain minerals more closely.

Currently, there is a conflict in the Democratic Republic of Congo where armed groups are being funded through the sale of tin, tungsten, tantalum, and gold (“3TG”) from mines which they control. We are actively working to identify whether any of the conflict minerals contained in our products have been obtained from the mines supporting armed groups.

In 2015, we provided our second [report](#), covering 2014, regarding conflict minerals in our products to the United States Securities and Exchange Commission according to the requirements of section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

We continue to assess our product portfolio to identify the use of tin, tungsten, tantalum or gold in our products and utilize ABB product experts, including representatives from supply chain management, engineering, and research and development, in making these product portfolio assessments.

To assess whether the necessary conflict minerals in our products originated from the Democratic Republic of Congo or any of its nine bordering countries, we performed a “reasonable country of origin inquiry” (RCOI) in line with the internationally recognized due diligence framework set forth in the Organisation for Economic Cooperation and Development Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas and identified direct suppliers of products likely to contain 3TG. We then surveyed these suppliers using the Conflict Minerals Reporting Template as developed and issued by the Electronic Industry Citizenship Coalition — Global eSustainability Initiative (EICC/GeSI).

In 2015, we expanded the number of suppliers covered by our RCOI procedures. We also increased our efforts to identify the specific components within each of our products. This enabled us to refocus our supplier selection procedures based on the results of the detailed analysis of our product components. Conclusions from this work will be included in ABB’s next report on conflict minerals to the Securities and

Exchange Commission, due later in 2016. This, and earlier reports can be found at this [link](#).

ABB’s work on responsible sourcing has been recognized by two independent benchmarking studies, showing that our efforts are focused in the right direction. We will continue collaborating with external initiatives and will continue to work over time to expand the level of awareness along our supply chain and to improve the information that is available.



Performance summary

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ABB Report Review Panel statement

Introduction

ABB has a long history of stakeholder engagement. The company has conducted a variety of stakeholder dialogues and regularly consults a wide range of stakeholders to challenge strategy, and to review material issues and its sustainability performance reports.

In 2015, ABB invited a stakeholder panel to accompany its sustainability reporting process. The panel consists of the following members:

- Jermyn Brooks, Chair Business Advisory Board Transparency International
- Prof. Volker Hoffmann, Professor for Sustainability and Technology, ETH Zurich
- Dr. Ajay Mathur, Director General, The Energy and Resources Institute (TERI)
- Robbie Miles, Analyst, Allianz Asset Management
- Anna Nilsson, Head of Sustainability, Swedbank Robur
- Gianluigi Ravenna, VP Account Management, Enics
- Leah Seligmann, Chief Sustainability Officer, NRG
- Shankar Venkateswaran, Chief of Tata Sustainability Group, Tata Group

The panel's tasks were to:

- Review ABB's sustainability approach
- Provide feedback on ABB's reporting about its performance against targets, as well as the targets to achieve ambition 2020
- Observe the reporting process, including a review of the final draft of the report
- Agree upon a panel statement summarizing the findings of the panel

This statement provides an assessment of ABB's Sustainability Performance Report 2015 and reflects the views of the panel members as individuals, not on behalf of their organizations.

The review did not include verification of performance data underlying the report as DNV GL was commissioned to undertake independent assurance of the Sustainability Performance Report 2015. The panel welcomes the external assurance as a means of providing stakeholders with further confidence.

The engagement started in October 2015, when panel members were asked to review ABB's sustainability approach and to provide feedback on the progress towards targets, as well as new targets to achieve ambition 2020. In February 2016, the experts discussed the draft report during another consultation. During the first online consultation Jean-Christophe Deslarzes, ABB's Chief Human Resources Officer, was

present and members of ABB's sustainability team attended both calls.

Based on the discussions and the feedback of panel members, this panel statement was drafted and circulated to all panel members for approval.

To ensure independence Barbara Dubach, engageability, facilitated the external panel process.

ABB's Report Review Panel is pleased to share its independent opinion on ABB's sustainability approach and its Sustainability Performance Report 2015.

ABB's sustainability approach

With its energy-efficient and renewable energy products, systems and services, ABB is well positioned to address major environmental and social challenges. The panel acknowledges the potential and the positive impact of ABB's products and services and at the same time expects ABB to reduce negative impacts of its operations and to do no harm.

In order to tap into this potential, more ambitious targets are expected such as a quantitative measure for energy-efficiency related products, a separate indicator for renewable energy products as well as a specific, quantitative greenhouse gas reduction target.

The panel would like to see the share of innovative, safe and resource-efficient products as it will further increase the understanding of the sources of ABB's revenue.

Progress towards targets

ABB's 'performance against targets' dashboard is still work in progress. Clearer linkages between the promises and the performance need to be established and the panel recommends formulating specific and measurable targets for each ambition. Absolute values, as well as reductions over the years, will help to judge the stringency of the targets and progress made. Challenges encountered or ambitions behind schedule should be highlighted and explained in the dashboard.

Governance and integrity

- ABB has worked to ensure that integrity concerns are addressed and its zero tolerance policy on violations is stringent. Instead of the current input-based target '100% of employees trained on integrity issues and processes,' the panel suggests reporting on measures to proactively assess possible integrity concerns, as well as how often hot-lines or advice lines are consulted when employees are faced with dilemmas. Greater transparency on the type and number of concerns raised by employees, suppliers or

other stakeholders would be appreciated. The panel also calls for country-by-country reporting and information on the company's approach to determining where to pay taxation. Information about the sustainability oversight of ABB's Board of Directors should be added in this chapter.

Society

- ABB has made good progress in rolling out its supplier qualification scheme, its supplier sustainability performance program and in disclosing the number of blocked suppliers. ABB should show the impacts of its decisions on suppliers, as well as how the company is partnering with suppliers, for example, to reduce greenhouse gas emissions.
- In the area of human rights, ABB appears somewhat tentative and still only reaches a small portion of its employees. A new target to reach ambition 2020 could be 'We cut human rights controversies by x%' or 'no human rights violations by 2020.' ABB should acknowledge the challenges related to human rights and should be doing human rights impact assessments when new products are launched or when the company is entering new environments.
- In the area of community engagement, the panel suggests strengthening the target and to disclose information about the number of lives touched, transformed or changed.

Environment

- ABB should define and disclose the boundaries of its ambitions and targets. For example in the area of water, the panel suggests disclosing in how many water scarce or water stressed sites the company is operating.
- The panel applauds the disclosure of energy savings of ABB's variable speed drives in motors and suggests to include supporting data on avoided customers' emissions as a result of ABB's products and services in future reports.
- Targeting zero waste is ambitious. ABB could anchor its target around specific waste streams such as hazardous, industrial or electrical waste. To avoid an impression that ABB is outsourcing waste production to other companies, ABB should transparently disclose what is outsourced to other companies.
- The increase in the use of hazardous materials especially phthalates, lead and cadmium are concerning even though explanations are provided for the changes over prior years.

The panel looks forward to seeing progress towards targets in the next Sustainability Performance Report.

Report highlights and improvement potentials

ABB's Sustainability Performance Report is comprehensive and well structured. It addresses key areas and the chapter

'performance against targets' is the central information hub (see previous section). The report is an important information source and should be promoted actively internally and externally.

Future reports including the CEO statement should be more reflective and include achievements, as well as areas where ABB is not on track. The panel urges ABB to address the dilemmas it is facing, commit to corrective action and to add a section 'looking ahead.'

Other suggestions are to disclose the sustainability impacts of ABB's products and services across the whole life cycle and to highlight the linkages between financial and sustainability issues. Panel members recommend exploring the trajectory towards integrated reporting and to start by integrating specific sustainability metrics in ABB's annual report.

Concluding remarks

The panel encourages ABB to continue its sustainability journey and to maintain its ambitious level. The greatest improvement potentials are seen in streamlining and aligning its ambition and targets and in assessing the impact of the company's sustainability strategy.

Stakeholder engagement is an important enabler to achieve ABB's ambition 2020 and the panel appreciates ABB's stakeholder approach, including the establishment of the panel.

Panel members are pleased to see that ABB has started to incorporate comments raised during the process and look forward to assess how their recommendations will be taken up in the future.

Independent assurance statement

Scope and approach

ABB Asea Brown Boveri Ltd (ABB) commissioned DNV GL Business Assurance Norway (“DNV GL”) to undertake independent assurance of the Sustainability Performance Report 2015 (the “Report”) for the year ended 31 December 2015. The scope of the Report is set out on page 69.

We performed our work using DNV GL’s assurance methodology VeriSustain™, which is based on our professional experience, international assurance best practice including the AA1000 Assurance Standard, International Standard on Assurance Engagements 3000 (ISAE 3000), and the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines. We evaluated the report for adherence to the VeriSustain™ Principles (the “Principles”) of stakeholder inclusiveness, materiality, responsiveness, completeness, neutrality and reliability.

We evaluated the performance data using the reliability principle together with ABB’s data protocols for how the data are measured, recorded and reported. The performance data in scope were: The data reported for the GRI indicators noted in the summary table starting on page 62 (EN3 EN5 EN15 EN16 EN17 EN21(VOC) EN23 LA6) and the data reported for 2015 achievements against the nine Group Sustainability Objectives for 2020 (see objectives dashboard on pages 8-11 of the Report).

Our scope included all the information within the pdf version of the Report, but excluded additional information and case studies hyperlinked from the report, to illustrate the sustainability programme.

We understand that the reported financial data and information are based on data from ABB’s Annual Report and Accounts, which are subject to a separate independent audit process. The review of financial data taken from the Annual Report and Accounts is not within the scope of our work.

We planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance opinion. We are providing a ‘moderate level’ of assurance. A ‘high level’ of assurance would have required additional work at Group and site level to gain further evidence to support the basis of our assurance opinion.

Responsibilities of the Directors of ABB and of the assurance providers

The Directors of ABB have sole responsibility for the preparation of the Report. In performing our assurance work, our responsibility is to the management of ABB; however our statement represents our independent opinion and is intended to inform all ABB stakeholders. DNV GL was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement.

DNV GL provides a range of other services to ABB, none of which constitute a conflict of interest with this assurance work. This is the second year that we have provided assurance of the full report. We have previously provided assurance services with respect to selected sustainability indicators for a number of years.

DNV GL’s assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been provided in good faith. DNV GL expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

Basis of our opinion

A multi-disciplinary team of sustainability and assurance specialists performed work at headquarters and site level. We undertook the following activities:

- Review of the current sustainability issues that could affect ABB and are of interest to stakeholders
- Review of ABB's approach to stakeholder engagement and recent outputs although we had no direct engagement with stakeholders
- Review of information provided to us by ABB on its reporting and management processes relating to the Principles
- Interviews with selected Directors and senior managers responsible for management of sustainability issues and review of selected evidence to support issues discussed. We were free to choose interviewees and interviewed those with overall responsibility for the programmes to deliver the nine Group Sustainability Objectives for 2020. We also interviewed management responsible for sustainability in Brazil, China, Poland and Switzerland
- Site visits conducted in: Guarulhos, Brazil; Beijing, China; Lodz, Poland and Lenzburg, Switzerland to review the process and systems for preparing site level sustainability data and implementation of the sustainability strategy. We were free to choose the sites we visited and they were selected on the basis of the significance of their contribution to ABB's overall environmental impacts, to provide a geographical and divisional spread in 2015, and a different geographical footprint to the 2014 site visits. The selected sites were all within the top 20 sites for impacts based on the data in scope
- Review of supporting evidence for key claims and data in the report. Our checking processes were prioritised according to the materiality of issues at a consolidated corporate level
- Review of the processes at Group level for gathering and consolidating the specified performance data and, for a sample, checking the data consolidation.

Opinion

On the basis of the work undertaken, nothing came to our attention to suggest that the Report does not properly describe ABB's adherence to the Principles. In terms of reliability of the performance data, with the exception of consolidated data for lost days, nothing came to our attention to suggest that these data have not been properly collated from information reported at operational level, nor that the assumptions used were inappropriate.

Observations

Without affecting our assurance opinion we also provide the following observations.

Stakeholder inclusiveness

The participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.

ABB began working with a stakeholder panel at group level in 2015 which has strengthened its approach to stakeholder engagement. The statement from the panel is a positive addition and adds to the transparency of the report. The recommendations from the stakeholder panel are useful and include short and longer term points. In addition to addressing short term priorities, ABB should consider developing a roadmap for implementation of the longer term recommendations.

In addition, we recommend ABB consider extending its stakeholder engagement arrangements to more clearly include requirements with respect to local engagement. The outcomes of these engagements should be integrated into decision making at a global level.

Materiality

The process for determining the issues that are most relevant to an organisation and its stakeholders.

This year ABB sought input on the issues in its materiality matrix from the stakeholder panel, validating the priority issues it has identified. We restate our recommendation that ABB should report on the extent to which different material issues are relevant at local level across the organisation.

Management of the priority issues is well embedded within the business at a group and local level. However the connection between targets at a site, country and group level is not completely aligned, and there would be benefit in ensuring this is clearer.

Safety has again been an area of considerable focus for ABB with development of a number of new programmes to support the strategy. Reporting has been enhanced with the introduction of leading measures (hazards and safety observation tours) to support the existing lagging ones. Data accuracy in these indicators should improve as the systems become embedded.

ABB is planning to introduce peer to peer auditing programmes, initially in safety, to promote sharing and learning across operations. We recommend considering including performance data reviews in these to increase confidence in data reliability and consistency.

Responsiveness

The extent to which an organisation responds to stakeholder issues.

The ABB Sustainability Board meets annually and provides senior oversight of the sustainability strategy and progress. It has the capacity to oversee the process of understanding and responding to strategic engagement with stakeholders. ABB should consider whether more frequent meetings would enhance oversight of the strategy and programme. Meetings should be timed to allow review of stakeholder input, as well as the annual sustainability performance report.

The group level objectives are not consistently focused on the key programmes and activities covered by the relevant issue areas. We support the recommendation made by the ABB Sustainability Board to enhance the overall governance of the development of targets and tracking of progress against them. This should include ensuring the targets represent an appropriate challenge for the organisation.

While the objectives dashboard (page 8-11) provides a useful indication of performance against targets, ABB should ensure that each target is specific and measurable and that associated KPIs report actual performance against each target.

ABB has sought feedback on its sustainability approach and reporting through the introduction of a stakeholder panel and the move last year to assurance that considers its overall approach, as well as data accuracy. Some of the recommendations made will take time to implement. It will be important in demonstrating responsiveness, to report on how the company has responded to feedback.

Completeness

How much of all the information that has been identified as material to the organisation and its stakeholders is reported.

ABB's reporting of performance including the disclosure of data is comprehensive. This gives stakeholders confidence that these aspects are managed appropriately.

ABB has improved the basis for calculating Scope 2 GHG emissions by using local emission factors rather than a single global emission factor. We recommend that local factors are reviewed annually to account for any changes in the energy mix.

Although ABB has a target for decreasing energy intensity, there is currently no target for reducing Green House Gas (GHG) emissions. We recommend establishing a target for reducing GHG emissions. We also recommend ABB expand on its preparedness to respond to the outputs from COP21.

The analysis of where ABB believes it can support the realization of the UN Sustainable Development Goals (SDGs) is encouraging and we look forward to seeing this developed further.

We restate our recommendation that ABB should consider reporting on tax and include additional indicators related to integrity and human rights, in addition to training and capacity building.

Neutrality

The extent to which a report provides a balanced account of an organisation’s performance, delivered in a neutral tone.

The section on challenges and progress adds to the overall balance of the report. Report users’ understanding of the context for these could be improved by providing further detail throughout the report in future.

Reliability

The accuracy and comparability of information presented in the report, as well as the quality of underlying data management systems.

ABB has established a variety of process for collecting and consolidating the various data it reports. The company continued its well-established annual process for submission and approval of environmental data from its sites to a central database, including an annual training process for data owners at site level. For the environmental data in scope we saw evidence that the central team had undertaken further checks, and where necessary corrected data prior to consolidation. The Group intends to replace the existing database in 2016 which should further strengthen the reporting process.

The KPIs relating to the nine Group Sustainability Objectives have been internally developed and we restate our recommendation to report these definitions in future. Where data collection processes have already been established for reporting these KPIs, the processes were clearly described by data owners. We restate our recommendation to ensure these processes are documented for continuity.

Last year we noted that the data for CO₂ from transport by own fleet is an estimated figure, the basis for which has not been reviewed in the last 5 years. Given that this represents around 20% of the Group carbon footprint, we restate our recommendation that the basis for this estimation is reviewed.

This year, as last year, we noted a number of cases where data reported in the Global Incident Database (GID) were lower than local systems for lost days. We recommend considering how to raise visibility of this indicator at site and country level to improve accuracy of the consolidated global data.

For and on behalf of DNV GL Business Assurance Norway

Høvik, Norway

10th March 2016



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Assurance Services Manager
Nordic Countries
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Summary of main performance indicators⁽¹⁾

GRI ref.	Indicator description						
		2015 data assured	2015	2014	2013	2012	2011
Environmental	Materials						
	Phthalates (tons)	✓	878	258	21	28	47
	Brominated flame retardants (tons)	✓	0	1.9	2.9	~0	~0
	Lead in submarine cables (tons)	✓	8,376	7,842	7,236	5,633	5,725
	Organic lead in polymers (tons)	✓	1.4	0.1	0.6	0.9	1.3
	Lead in other products (tons), eg, backup batteries and counterweights in robots	✓	1,684	1,884	2,601	363	227
	Cadmium in industrial batteries (tons)	✓	0.8	4.4	4.4	5.6	1.6
	Cadmium in rechargeable batteries (tons)	✓	97.5	75.1	67.6	6.3	10
	Cadmium in lead alloy and other uses (tons)	✓	6.4	6.0	5.7	4.5	4.3
	Mercury in products (tons)	✓	0.007	0.071	0.012	0.011	0.030
	SF ₆ insulation gas (inflow to ABB facilities) (tons)	✓	1,658	1,483	1,438	1,139	1,052
	SF ₆ insulation gas (outflow to customers) (tons)	✓	1,648	1,466	1,425	1,118	1,040
	No. of transformers with PCB oil in ABB facilities	✓	0	0	1	1	2
	No. of capacitors with PCB oil in ABB facilities	✓	0	0	60	32	0
	Mercury in instruments in ABB facilities (tons)	✓	0.225	0.320	0.371	0.203	0.263
EN3	Energy consumption (Gigawatt-hours – GWh)						
	Oil (11.63 MWh/ton)	✓	79	85	94	93	92
	Diesel (11.75 MWh/ton) ^{a,b}	✓	8	11	0	0	0
	Coal (7.56 MWh/ton)	✓	0	0	4	0	0
	Gas ^b	✓	739	706	754	556	417
	District heat consumption ^{b,c}	✓	181	198	251	219	195
	Electricity consumption ^{b,c}	✓	1,610	1,629	1,705	1,599	1,447
	Total energy used	✓	2,618	2,629	2,808	2,467	2,151
	Electricity sold ^d	✓	1	2	n.a.	n.a.	n.a.
EN5	Energy intensity (MWh/million USD)						
	Megawatt-hours (MWh) per million USD sales	✓	73.79	66.01	67.10	65.25	59.68
EN6	Reduction of energy consumption (GWh)^e						
			32.2	34.4	n.a.	n.a.	n.a.

⁽¹⁾ Note that in this table, data for the Thomas & Betts acquisition is included from 2013 onwards. Data for the Baldor acquisition is included from 2012 onwards.

^a Diesel consumption was reported separately for the first time in 2014.

^b Results for these indicators are based on reported data covering 95 percent of employees in 2015 (93 percent of employees in 2014, 85–88 percent in earlier years) plus estimated energy use per employee for the remaining employees. See the Approach to reporting section for more details.

^c ABB Sustainability Performance Reports prior to 2014 included calculated "losses at utilities" for district heat and purchased electricity consumption in total energy consumption. In this report, those loss calculations have been removed for all years shown.

^d Data for electricity sold was reported for the first time in 2014.

^e Data for reduction of energy consumption was reported for the first time in 2014.

GRI ref.	Indicator description	2015 data assured	2015	2014	2013	2012	2011
EN8	Water withdrawal (kilotons)						
	Purchased from water companies ^f	✓	4,000	4,200	4,400	3,900	3,400
	Groundwater extracted by ABB	✓	3,200	3,100	3,200	3,000	3,200
	Surface water extracted by ABB	✓	2,400	2,800	2,700	2,800	2,600
	Collection of rain water	✓	<100	<100	<100	<100	<100
	Waste water from external source	✓	<100	<100	<100	<100	<100
	Total water withdrawal	✓	9,700	10,100	10,300	9,700	9,200
EN10	Water recycled and reused						
	Volume of water reused and recycled (kilotons)		5,200	5,200	5,900	3,700	3,900
	As percentage of total water withdrawal (%)		54	51	57	38	42
	Greenhouse gas emissions^g (kilotons CO₂ equivalent)						
EN15	Scope 1						
	CO ₂ from the use of energy	✓	174	169	180	n.a.	n.a.
	SF ₆ (in CO ₂ equivalents) ^h	✓	237	382	288	340	270
	CO ₂ from transport by own fleet ⁱ	✓	350	350	350	350	350
EN16	Scope 2						
	District heat consumption	✓	29	35	45	n.a.	n.a.
	Electricity consumption	✓	685	682	680	n.a.	n.a.
EN17	Scope 3						
	Air travel ^{l,k}	✓	179	196	152	171	185
	Total greenhouse gas emissions	✓	1,654	1,814	1,695	n.a.	n.a.
EN18	Greenhouse gas (GHG) emissions intensity (tons CO₂ equivalents/million USD)						
	Tons CO ₂ equivalents per million USD sales ^l	✓	46.60	45.60	40.50	n.a.	n.a.
EN21	Emissions of volatile organic compounds (tons)						
	Volatile organic compounds (VOC)	✓	1,223	1,291	1,210	1,355	810
	Chlorinated volatile organic compounds (VOC-Cl)	✓	13	20	20	12	13
	Emissions of NO_x and SO_x (tons SO₂ and NO₂)						
	SO _x from burning coal		0	0	3	0	0
	SO _x from burning oil		64	65	69	69	68
	NO _x from burning coal		0	0	2	0	0
	NO _x from burning oil		48	49	52	52	51
	NO _x from burning gas		160	126	163	120	90

^f Results for this indicator are based on reported data covering 95 percent of employees in 2015 (93 percent of employees in 2014, 85–88 percent in earlier years) plus estimated water purchased per employee for the remaining employees. See the Approach to reporting section for more details.

^g See Approach to reporting chapter for more details on GHG emission calculation.

^h In 2015, we updated the factor used to convert SF₆ emissions to CO₂ equivalents to 22,800 kg CO₂e/kg SF₆, as recommended by the UK Department of Energy & Climate Change in July 2014, and have applied that factor to SF₆ data reported for all years (2011 – 2015). Previously we used 22,200 kg CO₂e/kg SF₆.

ⁱ Estimated data.

^j The air travel indicator includes data from ABB China and Thomas & Betts for the first time in 2014.

^k 2014 and 2013 data for air travel are calculated using the emission factors published by the UK Department of Environment, Food and Rural Affairs (DEFRA in its "2012 Guidelines to DEFRA/DECC's GHG Conversion Factors for Company Reporting"). Data from 2012 and 2011 were calculated using emission factors provided by DEFRA in its 2009 Guidelines. Use of the 2012 factors gives a slightly lower total. For comparison, ABB's air travel emissions for 2012, calculated using the 2012 emission factors = 165 kton CO₂ equivalent.

^l Data is not available in this form for 2011 and 2012.

GRI ref.	Indicator description	2015 data assured	2015	2014	2013	2012	2011
EN22	Water discharge by quality and destination (kilotons)						
	Public sewer		3,100	3,000	3,600	2,800	n.a
	treated (percentage)		28%	30%	31%	29%	n.a
	untreated (percentage)		72%	70%	69%	71%	n.a
	Recipient		2,600	2,900	2,300	2,000	n.a
	treated (percentage)		90%	90%	87%	45%	n.a
	untreated (percentage)		10%	10%	13%	55%	n.a
	Hazardous treatment company		360	400	500	500	n.a
	treated (percentage)		90%	75%	60%	80%	n.a
	untreated (percentage)		10%	25%	40%	20%	n.a
	External use		<100	<100	<100	0	n.a
	treated (percentage)		63%	50%	50%	0%	n.a
	untreated (percentage)		37%	50%	50%	0%	n.a
EN23	Waste (kilotons)						
	Scrap metal recycled	✓	158	162	185	150	97
	Non-hazardous waste recycled ^m	✓	53	49	52	41	39
	Non-hazardous waste sent for disposal ^m	✓	44	44	50	43	45
	Hazardous waste recycled ⁿ	✓	5	5	5	0	0
	Hazardous waste sent for disposal ⁿ	✓	10	13	9	12	9
	Total waste (generated)	✓	270	273	301	246	190
EN24	Numbers of significant spills						
	Oil spills		11	7	13	6	5
	Chemical spills		1	0	0	0	0
	Emissions to air		11	3	3	5	4
	Others		0	0	4	0	0
	Total number of significant spills		23	10	20	11	9

^m Results for these indicators are based on reported data covering 95 percent of employees in 2015 (93 percent of employees in 2014, 85–88 percent in earlier years) plus estimated data per employee for the remaining employees. See the Approach to reporting section for more details.

ⁿ Hazardous waste as classified in country where it is generated.

GRI ref.	Indicator description	2015 data assured		2014	2013	2012	2011
Social	Total number and rates of new employee hires and employee turnover						
LA1	Total workforce by region (ABB employees)						
	Europe	61,600		63,000	65,000	64,000	60,300
	The Americas	30,900		32,200	34,400	34,400	25,900
	Asia, Middle East and Africa	43,300		45,200	48,300	47,700	47,400
	Total	135,800		140,400	147,700	146,100	133,600
	Employee turnover						
	Turnover of all employees ^o						
	Europe	5,891	9%	5,877 9%	5,387 9%	5,083 8%	5,712 10%
	The Americas	5,409	17%	5,379 17%	4,760 14%	3,689 14%	2,823 15%
	Asia, Middle East and Africa	4,946	12%	5,701 13%	5,534 13%	5,060 12%	5,469 13%
	Total employee turnover: ABB Group	16,246	12%	16,957 12%	15,681 11%	13,832 11%	14,004 12%
	Turnover of all female employees ^o						
	Europe	1,498	2%	1,370 2%	1,217 2%	1,218 2%	1,364 2%
	The Americas	1,418	5%	1,307 4%	1,026 3%	676 3%	531 3%
	Asia	1,093	3%	1,311 6%	1,358 3%	1,093 3%	1,270 3%
	Total female employee turnover: ABB Group	4,009	3%	3,882 3%	3,601 3%	2,987 2%	3,165 3%
	Employee hires						
	Hires of all employees ^o						
	Europe	5,672	9%	6,195 10%	6,086 10%	6,793 11%	6,593 11%
	The Americas	3,573	11%	4,142 13%	4,246 12%	4,034 15%	4,462 23%
	Asia, Middle East and Africa	3,777	9%	5,493 13%	5,219 10%	5,875 14%	8,815 22%
	Total employee hires: ABB Group	13,022	10%	15,830 12%	15,551 11%	16,702 13%	19,870 17%
	Hires of all female employees ^o						
	Europe	1,520	2%	1,597 3%	1,453 2%	1,590 3%	1,493 3%
	The Americas	769	2%	1,010 3%	971 3%	821 3%	854 4%
	Asia, Middle East and Africa	761	2%	1,308 3%	1,467 3%	1,231 3%	1,866 5%
	Total female employee hires: ABB Group	3,050	2%	3,915 3%	3,891 3%	3,624 3%	4,213 4%

^o Includes part-time employees. Turnover rate calculated as number of ABB employees (full- and part-time) leaving during the year/total number of ABB employees (full- and part-time) as at 31 December. For the purpose of this calculation, employees who leave the organization voluntarily or involuntarily whether due to dismissal, retirement, or death in service or any other reason, are included. However, involuntary turnover arising out of divestments is excluded from the definition.

GRI ref.	Indicator description	2015 data assured	2015	2014	2013 ^p	2012 ^q	2011
LA6	Occupational health and safety: Injuries, lost days, diseases and fatalities						
	Employee work-related fatalities ^r	✓	0	1	0	1	0
	Incident rate ^s	✓	0.00	0.01	0	0.01	0
	Employee business travel fatalities ^{t,u}	✓	0	0	0	1	0
	Incident rate ^s	✓	0.00	0	0	0.01	0
	Contractor work-related fatalities ^{r,t}	✓	2	2	7	2	0
	Contractor business travel fatalities ^{t,u}	✓	0	0	0	0	0
	Members of the public fatalities ^r	✓	1	0	1	0	0
	Employee total recordable incident number ^{t,v}	✓	1,310	1,500	1,664	1,750	1,505
	Incident rate ^s	✓	8.79	9.95	10.94	13.04	13.17
	Contractor total recordable incident number ^{t,v}	✓	343	333	310	348	307
	Incident rate ^s	✓	8.02	7.76	7.52	8.21	7.47
	Employee lost time incident number ^t	✓	531	652	686	683	722
	Incident rate ^s	✓	3.55	4.34	4.70	4.80	5.70
	Contractor lost time incident number ^t	✓	163	200	158	159	148
	Incident rate ^s	✓	3.81	4.65	3.83	3.76	3.60
	Employee lost days due to industrial incidents ^w	✓	7,831	8,415	10,591	10,345	9,478
	Days lost rate ^s	✓	52.56	55.220	77.500	74.640	69.560
	Employee occupational health diseases	✓	46	17	10	10	7
	Employee occupational health disease rate ^s	✓	0.31	0.11	0.14	0.07	0.06
	Safety Observation Tours (SOT) conducted ^t	✓	139,124	-	-	-	-
	SOT rate ^x	✓	0.92	-	-	-	-
	Hazards reported ^t	✓	520,942	-	-	-	-
	Hazards reporting rate ^x	✓	3.51	-	-	-	-
	Data by region						
	Employee work-related fatalities (total)	✓	0	1	-	-	-
	Europe	✓	0	0	-	-	-
	The Americas	✓	0	0	-	-	-
	Asia, Middle East and Africa	✓	0	1	-	-	-
	Employee business travel fatalities (total)	✓	0	0	-	-	-
	Europe	✓	0	0	-	-	-
	The Americas	✓	0	0	-	-	-
	Asia, Middle East and Africa	✓	0	0	-	-	-
	Contractor work-related fatalities	✓	2	2	-	-	-
	Europe	✓	0	0	-	-	-
	The Americas	✓	0	0	-	-	-
	Asia, Middle East and Africa	✓	2	2	-	-	-

^p Data from Thomas & Betts, a company acquired by ABB during 2012, does not include contractors.

^q This data does not include incidents from Thomas & Betts, a company acquired by ABB during 2012.

^r Fatalities also include deaths occurring within one year as a result of injuries sustained.

^s Incident rates are according to the ILO rate per 1,000 employees.

^t Data covers incidents that happened at workplace (ABB facility, customer site, project site).

^u Incidents during air travel on business trips are excluded.

^v Total recordable incidents include fatal, lost time injuries, serious injuries, medical treatment injuries, occupational diseases and restricted work day cases.

^w Days lost are calendar days and are counted from the day after the incident.

^x Rate is calculated per employee.

GRI ref.	Indicator description						
		2015 data assured	2015	2014	2013	2012	2011
	Contractor business travel fatalities	✓	0	0	-	-	-
	Europe	✓	0	0	-	-	-
	The Americas	✓	0	0	-	-	-
	Asia, Middle East and Africa	✓	0	0	-	-	-
	Employee total recordable incident rate [†]	✓	8.79	9.95	-	-	-
	Europe	✓	10.18	11.55	-	-	-
	The Americas	✓	14.01	15.66	-	-	-
	Asia, Middle East and Africa	✓	3.08	3.93	-	-	-
	Contractor total recordable incident rate [†]	✓	8.02	7.76	-	-	-
	Europe	✓	18.77	19.72	-	-	-
	The Americas	✓	15.35	14.01	-	-	-
	Asia, Middle East and Africa	✓	3.71	3.46	-	-	-
	Employee lost time incident rate [†]	✓	3.55	4.34	-	-	-
	Europe	✓	5.55	6.60	-	-	-
	The Americas	✓	3.30	4.00	-	-	-
	Asia, Middle East and Africa	✓	0.84	1.21	-	-	-
	Contractor lost time incident rate [†]	✓	3.81	4.65	-	-	-
	Europe	✓	10.34	13.76	-	-	-
	The Americas	✓	8.39	8.60	-	-	-
	Asia, Middle East and Africa	✓	1.17	1.52	-	-	-
	Employee days lost rate	✓	52.56	55.22	-	-	-
	Europe	✓	73.24	82.53	-	-	-
	The Americas	✓	60.16	82.82	-	-	-
	Asia, Middle East and Africa	✓	17.38	17.20	-	-	-
	Employee occupational health disease rate	✓	0.31	0.11	-	-	-
	Europe	✓	0.56	0.22	-	-	-
	The Americas	✓	0.24	0.28	-	-	-
	Asia, Middle East and Africa	✓	0	0	-	-	-
	SOT rate	✓	0.92	-	-	-	-
	Europe	✓	0.51	-	-	-	-
	The Americas	✓	1.41	-	-	-	-
	Asia, Middle East and Africa	✓	1.17	-	-	-	-
	Hazard rate	✓	3.51	-	-	-	-
	Europe	✓	2.67	-	-	-	-
	The Americas	✓	4.25	-	-	-	-
	Asia, Middle East and Africa	✓	4.19	-	-	-	-

GRI ref.	Indicator description	2015 data assured	2015	2014	2013	2012	2011
HR3	Non-discrimination						
	Total number of incidents of discrimination		0	1	1	2	5
	Total number of incidents of harassment		8	10	10	13	32
SO6	Public policy						
	Financial and in-kind political contributions		\$12,600	\$13,000	0	\$30,000	\$500
LA9	Training and education						
	Training per year per employee (average hours)						
	Canada		30	20	18	22	21
	China		22	26	27	31	34
	Finland		17	19	18	14	13
	Germany		18	18	16	16	16
	India		2	12	12	18	5
	Italy		12	12	19	16	17
	Poland		10	11	12	10	10
	Sweden		10	12	12	12	12
	Switzerland		14	16	20	19	17
	US		27	32	28	24	25
LA12	Diversity and equal opportunity						
	Composition of governance bodies						
	Board of Directors						
	Women in Board (percentage)		13%	13%	13%	13%	13%
	Age group diversity total (percentage)						
	<30 years old		0%	0%	0%	0%	0%
	30–50 years old		0%	0%	0%	0%	0%
	>50 years old		100%	100%	100%	100%	100%
	Number of nationalities total		8	7	7	7	7
	Executive Committee						
	Women in Executive Committee (percentage)		9%	9%	9%	8%	9%
	Age group diversity total (percentage)						
	<30 years old		0%	0%	0%	0%	0%
	30-50 years old		27%	36%	45%	25%	27%
	>50 years old		73%	64%	55%	75%	73%
	Number of nationalities total		8	8	8	8	8

Approach to sustainability reporting

Reporting boundaries

We aim to cover all ABB Group companies in our formal sustainability reporting system, including wholly owned subsidiaries and majority-owned joint ventures worldwide. In 2015, our environmental and social reporting did not cover SARPI – Société Algérienne pour la réalisation de projets industriels, Alger. A full list of direct and indirect subsidiaries is shown in our Annual Report 2015.

Changes in 2015

Entities acquired during 2014, the most significant of which was Spirit IT of the Netherlands, are now integrated into ABB's sustainability reporting system. Integration of companies acquired during 2015, including Striebel and John, CGM Group, gomtec GmbH and Viola Systems, is continuing. Data collection for environmental parameters, health and safety and corporate responsibility will be implemented during 2016.

Data collection processes

We use three online data reporting questionnaires to measure and collect performance data throughout the Group via the ABB intranet: an annual social report from every country; an annual environment report from every manufacturing and service site and the majority of office locations; a monthly health and safety report from every country, which consolidates inputs from all entities in the respective country.

Data in this report relating to social performance covers substantially all ABB employees, whereas data relating to environmental performance was sourced from more than 600 ABB sites and offices, covering approximately 95 percent of employees. The environmental performance of the remaining employees, located in non-manufacturing entities without significant impacts, is covered by estimated data for energy, water and waste parameters.

The estimation factors used for 2015 are as follows:

	Unit	Factor
Electricity consumption	MWh/employee	2.9
District heat consumption	MWh/employee	1.3
Gas consumption	MWh/employee	0.6
Water purchased from utilities	tons/employee	13.8
General waste sent for disposal	tons/employee	0.09
General waste sent for recycling	tons/employee	0.05

Calculation of energy and greenhouse gas data

In this report, we have used an updated methodology to account for greenhouse gas emissions (GHG). For purchased electricity and district heat, we have obtained local CO₂ emission factors from suppliers. Where those factors were not available, we have sourced factors from the IEA CO₂ Emis-

sions from Fuel Combustion, 2013. Fuel emission factors are sourced from the GHG Protocol's Emission Factors from Cross Sector Tools (April 2014).

For purchased electricity and district heat, we have used local CO₂ emission factors for 2014 to calculate GHG emissions for both 2013 and 2014. Factors for 2015 were used to calculate the 2015 data using the updated methodology.

To enable comparison of the results, the table below shows 2013 and 2014 GHG data calculated according to the updated methodology and according to our previous methodology using global GHG emission factors.

	2013 (kilotons CO ₂ equivalents)		2014 (kilotons CO ₂ equivalents)	
	Old method	New method	Old method	New method
CO ₂ from use of energy	179	180	169	169
District heat consumption	63	45	50	35
Electricity consumption	850	680	816	682

Additionally, in this report we have updated the factor used to convert SF₆ emissions to CO₂ equivalents. We have used 22,800 kg CO₂e/kg SF₆, as recommended by the UK Department of Energy & Climate Change in July 2014, and have applied that factor to SF₆ data reported for all years (2011 – 2015). In previous reports we have used 22,200 kg CO₂e/kg SF₆.

Assurance process

ABB believes in the importance of independent external assurance to enhance the credibility of our sustainability report. The independent assurance provider DNV GL has provided assurance of environmental and social performance indicators, as shown in the Summary of performance indicators table, and has reviewed key data and claims in the report and the data reported against our Sustainability Objectives 2014–2020. Their [statement](#) appears on page 58 of this report.

Global Reporting Initiative G4 application

ABB's sustainability performance reporting is guided by the Global Reporting Initiative's (GRI) G4 Guidelines. Accordingly, we use a [materiality assessment](#) to help us focus this report on those issues that are most important to our internal and external stakeholders. Omission from the material issues covered in our report does not mean that the issue is not managed by the company. The [GRI content index](#) for this report is available online.

UN Global Compact Communication on Progress for 2015

The company

ABB (www.abb.com) is a leader in power and automation technologies that enable utility, industry, and transport and infrastructure customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in roughly 100 countries and employs about 135,000 people.

Statement of support

Ulrich Spiesshofer, ABB Chief Executive Officer

“ABB was one of the founder members of the UN Global Compact, joining the organization in 2000, and we continue to work on embedding the 10 core principles into our business operations and company as a whole. ABB’s sustainability objectives reflect these principles, covering environmental, human rights and labor issues, and integrity among other issues. As part of our ongoing commitment, we are involved in a number of focused initiatives within the Global Compact such as the Human Rights and Labor Working Group, as well as local networks.”

Human rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights

- Human rights policy and public statement adopted by ABB Group in 2007. Statement updated in 2013.
- Further work to embed human rights into business decision-making processes, including risk review for projects. Human rights considerations integrated in supply chain questionnaire, the Supplier Code of Conduct, and the mergers and acquisitions process.
- Human rights considerations embedded in internal protocol for deciding where ABB should have business activities.
- Global human rights training continued in 2015. An awareness-raising program for senior managers has so far been delivered in 15 countries and will continue in 2016; the training is aimed at business managers, and key functions such as Supply Chain Management, Human Resources, Legal and Integrity, Communications and Sustainability.
- A capacity building program to raise human rights capability continued in 2015 with several courses focused on country sustainability specialists. A network of internal specialists was launched towards the end of 2014. An e-learning human rights module was launched in early 2015.
- Active participation in international meetings, organizations and workshops seeking to promote business awareness and respect for human rights.

Principle 2: Make sure they are not complicit in human rights abuses

- Human rights policy adopted in 2007 is designed to raise performance and avoid complicity.
- Global human rights training continued in ABB in 2015. The target group is as above in Principle 1. Central to all such trainings is the issue of potential complicity.
- Ongoing work to understand and limit ABB exposure to Conflict Minerals, as defined by section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.
- In-depth due diligence carried out on several proposed projects and business partners to avoid potential complicity.

Labor

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining

- Embedded in Code of Conduct, Principle 1 of ABB Human Rights Policy and Principle 6 of ABB Social Policy. All countries were asked to formally report on this principle. No violations were reported in 2015.
- In countries where law does not permit this right, ABB facilitates regular consultation with employees to address areas of concern.

Principle 4: The elimination of all forms of forced and compulsory labor

- Covered by ABB Group Code of Conduct, Principle 1 of ABB Human Rights Policy and Principle 4 of ABB Social Policy. All countries were asked to formally report on this principle. No violations were reported in 2015.
- The principle of “no forced or compulsory labor” is included in ABB’s Supplier Code of Conduct and a protocol for supplier audits.

Principle 5: The effective abolition of child labor

- Included in ABB Group Code of Conduct, Principle 1 of the ABB Human Rights Policy and Principle 3 of ABB Social Policy.
- All countries were asked to formally report on this principle. A total of 200 audits of suppliers were carried out in 2015, and no violations were reported.
- The principle of “no child labor” is included in ABB’s Supplier Code of Conduct as well as a protocol for supplier audits.

Principle 6: Eliminate discrimination in respect of employment and occupation

- Contained in ABB Group Code of Conduct, Principle 1 of the ABB Human Rights Policy and Principle 7 of ABB Social Policy. All countries were asked to formally report on this principle. There were eight substantiated cases of harassment in 2015, resulting in five terminations, and a range of other measures, including formal warnings, counseling and further training.
- ABB also has country-specific procedures and programs to ensure that policies are fully observed and comply with national legislation.

Environment

Principle 7: Business should support a precautionary approach to environmental challenges

- Environmental considerations mandatory in the ABB GATE model for product and process development. Supporting tools and training materials have been developed to further improve application of checklist.
- Standardized Life Cycle Assessment procedures used to assess new products’ environmental impact throughout their life cycle.
- Group-wide list of prohibited substances for products and processes is continually reviewed and updated. The phasing out of hazardous substances is part of ABB sustainability objectives.
- ABB continuing its internal energy efficiency program, with target to reduce energy use by 20 percent by 2020, and increase focus on resource efficiency (namely improve materials and water use, and reduce waste)
- Environmental experts at country and Group level provide environmental expertise, guidelines and tools to business units to ensure they meet upcoming environmental requirements and challenges, and customer demand for compliance and other environmental information.

Principle 8: Undertake initiatives to promote greater environmental responsibility

- Work with international organizations and initiatives, such as the World Business Council for Sustainable Development, German Climate Service Center, ISO and Chalmers University’s Swedish Life Cycle Center.
- ABB has implemented a strengthened protocol for auditing of suppliers’ environmental performance, auditing a further 200 suppliers during 2015.
- ABB’s ongoing Access to Electricity rural electrification programs in India and Tanzania.

Principle 9: Encourage the development and diffusion of environmentally friendly technologies

- Covered by Code of Conduct and Principle 5 of ABB Environment Policy.
- Energy-efficient products and renewable energy equipment identified as key driver for ABB’s business opportunities.
- Transfer of technologies and best practices between countries to ensure same level of environmental performance throughout Group.
- Group-wide list of prohibited substances for products and processes is continually reviewed and updated. The phasing out of hazardous substances is part of ABB sustainability objectives.
- ABB GATE model for product and process development contains defined steps for considering improvements in environment and safety performance. The health, safety and environment checklist for the GATE model was strengthened during 2014.

Anti-corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery

- Covered by ABB Group Code of Conduct, the ABB Supplier Code of Conduct, Principle 4 of ABB Human Rights Policy, and Principle 13 of Social Policy.
- Underpinned by zero tolerance policy on non-compliance.
- During 2015 ABB continued roll out of the global anti-bribery e-learning module launched during 2014 across ABB Group. The completion status at year-end was over 97 percent.
- ABB offers a number of different reporting channels, including a third party-held Business Ethics hotline available 24/7 where employees can report concerns confidentially.
- As part of the anti-corruption program, ABB continued to carry out several additional training and communication initiatives in 2015, focusing on company leadership and middle management, and including Code of Conduct and anti-bribery e-learning, integrity films and case studies published on the intranet, and proactive action such as anti-bribery compliance reviews of ABB units around the world.
- ABB was recognized as one of The World's Most Ethical Companies by the Ethisphere Institute in 2015. The NYSE Governance Services reviewed ABB's integrity program in 2014 and, as a result, ABB will once again be recognized with the Ethisphere Anti-corruption Program Verification and Compliance Leader Verification seals in 2015 and 2016.
- ABB is one of the founding members of Ethics and Compliance Switzerland (ECS; May 2014). ECS promotes the development of a compliance community across all sectors and organizations in Switzerland and the establishment and sharing of compliance best practices. It is the first NGO in Switzerland connecting private and public sector organizations and their officers and employees who share an interest in best practice on integrity and compliance management.

