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# SUSTAINABILITY REPORT 2014

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**ANDRITZ**

# We are heading towards green power

The principles of sustainable development – meeting the needs of today’s generation without restricting the opportunities of future generations – form a core element of the ANDRITZ corporate policy. We believe that only companies that do business in a socially sustainable and responsible way can be active in the market on a long-term, successful basis. Therefore, sustainability is a crucial success factor for ANDRITZ that also contributes to increasing the value of the organization in the long term. This is where our guiding principle “We are heading towards green power” comes into play. For ANDRITZ, green power not only involves developing technologies and products which are highly energy- and resource-efficient. From ANDRITZ’s perspective, it has a number of other facets and touches every aspect of environmental, economic, and social responsibility.

## **Green power for the environment**

Sustainable protection of the environment and conservation of natural resources are key concerns of the ANDRITZ GROUP. Due to standardization of our core processes, all the plants and systems that we supply to customers all over the world meet the highest environmental standards. ANDRITZ not only helps to protect the environment and reduce the use of resources by means of a wide range of products, but also meets the most stringent environmental requirements in its operations.

## **Green power for products and services**

By offering our customers state-of-the-art technologies and solutions, which are innovative and efficient and also minimize the use of resources, we are helping to protect the environment and preserve natural resources. Therefore, a sustainable approach is also an important aspect of our research and development programs. As a leading technology group, ANDRITZ is increasingly being required to fulfill the growing demand for ecologically sound and efficient products and services. ANDRITZ’s efforts to meet this challenge include offering a comprehensive portfolio of products and services in the field of renewable energies.

## **Green power for employees**

A company that does business in a sustainable way is also an attractive employer. At the same time, ANDRITZ is aware that its success depends on its employees. For this reason, human resources development is given high priority within the company. In the field of education and training, a management training program for the next generation of managers has been in place for several years. Courses are available on an international and a local level covering areas such as leadership skills, change management, and conflict resolution. The company’s collaboration with universities is particularly important with a view to recruiting highly qualified graduates. Another element of success is the commitment of its employees, who are encouraged to make use of their personal knowledge and experience in their work. Integration of newly acquired companies presents a major challenge, in particular when it comes to integrate new employees. ANDRITZ also takes measures to help its employees achieve a good work-life balance and invests intensively in health and safety at work.

## **Green power for society**

The main goal of sustainable development is social progress achieved on the basis of environmental balance. Globalization promotes economic growth, both in industrial countries and in emerging markets. Companies like ANDRITZ, which focus on sustainability, do business in free, open markets and in countries that aim to distribute wealth equally among their citizens. Economic growth results in the creation of new jobs with wages and salaries that give people better living conditions. In addition, new jobs also mean education, training, and experience: factors which in turn form the basis for entrepreneurship. By establishing new sites and offices, ANDRITZ is creating new jobs. And by supplying new plants for our global customers we are indirectly involved to a large extent in job creation.

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## FOREWORD

Ladies and Gentlemen,  
Dear Business Partners, Shareholders, and Employees,

We are proud to present the first sustainability report of the ANDRITZ GROUP. The report explains the principles that ANDRITZ has committed to follow in the field of sustainability, provides quantitative data, and describes the key measures that we have taken in this area.

We believe that only companies which fulfill their social, economic, and environmental obligations can operate sustainably and successfully. For this reason, a sustainable approach aimed at protecting the environment and reducing the use of natural resources is an important aspect in all our research and development programs and in our production facilities. Our sustainability activities also focus in particular on our employees. Our staff of almost 25,000 is an important factor in the sustained success of the company. We want to be an attractive employer for them, offering good vocational education and training opportunities.

It is not only our actions that make a contribution to sustainability, but also the products and services that our customers rely on. About 45% of our total sales are generated from equipment and processes for producing energy from renewable resources. These include electromechanical equipment for hydropower plants and systems to produce energy from biomass (such as biomass and recovery boilers for the pulp and paper industry and systems for drying and pelleting biomass).

This sustainability report is based on the criteria of the Global Reporting Initiative, version G4 (core option). After completing a materiality analysis, we selected the areas relevant to ANDRITZ and collected the data for the 2013 and 2014 financial years. On most of the CSR data that are relevant to our company, we have already achieved a coverage level of 100%. We will gradually be adding further key performance indicators (KPIs) to the report in the future.

In future, we intend to publish a sustainability report on an annual basis covering the previous financial year. This control and monitoring tool will enable us to evaluate whether we have achieved our sustainability goals. Our stakeholders will also be able to assess the progress we have made in the field of sustainability and whether we meet their standards.

We would like to assure you that our business activities will continue to be based on our clearly defined sustainability goals and that we will intensify our efforts in the areas of social, economic, and environmental sustainability.

Graz, March 2015

The Executive Board of ANDRITZ AG

  
Wolfgang Leitner  
President and CEO

  
Humbert Köfler  
PULP & PAPER  
(Service & Units),  
SEPARATION

  
Friedrich Papst  
METALS,  
HYDRO (pumps),  
SEPARATION (feed/biomass  
pelleting segments)

  
Joachim Schönbeck  
PULP & PAPER  
(Capital Systems)

  
Wolfgang Semper  
HYDRO

## ABOUT THIS REPORT

The information and figures in this first sustainability report from the ANDRITZ GROUP refer to the 2014 financial year and, for the purposes of comparison, to the 2013 financial year. The information in the report covers the entire ANDRITZ GROUP, including all affiliates, unless otherwise stated. The report is based on the criteria of the Global Reporting Initiative (GRI), version G4 (core option). A list of the criteria with comments on them is provided at the end of the report. Examples are included in the body of the report.

Quantitative data were collected from all relevant areas of the ANDRITZ GROUP. The data were gathered from each area using software and compiled centrally by the Corporate Communications/CSR Group function. Because data for some KPIs is partly not complete, work on optimizing coverage is ongoing.

### **Human resources**

The data cover all ANDRITZ companies (unless otherwise stated). In 2014, collected data covered 24,452 employees (in 2013: 23,566), which corresponds to a coverage level of approximately 99% (in 2013: approximately 99%). Employees of Herr-Voss Stamco acquired in November 2014 are not included, but will be included in the next sustainability report.

### **Health and safety at work**

Data were gathered for 99% of the ANDRITZ GROUP's employees. Suppliers and other subcontractors were not included in the survey.

### **Procurement/purchasing**

The survey covered all the companies in the Group.

### **Manufacturing/environmental data**

The environmental data cover the main production sites, with over 50,000 manufacturing hours per year. This corresponds to a coverage level of 93% of ANDRITZ's global manufacturing capacity. Other relevant environmental data, such as energy consumption of office buildings, will be included in the survey as of 2015.

### **Legal matters**

The report includes all court proceedings concerning ANDRITZ which began during the reporting period according to the global Legal department.

# Materiality analysis according to GRI

The most widely recognized standard for sustainability reporting internationally is published by the Global Reporting Initiative (GRI). The GRI was established in 1997 in partnership with the UNO and since then has played a pioneering role in sustainability reporting in collaboration with large enterprises, non-governmental organizations, and governmental agencies. CSR reports according to the GRI provide standardization and comparability of the economic, ecological, and social performance of companies.

The GRI requires an analysis which forms the basis for defining the key aspects of sustainability reports. The subjects that, from an internal perspective, are relevant to sustainability and, therefore, significant for the corporate strategy and objectives were identified by means of an internal analysis. The aspects selected are based on personal interviews with the President & CEO of ANDRITZ AG and with members of the second and third level management teams, an employee survey carried out at the corporate headquarters in Graz, Austria, and an evaluation of worldwide media reporting on ANDRITZ in 2013 and 2014. Representatives of the main stakeholder groups (customers, business partners, suppliers, shareholders, and non-governmental organizations) were also asked about the key aspects. Online questionnaires were used for the surveys.

The following aspects were considered to be important and have been covered in this sustainability report:



Relevance of the aspects for the ANDRITZ GROUP (average external and internal view; 0 = not relevant, 10 = relevant)

Aspects	Average between external and internal view	External view	Internal view
<b>A</b> Energy	8.2	8.5	7.9
<b>B</b> Indirect economic impacts	8.2	7.5	8.9
<b>C</b> Market presence and business policy	8.2	6.6	9.8
<b>D</b> Training and education	8.4	8.9	7.9
<b>E</b> Procurement practices	8.5	8.0	9.0
<b>F</b> Equal pay for men and women	8.6	8.4	8.8
<b>G</b> Customer health and safety	8.6	7.4	9.8
<b>H</b> Equal treatment	8.6	7.4	9.8
<b>I</b> Diversity and equal opportunity	8.6	8.3	8.9
<b>J</b> Economic performance	8.6	7.1	10.0
<b>K</b> Compliance with legislation	9.4	8.7	10.0
<b>L</b> Compliance	9.5	9.1	9.9
<b>M</b> Occupational health and safety	9.5	9.0	10.0
<b>N</b> Combating corruption	9.7	9.6	9.8

A close-up photograph of a person's hands holding a glowing green globe of the Earth. The globe is the central focus, with a grid of latitude and longitude lines. The person's hands are positioned around the globe, with fingers gently cupping it. The background is a soft, out-of-focus green, suggesting a natural or environmental setting. The overall tone is positive and eco-friendly.

**ANDRITZ generates  
about 45%**

of its sales from the  
renewable energy sector

## ABOUT THE ANDRITZ GROUP

ANDRITZ is a globally leading supplier of plants, equipment, and services for hydropower stations, the pulp and paper industry, the metalworking and steel industries, and for solid/liquid separation in the municipal and industrial sectors. The publicly listed technology Group is headquartered in Graz, Austria, and has a staff of almost 25,000 employees. ANDRITZ operates over 250 sites worldwide.

The cornerstone of today's international technology Group ANDRITZ was laid in 1852 when a small iron foundry was set up by the Hungarian entrepreneur Josef Körösi in Andritz, a suburb of the city of Graz, Austria. Today the ANDRITZ GROUP ranks among the global market leaders in all four of its business areas: HYDRO, PULP & PAPER, METALS, and SEPARATION.

ANDRITZ is committed to acting responsibly and making efficient use of resources and keeps developing technologies that maximize energy production from renewable sources, such as hydropower and biomass, thus supporting its customers in their environmental efforts. The Group is also constantly improving the energy efficiency of its equipment and technologies through continued research and development.

### Almost half of sales derived from products related to renewable energies

ANDRITZ generates around 45% of its sales from products related to renewable energies and aims to further increase this share. The Group has an extensive portfolio of equipment and process technologies used to produce energy from renewable resources:

- Electromechanical equipment for hydropower stations (particularly turbines and generators)
- Plants for generating energy from biomass, e.g. biomass boilers for the pulp and paper industry or plants for drying and pelleting biomass
- Plants for production of liquid biofuel, such as biodiesel or bioethanol (second generation)
- Plants for converting waste products into energy sources (waste-to-power)

## ANDRITZ BUSINESS AREAS AT A GLANCE

### HYDRO

ANDRITZ HYDRO is one of the leading global suppliers of electromechanical equipment for hydropower plants. With over 170 years of accumulated experience and more than 30,000 turbines installed, totaling approximately 420,000 megawatts output, the business area provides the complete range of products, including turbines, generators, and additional equipment of all types and sizes – “from water to wire” for small hydro applications to large hydropower plants with outputs of more than 800 megawatts per turbine unit. ANDRITZ HYDRO is also well positioned in the growing modernization, refurbishment, and upgrade market for existing hydropower plants. Pumps (for water transport, irrigation of agricultural land, and applications in various industries) and turbo-generators for thermal power plants are also allocated to the business area.

### PULP & PAPER

ANDRITZ PULP & PAPER is a leading global supplier of equipment, systems, and services for the production and processing of all types of pulps, paper, tissue, and cardboard. The technologies cover the processing of logs, annual plants, and waste paper; the production of chemical pulp, mechanical pulp, and recycled fibers; the recovery and reuse of chemicals; the preparation of paper machine furnish; the production of paper, tissue, and board; the calendering and coating of paper; as well as treatment of reject materials and sludge. The service range includes modernizations, rebuilds, spare and wear parts, service and maintenance, as well as machine transfer and second-hand equipment. Biomass, steam, and recovery boilers, as well as gasification plants for power generation, flue gas cleaning plants, production equipment for biofuel (second generation), biomass torrefaction, plants for the production of nonwovens, dissolving pulp, plastic films, and panelboards (MDF), and recycling plants are also allocated to the business area.

### METALS

ANDRITZ METALS is the technology and global market leader in metalforming via the Schuler Group, in which ANDRITZ has a stake of more than 95%. Schuler offers presses, automation solutions, dies, process know-how, and services for the entire metalworking industry. Its customers include car manufacturers and their suppliers, as well as companies in the forging, household equipment, packaging, energy, and electrical industries. Schuler is also the market leader in coin minting technology and offers system solutions for the aerospace and railway industries. In addition, ANDRITZ METALS is one of the leading global suppliers of complete lines for the production and processing of cold-rolled strip made of stainless steel, carbon steel, aluminum, and non-ferrous metal. The lines comprise equipment for cold rolling, heat treatment, surface finishing, strip coating and finishing, punching and deep drawing, and for the regeneration of pickling acids. The business area also supplies turnkey furnace systems for the steel, copper, and aluminum industries, as well as welding systems for the metalworking industry.

## SEPARATION

ANDRITZ SEPARATION is one of the leading global suppliers of technologies and services in the solid/liquid separation sector, as well as for the production of animal feed and biomass pellets. The comprehensive product portfolio for solid/liquid separation comprises centrifuges, filters and drying plants, screens, thickeners, separators, and transportation systems. The industries served include municipal and industrial wastewater treatment, chemicals, food and beverages, as well as mining and minerals. The service sector focuses on plant modernizations, spare and wears parts, and process optimization.

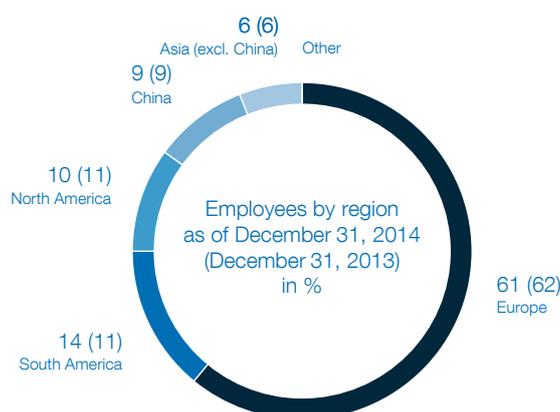
## KEY FIGURES

### Key financial figures

Information on the key financial figures of the ANDRITZ GROUP can be found in the annual financial report 2014, which is available on the ANDRITZ website at [www.andritz.com](http://www.andritz.com).

### Employees

At the end of 2014, the ANDRITZ GROUP had a total of 24,853 employees (+4.8% versus December 31, 2013: 23,713 employees). This sustainability report is based on 24,552 employees. Thereof, approximately 70% work in Europe (primarily in Austria, Germany, and Northern Europe) and approximately 30% in emerging markets (especially South America and Asia).<sup>1</sup>



## STRATEGY: GLOBAL MARKET LEADERSHIP

### 1. Extend position in Europe and North America, make use of opportunities in South America and Asia

All four ANDRITZ business areas serve markets with long-term and sustained growth potentials. Within these markets, the Group focuses on rapidly growing segments, for example the supply of plants and equipment to generate renewable energy from hydropower or biomass. In terms of global regions, this means that the ANDRITZ GROUP is extending its existing position in Europe and North America and making use of the growth and sales opportunities in the emerging markets of South America and Asia.

### 2. Global and local proximity to customers

The ANDRITZ GROUP is globally present. Customers benefit from this network through the Group's know-how on the one hand and the local proximity of ANDRITZ on the other hand. Based on its global and local presence, the Group supports customers in achieving their goals in terms of productivity, profitability, and sustainability.

### 3. Technological and cost leadership

ANDRITZ relies on technological and cost leadership in order to safeguard its market position and make use of opportunities for growth. As part of its organic expansion, ANDRITZ invests an average of 3% of its annual sales in research and development in order to be the preferred supplier in terms of technology and costs. The main priority is to develop customized technologies that enhance the productivity of customers' plants, minimize operating costs, and maximize energy efficiency and environmental protection. In addition, ANDRITZ is constantly seeking to improve internal cost structures through operational and organizational measures. These include regional and logistical optimization of manufacturing capacities, pooling of procurement activities, as well as cost discipline both in operating units and central functions across the Group. ANDRITZ also aims to

<sup>1</sup> The diagram refers to the base of 24,552 employees.

continue its growth externally and is looking for companies that complement the existing product and service portfolio. The goal is to be a single-source supplier with full-line capabilities in all business areas.

### **VISION: MARKET LEADERSHIP IN SUSTAINABLE TECHNOLOGIES**

The ANDRITZ GROUP has the goal of achieving market leadership in all of the markets it serves and of strengthening and extending its current top position. At the same time, the Group aims to continue its long-term, profitable growth. ANDRITZ intends to achieve this goal by offering the best technologies available on the market and providing products and services that create sustained economic, social, and ecological benefits for customers and for society.

#### **Long-term profitability**

The ANDRITZ GROUP has been pursuing a strategy of long-term, profitable growth for many years. Organic growth, complementary acquisitions, and a solid balance sheet structure are the fundamental cornerstones to reach the financial targets set. ANDRITZ has been able to increase its sales by an annual average of about 14% since 2000 and also gradually improve its profitability (EBITA margin) at the same time. Whereas the EBITA margin averaged 5.3% from 2000 to 2004, it rose to 6.0% between 2005 and 2009. The goal set in 2010 of increasing the EBITA margin to 7% was achieved in 2010, 2011, and 2012. However, due to provisions and expenses for cost overruns in connection with deliveries for a pulp mill in South America, there was a significant decline in profitability in 2013. In 2014, a significant improvement in earnings and profitability was achieved. The medium-term goal for the coming years is to increase the EBITA margin to 7-8% in step with the planned sales growth.

### **SUSTAINABILITY STRATEGY AND OBJECTIVES**

The principles of sustainable development – meeting the needs of today's generation without restricting the opportunities of future generations – form a core element of the ANDRITZ corporate policy. Our sustainability strategy is based on the development and supply of advanced technologies and strong social commitment. The sustainability objectives are part of the company's overall strategy. They are based on the corporate values of integrity, respect, reliability, and sustainability and include all three pillars of corporate social responsibility: the economy, the environment, and society.

Our commitment to sustainability is reflected in the following objectives:

#### **Business conduct and ethics**

- Expand the global training program on compliance topics for employees without access to a PC
- Introduce a Group-wide online training course on the subject of anti-bribery (anti-corruption)
- Continuous update of the courses on the topic of insider trading

#### **Suppliers/purchasing**

- Establish a Code of Business Conduct and Ethics for suppliers and increase monitoring of the entire supply chain with regard to compliance
- Develop a global supplier database to ensure that suppliers comply with the code
- Expand CSR reporting to include logistics

#### **Communications**

- Publish a CSR report for each financial year
- Ongoing internal communication on the subject of sustainability (employee magazine, intranet)
- Develop an internal CSR network to further enhance the awareness regarding sustainability in the Group
- Ongoing communication with major stakeholders

#### **Environment**

- Report additional KPIs in the area of the environment (for example, energy consumption at all our sites, CO<sub>2</sub> emissions from production processes, energy consumption for transport)
- Draw up measures to reduce internal energy consumption

#### **Employees**

- Include further performance criteria (e.g. diversity and management level composition)
- Continuation and enlargement of the choice of measures to promote health and to support employees toward achieving better work-life balance
- Further enlargement of the professional training and development opportunities for employees

#### **Health and safety at work**

- Increase number of reported data, in particular on training and auditing

- Raise safety standards on an ongoing basis to reduce the frequency of accidents at all company locations and construction sites
- Develop preventive concepts for company premises and construction sites to reduce the number and impact of accidents

### Society

- Continue collaboration with universities and education facilities
- Providing training for young people

### Sustainability management

In the ANDRITZ GROUP, the topic of sustainability and corporate social responsibility is handled by the Corporate Communications Group department, which reports directly to the CEO. The most important tasks in this area include developing and implementing a Group-wide sustainability strategy, central data collection, preparing an annual sustainability report, and defining measures to achieve the specified sustainability goals. For any questions about economic, environmental, and social responsibility, please send an email to the following address: [csr@andritz.com](mailto:csr@andritz.com).

## STAKEHOLDERS

ANDRITZ pursues an active communications and information policy to ensure that its dialog with all its stakeholders is transparent and based on trust. The company's main stakeholders include employees, customers, shareholders, suppliers, other business partners, non-governmental organizations (NGOs), neighbors of the ANDRITZ sites, those affected by large-scale projects, governments and public bodies, trade unions and employee representatives, schools, universities, scientific institutions, the general public, the press, and the media.

### Employees

At all major sites employee appraisals are conducted regularly to provide important feedback on tasks, job satisfaction, workflows, and the working environment. The ANDRITZ GROUP employee magazine, which is published twice a year both online and in print, gives all employees worldwide the latest information about the company, including details of products, projects, and people. ANDRITZ employees are encouraged to make use of their personal knowledge and experience in their work. Against this background, a company suggestion scheme has been set up on many locations. In addition, employee surveys on subjects such as job satisfaction provide additional data and identify areas for improvement within the company. Employees, who have questions about legal matters or about compliance, can send an email to the address of the ANDRITZ Compliance Committee, which treats all complaints and inquiries with complete confidentiality.

### Customers and business partners

In many cases, ANDRITZ remains in contact with customers throughout the entire life cycle of the supplied products. The Group has more than 250 sites worldwide, which allows to meet customers' needs quickly and efficiently. The Group's network of service facilities, which are located close to customers, is constantly being expanded with the aim of helping customers to achieve their productivity and sustainability objectives even more effectively. ANDRITZ's commitment regarding technical and sustainability-related subjects is also evident in its participation in well-known national and international organizations. As a member of HEA (Hydro Equipment Association) and WBCSD (World Business Council for Sustainable Development, Forest Solutions Group), ANDRITZ is in regular contact with its customers and business partners. Both organizations set worldwide CSR standards for the industries they represent.

### Suppliers

For ANDRITZ, cooperating fairly with its suppliers is a very important issue. This includes honest and transparent communication about contracts, price setting, and invoicing. We expect our suppliers to comply with the ANDRITZ Code of Business Conduct and Ethics and have established a standardized compliance procedure.

### Shareholders

ANDRITZ places great importance on equal treatment and on providing transparent, detailed information simultaneously to all market players and shareholders. This is why the company regularly takes part in international investor conferences and meetings with different investor groups worldwide. In 2014, ANDRITZ attended meetings with international institutional investors and financial analysts in Amsterdam, Berlin, Boston, Brussels, Chicago, Cologne, Dusseldorf, Frankfurt, Geneva, Hong Kong, London, Los Angeles, Melbourne, Montreal, Munich, New York, Paris, Salt Lake City, San Francisco, Singapore, Sydney, Tokyo, Toronto, Vienna, Warsaw, Zurich and Zürs.

### Press and media

The company's main press and media activities include ongoing communication with representatives of daily newspapers and the trade press, publishing press information and technical articles, holding press conferences, and crisis communications. Important goals include transparency, quick reactions, and giving comprehensive answers to individual queries. In addition to its annual and quarterly reports, ANDRITZ also issues customer magazines and other corporate publications to meet the needs of its various stakeholders as best as possible.

### Governments and public bodies

Since ANDRITZ operates globally, the Group's business activities are subject to the laws of a number of different countries, in areas such as export controls, export licenses, and trade restrictions. For ANDRITZ, complying with legislation is of the highest priority and this is governed by its compliance regulations.

### Non-governmental organizations

ANDRITZ was on several occasions criticized by NGOs, in some cases in an unprofessional and extremist manner, in connection with the supply of technologies and systems for the production of pulp or electricity from environmentally friendly hydropower and was called on to withdraw from individual contracts.

ANDRITZ was and still remains open to a dialog with NGOs, provided that it is based on facts and conducted in an objective way. ANDRITZ takes concerns about individual projects very seriously, in the same way as it makes its decisions to take part in projects. ANDRITZ takes concerns about individual projects very seriously and is scrupulous about analyzing all the facts surrounding a project before deciding to take part in and follow up on a project. ANDRITZ takes best possible account of local social and political circumstances, but does not pursue any political goals or support political campaigns.

## CORPORATE GOVERNANCE

ANDRITZ has adopted the rules of conduct laid down in the Austrian Code of Corporate Governance and regards the Code as an essential requirement for implementation of responsible company management, which is directed towards creating sustainable and long-term added value and a high degree of transparency for shareholders and other stakeholders. The Executive Board and the Supervisory Board, as well as the entire staff of the ANDRITZ GROUP, are committed to complying with the Code.

The Austrian Code of Corporate Governance is based on a voluntary commitment and goes beyond the legal requirements for corporations.

### Executive Board and Supervisory Board

The Executive Board of ANDRITZ AG is composed of five members and holds board meetings at regular intervals on essential Group-relevant topics and single business areas. The competencies and responsibilities of the individual members of the Executive Board are divided according to specialist fields (largely in line with the four business areas and the central Group functions at ANDRITZ).

The Executive Board informs the Supervisory Board regularly on all relevant topics with regard to business development and risk management. In the event of exceptional occurrences, the chairman of the Supervisory Board is informed immediately. The Executive Board coordinates the company's strategy and the status of its implementation with the Supervisory Board on a regular basis. In addition, the Executive Board reports to the Supervisory Board at least once a year on preventive measures concerning compliance within the company.

The ANDRITZ AG Supervisory Board consists of six appointed members and three delegated members, two of them are female. 78% of the Supervisory Board members are over 50 years old, 22% of members are between 30 and 50 years old. None of them belongs to an ethnic minority group. The Supervisory Board appoints the members of the Executive Board and dismisses them. ANDRITZ regards the legal regulation requiring Supervisory Board meetings to be held on a quarterly basis as a minimum requirement. The ANDRITZ Supervisory Board held five regular meetings in the 2014 business year (four regular meetings, one constituent meeting). The focal points of these meetings were monitoring of the current business development of the ANDRITZ GROUP, including possible deviations from the budget, the strategic goals, medium-term planning for the individual business areas, as well as specific topics, such as acquisitions of companies, granting of joint procurations, and other business subject to approval. The chairman and deputy-chairman receive a monthly report on the main developments. At each Supervisory Board meeting, one business area including its strategy is presented and discussed thoroughly. A comprehensive report on Group-wide compliance is provided at one of the Supervisory Board meetings; this meeting also deals with the results of internal audits, and any measures resulting from these audits are presented and discussed.

The audit committee held two meetings to deal with the annual and consolidated financial statements for 2014 and their review, the proposal for distribution of profits, issues concerning the auditor, and implementation of the internal control and risk management systems in the ANDRITZ GROUP.

The Supervisory Board also established a nomination and remuneration committee whose activities include the remuneration of the Executive Board members and the content of their employment contracts, as well as appointments to Executive and Supervisory Board positions that become vacant, and succession planning matters. The nomination and remuneration committee held two meetings in 2014.

More information about the members of the Executive Board and the Supervisory Board of ANDRITZ AG as well as the remuneration report is available in the notes to the annual financial report 2014.

#### **ANDRITZ receiving awards**

ANDRITZ attaches great importance to equal treatment of all market players and shareholders and to providing everybody with transparent and detailed information at the same time. In recognition of these efforts, the ANDRITZ GROUP has received several awards for its activities in the corporate communications and investor relations sectors since its IPO.

#### **Stable and well-balanced shareholder structure**

ANDRITZ has a very stable and well-balanced shareholder structure. 25% plus one share are owned by SASR Achtundfünfzigste Beteiligungsverwaltung GmbH, whose Managing Director is Wolfgang Leitner, President and CEO of ANDRITZ AG. Other major shareholders are The Capital Group Companies, Inc. with 9.23%, FMR LLC (Fidelity Management & Research) with 5.47%, and Certus Beteiligungs-GmbH with 3.99%. The remaining shares are owned by national and international institutional investors as well as by private shareholders.

## **MEMBERSHIP OF CSR-RELATED ORGANIZATIONS**

### **Hydro Equipment Association (HEA)**

Since 2001, ANDRITZ HYDRO has been a full member of the Hydro Equipment Association. It is also one of the organization's founder members. The association supports the sustainable development of hydroelectric power on a global basis, taking into consideration economic, social, environmental, and political factors. HEA promotes hydropower as the most efficient source of renewable energy, which also offers other benefits, such as reductions in CO<sub>2</sub> emissions, energy storage options, flood protection, irrigation of agricultural land, and water supply. Thus, hydroelectric power makes an important contribution to sustainable environmental, economic, and social development worldwide.

### **International Hydropower Association (IHA)**

As one of the leading suppliers of equipment for hydropower stations, ANDRITZ HYDRO is very interested in the development of sustainable solutions for the worldwide expansion of hydropower. When IHA published its Hydropower Sustainability Assessment Protocol in 2011, which allows the performance of hydropower stations to be evaluated on the basis of specific sustainability criteria, ANDRITZ HYDRO became one of IHA's first sustainability partners.

The Hydropower Sustainability Assessment Protocol functions in the same way as a scorecard. The evaluations are based on objective data and the results are presented in a standardized form to give an accurate representation of how existing plants can be operated sustainably and new projects developed. The protocol was drawn up by a group of international stakeholders, including representatives of governments, international NGOs, and commercial and development banks, together with specialists from the industry. IHA is working with partners such as ANDRITZ all over the world to ensure that the protocol is implemented globally.

Together with other IHA sustainability partners, representatives of ANDRITZ HYDRO took part in a training course on the Hydropower Sustainability Assessment Protocol held by experts from the IHA. The subjects covered included the lower reaches of rivers, indigenous population, resettlement, safety of the infrastructure, water quality, erosion, and sedimentation during the development of hydropower. ANDRITZ HYDRO proactively supports the continuous improvement of sustainability standards for hydroelectric power plants.

### **World Business Council for Sustainable Development (WBCSD)**

ANDRITZ is a member of the World Business Council for Sustainable Development (WBCSD), a global organization that promotes a sustainable future for the economy, society, and the environment. This group of around 200 international companies from more than 20 industries is headed by company CEOs and provides organizations with a platform for evaluating and realizing joint opportunities for sustainable development and for sharing knowledge, experience, and examples of best practices.

Since 2012, ANDRITZ PULP & PAPER has been an associate member of the WBCSD Forest Solutions Group (FSG), a leading sustainability platform for the global forestry industry and its stakeholders. The full members of the FSG are leading global forestry companies and manufacturers of forestry products, such as APRIL, Fibria, Portucel, the Metsä Group, Mondi, Stora Enso, and UPM, most of whom are long-term ANDRITZ customers. The goals of the working group include the introduction of joint performance targets for sustainably produced forest products, such as pulp and paper, and an ongoing dialog with stakeholders, for example NGOs, which work closely with the FSG on individual projects.

#### **respACT**

ANDRITZ HYDRO joined respACT, the leading business platform for corporate social responsibility and sustainable development in Austria, in 2002. The platform supports its members, including many renowned Austrian companies, not only in their development towards sustainability, but is also a network partner of UN Global Compact, the world's biggest corporate citizenship initiative with more than 5,000 members.

#### **Eco World Styria**

ANDRITZ is a member of Eco World Styria, a cluster of around 200 Austrian companies and research organizations working with and researching into technologies and innovations in the field of environmental protection. In 2010, Eco World Styria was voted the world's best cluster for green technologies by the Cleantech Group, a US network of investors.

#### **Austrian Biomass Association**

ANDRITZ is a full member of the Austrian Biomass Association, which promotes the effective, resource-efficient, and sustainable use of biomass as a renewable energy source.

## **SUPPLIERS AND PROCUREMENT**

### **Purchasing strategy**

The ANDRITZ purchasing strategy covers all its business areas and sites. The Group's Procurement department focuses on material groups used throughout the organization. The local procurement teams concentrate on special components that are specific to individual products. This approach not only improves quality levels significantly, but also ensures compliance with the CSR guidelines.

The purchasing strategy is based on expertise (including knowledge of markets and suppliers), governance (including organization and compliance), and support and service (including employee development and support of the local purchasing teams). The core issues across all areas are increased transparency and attention to social aspects and sustainability.

### **Selection of suppliers**

The Group's Procurement department plays an important role in the value chain and the quality assurance of end products. In order to consistently improve product quality and meet customers' requirements as effectively as possible, ANDRITZ attaches great importance to qualifying its suppliers. Preference is given to suppliers that commit to an economic and socially balanced, as well as environmentally conscious corporate policy.

ANDRITZ aims to establish long-term partnerships with its suppliers. Candidates are subjected to stringent checks before the business relationship begins. Suppliers are selected on the basis of a qualification process, which involves quality managers and product specialists from ANDRITZ analyzing and evaluating the supplier. In the course of the registration process, suppliers will be asked whether they have a certified Environmental Management System or similar CSR-relevant systems in place. The information provided is then verified. Additional compliance-related questions will be asked as from 2015. The progress made by the supplier and the quality of products and services are regularly inspected during business relations. In the case of sensitive components or new suppliers, ANDRITZ also monitors the production process on the supplier's premises.

*GRI G4: Management approach Procurement practices*

One important criterion for cooperation with external suppliers is their agreement to comply with the ANDRITZ Code of Business Conduct and Ethics. In addition to other relevant supplier KPIs, this is included in the global Supplier Relationship Management software system (SRM). An important SRM goal is making all existing data on a supplier available throughout the entire ANDRITZ GROUP in order to continue improving procurement activities (e.g. planning and execution of supplier audits).

### **Assessment of purchasing locations**

In 2014, ANDRITZ started conducting location procurement assessments, involving checks on whether local purchasing teams and the management are meeting the general rules, strategies and goals, transparent

processes in terms of sourcing, material groups and supplier management as well as opportunities for employee promotion and development. The assessments include social and compliance and other aspects.

**Employee training**

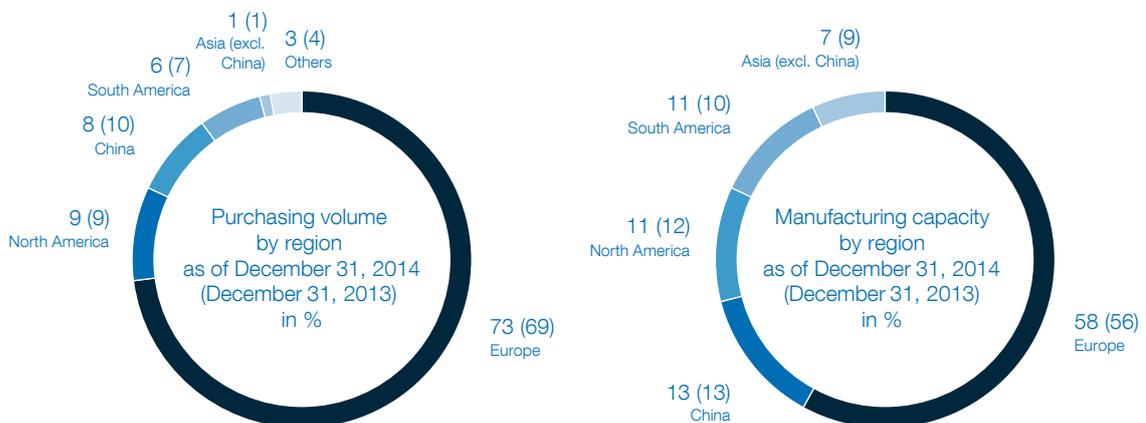
Employees working in global procurement are offered special training programs, covering purchasing processes, guidelines and policies, controlling, intercultural negotiation strategies, and international commercial law. Alongside the basic training, a concept for a more advanced course is being developed, which will be aimed at experienced employees in higher-level functions and at high potentials. In addition to Procurement, the Group functions responsible for legal issues, manufacturing, controlling, and quality management are also involved in the training organization.

**Purchasing volume and production capacity**

In 2014, the total purchasing volume of the ANDRITZ GROUP was MEUR 4,517.7 (2013: MEUR 3,806.8). The increase was primarily the result of the first-time consolidation of newly acquired companies, as well as increased project activity. Within the total purchasing volume, 3,051.9 MEUR (2013: 2,672.6 MEUR) related to external suppliers, the remainder to transactions in the Group and consortial agreements. As a producer of high-quality, technologically advanced plants and components at sites all over the world, ANDRITZ worked with suppliers from a total of 99 countries during the reporting period. The share of products and services procured locally in the country of production as a percentage of the total external purchasing volume was 70% in 2014 (2013: 70%).

The ANDRITZ GROUP buys the majority of its raw materials and other materials required in the regions where its own production sites are based. In 2014, 82% of the company's purchasing was carried out in Europe and North America (2013: 78%) and 15% in emerging markets (2013: 18%). This means that ANDRITZ procures materials largely where production takes place. As a result, the company makes a significant contribution to local economic added value and to creating and retaining jobs. This policy also leads to shorter transport routes and reductions in CO<sub>2</sub> emissions.

*GRI G4-EC9: Proportion of spending on local suppliers at significant locations of operation*



**Material consumption**

82% of the Group's material consumption in 2014 was used for outsourcing, mechanical components, erection work, installation, infrastructure, and investments, 12% for purchasing of cast and forged parts, metal sheets, screen baskets, and in the steel fabrication and conveyor technology departments, and 6% for logistics, mechanical engineering design, IT, and business travel.

**Logistics**

The logistics process is handled by the Group's Procurement function. It includes acceptance and receipt of goods, inspection of incoming goods, complaint management, stock management, commercial shipping, and packaging. ANDRITZ products are transported mainly by truck and by ship. It is planned to include the CO<sub>2</sub> emission and other data relating to the transport of goods in future CSR reports.

## BUSINESS CONDUCT AND ETHICS

### COMPLIANCE

ANDRITZ has a Group-wide Compliance Committee consisting of five members from the Legal, Human Resources, Controlling, and Investor Relations departments. As an independent Group function, it reports directly to the CEO. There is also a network of eight regional compliance officers, a Group Compliance Manager and the Group Compliance Officer. Every year, the Compliance Committee submits to the CEO a comprehensive report about significant events and measures. The company also has a compliance officer especially for insider trading, who reports directly to the CEO.

The goal of the company's compliance activities is to monitor compliance with existing legislation and internal regulations on the subjects of anti-corruption, anti-trust law, human resources (anti-discrimination), bans on insider trading, export controls, and data protection, to keep the regulations constantly updated, and to provide training in these areas. Other tasks include keeping track of current topics and trends in the field of compliance and putting them into practice by means of appropriate measures or new regulations. All the compliance documentation can be found in the Corporate Manual, which is available for all employees on the intranet and serves as a reference work providing all the important, Group-wide information on ANDRITZ's business principles and processes. The regional compliance officers as well as the Group-wide Compliance Committee are available to all members of staff as contact persons and training consultants. A Group-wide service desk for compliance issues has been set up and is to be extended in 2015. One of the projects is appointment of a compliance officer for each location.

ANDRITZ employees suspecting a violation of compliance regulations are encouraged to report the incident immediately. For this purpose, a special email address has been set up for compliance issues. Emails sent to this address will only be accessible to the Group Compliance Officer and the Group Compliance Manager. In addition, employees in the USA can use a whistleblower hotline to report possible breaches quickly and anonymously.

Activities in 2014 focused on offering worldwide online training courses for employees on the Code of Business Conduct and Ethics. In addition, a worldwide online platform was introduced to assess the global business partners of ANDRITZ with regard to compliance and anti-corruption policies in the field of sales and contracts.

*GRI G4: Management approach Compliance/Compliance with legislation*

### Code of Business Conduct and Ethics

Integrity, respect, reliability, and sustainability form the core elements of ANDRITZ's corporate policy and guide the behavior of the company and its employees. They also lie at the heart of the Code of Business Conduct and Ethics which came into force throughout the Group in 2010 and is available in twelve languages. The code covers the business principles and behavioral guidelines of the ANDRITZ GROUP for five main stakeholder groups: employees, customers and competitors, business partners and shareholders, communities, and governments and legislators. The aim of the code is to ensure that the common values, requirements and guidelines are understood and followed by all employees and by all representatives of ANDRITZ, but also by business partners, such as customers and suppliers.

A common understanding of the correct way of behaving in business is seen as an important foundation for the ongoing development of the company and plays important role when creating solutions for customers or establishing and maintaining a positive working environment for employees. The code is also essential when it comes to placing orders with suppliers and establishing a lasting relationship with them.

Compliance with the code within the ANDRITZ GROUP is monitored mainly by the Internal Auditing Group department that reports directly to the Executive Board. In special cases, the department works together with the Compliance Committee. Employees who breach the code can incur serious consequences, including disciplinary measures that may extend to dismissal and, under certain circumstances, criminal prosecution. In the case of suppliers, consultants, and other service providers failing to comply with the code, the consequences will vary depending on the extent and seriousness of the breach.

The Code of Business Conduct and Ethics is part of the Corporate Manual and is available on the intranet for all employees. The code is also published on the ANDRITZ website.

### Online training on compliance

In 2013, the Compliance Committee of the ANDRITZ GROUP launched a global online training course on the ANDRITZ Code of Business Conduct and Ethics, which covers the Group's compliance guidelines in detail. In order to ensure that all the participants gain the best possible understanding of the content, the training is available in the twelve most important languages for ANDRITZ (Chinese, Danish, Dutch, English, Finnish, French, German, Italian, Norwegian, Portuguese, Spanish, and Swedish). As of December 31, 2014, a total of

9,317 employees had completed the online training. The committee is currently working on implementing an offline training course for employees without access to a PC.

Employees at the ANDRITZ sites in the USA have been taking part in training on the rules of conduct in the code since November 2011, as a result of the requirements of US legislation. In the USA, 783 out of 1,016 employees had completed the course as of December 31, 2014. Additionally, training courses on the subjects of anti-bribery (anti-corruption), anti-trust law and working for the US government, sexual harassment and unethical agreements are held for ANDRITZ employees in the USA.

*GRI G4-SO4: Communication and training on anti-corruption policies and procedures*

#### Compliance procedures for suppliers

As a responsible market player, the ANDRITZ GROUP aims to ensure that its suppliers follow the same principles of conduct and ethical standards as ANDRITZ itself. Therefore, suppliers must confirm in writing their acceptance of the ANDRITZ Code of Business Conduct and Ethics as part of the contract. If a supplier commits a serious breach of the code, ANDRITZ will bring the business relationship to an end. By December 31, 2014, 98% of ANDRITZ's operational sites<sup>2</sup> had incorporated the code in their terms and conditions of business with suppliers. In order to make the requirements placed on suppliers clearer, ANDRITZ is preparing a Code of Business Conduct and Ethics focusing on the principles of behavior for suppliers.

#### Insider trading

When ANDRITZ shares were first listed on the stock market in 2001, it introduced an insider trading policy which is binding for all employees and which contains all the information, organizational measures, and procedures on the subject of insider trading with ANDRITZ shares. This policy is reviewed and updated at least once a year to include any changes in legislation. After being approved by the Executive Board, it is distributed to all the relevant target groups throughout the organization. New employees are given the policy on the day that they join the company and must confirm in writing that they have received it.

#### Online training on the subject of insider trading

In 2012, an online training course to provide further information and raise awareness about the ANDRITZ insider trading policy was introduced by the compliance officer for insider trading. The course is aimed at new hires, managers, and employees who regularly or occasionally have access to insider information. During the course, information is given and knowledge tested. By providing knowledge, the tool ultimately helps to protect employees. All the employees listed on the insider register of the ANDRITZ GROUP, including the Executive Board, have to take this course.

In addition, since January 1, 2013 all new employees at the Austrian ANDRITZ sites have to take a mandatory online training course on insider trading. In this respect, ANDRITZ is playing a pioneering role in the Austrian capital market.

#### Anti-trust law and anti-corruption guidelines

ANDRITZ is committed to fair and open competition; only quality and performance should determine which company is awarded a contract. In order to ensure that all employees, representatives, and third parties working for ANDRITZ comply with anti-trust legislation and the principles of fair competition, a Group-wide anti-trust policy has been introduced, which strictly forbids agreements with competitors to fix prices or allocate markets or customers. ANDRITZ does not offer, authorize, or receive bribes or kickbacks or other illegal payments in relation to its business. The guidelines on this subject are laid down in the ANDRITZ anti-bribery policy.

*GRI G4: Management approach Anti-Corruption*

#### Practical knowledge for future judges and state prosecutors

ANDRITZ is one of twelve companies to take part in an initiative launched by the Austrian Ministry of Justice to combat business crime and corruption. In order to improve the business knowledge of members of the judiciary, future judges and state prosecutors have had the opportunity to take a two- to four-month voluntary internship with a company as part of their studies since April 2013. At ANDRITZ, future judges and state prosecutors are able to gain a comprehensive insight into business processes and improve their knowledge of the world of business.

#### Intellectual property and patents

As a supplier of globally leading technologies in a highly competitive environment, ANDRITZ makes every effort to protect its own technologies and expertise by means of patents, registered trademarks, and other intellectual property rights. ANDRITZ invests large amounts of money in protecting its products and processes and holds

<sup>2</sup> Excluding Schuler; Schuler has similar terms and conditions of business.

about 5,700 patents and patent registrations and around 1,100 trademarks pending or registered (as of December 31, 2014). In return, ANDRITZ respects the intellectual property of third parties and treats confidential information belonging to other companies with the greatest care. Every employee who comes into the possession of confidential information must treat it accordingly and must only use it for authorized purposes.

In 2014, a new intellectual property policy came into force which regulates the use of confidential information and the intellectual property of third parties. This policy relates, inter alia, to the protection of information obtained in the context of a non-disclosure agreement.

#### Equal treatment and measures against sexual harassment

The ANDRITZ GROUP does not tolerate any form of discrimination, including harassment, of an employee by another employee or by a client, customer, or vendor related to sex, race, age, religion or national origin. Harassment includes any form of violence in the workplace. The purpose is to provide all employees with a work environment free of offensive and intimidating behavior and to provide work-related opportunities based on merit and business considerations. Every employee has the opportunity to report possible concerns or violations any time, also anonymously.

*GRI G4: Management approach Non-discrimination*

#### Overview guidelines/policies

By the end of 2014, more than 40 policies and guidelines were valid for the ANDRITZ GROUP. They cover the following CSR-relevant topics:

##### Compliance

- Business conduct and ethics
- Insider trading
- Antitrust
- Anti-bribery
- Protection of third party intellectual property
- Agency and business consulting agreements
- Procurement guidelines and contracts with supplier

##### Organization

- Acquisition of companies

##### Human resources

- Equal treatment, personnel development, recruiting
- Procedures in case of major organizational changes

##### Quality and safety

- Quality management, health and safety
- Accidents at work, safety-critical incidents and emergencies
- H<sub>2</sub>O<sub>2</sub> storage and handling

## RISK MANAGEMENT

As a company that does business throughout the world, serving a variety of different markets and customers, the ANDRITZ GROUP is exposed to certain general and industry-specific risks. In order to identify these risks in good time, ANDRITZ introduced a Group-wide control and risk management system several years ago, which is responsible for identifying emerging financial and non-financial risks in their early stages and for taking counter-measures quickly.

The Accounting and Financial Reporting departments are within the sphere of responsibility of the CEO and are subject to binding regulations and guidelines throughout the Group. To reduce financial risks to a minimum and to improve the monitoring, control, and evaluation of the company's financial and liquidity position, the ANDRITZ GROUP has a comprehensive treasury policy and a transparent information system in place.

The non-financial risks to which ANDRITZ is exposed mainly concern manufacturing, where careful planning and a targeted make-or-buy strategy can balance typical variations in capacity utilization and allow best possible use of existing production capacities. Cost overruns in the processing of orders also present significant risks which are typical of project activities. ANDRITZ uses ongoing cost and sales controlling measures to attempt to identify significant deviations from the budget at an early stage and to take the necessary measures in good time. A compliance risk assessment is in the process of being drawn up to identify, analyze, and evaluate key performance indicators (e.g. corruption) and compliance-related risks. The precautionary principle is also taken into

account by observing efficient use of resources and energy and by minimizing the environmental impact of business operations.

Detailed information on the subject of risk management can be found in the ANDRITZ GROUP's annual financial report.

### **INTERNAL AUDITING**

The Internal Auditing Group department, which reports directly to the CEO, carries out comprehensive audits of ANDRITZ affiliates and group functions on the basis of an extensive risk analysis and the requirements of the Executive Board. The purpose of the audits is to ensure compliance with the Group's guidelines and the fundamental principles of profitability and to highlight potential areas for improvement in the operational workflows. Every year, a two-year plan for the routine audits is drawn up and, in suspicious cases, ad-hoc, unannounced audits are also carried out. The goal is to evaluate risk management, internal controls, and management processes and, therefore, to ensure as effectively as possible that business risks are adequately identified and appropriately managed. The audit reports include specific recommendations for action. In 2014, Internal Auditing carried out 40 audits worldwide. The results are submitted to the Executive Board of ANDRITZ in the form of audit reports (2013: 38 audits).



# ANDRITZ

is meeting the globally increasing demand for products that preserve the environment and natural resources, while being energy-efficient.

## ENVIRONMENTALLY EFFICIENT PRODUCTS

As a responsible technology company, ANDRITZ is fulfilling the growing demand for environmentally sound and efficient products. At the heart of its work lies a comprehensive portfolio of products and services for renewable energies, together with research and development (R&D) activities relating to new environmentally efficient products and processes.

ANDRITZ generates around 45% of its total sales from technologies and systems for producing energy from renewable resources and waste products. The Group spends an average of 3% of its total sales each year on R&D. In 2014, this amounted to MEUR 84.3 (2013: MEUR 92.6). Across the Group, about 1,000 people work in R&D (including the technology and product management of the business areas).

### Protecting the environment, saving resources, and using energy efficiently

One focus of the Group's R&D is on protecting the environment, increasing energy and resource efficiency, extending the life cycle of machines and plants, and developing technologies for clean energy generation involving low resource use. The innovations that ANDRITZ develops enable its customers to comply with environmental regulations as effectively as possible and, at the same time, create economic added value by cutting costs and improving productivity.

**ANDRITZ generates about 45% of its sales from renewable energy**

- Machines and plants for generating energy from renewable resources and waste products. The most important technologies in the field of renewable energy include electro-mechanical equipment for hydroelectric power plants. With its machines for producing clean energy, ANDRITZ is supporting international efforts to halt climate change and helping to ensure a sustainable supply of electricity.
- Technologies for using renewable resources in an environmentally friendly way (e. g. recovery and biomass boilers for generating energy and biomass pelleting machines).
- Technologies for reducing and avoiding pollution (flue gas cleaning systems, recycling solutions, and waste-to-power technologies).
- Plants and systems that use by-products from production processes to keep waste volumes to a minimum.

Below are some examples of the most important sustainability technologies and current R&D projects in each ANDRITZ business area.

### HYDRO: HYDROPOWER – THE MOST IMPORTANT RENEWABLE ENERGY SOURCE

For more than 170 years, ANDRITZ HYDRO has been supplying electromechanical equipment for hydroelectric power plants and has installed almost 30,000 turbines with a total power output of more than 420,000 megawatts. Almost 16% of the world's electricity is generated from hydropower, which makes it the most important renewable energy source by far. It is clean, produces no waste, and does not emit pollutants or significant quantities of hazardous greenhouse gases. Many hydroelectric power plants perform additional functions, such as storing energy, supplying water, and irrigation, and also contribute to sustainable development, in particular in remote regions.

Hydroelectric power stations equipped by ANDRITZ HYDRO provide electricity every day to around 270 million people throughout the world and enable a reduction in CO<sub>2</sub> emissions of approximately 610 million tons per year<sup>3</sup>. ANDRITZ HYDRO also helps power plant operators to significantly improve the efficiency of their plants by modernizing and retrofitting new turbines and generators. Efficiency increases of up to 30% are possible in this way, without causing major impact on the environment or water resources.

For this reason, the main focus of the ongoing R&D work at ANDRITZ HYDRO is on improving the efficiency of the different turbine types. The goal is to improve their mechanical behavior and hydraulic properties and, at the same time, to minimize their impact on the environment.

ANDRITZ HYDRO offers a variety of innovative technologies for tapping hydropower potentials that have not been used so far. Examples include the Hydromatrix system developed by ANDRITZ HYDRO, an innovative and cost-effective concept consisting of a factory-assembled grid of modules containing small turbine-generator units. These modules can be combined in different arrangements to form power plants and are ideally suited for installation in existing dams, without the need for major conversion work. ANDRITZ supplied the entire electro-mechanical equipment, including 90 Hydromatrix units, for the hydropower station in Ashta, Albania. With a total power output of 53 megawatts, Ashta is the world's largest matrix hydroelectric power plant and generates 240 million kilowatt hours of electricity every year for 100,000 Albanian households.

In 2014, MeyGen Ltd. awarded the contract to supply three 1.5-megawatt tidal current turbines for the planned tidal array in the Inner Sound of the Pentland Firth in Scotland to ANDRITZ HYDRO Hammerfest. Tidal current turbines are anchored to the sea bed in coastal waters and are driven by rising and falling tides. The order awarded to ANDRITZ HYDRO Hammerfest is the world's first commercial contract for the supply of tidal current turbines and part of the first phase of MeyGen's project which will ultimately lead to the development of a complete tidal array. This array is deemed the world's largest development project of its kind. Eventually, MeyGen intends to implement a total of 269 turbines with an overall capacity of 398 megawatts, which will supply 175,000 Scottish households with predictable, renewable, and sustainable electric power. ANDRITZ HYDRO Hammerfest is one of the world's leading companies in the development and supply of tidal current turbines to generate electricity from renewable energy sources.

Following an international bidding process, Tidal Lagoon Swansea Bay plc. selected the consortium consisting of GE and ANDRITZ HYDRO as preferred bidder for supply of the electromechanical equipment for the world's first tidal lagoon hydropower project in Swansea Bay, Wales. This hydropower station will supply clean, renewable and predictable energy to over 155,000 households. It will reduce CO<sub>2</sub> emissions by over 236,000 tonnes and thus make an essential contribution to Britain's goals to reduce carbon dioxide emissions.

A further example of the sustainable use of ANDRITZ technologies is the pumps it manufactures for irrigating agricultural land. Irrigation is necessary for growing cereals and rice, in particular in developing countries. Large areas of the Indian state of Andhra Pradesh are frequently hit by serious droughts. As around 70% of the people who live there depend either directly or indirectly on agriculture for their livelihood, the Indian government has launched the Jalayagnam project to irrigate extensive areas of agricultural land. ANDRITZ equipped eleven pumping stations with split case pumps. Using only three of these large pumps, it would be possible to fill an Olympic swimming pool with a capacity of 2,500 m<sup>3</sup> of water in less than 20 seconds.

In order to encourage further innovation, ANDRITZ HYDRO established a business area-wide platform for sharing knowledge and innovative ideas in 2014. This platform comprises 20 employees who are trained in innovation management and collect, support, and organize ideas for new initiatives. The platform will help to involve in particular those sites that have no R&D or engineering department more closely in the innovation process and will allow them to benefit from the expertise available in the HYDRO network.

## **PRODUCTION OF RENEWABLE ENERGY IN THE PULP & PAPER AREA**

ANDRITZ PULP & PAPER has a wide-ranging portfolio of products, processes, and services that can be used to produce energy from renewable resources.

These include, for example, recovery and steam boilers, which allow energy to be generated from biomass (such as bark) and by-products (such as black liquor) resulting from the pulp production process, as well as reject materials from the paper recycling process.

The high energy recovery boilers (HERB) developed by ANDRITZ are used in pulp production to convert black liquor into steam and electricity. They operate at a higher pressure and temperature than conventional boilers to

<sup>3</sup> Calculated by ANDRITZ HYDRO

produce the maximum amount of energy while keeping emissions to a minimum. This helps pulp plants to become largely self-sufficient in energy. As a result, modern mills can even feed excess energy back into the public grid.

In 2013, the HERB boiler supplied to the Holmen Group's Iggesund mill in Sweden came into operation. This new recovery boiler, the most energy-efficient in the world, has increased the electricity production of the plant from 210 to 520 gigawatt hours per year and reduced its environmental impact significantly. It can now operate without using fossil fuels.

In the last two years, the packaging and paper manufacturer Mondi commissioned ANDRITZ to supply three HERB recovery boilers for its mills in Świecie, Poland, Frantschach, Austria, and Ružomberok, Slovakia, as part of its corporate program to reduce energy consumption and protect the environment.

Metsä Fibre signed a letter of intent with ANDRITZ to provide key production technologies for a new pulp mill with a capacity of 1.3 million tons of pulp per year in Äänekoski, Finland. The new pulp mill represents a new generation of bioproduct plants in the pulp industry. In addition to producing high-quality pulp, the raw material wood will be converted to bioproducts and bioenergy. The entire energy demand can be covered using wood, and fossil fuels are no longer needed.

#### **Biomass boilers**

In order to meet the growing demand for energy production from renewable resources, ANDRITZ has invested in the development of innovative steam boilers over recent years. Fluidized bed boilers make it possible to produce energy from different types of biomass and to generate heat from biomass and biogenic residues and waste. Fluidized bed combustion technology is used by the pulp and paper industry, by energy supply companies, and by municipalities.

One of these boilers that burn refuse-derived fuel is in operation in Eisenhüttenstadt, Germany. The boiler has a capacity of about 55 tons of processed domestic waste per hour and supplies a paper factory with the necessary energy for continuous production.

One of the largest boiler systems of this kind is being supplied to the new Värtaverket district heating plant operated by Fortum Värme in Stockholm, Sweden. When the system comes into operation, the share of renewable fuel in heating generation in Stockholm will increase from 45% to 70%. With the technology used in the Värtaverket plant, fossil fuels can be replaced by biomass. The plant's capacity corresponds to the energy demand of 190,000 households.

In 2013, the bubbling fluidized bed boiler at the Iggesund cardboard mill in Workington, England, was placed in operation. The boiler allows the mill to be self-sufficient in energy, which reduces its CO<sub>2</sub> emissions by about 190,000 tons per year.

Development activities are currently focused on manufacturing fluidized bed boilers with an electricity output of more than 100 megawatts, which will allow fossil fuels to be largely replaced by renewable resources such as biomass.

#### **Gasification plants**

One of the world's most advanced gasification systems was provided to Metsä Fibre's Joutseno mill, Finland. ANDRITZ supplied a 48-megawatt gasification system that allows the plant to operate using only renewable fuels. Metsä Fibre is a major producer of market pulp and has set itself the objective of becoming completely independent from fossil fuels. Gasification involves converting material containing carbon, such as coal, crude oil, or biomass, into synthesis gas using an oxidation agent (air, oxygen, carbon monoxide, and/or water vapor) by means of pyrolysis.

#### **Biomass drying and pelleting**

Biomass drying and pelleting systems are further examples of technologies provided by ANDRITZ to allow energy to be generated from biomass. Wood pellets are the ideal carbon-neutral fuel, which can be produced and transported efficiently and cost-effectively and used to heat homes and fuel industrial boilers and power plants. ANDRITZ is regarded throughout the world as a pioneer in the field of pelleting systems for wood and other types of biomass, such as straw, and has developed the technologies involved to provide complete solutions.

One example is a complete wood pelleting plant, the largest of its kind in North America, supplied to RWE Innogy, the renewable energy company of the German RWE group. The pellets produced there, which are small

in size and have a long useful life, are used in special biomass plants and combined coal-biomass combustion facilities in Europe.

Biomass generally has to be dried before it can be used in pelleting, briquetting, combustion, and gasification processes. Drying reduces its water content to a minimum and increases its calorific value. This creates the ideal conditions for direct firing or pelleting. With the drying process, less fuel is needed to generate energy, which also reduces the emissions produced during combustion. Customer references include a belt dryer supplied by ANDRITZ SEPARATION to Metsä Fibre's Joutseno mill, Finland.

#### **Production of second-generation liquid biofuels**

For ten years, the ANDRITZ research and development centers in Europe and the USA have been working on producing ethanol from second-generation biomass. The process is based on using organic residues, such as wood or agricultural waste, which are available in large quantities and cannot be used for food production. ANDRITZ has developed a process for the chemical pre-treatment of biomass and its conversion into sugar for producing ethanol and butanol.

This technology has been used for the Liberty project in Emmetsburg, Iowa, USA, the world's first commercial cellulosic ethanol plant for second-generation biofuels. In the new factory, which was opened in 2014, the two-stage steam explosion process developed by ANDRITZ for the cost-effective conversion of biomass based on corn harvest waste into sugar enables 770 tons of biomass to be processed each day.

ANDRITZ is also working with UPM, one of Europe's leading forestry companies, on a pilot project to develop technologies for the gasification of forest waste to produce biofuels. The biomass is gasified, cleaned, and converted into a variety of biorefinery products, including biodiesel. UPM plans to build a plant for generating biomass-to-liquid fuels with an annual capacity of 100,000 tons for which ANDRITZ will be supplying the gasification technology.

#### **Waste-to-Power**

Waste from paper mills, which in the past ended up in landfills, can now be collected, treated, and converted into valuable energy. In this area, ANDRITZ has been playing a pioneering role worldwide in process development for some years. Generating electricity from waste is a process that converts rejects, sludge, and other residues from paper production into fuel. ANDRITZ supplies technologies for direct production of energy by burning waste and for indirect energy production by generating gas, which is then burnt or subjected to further treatment. Tailor-made gasolitions include modules for reject and sludge treatment, drying and pelleting, together with gasifiers or steam boilers using an environmentally friendly process to convert the dried materials into gas or steam.

In 2013, ANDRITZ put a complete reject processing system at Stora Enso's Ostroleka mill, Poland, into operation. The technology supplied by ANDRITZ allows rejects from waste paper processing, amounting to 120 tons per day, to be used as an energy source in the plant. During several stages of the process, the fibers are recovered and metal residues are eliminated and recycled. Plastics are also separated and special infrared technology is used to remove the PVC. These are reused as a valuable secondary raw material for energy generation in existing boilers, which not only helps to reduce the volume of waste produced by the Ostroleka mill significantly, but also cuts its fuel consumption.

#### **Recycling plants**

With the acquisition of major assets of the German company MeWa in 2013 ANDRITZ expanded its range of products in the field of recycling. ANDRITZ MeWa offers complete recycling solutions based on technologies developed in-house that complement the existing ANDRITZ portfolio of waste paper recycling systems. It also opens up new market segments for ANDRITZ, including recycling tires, processing electrical and electronic waste, producing refuse-derived fuels, and properly disposing of refrigerators and freezers. The technologies available from ANDRITZ MeWa allow correctly sorted metals and high quality plastics to be recovered, substitute fuels to be produced, and environmentally friendly energy to be generated from biowaste.

#### **Innovative and environmentally friendly pyrolysis of plastic rejects**

In 2014, ANDRITZ entered into a cooperation agreement with the Spanish specialist recycling company Alucha, one of the world's leading developers of pyrolysis processes for industrial use, to supply new technologies and equipment for the pyrolysis of waste produced in the processing of liquid packaging board to make paper. The pyrolysis of rejects leads to reduced operating costs in industrial plants, for example in the pulp and paper industry, and makes a substantial contribution toward protecting the environment. Processing rejects involves recovering the fibers and dividing the residual fraction into aluminum, gas, and oil by means of pyrolysis. The recycled aluminum can be sold and the gas and oil from the pyrolysis process can be used to generate heat or

electricity, which reduces the total operating costs and saves natural resources. Based on its extensive expertise in processing rejects, ANDRITZ is supplying the machinery and acting as a sales and license partner in the context of the cooperation agreement.

#### Flue gas cleaning systems

The product range encompasses wet and dry flue gas cleaning processes for acidic pollutant gases (such as SO<sub>2</sub>, HCl), DeNO<sub>x</sub>/SCR plants to reduce nitrogen oxide emissions, and combinations of complex flue gas cleaning technologies. The comprehensive portfolio offers custom-tailored flue gas cleaning technologies for power plants, biomass plants, waste incineration plants, and various industrial applications.

The project to supply a new flue gas cleaning system and modernize the bubbling fluidized bed boiler at Jyväskylä Energy group's Rauhalhti mill in Finland is focusing on improving energy efficiency and making full use of the heat flows from the flue gas scrubber. For example, the buildings in this mill are heated with waste heat from the condensate.

ANDRITZ was awarded a contract by the Oklahoma Gas and Electric Company (OG&E) to supply circulating, dry desulfurization systems for the flue gas from OG&E's two 569-megawatt coal-fired boilers at the Sooner power station, Oklahoma, USA. The new systems will improve both the power station's air quality and its reliability.

In 2014, after successful completion of a pilot project together with RWE, ANDRITZ received and successfully completed an order to retrofit a REAplus stage to increase the performance of a flue gas desulfurization plant at Niederaußem power station in Germany. In this project, it became evident that the high expectations of this technology are met and even surpassed in commercial operation of the power plant (significantly lower sulfur oxide emissions and less electricity consumption). The benefits of this technology were confirmed in a follow-up order for two more REAplus systems.

#### Other projects in the PULP & PAPER business area

In addition to the projects described above, the research and development team in the business area is focusing on improving production processes for all types of fibers in order to make pulp and paper production more efficient and, therefore, more sustainable.

The team's most important innovations include a pre-hydrolysis process for making dissolving pulp from wood. The pulp is used to produce viscose fibers to replace cotton, for example in the textile industry. Using wood chips means that large quantities of water needed to irrigate cotton fields can be saved. Existing chemical pulp mills can easily be converted to this type of production.

The development of systems to improve the pulp yield allows large quantities of wood to be saved as a result of the increase in the fiber yield per unit of raw material. In addition, the relative volume of waste produced can be significantly reduced. A system of this kind was installed in 2013 in Metsä Fibre's Joutseno mill, Finland. The fiber yield was increased by about 1.5% and the wood consumption reduced by 3%, at the same production volume. A further benefit of the process for converting white liquor sulfide into polysulfide is the reduction in the specific energy requirement for pulping.

In order to reduce raw material consumption, ANDRITZ has developed a solution for recovering non-woven edge trimmings and reusing them in the production process. This allows up to 10% of the raw material that was previously wasted to be returned to the non-woven production process. In the wetlace process, as much as 100% of the edge trimmings can be recovered and returned to the manufacturing process when pulp fibers are used. In addition, a reduction in the standard weight of wipes can result in savings of up to 30% in the amount of raw materials needed.

#### Bioplastics from algae

Together with the energy supply company EVN and the University of Natural Resources and Life Sciences in Vienna, Austria, ANDRITZ Energy & Environment has launched a research project to investigate the use of CO<sub>2</sub> to produce bioplastics. In the pilot system which is currently being expanded, part of the CO<sub>2</sub> is extracted from flue gas using absorbers and transferred to a bioreactor containing microorganisms such as algae. These produce energy stores in the form of polyhydroxybutyrate (PHB) which form the basis for manufacturing the bioplastic. This allows a biomaterial, which can be used as a raw material for cosmetics or fertilizers, to be manufactured from waste. The plant can produce approximately 500 tons of CO<sub>2</sub> per year for further processing.

WASTE WATER TREATMENT

**CLEAN**

SLUDGE  
TREATMENT

CO<sub>2</sub>-NEUTRAL COMBUSTION

WASTE-TO-POWER TECHNOLOGIES

BIOMASS PELLETING SYSTEMS

**CLIMATE PROTECTION**

ENERGY PRODUCTION

SUSTAINABLE POWER GENERATION

BIOMASS BOILERS

**HYDROPOWER  
PLANTS**

FLUE GAS CLEANING SYSTEMS

## ANDRITZ METALS: PROTECTING THE ENVIRONMENT BY IMPROVING ENERGY EFFICIENCY

### Schuler ECOFORM

Schuler's ECOFORM program is an important development in the sustainability and energy efficiency of stamping plants. ECOFORM brings together all the measures needed by customers to ensure energy- and resource-efficient production while increasing their productivity. The program includes energy analysis of the shop, where the energy requirements are measured and evaluated and an analysis of actual usage is carried out to identify the potential for energy savings. ECOFORM also focuses on using energy-efficient components that improve efficiency, on innovative system solutions, such as intelligent energy recovery, start-stop and stand-by systems, and on intelligent control solutions for energy optimization in processes.

Practical examples show that Schuler's EHF (Efficient Hydraulic Forming) process can result in energy savings of up to 60% in the sheet and massive forming sectors when compared with conventional hydraulic presses. The latest generation of Schuler servo press lines can lead to a reduction in energy consumption of up to 50% in comparison with traditional mechanical high-speed press lines. The new MSC 2000 automatic blanking press also allows for energy savings of up to 50% over conventional blanking presses.

In addition, Schuler is the first manufacturer in the metalforming sector to offer its customers an energy performance certificate for Schuler machinery and equipment that documents the power input at different stroke rates and lengths, as well as at different numbers of cycles and transport steps.

### Reducing acid use in the production of stainless steel

ANDRITZ METALS has developed two technologies for treating mixed acids and for reducing the level of nitrates in the effluent from stainless steel pickling plants: In the Pyromars process, the waste pickling liquor produced is treated to provide a re-usable mixed acid regenerate, which significantly reduces the nitrate load. Thanks to an additional ZEMAP plant (Zero Effluent Mixed Acid Pickling), the remaining acid rinsing and pickling effluent recovered in the Pyromars process can be concentrated. The advantage here is that the nitrate load in the effluent drops almost to zero, the effluent volume is significantly reduced, and a mixture of iron, chromium, and nickel oxides can be recovered and reused in stainless steel production. The first plant of this kind will be supplied to Walsin Lihwa, a manufacturer of stainless steel, copper, and aluminum products in Taiwan. The pickling plant will be the first in the world to operate with almost no nitrate emissions.

About 50 million tons of electrical waste are produced all over the world over every year, mostly in the form of computers and cell phones. Until now, only 15-20% of electronic scrap has been recycled. The rest is either landfilled or incinerated. A new technology known as the mini secondary copper smelter from ANDRITZ METALS will enable the reuse of copper alloys and recycling of copper waste. Base metals and precious metals can be recycled. This will make it possible to reuse part of the electronic waste and to reduce negative impacts on the environment, caused, e.g. by landfilling.

The business area is also developing an automated control system for continuous annealing furnaces. These controls are used in the production of sheet steel and allow the temperature to be accurately controlled, providing higher-quality end products and reductions of energy consumption. The goal of the project is to produce a fully automatic system for controlling furnace operation.

Another ANDRITZ METALS focus lies on lightweight automotive construction. Development activities by ANDRITZ Soutec for welding systems for tailored welded blanks concentrated primarily on combining hot-forming steel grades of different strengths so that the car bodywork deforms in the softer areas in the event of an accident and the impact energy can thus be better absorbed. However, more than 90% of these hot-forming steels used in the automotive industry have an aluminum-silicon coating (AlSi coating), which has a negative effect on the quality of the weld, although it does prevent a layer of scale from forming during heat treatment. By using a new ablation technique, AlSi-coated sheets can also be welded to tailored welded blanks with excellent weld seam quality. This new, innovative technique is being implemented under a collaboration agreement between ANDRITZ Soutec and ArcelorMittal Tailored Blanks.

## SEPARATION

The SEPARATION business area provides a wide range of technologies and services for waste water and thermal sludge treatment. Alongside individual components, such as screens, conveyors centrifuges, belt and filter presses, or dryers, complete systems are also available. In the drying segment alone, the systems supplied by the business area are responsible for processing roughly nine million tons of sewage sludge and more than two million tons of biomass every year.

Two innovative products for the environmental sector were launched on the market in 2014: The business area developed a new sludge dewatering machine for use in waste water treatment plants, industrial water treatment plants, and in the food industry. The ANDRITZ C-Press is a high-performance screw press that combines a high throughput with low operating costs in a compact design. As well as having a long service life, the press is easy to operate, requires little maintenance, and features 30% less water consumption than comparable systems because of its bi-sequential cleaning process. The new C-Press thus sets a new standard in this segment and also complies with all the European Union regulations on safety, hygiene, and environmental protection.

A new range of decanter centrifuges for environmental applications achieves a significant reduction of up to 40% in energy consumption, while maintaining the same throughput and efficiency. Among other benefits, the energy-saving design features a new system for driving the screw and achieves drastic reductions in power consumption as a result. The operating costs are reduced to a minimum, with up to 40% less power consumption.

### COOPERATIVE RESEARCH PROJECTS

For ANDRITZ, cooperating with universities and research bodies is an important aspect of developing new processes and products which will reinforce the company's technological leadership in the market segments where it does business and help to create sustainable solutions for customers. At the company's headquarters in Graz, Austria, for instance, ANDRITZ has been working with the Graz University of Technology for many years. This cooperation includes sharing ideas with other scientific institutions and scholarship grants. This creates contacts to potential future employees and junior managerial staff. Many students promoted by ANDRITZ decide to take up employment with the company after graduation.

ANDRITZ HYDRO is currently involved in the "Green Storage Grid" project run by Vienna University of Technology, Austria. The project's aim is to simulate and improve the technologies used to stabilize the electricity grid. Research institutions and partners from the energy industry are investigating solutions for connecting renewable energy sources more effectively to the grid and enabling it to operate more reliably. ANDRITZ HYDRO is working closely on other research projects with universities in Austria, Canada and Switzerland in order to realize fundamental developments in the fields of automation, control systems, and generator and turbine technology to advance the flexibility of hydroelectric power plants. The main focus is on developing fast, stable system solutions and increasing the service life of systems.

At the Electric Drives and Machines Institute of Graz University of Technology, ANDRITZ HYDRO launched a research project in 2014 involving a newly established assistant professorship, with the objective of optimizing generators and full-scale frequency converters with variable operating speeds. The findings from the project will primarily be used in pumped storage power stations to allow for very flexible and readily controllable operation.

The cooperation between ANDRITZ Soutec, the School of Engineering at the Zurich University of Applied Sciences and other universities (including the Technical University of Munich, Germany) is aimed at the students who will become the next generation of engineers.

In the field of biomass, ANDRITZ is a partner of the BioUp Biomass Research Network which opened a technical center in Vienna, Austria, in April 2013 for manufacturing pellets. ANDRITZ supplied a belt dryer for the research center where a variety of institutions and companies are working on processes for improving biomass pellets, including investigating the influence of different raw materials on combustion behavior and dust emissions.

As part of the COMET research program (Competence Centers for Excellent Technologies) in Austria, ANDRITZ is a business partner of a competence center involved in research into improving material surfaces and their properties. The scientific partners include the Graz and Vienna Universities of Technology, the University of Linz, and the Austrian Institute of Technology, together with other well-known Austrian industrial companies. The focus is on developing environmentally friendly electrochemical methods to coat surfaces in order to give them specific properties, such as corrosion and wear resistance, or new functionalities by changing their texture. For example, metal coatings can be applied to composite materials for use in the aviation industry, which result in significant fuel savings because of their light weight.

In the field of plastics, ANDRITZ is a partner of the PCCL (Polymer Competence Center) research consortium based in Leoben, Austria. The PCCL is carrying out research into developing plastic materials and components which will make electrical and electronic devices ranging from cellphones to measuring devices significantly more efficient in future thus resulting in considerable energy savings. The PCCL is also developing new solutions in the field of renewable energies. For example, lightweight plastic components are becoming increasingly important in the production of wind turbines.

International regulations on reducing CO<sub>2</sub> emissions that have to be implemented by 2020 have had a massive impact on the steel industry. A number of international research projects are currently underway in this area in which the METALS business area is involved. The projects are focusing on reducing CO<sub>2</sub> emissions in steel production and identifying potential areas for cutting CO<sub>2</sub> emissions by using innovative steels and by recycling steel.

ANDRITZ is a member of the EU's Renewable Heating and Cooling European Technology Platform (RHC) and Zero Emission Fossil Fuel Power Plants European Technology Platform (ZEP). ANDRITZ is also working with partners on the EU HiPerCap project to develop a method for evaluating different CO<sub>2</sub> capture technologies, with the goal of reducing emissions by capturing and storing the CO<sub>2</sub> in the plants where it is produced. Another CO<sub>2</sub> capture project involves developing CFD models to simulate fluidized beds.

### **LARGE-SCALE PROJECTS**

As a leading global supplier of systems and plants, ANDRITZ is sometimes awarded large orders for hydropower and pulp and paper projects worth several hundred million Euros. The decision whether or not to take part in such projects is taken by the Executive Board after careful consideration and balancing of all facts. Possible concerns about certain projects are taken seriously, and before implementation, the technical and commercial risks and chances, sustainability and environmental compatibility are analyzed, as are social and cultural aspects.

ANDRITZ has strict internal guidelines and provides its supplies only for projects whose operators – to the best of its knowledge – have obtained all necessary permits and where the currently applicable social and ecological standards are met. In such large-scale projects, ANDRITZ (usually as part of a consortium with other companies) is only the supplier of electrical and hydro-mechanical equipment for hydropower plants and – unlike the project operator – has no influence on the social and ecological framework of the projects. However, ANDRITZ supports its customers in creating the best possible conditions for reducing social and ecological impacts to a minimum.

All systems supplied by ANDRITZ conform to the latest state-of-the-art on a global level and are in full conformity with the respective environmental requirements. ANDRITZ respects the legal systems of different countries, which are acknowledged by the international community and are therefore the basis upon which projects are approved in general. If any appeals by stakeholders of a project are successful, ANDRITZ will be certain to observe any change that this might entail. Also, as a supplier to hydropower plant projects, ANDRITZ is committed to sustainable implementation and thus supports measures and initiatives that contribute towards improving the sustainability standards. ANDRITZ is a sustainability partner of IHA (International Hydropower Association) and supports the global acknowledgment of the "Hydropower Sustainability Assessment Protocol". ANDRITZ PULP & PAPER is a member of the WBCSD Work Group on Forest Solutions (FSG), a leading sustainability platform for the global forest industry and its stakeholders.



# Manufacturing at ANDRITZ

Global leading know-how and innovative  
solutions for the entire process chain



## ENERGY CONSUMPTION AND ENVIRONMENTAL PROTECTION

The ANDRITZ GROUP supplies a variety of innovative products and services that make a significant contribution toward protecting the environment, reducing energy consumption, and improving energy efficiency. In the process of manufacturing these products, reduction of the possible impact on the environment and saving natural resources are important aspects. At all its sites worldwide, ANDRITZ is constantly working on cutting waste and emissions, saving energy and raw materials, and reducing the amount of traffic, in order to further improve its overall sustainability. Protecting the environment is also an important aspect of education and training programs for ANDRITZ employees.

*GRI G4: Management approach Energy*

ANDRITZ has 100 production sites all over the world (of which 35 are service sites) producing tailor-made key components and spare and wear parts for machines and plants. These sites provided a total of eleven million manufacturing hours in 2014. The Group also runs some 150 offices and sales locations.

ANDRITZ is regularly introducing measures to increase environmental protection in the manufacturing area. This includes the minimization of the use of resources and energy.

### Energy management at ANDRITZ HYDRO

At the ANDRITZ HYDRO site in Weiz, Austria, an energy management system has been installed that not only allows for comprehensive energy monitoring and controlling, but also forms the basis for a large number of improvements relating to the environment and to energy efficiency.

The system provides functions for managing and planning the site's electrical and piped energy requirements, operating the electrical systems, and maintaining the site's eight substations (with 21 transformers), the electrical distribution systems, electrical infrastructure, and lighting systems. The site, where a partner company is also based, uses 28 gigawatt hours of electricity, which is equivalent to the annual consumption of roughly 8,000 Austrian households.

In order to reduce the amount of energy needed to generate heat, the boiler house was converted and this resulted in a reduction in energy consumption of more than 20%. Huge savings were also made in the site's water supply. The 50-year-old water main pipe was replaced by a new ring pipeline and new fittings and shut-off valves were also installed. This reduced water consumption by around 30%. In addition, as part of a program to increase the efficiency of the process for generating compressed air, the energy consumption was reduced by 25%.

The energy control measures were improved by installing an energy efficiency monitoring system which enables real-time display of the energy flow at approximately 700 energy metering points that can be accessed individually. The resulting data make it possible to trace energy consumption (electricity, heating, natural gas, water, cooling water, and compressed air) and to take targeted measures to improve energy efficiency.

### Waste management at ANDRITZ Graz

The Ökoprofit certificate of the City of Graz, which ANDRITZ has received for many years for its headquarters located in Graz, Austria, is a sign of its continued efforts for up-to-date environmental protection. The most recent audit in a long row was held in 2014. No deviations from applicable standards set by the Ökoprofit Committee were ascertained.

## ENVIRONMENTAL DATA

The following review of environmental data is the result of a quarterly survey and represents an important step forward in the systematic presentation of environmental KPIs for the ANDRITZ sites. From January 2014 onward, data were collected for sites with more than 50,000 manufacturing hours.<sup>4</sup> The office and administration buildings that form part of the production sites were also surveyed. This means that the data for 2014 cover 93% of ANDRITZ's total manufacturing capacity (incl. Schuler). In the forthcoming reporting periods, the survey will be gradually expanded to cover all the sites. Because the survey was carried out for the first time in 2013 and because of the resulting data quality, the comparative values for 2013 are only partly significant.

ANDRITZ also meets the highest standards for environmental protection and reduced use of resource in its product manufacturing processes. Cutting energy consumption and CO<sub>2</sub> emissions are also high priorities, together with reducing waste and waste water.

<sup>4</sup> Excluding joint ventures

The main focus of the environmental measures is on saving energy by insulating building facades and pipes, modernizing heating systems, and cutting stand-by times for manufacturing plants. By means of an ongoing program to replace older vehicles with new hybrid models and the gradual introduction of energy-saving, cost-effective lighting in offices and production buildings, it has been possible to reduce CO<sub>2</sub> emissions. Major investments have also been made in replacing machinery, which has led to an increase in the energy efficiency of the manufacturing sites. A range of initiatives to reduce and sort waste and to recycle materials at ANDRITZ sites worldwide has also contributed strongly in conserving the environment.

### Total energy consumption

The ANDRITZ GROUP uses energy for manufacturing products, for heating and cooling buildings, and in the form of electricity (primarily for PCs and lighting).

Overall energy consumption	Unit	2014	2013
<b>TOTAL*</b>	<i>kWh</i>	200,554,608	178,707,624
thereof manufacturing	%	84	n. a.
thereof offices**	%	16	n. a.

\* The rise in 2014 in comparison to 2013 was due to the overall higher capacity employment and the conversion of a site in India to the use of electric power from the public grid.

\*\* The data for 2014 include only office buildings to which a manufacturing site is attached. From 2015, all office buildings of the ANDRITZ GROUP are to be included in the survey.

### Energy and fuel consumption in manufacturing

The manufacturing facilities at ANDRITZ focus on producing high-quality, technologically advanced core components. These include tailor-made plants and machinery, as well as spare and wear parts. Depending on the order situation, non-critical parts are sourced from qualified suppliers.

Systematic monitoring helps to ensure that the manufacturing process is as efficient and environmentally friendly as possible. The Manufacturing Management Group department functions as an important interface, coordinating major investments and assisting local sites in achieving improvements in their production processes.

Energy and fuel consumption in manufacturing	Unit	2014	2013
Heating oil	<i>l</i>	17,601	25,350
Heavy oil*	<i>l</i>	2,127,875	n. a.
Gasoline	<i>l</i>	161,254	147,201
Diesel**	<i>l</i>	1,087,045	1,225,263
Natural gas***	<i>Nm<sup>3</sup></i>	2,450,866	1,910,869
Liquid (petrol) gas	<i>Nm<sup>3</sup></i>	75,988	n. a.
Biofuels	<i>l</i>	1,066	0
Biomass	<i>t</i>	4	0

\* Heavy oil is used at only one site for one process (pressing plastic filter panels).

\*\* The reduction in 2014 in comparison to 2013 is mainly attributable to the conversion of a site in India to the use of electric power from the public grid.

\*\*\* Increase caused by a higher amount of annealing of parts at several sites.

### Energy and fuel consumption for heating and cooling buildings

The ANDRITZ GROUP aims to reduce the amount of energy it uses for heating and cooling buildings. Measures for achieving this are currently being elaborated. As a first step, consumption figures and heating methods were recorded at all locations of the Group.

Energy and fuel consumption for heating and cooling of buildings	Unit	2014*	2013
Heating oil	<i>l</i>	504,833	485,193
Natural gas	<i>Nm<sup>3</sup></i>	12,491,544	10,012,181
District heating	<i>kWh</i>	25,256,446	22,643,519
Other (for example biomass)	<i>t</i>	0	0

\* The rise is due to generally lower temperatures and the resulting higher heating demand.

### Water consumption

ANDRITZ's goal is to use water resources as sparingly as possible, to minimize waste water quantities and to dispose of waste water as economically as possible.

In 2014, water consumption in manufacturing amounted to 443,970 m<sup>3</sup>. The water supply comes primarily from the public water network, but individual sites recycle water that has already been used or take water from their own wells. Relatively large amounts of water are used in the HYDRO business area for testing and for trial stands. Some sites re-use water for their own green spaces or pass it on to the local residents for irrigating agricultural land. In 2013 and 2014, only the water and waste water data of manufacturing sites formed part of the survey. It is envisaged to cover all sites as from 2015.

Water consumption and disposal of waste water in manufacturing (in m <sup>3</sup> )	2014	2013*
Surface water	19,342	n. a.
Ground water	40,700	n. a.
Municipal water supplies	366,834	n. a.
Recycled waste water	17,094	n. a.
<b>TOTAL</b>	<b>443,970</b>	<b>n. a.</b>
Disposal of waste water**	396,995	n. a.

\* There are no valid data available for 2013.

\*\* As water is reused at some sites (mainly in Asia) for watering green spaces, the figures for overall water consumption and disposal of waste water may differ.

### Waste

In order to minimize the environmental impact of doing business, ANDRITZ sorts its waste, disposes of it correctly, and, where possible, recycles it.

Steel from the manufacturing process has the largest share of waste. The majority of this is recycled. Other recyclable waste, which consists of non-hazardous materials including paper and cardboard, wood, and residual waste, is collected and recycled. Currently, only the waste produced by manufacturing is recorded, but the intention is to cover all the sites from 2015 onward.

Waste from manufacturing (in t)	2014	2013*
Paper and cardboard	908	n. a.
Plastics	808	n. a.
Steel	32,998	n. a.
Copper and aluminum	338	n. a.
Wood	3,682	n. a.
Industrial garbage	6,362	n. a.
Hazardous waste	1,658	n. a.
<b>TOTAL</b>	<b>46,754</b>	<b>n. a.</b>

\* There are no valid data available for 2013.

### Paints and coatings

Paints and coatings are used primarily for corrosion protection, for example to prevent damage caused by atmospheric, chemical, and mechanical stress on metallic components, or for surface treatment. In handling paints and coatings, ANDRITZ is trying to keep environmental impacts as low as possible. Standards such as ISO 12944 and other regulations are met, environmentally acceptable and high-grade technological processes are used and solvents recycled in distilling plants.

Paint and coating consumption in manufacturing (in kg)	2014	2013*
Paints and coatings	421,487	n. a.
Thinning agents	116,927	n. a.

\* There are no valid data available for 2013.

### CO<sub>2</sub> emissions from employee travel

The ANDRITZ GROUP makes every effort to reduce greenhouse gas emissions resulting from its business activities, e.g. employee travel. The measures it takes are based on collecting the relevant data. The first survey of employee travel was carried out in early 2014 and this is being constantly expanded to cover the entire Group.

Because ANDRITZ does business throughout the world and is constantly growing, many employees travel frequently. The purposes of their trips include preparing for and implementing new projects, maintaining customer relationships, and improving internal workflows. As an alternative to business travel, ANDRITZ is encouraging the use of telephone and video conferencing throughout the Group. The web-based booking platform ANDora (ANDRITZ Online Reservation agent) allows all the activities related to organizing business travel from booking to invoicing to be completed using one tool. ANDora has been available at all of the Group's Austrian sites since 2013 and will be rolled out to all the other sites in the medium term. A survey on the CO<sub>2</sub> emissions caused by employee travel is planned on a Group-wide level using this system.

In 2014, employees traveled 16,620,657 kilometers in rental cars, which is equivalent to around 2,231 tons of CO<sub>2</sub>.<sup>5</sup> The number of kilometers traveled by air was 327,943,038, which is equivalent to 35,680 tons of CO<sub>2</sub>.<sup>6</sup>

### Quality

The Quality Management and Safety Group function sets global standards for product quality and the quality of business processes at all ANDRITZ sites. As of December 31, 2014, 481 employees were employed in the field of quality and safety throughout the Group (2013: 419 employees).

As a responsible organization, ANDRITZ supplies high-quality products that are safe to use and conform to the relevant standards in its different markets. ANDRITZ has quality assurance and management systems in place in order to meet customers' requirements and comply with statutory regulations. Issues relating to safety and the environment also play an important role, in particular at our production facilities and on construction sites. In addition to a variety of technical courses, the ANDRITZ GROUP offers its employees regular training on the principles of quality management in order to improve their technical skills on an ongoing basis.

### Customer health and safety

All ANDRITZ products are offered in conformity with applicable standards (e. g. the Machinery Directive 2006/42/EC, ISO 12100, Pressure Equipment Directives, ASME etc.), with internal, and if necessary external certifications. The products thus meet the highest international standards and are continuously checked for potential health and safety impacts. The full set of relevant information and training documents can be downloaded by ANDRITZ employees from the company's Intranet.

*GRI G4: Management approach Customer health and safety*

### ISO certifications

As of December 31, 2014, a total of 49 ANDRITZ subsidiaries were certified in accordance with ISO 9001, the international quality management standard, and undergo regular internal and external audits. In Austria, where the headquarters of the ANDRITZ GROUP is based, the company received the "20 years of ISO 9001 certification" award in 2013, which makes it a pioneer in this field.

In 2014, a total of 23 of the ANDRITZ GROUP's sites were certified in accordance with ISO 14001, an internationally recognized standard for environmental management systems. The basis for these certifications is an environmental management system that manages the environmental impact of the sites and of product manufacturing. At its certified sites, ANDRITZ has undertaken to continuously improve its measures to protect the environment, to assess environmental risks, to draw up emergency plans, and to undergo annual external audits and a recertification process every three years. Other important certifications concern occupational health and safety (OHSAS 18001) and product quality (ISO).

### Overview of ANDRITZ GROUP certifications (as of December 31, 2014)

	Number of certified sites*
ISO 9001	49
ISO 14001	23
OHSAS 18001	21

\* Including Schuler

<sup>5</sup> Coverage level of the survey: 90% of all cars rented worldwide. No comparative data are available for 2013.

<sup>6</sup> Coverage level of the survey: 80% of all the air kilometers booked worldwide. No comparative data are available for 2013.

# Employee responsibility

ANDRITZ runs a total of 250 sites employing  
almost 25,000 people in  
over 40 countries



## EMPLOYEE RESPONSIBILITY

For ANDRITZ, its employees are among its most important resources. Therefore, social responsibility toward each individual employee is a key aspect of ANDRITZ's corporate policy. A number of measures are in place to protect and support employees and to create a positive working environment where everyone is treated fairly and with respect. ANDRITZ rewards commitment and a focus on achieving goals by means of performance-related pay and attractive international career opportunities.

Employees' behavior is governed by the ANDRITZ Code of Business Conduct and Ethics, which is based on the values of integrity, respect, reliability, and sustainability. A common understanding of the behavior expected from all employees forms an important foundation for the ongoing development of the company.

The Human Resources Management Group function is responsible for coordination and the global alignment of human resources activities. The goal is to enable employees with a wide range of different qualifications and personal skills to use their potential to the full and to make the best possible use of the attractive career opportunities available throughout the organization. The entire Group-wide Human Resources Management works along the principles of equality of all employees, respect for human rights, and active prevention of any discrimination whatsoever.

### EMPLOYEE NUMBERS

As of December 31, 2014, the ANDRITZ GROUP employed 24,853 people worldwide (December 31, 2013: 23,713 people). The employee data in this report were gathered at all the main ANDRITZ companies and include Schuler, unless otherwise stated. As of December 31, 2014, the number of employees included in this report was 24,552 employees (December 31, 2013: 23,566), which amounts to approximately 99% of all the employees of the ANDRITZ GROUP (December 31, 2013: approximately 99%).

As of end of 2014, 22,233 ANDRITZ employees (= 91%) had a permanent employment contract (December 31, 2013: 21,439 employees = 91%). Temporary employment contracts are mainly used for maternity leave cover and project-related functions to manage production peaks.

ANDRITZ pays its employees according to their performance and the provisions of local legislation. In 2014, ANDRITZ spent approximately 1,574 MEUR on wages and salaries (2013: 1,518 MEUR). ANDRITZ aims to ensure equal pay for men and women. On average, women's salaries during the reporting period were around 84% of men's. This figure is within the European average, but ANDRITZ is making every effort to increase the percentage, in particular by increasingly employing women in engineering and management.

*GRI G4-LA 13: Ratio of basic salary and remuneration of women to men*

### The provisions of labor law

ANDRITZ naturally supports the co-determination of employees and compliance with the principles and standards of the International Labor Organization (ILO) concerning the freedom of association, the abolition of forced labor, child labor, and discrimination, the minimum age of employees, and equal pay for men and women. In addition, the Group promotes the establishment of internal committees that represent employees' interests. An open and transparent exchange of ideas between the Executive Board and the works councils is encouraged and put into practice. Freedom of assembly applies at all ANDRITZ sites, provided that this is permitted under the terms of local legislation.

The notification periods concerning significant changes in operations (closure of company locations, layoffs, etc.) are defined in a policy applying Group-wide.

### Employee retention

The average employee fluctuation rate<sup>7</sup> in the ANDRITZ GROUP in 2014 was 11.9% (in 2013: 12.2%), with an equal balance between men and women. The fluctuation rate is also influenced substantially by project-related termination of temporary employment contracts.

In 2014, 3,808 new employees were hired (2013: 2,724 employees), while 2,874 employees left the company (2013: 2,773 employees). As of December 31, 2014, the Group had an average duration of employment of 13.5 years per employee (2013: 11.0 years per employee). The average duration of employment was highest at the ANDRITZ sites in Europe at 14.4 years per employee (2013: 14.0 years) and lowest in South America (5.0 years versus 4.9 years for 2013). Significant differences between countries are largely due to the length of ANDRITZ's presence in these regions (for further details see the Chapter Overview of Data).

<sup>7</sup> Calculation of fluctuation: contracts terminated in relation to the number of employees; contracts terminated include dismissals by the employer and resignations of employees, sabbaticals, military and civilian service, and internal job swapping (e.g. expatriates).

### Top employer award

Top Employers Institute, an independent certification company, awarded Schuler two seals of quality – “Top German Employer 2015” and “Great Place to Work for Engineers”. The awards were based on an analysis of the career opportunities, special support measures, work-life balance, training and development, corporate culture and innovation management.

In 2013, ANDRITZ China was rated as one of the 100 best Chinese companies in the field of HR management. The prestigious prize was awarded by China’s leading human resource services provider, 51job Inc., to companies whose achievements in the area of Human Resources made a significant contribution to the development of their business.

### Employee appraisals

Employee appraisals at ANDRITZ enable managers and employees to look back together over the previous working year, to assess job satisfaction and to plan future work. Appraisals are a key management tool for improving cooperation and ensuring that objectives are achieved. Away from the employee’s day-to-day activities, they are also an opportunity to evaluate and plan development and support measures. In 2014, around 60% of all employees took part in an appraisal.

### Employee surveys on job satisfaction

In 2012, an employee survey on the subject of job satisfaction and stress in the workplace was carried out in Graz, at the headquarters of the ANDRITZ GROUP, by an external institute. Around 60% of the employees took part. The survey covered working conditions, challenges at work, organization and management, career opportunities, and communication. The employees gave particularly positive feedback on organization and management, challenges at work, working hours, vacation time, and internal career opportunities. They identified potential for improvement in the provision of information and the work environment. On the basis of the results, inspections of the workplaces, and detailed personal conversations with employees, improvement measures were drawn up, which are currently being implemented.

Schuler also carried out an employee survey on job satisfaction in 2013, in which 2,336 employees at all Schuler’ sites in Germany took part (this corresponds to a return rate of 58%). A total of 92% of the respondents said that they were “very satisfied”, “largely satisfied”, or “quite satisfied” with their work situation. They highlighted in particular their dealings with colleagues and direct managers, their professional activities, their feeling of connection with the company, and their working hours. Weak points included opportunities for training and development. In 2014, the action plan drawn up on the basis of the survey was put into effect.

In 2014, a survey was conducted at ANDRITZ Oy, Finland, in which 71% of the employees took part (536 out of 759). This survey showed very positive ratings of 8.0 and 8.1, respectively, (on a scale of 4-10) for ANDRITZ as an employer and for the personal wellbeing of the employees. A plan of action was then prepared on the basis of individual improvement suggestions made by employees. Implementation of this plan is being monitored by Human Resources, and all employees are informed regularly by the company management on the progress made.

ANDRITZ China also conducted an employee survey in 2014 by means of an online questionnaire as well as personal interviews. Improvement measures were developed on the basis of the results – and just twelve months later, 70% of these measures had already been implemented.

## CAREER AND DEVELOPMENT OPPORTUNITIES

One of the main responsibilities of the Human Resources Management Group department at ANDRITZ is to fill key global positions. This involves succession planning for key positions, developing the next generation of managers, and integrating new employees following acquisitions. Internal succession candidates are identified and supported as part of Group-wide management programs. As a result, the number of internal succession candidates has increased significantly over recent years. ANDRITZ has two leadership programs that fulfill this function: One is a Group-wide development program that systematically identifies and develops high potentials. The “ANDRITZ Global Talent Program” consists of the “Leadership Development I” training course and work on a project with experienced senior managers. The focus of this three-year training program is on corporate and employee management in a global, networked environment. Participants study different cultures in detail and work on strategically important projects. In 2014, 46 employees took part in the program (2013: 50 employees). Particular attention is paid to supporting the next generation of managers in China, where a separate management program has been developed.

In the one-year “Leadership Development II” management program, the emphasis is on leadership behavior. After identifying personal areas for development, the participants define and implement individual development

measures. In addition, they work on strategically important projects in global teams and present the results to top management. The results often form the starting point for strategically relevant change projects. In 2014, 43 managers from throughout the Group took part in the program (2013: 48 managers).

Since ANDRITZ is a leading technology company, engineers play a particularly important role in its business. In order to increase the attractiveness of ANDRITZ as an employer for this professional group and to retain highly qualified staff within the organization, a separate career model for engineers has been developed. In addition to management careers, ANDRITZ also offers technical career paths. The focus here is on solving complex technological problems across different products and sites, sharing and transferring knowledge, and research and development. Increased efforts are being made to promote women who have opted for an engineering field of studies.

Measures are also increasingly being taken to make contact with graduates by means of cooperation programs with universities, careers events, and presentations.

*GRI G4: Management approach Training and education*

### **Human resources development**

The expertise of ANDRITZ employees forms the basis for the company's innovative ability and enables it to achieve its corporate goals. For this reason, ANDRITZ offers its employees a wide range of education and training opportunities. The focus is on improving and increasing technical knowledge, personal development, language learning, IT skills, and project management.

ANDRITZ promotes and requires two core competencies in particular:

- Teamwork: achieving goals by cooperating across geographical and cultural boundaries.
- Customer focus: concentrating on customer benefits in order to meet customers' needs as effectively as possible by providing individual tailor-made solutions

### **Brazil – an example of employee development**

ANDRITZ HYDRO Brazil offers all of its project managers the opportunity to take part in a course leading to the PMP (Project Management Professional) certificate. This internationally recognized certificate confirms that a global project manager acts in accordance with the Code of Ethics and Professional Conduct of the Project Management Institute (PMI), an international non-profit organization based in the USA.

ANDRITZ Sindus in Brazil also offers its employees a comprehensive training program. The courses on personal and technical development are provided in collaboration with universities, institutes of technology, and other external partners, and also via the ANDRITZ online training platform. In 2013, 96% of ANDRITZ Sindus employees completed at least one course. Thus, every employee spent an average of 19 hours undergoing training during this period.

### **Recruitment measures in the areas around ANDRITZ sites**

For a global company it is particularly important to be seen as an attractive employer especially in regional and local environments. For this reason, ANDRITZ has launched numerous campaigns and programs to attract the attention of potential future employees, but also to motivate its workforce and to enable them to identify with the company. Some examples include:

ANDRITZ Küsters, Germany, takes part in a range of events which involve informing school students about educational opportunities. Two of these focus in particular on girls and on raising their interest in technical jobs. The "Lange Nacht der Industrie" (long night of industry) event was introduced to improve the image of industry to counteract the shortage of skilled and junior staff.

ANDRITZ Soutec, Switzerland, focuses on information campaigns. These include invitations to open days for older high school students and participating in the "Nationaler Zukunftstag" (national day of the future). The aim is to show young girls how exciting technical jobs can be. ANDRITZ Soutec also takes part in a cooperation program with the School of Engineering at the Zurich University of Applied Sciences (ZhaW) and other universities, such as the Technical University of Munich, to make contact with potential future employees in a university environment.

In 2014, Schuler entered into partnerships with elementary schools near all of its ten German sites as part of the "Kinder entdecken Technik – KiTec" (children discover technology) program. The content of the KiTec program is both scientific and educational and can be incorporated into syllabuses in all German schools.

## APPRENTICESHIPS AT ANDRITZ

For ANDRITZ, training the next generation of skilled staff is an important aspect of social responsibility. Apprenticeships not only provide excellent job prospects for young people, many of whom live in developing countries with high levels of unemployment and few opportunities for training, but also make a significant contribution toward meeting the future need for skilled workers in industry against the background of demographic changes in western European countries.

A total of 65 companies in the ANDRITZ GROUP offer apprenticeships at their sites. As of December 31, 2014, ANDRITZ had 845 apprentices throughout the world (December 31, 2013: 835 apprentices). In order to identify suitable candidates for apprenticeships and to arouse their interest in engineering, ANDRITZ is working with local schools and educational institutions in a number of areas.

At the ANDRITZ headquarters in Graz, Austria, young people between the ages of 8 and 14 are invited to take a look behind the scenes and experience technology in a hands-on atmosphere. The aim of the project is to generate enthusiasm for science and technology in young people in an effort to counteract the lack of skilled employees and also to offer a new form of career orientation.

The training workshop at the ANDRITZ site in Graz was established in 1922. As of December 31, 2014, a total of 90 apprentices were undergoing training there (December 31, 2013: 102 apprentices). On average, 30 of them join the company as new employees every year. ANDRITZ provides high-quality technical training, English courses to prepare the apprentices for working abroad, and also team-building courses. During their apprenticeships, the young people work in all areas of manufacturing and have the opportunity to take part in an international apprentice exchange program.

At ANDRITZ Sundwig in Germany, some 30 teenagers undergo industrial, technical, and commercial apprenticeships, with 40% of the technical apprentices being women. Every year, the apprentices achieve above-average results at the end of their courses. In the past few years, ANDRITZ Sundwig had one apprentice with the best results in all of Germany, several with the best results in the state of North Rhine-Westphalia, and numerous candidates who achieved the top mark "Very Good". Half of the apprentices also complete a combined course in mechanical and electrical engineering alongside their practical training with the company.

As part of a joint training program, Schuler in Weingarten, Germany, has been training its own apprentices and those from other companies in the region, including apprentices from ANDRITZ HYDRO in Ravensburg, in a shared workshop for several years. During the reporting period, around half of the 120 apprentices came from Schuler.

ANDRITZ Feed Technologies in the Netherlands is taking part in the "Action Plan Apprenticeship," a project launched by the Dutch government and local educational institutions. The goal of the project is to offer young people suitable training opportunities and to reduce youth unemployment levels in the long term. During their technical training course, the young people spend four days a week working in the company and attend vocational college on the remaining weekday.

### ANDRITZ supports vocational training in Mexico and Turkey

#### Cedual

In 2013, Schuler opened the Cedual (Centro de Especialización Dual) vocational training center in Puebla, Mexico, to train industrial mechanics and tool makers on the basis of the German model. This type of skilled training is new in Mexico, where there is no system of basic industrial training. The training center is equipped with drills, lathes, and milling and grinding machines, as well as 30 workbenches. The vocational training also takes place at Schuler. After three years, the future skilled workers (a total of 90 young Mexicans) complete their apprenticeship with a certificate, which is equivalent to a German apprenticeship completion certificate. Schuler has joined forces with one Spanish company and five German organizations which also train apprentices at the new center.

#### Mardin

In 2013, ANDRITZ HYDRO, working together with the local authorities in Mardin, Turkey, established an educational and training center for technical jobs aimed at local people. The apprentice training facility represents a long-term commitment to the region of south-eastern Anatolia, where youth unemployment is currently about 40%. Each year, 36 young people are taken on as apprentice metalworkers, electricians, and welders. The training is based on the Austrian apprenticeship system and includes theoretical and practical teaching. ANDRITZ HYDRO built the training center, supplied the technical equipment, and is paying the costs for the first three years. After this, the training workshop will be handed over to the local institute of technology in Mardin.

## DIVERSITY AND EQUAL TREATMENT

As a global company, ANDRITZ employs people from very different backgrounds and cultures who also have differing perspectives and experiences that influence their day-to-day work. ANDRITZ values the diversity of its employees, which leads to innovation and represents a global competitive advantage. The ANDRITZ GROUP relies on cross-disciplinary, cross-border, and cross-cultural teamwork to achieve its objectives. ANDRITZ believes that diversity and teamwork promote employees' awareness of customers' requirements and increase the company's attractiveness for employees.

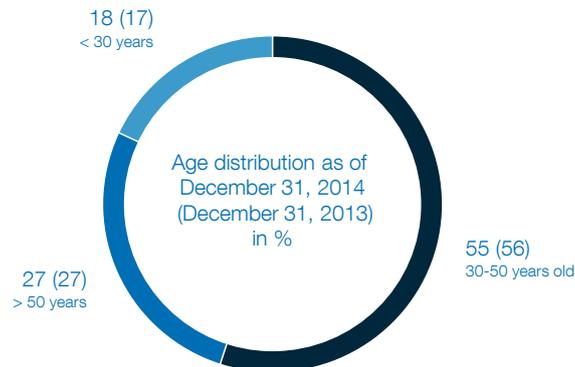
Equal treatment for employees is a major principle for ANDRITZ. The company is opposed to any form of discrimination against employees in its recruitment and promotion processes and in day-to-day work. All job-related decisions are made based on qualifications and professional requirements. The principles of equal treatment are laid down in the Code of Business Conduct and Ethics and are monitored by the Compliance Committee. Managers and staff in the USA also take online training courses on the subject of harassment in the workplace.

Some sites have special programs to promote diversity. For example, the "Open Arms to Diversity" project that ANDRITZ Sindus, Brazil, is taking part in creates job opportunities for people with physical disabilities.

*GRI G4: Management approach Diversity and equal treatment*

### Age distribution within the company

The age distribution of ANDRITZ employees is well-balanced. More than half of all employees are between the ages of 30 and 50, while at 18% and 27% respectively the proportions of those under 30 and over 50 are relatively similar and have remained largely unchanged over the years.



As of December 31, 2014, the share of women working for the company was 15% (2013: 15%). ANDRITZ is constantly striving to increase this percentage, in particular by employing women in technical fields. In its cooperation with schools and educational institutions, ANDRITZ focuses on raising the interest of young women in engineering at an early stage and informing them about the options for a technical career path.

At the company's Austrian sites, the number of female employees has almost doubled over the past ten years. At ANDRITZ Finland, the share of women is around 27% and 7% of them have a university degree. ANDRITZ China also has a relatively high share of female employees at 24%.

## RECONCILING WORK AND FAMILY LIFE

ANDRITZ helps its employees to achieve a good balance between work and family life. For example, employees with children are offered the opportunity of flexible part-time models. As of December 31, 2014, 338 employees were taking parental leave. Of these, as a proportion of the total workforce, 4.8% were women and 0.7% men (2013: 7.7% and 0.9%).

### Workplace kindergarten

The workplace kindergarten at the ANDRITZ site in Graz, Austria, was set up in 2007 and provides important added value for the company and its employees. Two groups of 17-20 children from the age of 18 months upward are each cared for by two kindergarten teachers. The kindergarten has a technology and science focus and offers English learning through play. ANDRITZ also provides child care for employees during the summer vacation period. In cooperation with partner companies, ANDRITZ offers children aged from six to eight the opportunity to take part in experience and adventure weeks. For young people aged up to 14, the company organizes workshops at universities to enable them to experience science and research first hand.

## PREVENTIVE HEALTH MANAGEMENT

ANDRITZ takes numerous measures to help employees maintain and improve their health. The focus is on preventive measures in the field of physical and mental health. Many employees benefit from the campaigns, seminars, and workshops on the subject of health that are available at ANDRITZ sites worldwide. One example of this is the program at ANDRITZ METALS, USA, where “wellness champions” work together with employees to organize and implement health activities. At monthly seminars, employees have the chance to discuss topics relating to physical and mental health, while free health checks are available at the annual health fair.

The health day held for the first time by ANDRITZ Küsters, Germany, in collaboration with a cancer charity in North Rhine-Westphalia, consisted of presentations about skin, bowel, and breast cancer. In addition, an internal ideas competition took place on the subject of preventive health measures. In Germany, Schuler employs its own consultant for company health management, who in future will also be responsible for organizing health care activities across the various Schuler sites.

### “G’sunde ANDRITZER” initiative

The “G’sunde ANDRITZER” (healthy ANDRITZ employees) initiative that was launched at the ANDRITZ site in Graz, Austria, was successfully continued in 2014. The activities on offer for employees include seminars and workshops on subjects such as stress management, leadership, stopping smoking, back exercises, and relaxation techniques. Every year, around 110 employees take part in the program. In addition, in order to encourage good eating habits, healthy menus that have been drawn up in collaboration with a nutritionist have been introduced at the staff restaurant. The GSU (healthy-safe-environmentally aware) days held every two years at the Graz site also focus on health and safety issues to provide training on safety at work and health care for all employees.

### Cycling to work

ANDRITZ employees at the location in Raaba, Austria, and at ANDRITZ HYDRO, Switzerland, have been taking part for some years in cycling campaigns organized and supported by the companies. Thus, more than 90 employees in Raaba exchange their cars for bikes during the summer months for the daily commute to and from work and not only improve their fitness, but also reduce their impact on the environment. Since 2008, these employees have covered more than 200,000 kilometers by bicycle, which has saved more than 20 tons of CO<sub>2</sub> emissions when compared with car travel. At the ANDRITZ HYDRO sites in Switzerland, employees also take to their bikes for a good cause – because for every kilometer they cycle, the company donates one Swiss franc to a charity.

### Social welfare for ANDRITZ employees

In countries where the welfare system is not as well developed as it is in Europe, ANDRITZ helps its employees with voluntary social services. In addition, many sites offer social benefits that go beyond the legal requirements. For example, ANDRITZ SEPARATION in India takes out accident insurance for new employees and also provides an insurance policy for their family members in the event of a hospital stay or an operation. Employees of ANDRITZ Sindus in Brazil receive medical check-ups and preventive dental treatment, a contribution to a private pension, and six months’ maternity leave for women. ANDRITZ HYDRO in Brazil also makes a financial contribution to medical care for its employees and offers life insurance to help in the event of accidents, illnesses, or costly medical treatment. ANDRITZ China provides free health checks, contributions to a private pension, and voluntary accident insurance. In addition, an annual fund for poor families helps families that have lost their sole wage earner.

*G4-EC3: Coverage of the organization’s defined benefit plan obligations*

A close-up photograph of a person wearing a dark blue uniform, holding a white hard hat. The hard hat has the ANDRITZ logo printed on it in blue. The person is wearing green gloves. The background is blurred, showing what appears to be an industrial or construction site.

ANDRITZ

# Safety at work

Active safety management  
for accident prevention

## HEALTH AND SAFETY AT WORK

ANDRITZ has a clear goal when it comes to safety in the work place: preventing injuries and accidents by all means. Employees must not behave in a way that puts themselves or others at risk. Preventive measures to protect employees' health and campaigns to promote good health are also important. ANDRITZ therefore makes every effort to ensure that all its sites throughout the world provide a safe and healthy work environment and to continuously improve its safety standards.

The Group-wide standards for health and safety at work are laid down in the Code of Business Conduct and Ethics and in the safety management systems. The Quality and Safety Management Group function is responsible for defining, implementing, and monitoring uniform safety standards. A network of safety officers evaluates safety concepts at the individual sites and in customer projects and takes responsibility for implementing proven concepts on a global level. Regular inspections are carried out by local safety officers at all ANDRITZ sites throughout the world and measures are taken immediately if any deviations from the safety standards are identified.

A number of sites in the ANDRITZ GROUP already have certification to OHSAS 18001 (Occupational Health and Safety Advisory Services), the leading global standard for occupational health and safety. These include four sites in Austria, 14 ANDRITZ HYDRO sites worldwide, ANDRITZ China, ANDRITZ Sundwig, Germany; ANDRITZ Oy, Finland; and Prensas Schuler, Brazil.

*GRI G4: Management approach Occupational health and safety*

### SAFETY ON CONSTRUCTION SITES

On construction sites, where the potential risks increase because several companies are working together, the safety standards must be particularly high. Local safety officers ensure that safety guidelines are followed on all ANDRITZ construction sites.

Active safety management measures include a basic Group-wide site safety plan that forms the basis for preparing specific safety and environmental plans. ANDRITZ generally introduces safety evaluations at an early stage of its project planning process. For example, it only employs subcontractors that can comply with the ANDRITZ safety guidelines. They confirm this by signing the ANDRITZ Code of Business Conduct and Ethics when the contract is awarded.

#### Online safety training

All ANDRITZ employees undergo regular training on safety-related subjects in line with statutory regulations. The Quality and Safety Management Group function has developed a global e-learning program on the subject of safety management that it began rolling out in 2014. The target group consists of ANDRITZ GROUP employees (managers, project managers, group leaders, construction managers, supervisors, assembly staff) and employees of subcontractors on construction sites.

The online training lasts for around an hour and ends with a test which includes a certificate. Where employees have no access to a PC, training is provided on site. The training program consists of two modules. One general module that must be completed by all employees covers the following subjects:

- ANDRITZ's safety standards, including the ANDRITZ Business Process Manual, which defines all business processes of the ANDRITZ GROUP with special focus on sales and order execution
- The basic principles of ANDRITZ safety management
- Fundamental health and safety rules (healthy and safe working, personal protective equipment, requirements that affect contractual partners, travel)
- A code of conduct in the event of accidents and critical situations (accidents and emergencies, measures to be taken, reporting, analysis)

A second more in-depth module is aimed at managers and employees on construction sites and in production facilities. This module covers planning and coordinating safety measures, defining areas of responsibility, identifying and analyzing risks, hazardous work, legal work permits, and personal preparatory meetings.

### TRAVEL SAFETY

ANDRITZ employees frequently travel abroad. For ANDRITZ, it is important to establish Group-wide standards to ensure that employees are safe while traveling, despite the differences in national legislation and requirements.

In the event of a crisis, the ANDRITZ travel helplines offer round-the-clock support for travelers 365 days a year. Two services, one for medical matters and one for safety concerns, guarantee to provide comprehensive information quickly. Since 2014, employees traveling to a country where there is an increased risk receive information about their destination three weeks before they depart. This includes details of the political situation, possible

religious tensions, and safety hints. In addition, a global insurance program covering all ANDRITZ employees on business trips abroad has been set up. This insurance covers the costs of outpatient and inpatient treatment resulting from illnesses or accidents abroad.

## ACCIDENT STATISTICS

ANDRITZ has set itself the objective of preventing accidents and keeping the accident rate and the frequency of accidents to a minimum by means of a variety of measures and programs.

A detailed accident prevention program will be drawn up in collaboration with the Quality and Safety Management Group function for sites that fail to meet this objective. The global ANDRITZ safety reporting system that forms part of the Group policy on accident and emergency reporting is an important means of monitoring and achieving the objective. It requires serious accidents, incidents, and emergencies to be reported immediately to the global ANDRITZ emergency helpline. The line manager of the employee or area concerned and all the management levels above this manager up to the Executive Board are informed about the events in a written ad hoc report.

Different external programs support the high safety standards of the Group. ANDRITZ Oy in Finland, for example, has been participating in the "Zero Accidents Forum" since 2008, which has the goal of reducing the number of industrial accidents in Finland and issues certificates to each of the 400 companies participating that have been able to reduce the number of their industrial accidents.

Despite comprehensive preventive and safety measures being taken, 439 accidents with more than three days of absence occurred in the Group in 2014 (2013: 458 accidents). There were no fatal accidents of ANDRITZ employees in either 2013 or 2014. The accident frequency was 9.2 accidents per million working hours (2013: 9.7 accidents). The origin and course of these accidents were analyzed by ANDRITZ locally in accordance with precise guidelines and the necessary safety measures (for example, information for employees, follow-up training courses) were taken immediately to prevent the event from recurring.

Accident statistics	2014	2013
Accidents at work (with more than three days of absence)	439	458
Accident frequency (accidents with more than three days of absence per 1 million working hours)	9.2	9.7
Fatal accidents at work	0	0
Accident rate (accidents with more than three days of absence per 100 employees)	1.7	1.7
Severity of accidents (absence periods in hours per accident)	100.6	96.7

# Social responsibility

ANDRITZ supports social and economic progress on the basis of environmental balance





## SOCIAL RESPONSIBILITY

ANDRITZ believes that its social responsibility lies in particular in creating and safeguarding skilled jobs both in Europe and in the emerging markets of South America and Asia. This makes a significant contribution toward economic development and improving living standards in these regions. As a supplier of innovative, energy-saving, and resource-efficient technologies to a variety of industries, ANDRITZ also plays an important role in protecting the environment. In addition, the support provided by ANDRITZ sites for a wide range of local projects that benefit local people represents one of the most important aspects of sustainable development.

ANDRITZ's presence in emerging markets is constantly growing and this growth leads to an increase in social responsibility in these countries. Over the last ten years ANDRITZ has created jobs for more than 6,000 people at its own engineering, production, sales, and service sites in Brazil, China, and India (in 2000 the figure was 50 people). More than 30% of ANDRITZ's production capacity is now located in these countries, which benefits numerous local suppliers and business partners throughout the entire value chain. In addition, the supply of products and machinery has created thousands of long-term jobs in the businesses belonging to ANDRITZ's customers, many of them requiring a high level of technical or commercial qualifications.

Against this background, it is important to note that the increase in the number of employees in emerging markets is not the result of jobs being relocated from Europe to South America or Asia. On the contrary, ANDRITZ has also created many new jobs in Europe and North America and increased its production capacity there. New jobs result in a level of income that allows people to improve their living standards. New jobs also lead to training and additional experience, both of which ultimately form the basis for entrepreneurship.

Another key aspect of social responsibility at ANDRITZ consists of employment initiatives that involve training potential future skilled workers. With workshops for apprentices in Europe and training centers in Turkey and Mexico, ANDRITZ offers young people the opportunity to launch their careers and gives them access to high-quality training. Given the shortage of skilled staff in industry, ANDRITZ believes that apprenticeships also make an important contribution to overall economic development.

Among other projects in the field of education, ANDRITZ supports the Lologo vocational training center in South Sudan, which was established by the St. Vincent de Paul Society and other international organizations. At the center, young people from the region can train as bricklayers, vehicle mechanics, carpenters, IT engineers, electricians, and sewing workers. A total of 370 young people are currently taking a nine-month training course, consisting of practical and theoretical modules. At the end of the course, they sit a detailed exam and, if successful, are awarded a diploma recognized by the state which significantly increases their chances of obtaining a skilled job.

In December 2014, Schuler China provided books and teaching materials for a library built for the elementary school in Xiuyan. A team of ten employees from the Schuler location in Dalian also helped to build the library.

ANDRITZ is also behind a large number of initiatives to help local people as part of its projects, in particular in economically disadvantaged areas. For example, the training workshop established by ANDRITZ in Mardin, Turkey, in connection with the Ilisu hydroelectric power project represents a long-term commitment to education in one of the poorest regions of the country. In South Africa, ANDRITZ Delkor has made 2,000 lapdesks available to schools in poor areas as part of a contract to supply three filter plants. These portable desks, where school students who have no chairs and tables can work, were supplied in cooperation with the South African Lapdesk organization, which provides development aid for educational projects in a number of countries.

### Active involvement in local projects

As an organization that is committed to sustainability, ANDRITZ aims to ensure that the economic benefits resulting from its innovations and technologies are fairly distributed. Its objective is to introduce new products in poorer regions in order to contribute to sustainable development and social progress in these areas.

One example of this is the delivery of an ANDRITZ hydrodynamic screw turbine to a missionary project in Africa, which has allowed energy to be generated using very little hydropower. The screw turbine installed by ANDRITZ in Madagascar is a stand-alone system and supplies a church, a kindergarten, and a hospital ward with electricity. The maximum electric power generated is around 33 kilowatt hours.

ANDRITZ employees all over the world are also involved in sustainability projects. For example, employees from ANDRITZ HYDRO in Ravensburg have volunteered to renovate historical hydropower turbines in the city. The earnings from the sale of the environmentally friendly electricity generated using these modernized turbines go to social projects in the area. ANDRITZ funds the costs of consumables and tools, and provides the necessary machinery. The two small turbines that have been restored generate around 250,000 kilowatt hours of electricity per year.

Instead of sending Christmas cards and calendars to its business partners in 2013, ANDRITZ HYDRO in Switzerland took part in the “Water is life” campaign, which included supporting the construction of a well in Central Africa. The components for the well were produced as part of a local project in Otélé, Cameroon. The project employs mainly people from the surrounding area, who are also responsible for maintaining the well.

ANDRITZ Sundwig chose not to send Christmas gifts to its business partners, but instead to give money and make donations in kind to social projects and institutions. Employees of ANDRITZ Sindus, Brazil, are teaching local young people technical and practical skills to offer them better opportunities on the labor market. Since early 2012, Schuler has been supporting the “Staufen Arbeits- und Beschäftigungsförderung”, a German non-profit organization that helps long-term unemployed people to get back into the job market. Schuler is involved in particular in the “XENOS – Belegschaft in Vielfalt” (diversity in the labor force) project which offers employment opportunities to people with an immigrant background.

As part of the “Starthelfer” project, Schuler supports young people who are slow learners and, since 2013, has been providing extra tuition in its own training center for students from four partner schools near its company headquarters in Göppingen. The project is aimed at students whose families cannot afford to pay for tuition. A total of six tutors now teach 20 school students from different year groups. As part of another project involving two schools, children from the eighth year group spend a week at the Schuler training center and work on a technical project with the help of the apprentices there. They start with technical drawings on paper and move on to using a digital drawing program, manufacturing items on the machines, and reworking them, all of which gives them the opportunity to become familiar with important processes and tools.

Prensas Schuler in São Paulo, Brazil, launched the “Semear” project in 2002 to support the Lar Mamãe Clory charity that helps young people from the poor districts of the city. This is an organic agriculture project that is based at the company’s site. An employee of Lar Mamãe Clory grows fruit and vegetables on an area of 2,000 m<sup>2</sup>. The monthly harvest of more than 1,270 kg of fruit and vegetables is sold to the Schuler company restaurant and directly to Schuler employees, with the earnings going to the charity.

## OVERVIEW OF DATA

### EMPLOYEES

Data refer to the consolidated group for this sustainability report, unless otherwise stated (see also chapter "About this report"). Employees of Herr-Voss Stamco acquired in November 2014 are not included.

#### Consolidated group employee figures in this sustainability report

	2014	2013
ANDRITZ GROUP in total	24,853	23,713
Consolidated group	24,552	23,566

#### Employees by gender, age group, type of employment, and employment contract

	Absolute 2014	Absolute 2013	Percentage 2014	Percentage 2013
Men	20,748	19,968	85%	85%
Women	3,804	3,598	15%	15%
<b>TOTAL</b>	<b>24,552</b>	<b>23,566</b>	<b>100%</b>	<b>100%</b>
< 30 years old	4,417	3,953	18%	17%
30-50 years	13,608	13,331	55%	56%
> 50 years old	6,527	6,282	27%	27%
<b>TOTAL</b>	<b>24,552</b>	<b>23,566</b>	<b>100%</b>	<b>100%</b>
White-collar workers	15,160	15,013	62%	64%
Blue-collar workers	9,392	8,553	38%	36%
<b>TOTAL</b>	<b>24,552</b>	<b>23,566</b>	<b>100%</b>	<b>100%</b>
Full-time	23,797	22,849	97%	97%
Part-time	755	717	3%	3%
<b>TOTAL</b>	<b>24,552</b>	<b>23,566</b>	<b>100%</b>	<b>100%</b>
Permanent	22,233	21,439	91%	91%
Temporary	2,319	2,127	9%	9%
<b>TOTAL</b>	<b>24,552</b>	<b>23,566</b>	<b>100%</b>	<b>100%</b>

#### Employees by region

	Absolute 2014	Absolute 2013	Percentage 2014	Percentage 2013
Europe	14,934	14,689	61%	62%
North America	2,482	2,562	10%	11%
South America	3,470	2,639	14%	11%
China	2,214	2,222	9%	9%
Asia (excluding China)	1,366	1,433	15%	6%
Rest of the world	86	21	0%	1%

#### Wages and salaries (in MEUR)

	2014	2013
Total expenditure on wages and salaries	1,574.0	1,518.2

### Newly hired employees by gender and age group

	Absolute 2014	Absolute 2013	Percentage 2014	Percentage 2013
Men	3,259	2,324	86%	85%
Women	549	400	14%	15%
< 30 years old	1,593	968	42%	36%
30-50 years	1,846	1,453	48%	53%
> 50 years old	369	303	10%	11%
<b>TOTAL</b>	<b>3,808</b>	<b>2,724</b>	<b>100%</b>	<b>100%</b>

### Fluctuation by gender and age group

	Contracts terminated 2014	Contracts terminated 2013	Fluctuation rate* 2014	Fluctuation rate* 2013
Men	2,409	2,379	12%	14%
Women	465	394	12%	13%
< 30 years old	805	824	19%	22%
30-50 years	1,371	1,401	10%	12%
> 50 years old	698	548	11%	10%
<b>TOTAL</b>	<b>2,874</b>	<b>2,773</b>	<b>11.9%</b>	<b>12.2%</b>

\* Calculation of fluctuation rate: contracts terminated in relation to the number of employees; contracts terminated include dismissals by the employer and resignations of employees, sabbaticals, military and civilian service, and internal job swapping (e.g. expatriates).

### Parental leave periods by gender

	Absolute 2014	Absolute 2013	Percentage 2014*	Percentage 2013*
Men	154	198	0.7%	0.9%
Women	184	210	4.8%	7.7%
<b>TOTAL</b>	<b>338</b>	<b>408</b>	<b>-</b>	<b>-</b>

\* Percentage of the total workforce of the ANDRITZ GROUP

### Expenditure on education and training

	2014*	2013**
<b>TOTAL</b> (in MEUR)	8,240	8,629
Average expenditure per employee (EUR)	336	393
Training hours total	583,319	346,089

\* Excluding Schuler

\*\*Excluding Schuler, ANDRITZ HYDRO Hammerfest, ANDRITZ companies in Spain, ANDRITZ Kft., Hungary, ANDRITZ Frautech, Italy, ANDRITZ Iggesund Tools., USA, and ANDRITZ Precision Machine and Supply, USA

### Employee appraisals\*

	2014	2013**
Men	61%	48%
Women	55%	44%
<b>TOTAL</b>	<b>60%</b>	<b>47%</b>

\* Percentage of the total workforce that took part in employee appraisals during the reporting period.

\*\* Excluding ANDRITZ Kft., Hungary, and ANDRITZ companies in Spain and the UK

### Average length of employment by age group and region (in years)

	Europe 2014	Europe 2013*	North America 2014	North America 2013	South America 2014	South America 2013	China 2014	China 2013	Asia (excl. China) 2014	Asia (excl. China) 2013
< 30 years old	4.6	4.0	2.8	3.8	2.5	2.2	2.6	2.4	2.8	2.5
30-50 years	11.3	11.1	7.4	7.8	5.5	5.0	5.5	3.9	6.2	5.6
> 50 years old	23.6	22.8	16.1	15.9	9.7	9.4	10.2	5.7	11.2	11.2
<b>TOTAL</b>	<b>14.4</b>	<b>14.0</b>	<b>10.2</b>	<b>10.3</b>	<b>5.0</b>	<b>4.9</b>	<b>5.1</b>	<b>3.7</b>	<b>5.7</b>	<b>5.0</b>

\* Excluding ANDRITZ Kft., Hungary, ANDRITZ Frautech, Italy

### Accident statistics

	2014	2013
Accidents at work (with more than three days of absence)	439	458
Accident frequency (accidents with more than three days of absence per 1 million working hours)	9.2	9.7
Fatal accidents at work	0	0
Accident rate (accidents with more than three days of absence per 100 employees)	1.7	1.7
Severity of accidents (absence periods in hours per accident)	100.6	96.7

## PROCUREMENT

### Purchasing volume (in MEUR)

	2014	2013
<b>TOTAL</b>	<b>4,517.7</b>	<b>3,806.8</b>
thereof external suppliers	3,051.9	2,672.6
thereof internal suppliers	1,390.4	1,094.4
thereof purchasing volume from consortial agreements	75.4	39.8
Local percentage of external purchasing volume*	70%	70%

\* Percentage of total purchasing volume that was bought in the respective country.

### Purchasing volume by region (in %)

	2014	2013
Europe	73	69
North America	9	9
South America	6	7
China	8	10
Asia (excl. China)	1	1
Other	3	4

## ENVIRONMENT

### Overall energy consumption

	Unit	2014*	2013
<b>TOTAL</b>	kWh	200,554,608	178,707,624
thereof manufacturing	%	84	n. a.
thereof office buildings	%	16	n. a.

\* The data for 2014 include only office buildings to which a manufacturing site is attached. From 2015, all office buildings of the ANDRITZ GROUP are to be included in the survey. The rise in 2014 in comparison to 2013 was due to the overall higher capacity employment and the conversion of a site in India to the use of electric power from the public grid.

### Energy and fuel consumption in manufacturing

	Unit	2014	2013
Heating oil	l	17,601	25,350
Heavy oil*	l	2,127,875	n. a.
Gasoline	l	161,254	147,201
Diesel**	l	1,087,045	1,225,263
Natural gas***	Nm <sup>3</sup>	2,450,866	1,910,869
Liquid (petrol) gas	Nm <sup>3</sup>	75,988	n. a.
Biofuels	l	1,066	0
Biomass	t	4	0

\* Heavy oil is used at only one site for one process (pressing plastic filter panels).

\*\* The reduction in 2014 in comparison to 2013 was mainly due to the conversion of a site in India to the use of electric power from the public grid.

\*\*\* Increase caused by a higher amount of annealing of parts at several sites.

### Energy and fuel consumption for heating and cooling of buildings

	Unit	2014*	2013
Heating oil	l	504,833	485,193
Natural gas	Nm <sup>3</sup>	12,491,544	10,012,181
District heating	kWh	25,256,446	22,643,519
Other (e. g. biomass)	t	0	0

\* The rise is due to generally lower temperatures and the resulting higher heating demand.

### Water consumption and disposal of waste water in manufacturing (in m<sup>3</sup>)

	2014	2013*
Surface water	19,324	n. a.
Ground water	40,700	n. a.
Municipal water supplies	366,834	n. a.
Recycled waste water	17,094	n. a.
<b>TOTAL</b>	<b>443,970</b>	<b>n. a.</b>
Disposal of waste water**	336,995	n. a.

\* There are no valid data available for 2013.

\*\* As water is reused at some sites (mainly in Asia) for watering green spaces, the figures for overall water consumption and disposal of waste water may differ.

**Waste from manufacturing (in t)**

	<b>2014</b>	<b>2013*</b>
Paper and cardboard	908	n. a.
Plastics	808	n. a.
Steel	32,998	n. a.
Copper and aluminum	338	n. a.
Wood	3,682	n. a.
Industrial garbage	6,362	n. a.
Hazardous waste	1,658	n. a.
<b>TOTAL</b>	<b>46,754</b>	<b>n. a.</b>

\* There are no valid data available for 2013.

**Paint and coating consumption in manufacturing (in kg)**

	<b>2014</b>	<b>2013*</b>
Paints and coatings	421,487	n. a.
Thinning agents	116,927	n. a.

\* There are no valid data available for 2013.

## GRI INDEX

General Standard Disclosures	Short description	Page
<b>Strategy and analysis</b>		
G4-1	Statement from the most senior decision-maker of the organization	p. 3
<b>Organizational profile</b>		
G4-3	Name of organization	Cover
G4-4	Primary brands, products and services	p. 7f
G4-5	Location of the organization's headquarters	p. 7
G4-6	Overview of the organization's locations	p. 7
G4-7	Nature of ownership and legal form	p. 7, p.12
G4-8	Markets served	p. 7
G4-9	Scale of organization	p. 7f
G4-10	Total number of employees (by gender, employment contract, region etc.)	p. 35, p. 48
G4-11	Percentage of total employees covered by collective bargaining agreements	At the largest locations in Europe and China the ratio is 100%; individual regulations for the USA and India; no data for other regions available
G4-12	Description of organization's supply chain	p. 13
G4-13	Significant changes during the reporting period	not applicable (n. a.)
<b>Commitments to external initiatives</b>		
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization	p. 17
G4-15	List externally developed economic, environmental and social charters, principles or other initiatives to which the organization subscribes	p. 12
G4-16	Memberships of associations	p. 12
<b>Identified material aspects and boundaries</b>		
G4-17	Entities included in the organization's consolidated financial statements	p. 4
G4-18	Process for defining the report content and the aspect boundaries	p. 5
G4-19	Identified material aspects	p. 5
G4-20	Aspect boundaries within the organization	p. 5
G4-21	Aspect boundaries outside the organization	p. 5
G4-22	Any restatements of information provided in previous reports, and the reasons for it	n. a.
G4-23	Significant changes from previous reporting periods	n. a.
<b>Stakeholder engagement</b>		
G4-24	List of stakeholder groups engaged	p. 5, p. 10f
G4-25	Identification and selection of stakeholders with whom to engage	p. 5
G4-26	Stakeholder engagement	p. 5, p. 10f
G4-27	Key topics and concerns raised through stakeholder engagement	p. 5, p. 10f
<b>Report profile</b>		
G4-28	Reporting period	Cover
G4-29	Date of most recent previous report	n. a.
G4-30	Reporting cycle	p. 3
G4-31	Contact point for questions regarding the report or its contents	p. 10
G4-32	"In accordance" option the organization has chosen	p. 4
G4-33	External assurance	No external assurance

<b>Governance</b>		
G4-34	Governance structure and its composition	p. 11
<b>Ethics and integrity</b>		
G4-56	Values, principles, standards and norms of the organization	p. 15ff
G4-57	Internal and external mechanisms for advice on ethics and lawful behaviour	p. 15ff
G4-58	Internal and external mechanisms for reporting concerns about unethical or unlawful behaviour	p. 15ff

**Category: Economic**

<b>Material aspects</b>	<b>DMA and indicators (related to each identified material aspect)</b>	<b>Page</b>	<b>Omissions/ Explanations</b>
<b>Economic performance</b>			
	EC1: Direct economic value generated and distributed		See annual financial report 2014
	EC2: Financial implications and other risks and opportunities for the organization's activities due to climate change		See annual financial report 2014
	EC3: Coverage of the organization's defined benefit plan obligations	p. 35f, p. 40, p. 48f	Descriptively; more information see annual financial report 2014
	EC4: Financial assistance received from government		See annual financial report 2014
<b>Market presence</b>			
	EC5: Ratio of standard entry level wage by gender compared to local minimum wage at significant locations of operation		Starting salaries are based on qualifications and possibly on collective agreements and no distinction has been made between male and female.
	EC6: Proportion of senior management hired from the local community at significant locations of operation		Managerial staff is mainly recruited locally; figures will be available from 2015
<b>Indirect economic impact</b>			
	EC8: Development and impact of infrastructure investments and services supported	p. 13	Reported partly
<b>Procurement practices</b>			
	G4 DMA: Management approach	p. 13f	
	EC9: Proportion of spending on local suppliers at significant locations of operations	p. 14	

**Category: Environmental**

<b>Material aspects</b>	<b>DMA and indicators (related to each identified material aspect)</b>	<b>Page</b>	<b>Omissions/ Explanations</b>
<b>Materials</b>			
	EN1: Materials in weight and volume (renewable and non-renewable)	p. 14	Percentage of purchasing volume; extension is planned for 2015
<b>Energy</b>			
	G4 DMA: Management approach	p. 30	
	EN3: Energy consumption within the organization (electricity, heating, cooling, steam, fuel)	p. 31	Reported partly, extension planned
	EN6: Reduction of energy consumption	p. 30	Descriptively
	EN7: Reductions in energy requirement of products and services	p. 20ff	Examples are given
<b>Water</b>			
	EN8: Total water withdrawal by source	p. 32	Reported partly, extension planned
	EN10: Percentage and total volume of water recycled and reused	p. 32	Reported partly, extension planned
<b>Effluent and waste</b>			
	EN 22: Total water discharge by quality and destination	p. 32	Reported partly, extension planned
	EN23: Total weight of waste by type and disposal method	p. 32	Reported partly, extension planned
	EN25: Weight of transported, imported, exported or treated waste deemed hazardous	p. 32	Reported partly, extension planned
<b>Compliance</b>			
	EN29: Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations		Group Compliance has not received any complaints in the reporting period
<b>Transport</b>			
	EN30: Significant environmental impacts of transporting products and other goods and materials for operations, and transporting members of the workforce	p. 34	At the moment only transportation of employees is reported, ongoing extension
<b>Supplier environmental assessment</b>			
	EN32: Percentage of new suppliers that were screened using environmental criteria	p. 14	Reported partly, extension planned

<b>Category: Social</b>			
<b>Material aspects</b>	<b>DMA and indicators (related to each identified material aspect)</b>	<b>Page</b>	<b>Omissions/ Explanations</b>
<b>Sub-category: Labor practices and decent work</b>			
<b>Employment</b>			
	LA1: Total number and rates of new employee hires and employee turnover by age group, gender and region	p. 49	
	LA2: Benefits provided to full-time employees that are not provided to temporary or part-time employees	See annual financial report 2014	Reported partly, extension planned
	LA3: Return to work and retention rates after parental leave, by gender	p. 39, p. 49	Reported partly
<b>Labor/Management relations</b>			
	LA4: Minimum notice periods regarding operational changes	p. 35	Reported descriptively
<b>Occupational health and safety</b>			
	DMA: Management approach	p. 42	
	LA6: Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities by region and by gender	p. 43, p. 50	
	LA7: Workers with high incidence or high risk of diseases related to their occupation	p. 42f	
<b>Training and education</b>			
	DMA: Management approach	p. 37	
	LA9: Average hours of training per year per employee by gender, and by category	p. 49	Reported partly, extension planned
	LA10: Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career ending	p. 21	Examples
	LA11: Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	p. 36	
<b>Diversity and equal opportunity</b>			
	DMA: Management approach	p. 39	
	LA 12: Composition of governance bodies and breakdown of employees by employee category according to gender, age group, minority group membership, and other indicators of diversity	p. 11, p. 48	Reported partly (descriptively)
<b>Equal remuneration for women and men</b>			
	LA13: Ratio of basic salary and remuneration of women to men by employment category	p. 35	Reported partly
<b>Sub-Category: Human rights</b>			
<b>Non-discrimination</b>			
	DMA: Management approach	p. 17	

	HR3: Total numbers of incidents of discrimination and corrective actions taken		Cases of discrimination are mostly directly dealt with by the regional compliance officers, partly in cooperation with the member of the compliance committee responsible for HR topics. At the moment there are no global records concerning the number of incidents.
<b>Freedom of association and collective bargaining</b>			
	HR4: Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, measures taken to support these rights		No violations identified/ measures taken
<b>Child labor</b>			
	HR5: Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	p. 13f	Reported partly, extension planned
<b>Forced or compulsory labor</b>			
	HR6: Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor	p. 13f	Reported partly, extension planned
<b>Sub-category: Society</b>			
<b>Local communities</b>			
	SO1: Percentage of operations with implemented local community engagement, impact assessments, and development programs	p. 47	Descriptively
	SO2: Operations with significant actual or potential negative impacts on local communities		Planned for 2015
<b>Anti-corruption</b>			
	DMA: Management approach	p. 16f	
	SO3: Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	p. 16f	Reported partly, extension planned
	SO4: Communication and training on anti-corruption policies and procedures	p. 15ff	
	SO5: Confirmed incidents of corruption and actions taken	p. 16f	Reported partly, extension planned
<b>Anti-competitive behaviour</b>			
	SO7: Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes	p. 15ff	

<b>Compliance</b>	SO8: Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	p. 15ff
<b>Supplier assessment for impacts on society</b>	SO9: Percentage of new suppliers that were screened using criteria for impacts on society	p. 13f
<b>Sub-category: Product responsibility</b>		
<b>Customer health and safety</b>		
	DMA: Management approach	p. 33
	PR1: Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	p. 20ff
	PR2: Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle	p. 20ff

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