GLOBAL CARE

ANNUAL REPORT 2008

ANDRITZ

THE ANDRITZ GROUP AT A GLANCE

COMPANY PROFILE

The ANDRITZ GROUP is a global market leader for customized plants, process technologies, and services for hydropower stations, for the pulp and paper industry, the metals industry, and other industries (solid/liquid separation, feed and biofuel). The Group is headquartered in Graz, Austria and has approximately 13,700 employees worldwide. ANDRITZ runs more than 150 production sites, as well as service and sales companies all around the world.

Each of the ANDRITZ GROUP's five business areas is among the global technology leaders, offering full-line capabilities in all major process areas. The service offering includes the supply of spare parts, manufacture of engineered wear products, and technical support to help customers optimize production processes and reduce overall costs.

VISION

World market leader for plants, process technologies, and services for hydropower stations, for the pulp and paper industry, the metals industry, and certain other industries.

BUSINESS AREAS

ANDRITZ HYDRO 33* %

Electromechanical systems – in particular, turbines, hydropower generators, and turbo generators – and services for new hydropower stations as well as for modernizations of existing hydropower stations; pumps for the pulp and paper industry and for other applications (drinking water supply, etc.).

The Hydro Power business area was renamed ANDRITZ HYDRO as of January 1, 2009.

ANDRITZ PULP & PAPER 37* %

Plants and services for the production of all types of pulp (chemical, mechanical, recycled fiber pulps), paper, board, tissue, and Medium Density Fiberboard (MDF ABC); biomass boilers ABC for power generation.

ANDRITZ METALS 16* %

Production and finishing lines for metallic strip, especially for carbon and stainless steel.

The Rolling Mills and Strip Processing Lines business area was renamed ANDRITZ METALS as of January 1, 2009.

ANDRITZ ENVIRONMENT & PROCESS 10* %

Plants, equipment, and services for solid/liquid separation for municipalities and industries (e.g. mining, chemical and petrochemical industries, food industry).

ANDRITZ FEED & BIOFUEL 4* %

Plants, equipment, and services for the production of animal feed and biomass pellets, especially wood pellets.

* Share of ANDRITZ GROUP sales in 2008

■ **FINANCIAL CALENDAR** ■ **MARCH 6, 2009:** RESULTS FOR THE FINANCIAL YEAR 2008 ■ **MARCH 27, 2009:** ANNUAL GENERAL MEETING ABC ■ **MARCH 31, 2009:** EX-DIVIDEND ABC

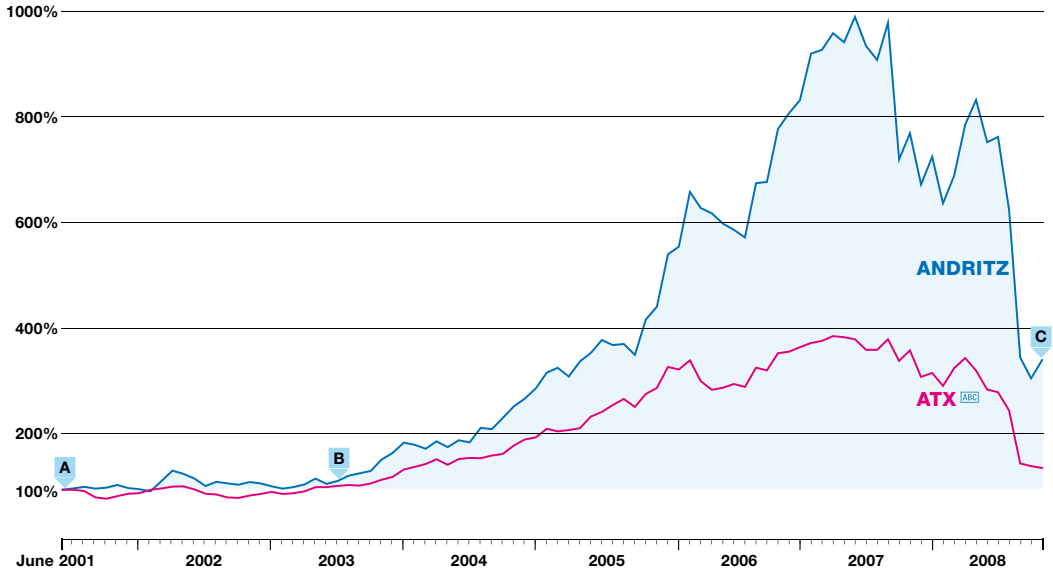
KEY FIGURES OF THE ANDRITZ GROUP 2004-2008

MEUR (IFRS ABC)	2008	2007*	2006*	2005	2004
Order intake	3,705.3	3,749.5	2,891.0	1,974.6	1,837.0
Order backlog as of December 31	4,277.4	3,843.3	3,397.1	1,695.6	1,439.2
Sales	3,609.8	3,282.5	2,709.7	1,744.3	1,481.3
EBITDA[1)]	278.2	250.7	197.7	130.9	115.4
EBITA[2)]	233.2	209.7	166.2	107.0	92.8
Earnings Before Interest and Taxes (EBIT)	218.5	200.9	163.3	106.7	76.1
Earnings Before Taxes (EBT)	210.5	200.8	165.3	110.0	76.6
Net income (before minorities)	147.0	137.8	121.1	80.2	53.4
Cash flow from operating activities	255.0	33.1	143.1	237.3	208.0
Capital expenditure[3)]	69.7	57.0	45.7	26.7	29.4
Employees as of December 31 (excluding apprentices)	13,707	12,016	10,215	5,943	5,314
Fixed assets	732.1	632.3	608.6	308.0	276.3
Current assets	2,354.2	1,877.1	1,777.5	1,083.3	877.1
Total shareholders' equity[4)]	577.4	481.6	414.5	328.8	277.1
Provisions	477.3	402.4	386.1	189.8	159.6
Other liabilities	2,031.6	1,625.4	1,585.5	872.7	716.7
Total assets	3,086.3	2,509.4	2,386.1	1,391.3	1,153.4
Equity ratio[5)] (%)	18.7	19.2	17.4	23.6	24.0
Net liquidity[6)]	408.9	246.5	365.7	383.9	219.6
Net debt[7)]	-242.9	-94.8	-216.9	-316.4	-158.2
Net working capital[8)]	22.7	99.1	-93.6	-128.2	-1.0
Capital employed[9)]	406.8	405.6	194.5	21.1	131.9
Gearing[10)] (%)	-42.1	-19.7	-52.3	-116.8	-79.3
EBITDA margin (%)	7.7	7.6	7.3	7.5	7.8
EBITA margin (%)	6.5	6.4	6.1	6.1	6.3
EBIT margin (%)	6.1	6.1	6.0	6.1	5.1
Net income/sales (%)	4.1	4.2	4.5	4.6	3.6
ROE[11)] (%)	25.5	28.6	29.2	24.3	19.5
EV[12)]/EBITDA	1.9	7.6	9.1	6.3	4.4
Depreciation and amortization/sales (%)	1.5	1.4	1.3	1.4	1.5
Impairment resp. amortization goodwill/sales (%)	0.2	0.1	0.0	0.0	1.1

* restated

[1)] Earnings before interest, taxes, depreciation, and amortization; [2)] Earnings before interest, taxes, amortization of identifiable assets acquired in a business combination and recognized separately from goodwill at the amount of 7,862 TEUR (2007: 5,967 TEUR) and impairment of goodwill at 6,783 TEUR (2006: 2,771 TEUR); [3)] Additions to Intangible assets and Property, plant, and equipment; [4)] Total shareholders' equity incl. Minority interests; [5)] Total shareholders' equity/Total assets; [6)] Cash and cash equivalents plus Marketable securities plus Fair value of interest rate swaps minus Financial liabilities; [7)] Interest bearing liabilities including Provisions for severance payments, pensions, and jubilee payments minus Cash and cash equivalents and Marketable securities; [8)] Non-current receivables plus Current assets (excluding Cash and cash equivalents as well as Marketable securities) minus Other non-current liabilities and Current liabilities (excluding Financial liabilities and Provisions); [9)] Net working capital plus Intangible assets and Property, plant, and equipment; [10)] Net debt/Total shareholders' equity; [11)] ROE (Return On Equity): Net income/Total shareholders' equity; [12)] EV (Enterprise Value): Market capitalization based on year-end closing price minus Net liquidity

DEVELOPMENT OF THE ANDRITZ SHARE SINCE IPO



Relative share price performance of the ANDRITZ share versus the ATX since the IPO

A **June 2001: Initial Public Offering at 5.25 Euros per share**

B **June 2003: Secondary Public Offering ABC at 5.69 Euros per share**

C **Share price at year-end 2008: 18.16 Euros per share**

Special technical and financial terms are marked ABC at their first occurrence in a chapter. They are explained in the glossary starting on page 104. If you have any queries, please do not hesitate to contact us at welcome@andritz.com

GLOBAL PRESENCE: STRONG EUROPEAN BASE, WORLDWIDE SUCCESS

EUROPE 64*%

Austria: Graz (headquarters of the ANDRITZ GROUP), Linz, Vienna, Weiz ■ **Czech Republic:** Hradec Králové, Prague ■ **Denmark:** Esbjerg ■ **Finland:** Helsinki, Hollola, Kotka, Savonlinna, Tampere, Varkaus ■ **France:** Châteauroux, Châtellerault, Gennevilliers, Grenoble, Saint Martin Le Beau, Vélizy-Villacoublay ■ **Germany:** Bretten-Gölshausen, Cologne, Düren, Düsseldorf, Hemer, Krefeld, Mettmann, Ravensburg, Regensburg, Selb, Senden ■ **Great Britain:** Belper, Doncaster, Hull, Newcastle-under-Lyme ■ **Hungary:** Tiszakécske ■ **Italy:** Schio (Vicenza) ■ **Netherlands:** Den Helder, Geldrop, Rotterdam ■ **Norway:** Jevnaker ■ **Poland:** Warsaw ■ **Romania:** Cisnadie ■ **Russia:** Moscow, St. Petersburg ■ **Slovakia:** Humenné, Levice, Spišská Nová Ves ■ **Spain:** Barcelona, Madrid ■ **Sweden:** Hedemora, Karlstad, Kristinehamn, Nälden, Örnsköldsvik, Stockholm, Växjö, Vallentuna ■ **Switzerland:** Bülach, Kriens, Vevey, Wohlen, Zurich ■ **Turkey:** Kavaklidere (Ankara) ■ **Ukraine:** Kiev

NORTH AMERICA 12*%

Canada: Brantford, Edmonton, Lachine, Nanaimo, Peterborough, Pointe Claire, Prince George, Richmond, Saskatoon, Stoney Creek, Terrace ■ **Mexico:** Morelia, Varacruz ■ **USA:** Alpharetta, Arlington, Bellingham, Canonsburg, Charlotte, Decatur, Glens Falls, Houston, Janesville, Lakeland, Lakewood, Montoursville, Muncy, Pell City, Roswell, San Leandro, Scott Depot, Spartanburg, Springfield, Tualatin, Walpole

CHINA 9*%

Beijing, Foshan, Hangzhou, Shanghai, Zhejiang

SOUTH AMERICA 7*%

Brazil: Araraquara, Barueri, Campinas, Curitiba, Pomerode, Porto Alegre, São Paulo, Serra, Vinhedo ■ **Chile:** Concepción, Santiago ■ **Colombia:** Bogotá ■ **Peru:** Lima ■ **Uruguay:** Fray Bentos, Río Negro ■ **Venezuela:** Caracas, Estado Carabobo

ASIA (WITHOUT CHINA) 7*%

India: Bangalore, Chennai, Faridabad, Mandideep, New Delhi ■ **Indonesia:** Jakarta ■ **Iran:** Tehran ■ **Japan:** Tokyo ■ **Malaysia:** Selangor ■ **Philippines:** Makati City, Manila ■ **Singapore:** Singapore ■ **Taiwan:** Taipei ■ **Thailand:** Bangkok ■ **Vietnam:** Hanoi, Ho Chi Minh City

OTHERS 1*%

Australia: Dandenong, Rathmines ■ **South Africa:** Durban, Johannesburg

* Share of ANDRITZ GROUP staff as of December 31, 2008

The locations of the ANDRITZ GROUP with all contact data are listed starting on page 96 of this annual report and on the ANDRITZ website at: www.andritz.com/locations

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This annual report has been produced using climate neutral printing. In the production of the paper used for this annual report, the rules for environmentally, socially, and economically compatible use of forests have been followed.

‘2009 WILL BE DIFFICULT – BUT WE ARE WELL-POSITIONED FOR 2009’

The 2008 financial year was characterized by the global economic and financial crisis, which has impacted practically all areas of the real economy. Wolfgang Leitner, President & CEO of ANDRITZ AG, discusses the effects of the global financial and economic crisis, the expectations and strategies of the ANDRITZ GROUP for 2009, as well as the successes achieved during the year 2008.

The global economy is continuing to cool off, and the world’s large economic regions have either already slipped into recession or are seeing a clear slow-down of their economic growth. Experts expect the effects of this crisis to become even more heavily felt by most industries in the course of 2009 and, thus, to have a negative influence on the development of the real economy. What are the effects of this crisis on ANDRITZ?

Wolfgang Leitner: The effects of the worldwide economic slowdown have indeed been strongly felt during the past few months by some of our business areas, mainly PULP & PAPER and METALS, where we have experienced delays in order awards and order execution on the customer side. The other business areas have not, or only partially, been affected by the economic slump. Especially in the HYDRO business area, order intake developed very favorably, and there have been no delays in order execution either.

It is very difficult to predict how business will develop during the coming months and the full year 2009. We are prepared for significant decreases in project activity in one business area or the other. In the PULP & PAPER and METALS business areas, in particular, investments are likely to remain at a low level during the first half of 2009, if not longer. The other ANDRITZ business areas should be less affected by the economic weakness. 2009 will be difficult – but, in general, I believe we are well-positioned to cope with the effects of the financial and economic crisis.

Many industries have been impacted by the global financial and economic crisis already in 2008. What were the essential developments of ANDRITZ in 2008?

Despite the heavy economic turmoil we can be satisfied with the development during the 2008 business year. We were able to continue our growth both through organic expansion and further important acquisitions, and to consolidate our market position in many areas. In particular, we achieved a very positive order intake development in the HYDRO business area, and we have further strengthened our competitive position in the rapidly growing hydropower market by acquiring General Electric’s hydropower activities. I would also like to stress the very good development of the pumps business, where 2008 has been another record year. In the METALS area, we have purchased ANDRITZ Maerz, a company with a very good reputation in the industry. It has considerably extended our product portfolio for furnaces for the steel and copper industry. With an order intake of more than 150 million Euros and very good profitability, the company, which became a member of the ANDRITZ GROUP in March 2008, has developed better than expected.

In the PULP & PAPER area, we acquired major assets of Andreas Kufferath GmbH & Co. KG, Düren, Germany, including the affiliates in Slovakia and China, thus considerably extending our product portfolio in the services area by paper machine fabrics.

What are the goals and strategies for 2009?

The main goal is the rapid and successful integration of the newly acquired companies. Only quick integration into the existing ANDRITZ organization will allow utilization of existing synergies and, thus, create added value for the ANDRITZ GROUP. We must continuously look for opportunities to become yet more competitive by introducing structural and operative measures – several operative measures were taken in 2008 already to adjust ANDRITZ to the changes in the general economic situation. We are watching the economic development very closely and will immediately take further measures if necessary. ANDRITZ is prepared for a comparatively rapid recovery of the global economy beginning in 2009 – but also for a continuation of the recession beyond 2009.

We will continue to investigate potential acquisitions in 2009 to further enhance our product and technology portfolio through the purchase of complementary companies. Our high cash position provides us with the necessary funds to be able to continue our external growth strategy.

> *‘We were able to continue our growth both through organic expansion and further important acquisitions, and to consolidate our market position in many areas.’*

‘ANDRITZ is prepared for a comparatively rapid recovery of the global economy beginning in 2009 – but also for a continuation of the recession beyond 2009.’

Another important goal for 2009 is to process the high order backlog – especially in the HYDRO and METALS areas – according to schedule and in conformity with the customer requirements. Unless we execute all orders to the full satisfaction of our customers, we will not be able to stand our ground and retain our good market position in an environment that has become even more competitive than before due to the current financial and economic crisis.

On behalf of the Executive Board, I would like to thank all employees of the ANDRITZ GROUP for their outstanding performance in 2008, and all customers, business partners, and shareholders for the confidence placed in us in 2008. We will continue to do our utmost in 2009 and in the future to promote the success of ANDRITZ in the best possible way, despite the global economic weakness. •

‘We must stop playing Russian roulette with our planet.’

Hans-Joachim Schellnhuber, university professor for theoretical physics, head of the Potsdam Institute for Climate Impacts Research, Germany, and advisor to the German government on climate change.

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‘GLOBAL CARE AND ECONOMIC CRISIS DO NOT CONTRADICT EACH OTHER’ – INTERVIEWS WITH THE ANDRITZ EXECUTIVE BOARD MEMBERS.


GLOBAL
CARE

GLOBAL CARE

In the face of gradual global warming and increasing environmental pollution, nations worldwide have joined forces to reduce emissions of greenhouse gases, which are considered a possible cause of climate change, and to implement measures to curb the use of scarce commodities. The Kyoto Protocol was the first international agreement to set binding targets on greenhouse gas emission cuts. The European Union (EU) also adopted ambitious emission targets, which are to be reached through increased use of renewable energy and greater energy efficiency. And in the United States, the 'New Energy for America' plan calls for an increased share of renewable sources in electricity production.

ANDRITZ cares about these important initiatives and supports its customers in their environmental efforts by providing technologies that maximize generation of energy from renewable sources such as hydropower and biomass. ANDRITZ is also constantly improving the energy efficiency of its equipment and technologies through continued R&D.

▲ Hydropower as renewable energy source: the Limmernboden reservoir in Switzerland, for which ANDRITZ HYDRO supplied, inter alia, the pump turbine ABC for the extreme head of up to 1,060 meters.

ANDRITZ already derives 50% of total sales from equipment and process technologies that generate energy from renewable sources. Among the most important products in this field are electromechanical equipment and plants for hydropower stations as well as systems to generate energy from biomass (power boilers ABC and recovery boilers ABC for the pulp and paper industry, biomass drying and pelleting plants).

Main goals: more energy from renewable sources and higher energy efficiency

At the climate summit in 1997, the Kyoto Protocol was signed in an international effort to fight climate change. The Protocol, which became effective in 2005 and runs until 2012, requires the industrialized nations to reduce their collective emissions of greenhouse gases by 5.2% compared to the year 1990 during the first commitment period (2008-2012). Negotiations regarding the second commitment period, starting in 2013, are planned to be concluded at the climate summit in Copenhagen in December 2009.

The EU has adopted its own energy and climate change package that requires a minimum 20% reduction of greenhouse gas emissions by 2020. This ambitious goal is to be reached through the increased use of renewable energy and greater energy efficiency.

Hydropower: the most important renewable energy source

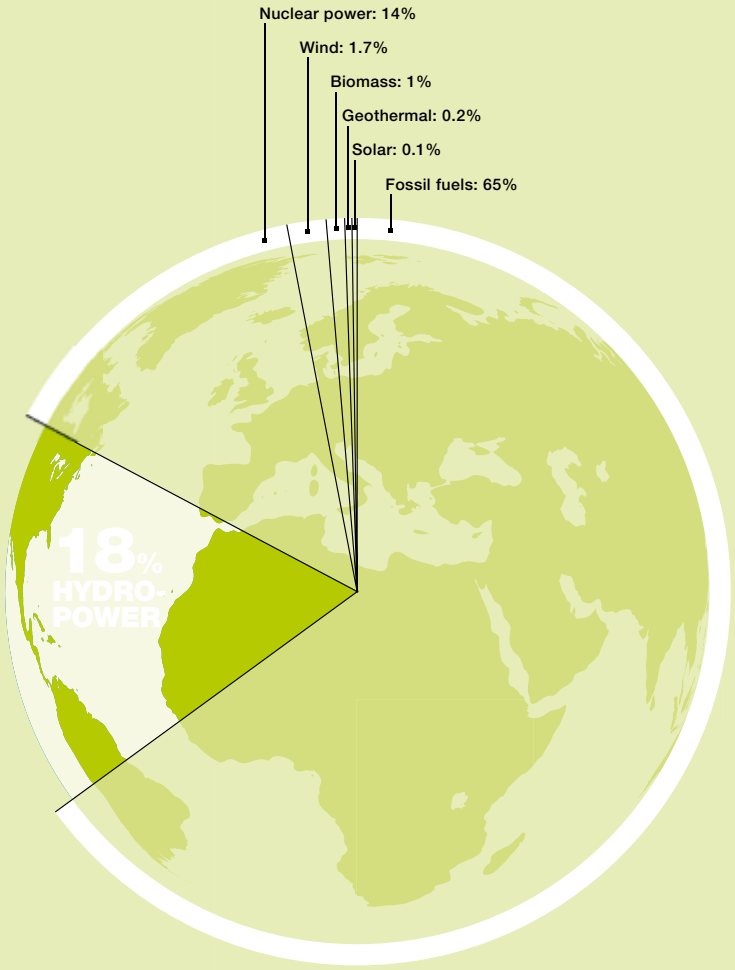
Hydropower is the most important renewable energy source by far, supplying approximately 18% of the world's electricity. And the global electricity demand keeps growing in the long run, in emerging and developing countries even at double-digit rates. The International Energy Agency (IEA) estimates that only one-third of the realistic hydropower potential has been developed (source: IEA Electricity Information). A large number of new hydropower plants are, thus, in the planning or construction phase worldwide.

ANDRITZ HYDRO has supplied approximately 30,000 turbines with a total capacity of more than 400 GW. ANDRITZ HYDRO equipment secures the daily power supply for about 150 million people worldwide and helps to save approximately 38 million tons of CO_2 per year. The new hydropower project Tsankov Kamak in Bulgaria, for which ANDRITZ HYDRO is providing all the electromechanical equipment and installation, is the prototype project of the Austrian program for implementation of the Kyoto Protocol's flexible mechanisms. Under the Joint Implementation Mechanism, the Bulgarian electricity company NEK, which owns Tsankov Kamak, will transfer approximately 200,000 tons of emission reduction units that will be generated by the new 80 MW power station to Austria.

ANDRITZ already derives 50% of total sales from equipment and process technologies that generate energy from renewable sources.

ANDRITZ HYDRO also offers innovative technologies to tap potentials that have been left fallow so far. The HYDROMATRIX® system, for instance, uses small standardized turbines that are assembled in a steel framing according to existing civil structures and the required output. These modules can be installed in existing dams requiring no significant new civil structures. The newly developed StrafloMatrix™ technology has the generator rotor integrated in the turbine runner, which provides a compact unit that fits into any existing catchment structure and supplies power starting at heads as low as 40 cm. >

HYDROPOWER: THE MOST IMPORTANT RENEWABLE ENERGY SOURCE



Renewable energy sources account for approximately one-fifth of global power production, almost 90% of which comes from hydropower. With a share of approximately 18% in global power production, hydropower is the most important renewable energy source by far (source: IHA/IEA).

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ANDRITZ HYDRO equipment installed in hydropower stations worldwide secures the daily power supply for about 150 million people and helps to save approximately 38 million tons of CO_2 per year.

Biomass: from waste to energy

The pulp and paper industry is intensifying its efforts to use biomass that is unsuitable for pulp production (such as bark) and biomass by-products from production (such as black liquor) for energy generation. Modern pulp mills today can generate more than 50 MW of excess electricity from black liquor for the public grid.

The pulp industry has a huge potential for energy generation from biomass. If all the chemical pulp produced in the world (approximately 140 million tons in 2008) was produced with modern systems and energy-efficient solutions similar to those provided by ANDRITZ recently, the sale of surplus energy could be approximately 25,000 to 55,000 GWh/a from black liquor only (depending on type of wood used and end product quality). This corresponds to the output of three or four average-sized nuclear power stations and would be sufficient to cover the power demand of three to five million people in OECD countries (10 to 25 million people in the rest of the world). Some of this potential is already being used, as some mills, especially the recently built ones, have adopted the required technology and are intensively selling power.

ANDRITZ PULP & PAPER offers recovery boilers and power boilers that support the industries in their endeavors to maximize energy generation from biomass. To give a few examples: ENCE, S.A., Spain's largest market pulp producer, is building one of the largest green electricity biomass power plants in Spain. ANDRITZ PULP & PAPER has been chosen to supply a 170 MW high-pressure steam boiler that will use forest residues and energy plants as fuels. When completed, this plant will generate 50 MW of green electricity which will be supplied to the public grid. Biomass-fired power boilers will also be supplied to Portucel, S.A. of Portugal for two power plants to be built at the company's Cacia and Setúbal mills. The boilers will mainly use eucalyptus and pine as fuels, and each of the two power plants will have an electric power output of 15 MW which will also be sold to the public grid. A new power boiler producing 120 t/h of steam from eucalyptus bark, fines, and biomass residue has been supplied to CEASA, a pulp mill located in Navia, Asturias, Spain, which is owned by the ENCE group. Under the same contract, Andritz also supplied a new recovery boiler with a black liquor combustion capacity of 1,800 tons of dry solids per day. The total electric power output from the two units is 77 MW; all of the power produced by the power boiler is supplied to the grid. The ANDRITZ HERB (High Energy Recovery Boiler) helps pulp mills to maximize their energy production from black liquor. The HERB supplied to SCA's Östrand mill in Sweden, for instance, enables the mill to generate 500 GWh of electric energy per year – enough to make the mill virtually energy self-sufficient. Södra Cell of Sweden has announced that its Värö mill will become entirely independent of fossil fuels for day-to-day operation by 2011. To this aim, Södra Cell started a project in 2008 that should enable the mill to cover all its routine energy requirements with timber-based biofuel. The project includes installation of a new ANDRITZ evaporation plant which will replace three existing evaporation lines and will also produce very clean condensates that can be reused in other processes in the mill.

Drying and pelleting systems are yet other examples of ANDRITZ technologies that support the use of biomass for energy generation. ANDRITZ FEED & BIOFUEL has provided pelleting solutions for wood and other types of biomass since the beginnings of this industry and has continuously

Modern pulp mills that are equipped with ANDRITZ PULP & PAPER technology can generate more than 50 MW of excess electricity from black liquor. This can be supplied to the public grid.

▲ Using ANDRITZ technologies, modern pulp mills can produce enough power from biomass to become energy self-sufficient and even supply power to the public grid. The photo shows Metsä-Botnia's Fray Bentos mill in Uruguay.

Energy from biomass: ANDRITZ biomass-fired power boiler at the ENCE mill in Navia, Spain. ▼

been updating its technologies, becoming the clear market leader in this segment. Wood pellets have become a globally recognized, easy-to-handle fuel for domestic heating as well as industrial boilers and power plants. The 2008 global market volume amounted to approximately nine million tons of pellets, which replaced approximately 6.3 million tons of coal. More than 50% of the volume produced globally is made on ANDRITZ FEED & BIOFUEL equipment and this helped to save 7.5 million tons of CO_2 in 2008.

Among the large number of new orders for pelleting lines for wood and other biomass received by ANDRITZ FEED & BIOFUEL in 2008 was the first order to deliver a complete biofuel plant including drying and pelleting solutions. The project will make Stora Enso Timber one of the leading wood pellet producers in Sweden, adding 160,000 tons per year to the existing capacities. ANDRITZ ENVIRONMENT & PROCESS will supply a belt drying system with a water evaporation capacity of 18 t/h, and ANDRITZ FEED & BIOFUEL the six pelleting lines.

Biofuel – ANDRITZ focuses on second-generation methods

The EU directive on renewable energies aims to achieve a 10% share of renewables in the EU's total fuel consumption in the transport sector by 2020. This includes biofuels (first- and second-generation), hydrogen, and electricity produced from renewable sources. To promote the more sustainable second-generation biofuels, they will be double-credited towards the 10% target.

Whereas first-generation biofuels are primarily based on raw materials such as corn, sugarcane, wheat, and rape oil, second-generation methods use biomass residues such as waste wood and waste plants, grass, straw, bagasse ABC, etc. Thus, they do not interfere with food or feed production and are also believed to achieve higher greenhouse gas emission reductions. A number of criteria have been defined by the EU to ensure the sustainability of biofuels. For example, to count towards the 10% target, biofuels must save at least 35% of greenhouse gas emissions compared to fossil fuels; this rate will be increased as of 2017. ANDRITZ focuses on equipment for second-generation biofuel production. >

A newly formed group in the PULP & PAPER business area is focusing on the fast growing cellulosic biofuel market. The focus is on second-generation bioethanol production from non-food based raw materials, such as wood and agricultural waste.

Forest residues are among the most promising materials for a sustainable biofuel production. The pulp and paper industry, which has access to forests and excellent technologies for handling and processing biomass, is demonstrating growing interest in integrating biorefineries for biofuel production into their mills. ANDRITZ is cooperating with the Finnish forestry company UPM to develop technology for gasification of biomass (forest residue) to produce biofuel. The residue will be gasified and the cleaned synthesis gas will then be converted into biorefinery products, including raw diesel, in a Fischer-Tropsch reactor. Extensive pilot testing is being carried out for the gasifier at a testing facility in the USA. ANDRITZ is also providing design work under this project for a full-scale Biomass-to-Liquid (BTL) plant, which might produce around 100,000 tons of biorefinery products per year. ANDRITZ has gained experience with gasifiers for lime kilns in pulp mills and is cooperating on this project with its affiliate Carbona, a specialist in biomass gasification.

The 2008 global market volume amounted to approximately nine million tons of pellets, which replaced approximately 6.3 million tons of coal. More than 50% of the volume produced globally is made on ANDRITZ FEED & BIOFUEL equipment which helped to save 7.5 million tons of CO_2 in 2008.

Increased energy efficiency

One essential strategy in the EU's efforts to achieve its climate protection targets is to raise energy efficiency. The goal is to achieve a 20% increase in energy efficiency by 2020.

ANDRITZ is continuously improving existing technologies with regard to their energy efficiency, and the aspect of energy efficiency is given high priority in developing new technologies. This has helped ANDRITZ's customers to significantly improve their energy balance.

In the hydropower segment, ANDRITZ HYDRO can help power stations to significantly increase efficiency by modernizing and refurbishing existing turbines and generators. Thus, efficiency increases of 10 to 15% can be achieved without further changes to the environment or water resources. For example, at Portile de Fier I hydropower station in Romania, ANDRITZ HYDRO recently carried out a major overhaul which increased the plant's output from 1,068 to 1,200 MW. This corresponds to the construction of a midsize power plant.

▲ Second-generation biofuels: The Finnish forestry company UPM and ANDRITZ are cooperating to develop technology for gasification of biomass to produce biofuel.

ANDRITZ PULP & PAPER has opened up significant potentials for energy efficiency improvements both in the process design and layout for new mills and in the optimization of existing plants. In the service area, special bearings and new lubricants developed by ANDRITZ, as well as plant optimization measures, can help reduce energy consumption by up to 5%. Energy savings in the range of 30% can be achieved on existing mechanical pulping lines by retrofitting heat recovery systems. By advising customers on the right refiner plate design, ANDRITZ PULP & PAPER has helped TMP mills cut energy costs by up to 10%. In the planning stage, a more simple process design and layout will result in much lower energy demand. Another example is the transfer of material in the process, which typically represents 50% of the electric power consumption of a mill. ANDRITZ PULP & PAPER has introduced a new generation of medium-consistency pumps, which require up to 10% less energy than systems used so far, thanks to improved efficiency. Additional energy savings are achieved because no vacuum pumps are needed, which also reduces the cost of installation, maintenance, and operation.

Other examples of energy efficiency raising technologies and measures in the PULP & PAPER business area are:

- the RotaBarker™ debarking technology, which requires almost 80% less energy than conventional drum debarkers, as it does not need a separate deicing system for the logs;
- the Papillon refiner, which requires up to 45% less no-load energy compared to conventional refiners because of the extremely small diameter of the refining area;
- the application of fractionation in deinking lines, which opens up savings potentials in the 15% range for electrical energy and in the 40% range for thermal energy;
- the RTS TMP pulping process, which saves up to 20% in specific energy compared to the conventional TMP process;
- the RT Fibration technology, which achieves energy savings of up to 30% compared to the conventional TMP process;
- a new generation of friction bearings, which reduce the energy loss in the bearing by 15 to 20%;
- the Lo-Solids® cooking technology, which has led to a 50% lower power and steam consumption as compared to 20 years ago;
- DD washers, which require 30% less power compared to washing technology used 20 years ago;
- PrimeRoll Eco – a new product of the Paper Finishing division – which achieves energy savings of up to 40% compared to conventional press rolls.

The tissue and towel machine that ANDRITZ PULP & PAPER delivered to Procter & Gamble's (P&G) Green Bay, Wisconsin, USA mill has been recognized by the State of Wisconsin for its energy efficiency. P&G was among the winners of the State's 2008 Pulp and Paper Efficiency Award. The ANDRITZ tissue machine at Green Bay requires approximately 20% less natural gas and power than other modern machines to produce the top quality brands Bounty and Charmin. The newly developed PrimeRun web stabilizers consume up to 30% less energy; the first units were successfully started up at the Sappi mill in Gratkorn, Austria.

A newly developed process in the ENVIRONMENT & PROCESS business area is particularly noteworthy in terms of energy efficiency. The new DoubleDry technology combines belt and fluidized bed technology for sewage sludge drying to maximize thermal energy utilization. High-value energy is used for drying in the fluidized bed, and the heat gained from condensation of the water evaporated in the fluidized bed is reused in the belt dryer. The two drying systems are linked via a heat exchanger, which ensures a two-fold use of thermal energy, thus leading to a significant reduction of the total energy demand. ●

‘GLOBAL CARE AND ECONOMIC CRISIS DO NOT CONTRADICT EACH OTHER’

Interview with the members of the ANDRITZ Executive Board on the importance of ‘Global Care’ for the ANDRITZ GROUP, the contribution ANDRITZ is making for its customers in this area, and why the global economic crisis and environmental/climate protection do not contradict each other.

‘Saving raw materials and energy is a very pressing topic, especially in times of economic crisis. In difficult economic times, many of our customers use our newest technologies in order to secure a good competitive position for the future.’

Wolfgang Leitner, President & CEO, ANDRITZ AG

ANDRITZ offers a broad range of products and services for renewable energies as well as environmental and climate protection. Is this still appropriate in times of global economic weakness and declining capital investments?

Wolfgang Leitner: Especially in times of economic difficulties, many of our customers will strive to increase their competitiveness in order to retain their market position and to emerge from the crisis even stronger. The main goals are a further reduction of raw material and energy use or – with the same raw material and energy input – increased productivity of the invested capital. Due to our successful research and development work, we can offer improved technologies that help our customers achieve these goals, both in new projects and in the services area.

With ‘Global Care’ we focus on climate protection and the question of what contributions ANDRITZ can make, all the while taking into account the goals of our customers with respect to efficiency and productivity increase. Saving raw materials and energy is a very pressing topic, especially in times of economic crisis. In difficult economic times, many of our customers use our newest technologies in order to secure a good competitive position for the future. Thus, ‘Global Care’ and economic crisis do not contradict each other.

Global warming – even though its true causes have not been determined with absolute certainty – is a topic that concerns every one of us in his or her daily life and one which will be felt even more heavily by all of us in the future. Every individual and every company should, therefore, take up this challenge. The Kyoto Protocol was the first international agreement to formulate binding goals on the reduction of greenhouse gas emissions. The European Union is relying on energy efficiency and the increased use of renewable energies in order to achieve its climate protection goals. In the USA, too, there is a trend toward utilizing more renewable energies.

What goals and strategies does ANDRITZ pursue in the ‘Global Care’ area?

Our focus is on energy efficiency and renewable energies. This focus is an integral part of our corporate strategy, which has remained successful for over ten years without major changes. We achieve our strong organic growth also through intensive research and development work, which is often carried out in close cooperation with customers and yields new technologies that help increase our customers’ competitiveness. Thus, products and technologies for renewable energies already account for some 50% of the ANDRITZ GROUP’s total sales. Our goal is a further increase during the years to come.

You mentioned that the climate protection policy of the European Union and the USA, besides supporting energy efficiency, is favoring renewable energy sources. Where has ANDRITZ been active here?

Where renewable energies are concerned, we focus on hydropower and biomass. ANDRITZ is among the three leading suppliers

of hydropower equipment in the world. As many as 150 million people receive their electricity from hydropower plants delivered by ANDRITZ. Our globally installed hydropower equipment helps to reduce CO_2 emissions by approximately 38 million tons per year.

In the biomass area, we have also compiled a comprehensive product portfolio. Our drying and pelleting plants convert biomass to fuel pellets. ANDRITZ recovery boilers are used in the pulp and paper industry to generate energy from black liquor, a waste product from the pulping process. This enables modern pulp mills not only to fully cover their own energy needs but to sell excess energy to the public grid. Pulp mills will, thus, become increasingly independent of fossil fuels. Some mills have even started to build their own power stations to generate electricity from biomass for the grid. For these applications, ANDRITZ also has the appropriate technology – fluidized bed boilers – which are being supplied for a number of projects, some of which are on the Iberian Peninsula.

We are cooperating with the Finnish forestry company UPM to develop technology for forest residue gasification to produce biofuel. Forest residue is one of the most promising materials for sustainable biofuel production. If the pilot tests are successful, UPM plans to build an industrial plant for which ANDRITZ is providing design work. ●

‘Our research and development work has a very favorable effect on the investment, operating, and energy costs of customer plants.’

Karl Hornhofer, member of the Executive Board, PULP & PAPER business area (Capital Systems)

Which technologies does ANDRITZ PULP & PAPER offer in this area? What are the savings and efficiency increase potentials for the customer?

Karl Hornhofer: As a full-line supplier, ANDRITZ is able to offer greenfield pulp and paper mills that are optimized energy-wise right from the start. In the process design and layout stage, ANDRITZ will do mill-wide energy balance calculations, thus simultaneously optimizing the individual process steps. Our research and development work has a very favorable effect on the investment, operating, and energy costs of customer plants. In this context, I would like to mention three examples of technologies that massively boost energy efficiency, thus improving the CO_2 balance while at the same time leading to increased profitability for our customers.

Our HERB (High Energy Recover Boiler), in particular, operates at maximum pressure and temperature, thus achieving significantly higher thermodynamic efficiency, which helps to maximize power generation. This has been proven with the HERB at SCA’s Östrand mill, Sweden, which generates 500 gigawatt-hours of electricity per year – enough to make the mill virtually energy self-sufficient.

The only consumer of fossil energy in a pulp mill that remains is the rotary kiln for burnt lime production, which is usually gas- or oil-fired. To become independent of fossil fuels for the kiln as well, it would be possible to use wood gas produced by the gasification of waste wood and bark in a modern fluidized bed gasifier.

Quite new in our portfolio are fluidized bed boilers, which are used to produce electricity from biomass such as wood and waste wood. Five boilers are being delivered to customers in Spain, Portugal, and Estonia to produce ‘green’ electricity for the public grid. ●

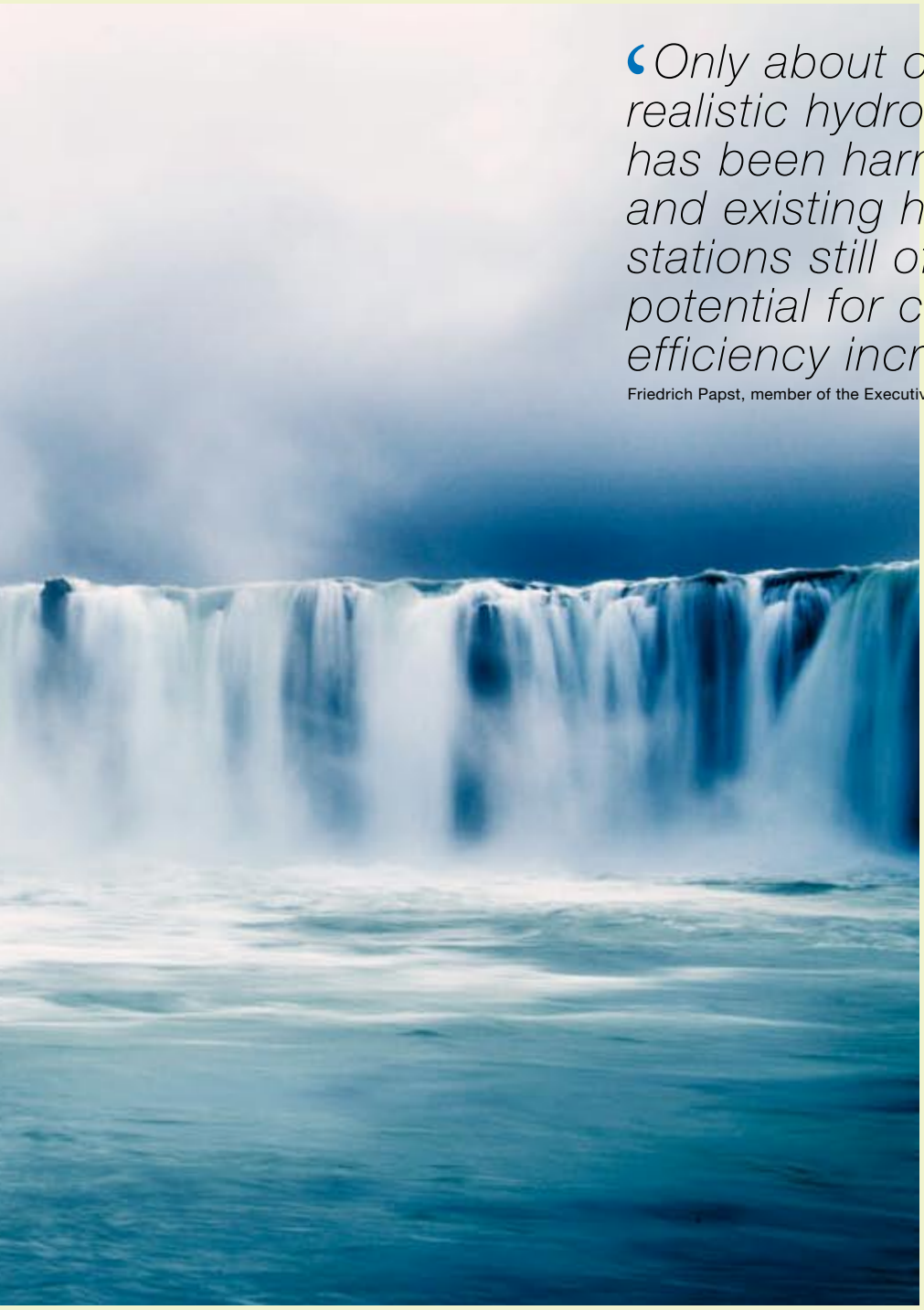
„We offer technologies and services that enable customers to significantly reduce energy consumption, to recover even more energy from the production process, and to increase the generation of electric power."

Humbert Köfler, member of the Executive Board, PULP & PAPER business area (Service & Units)

What role do energy topics play in services for the pulp and paper industry?

Humbert Köfler: Energy has become an essential cost factor for our pulp and paper producing customers. In times of high energy prices and in view of the call for sustainable production, energy consumption has become key. We are aware of the importance of energy efficiency and have for many years worked towards further reducing the energy consumption of our products and of existing customer plants. We offer technologies and services that enable customers to significantly reduce energy consumption, to recover even more energy from the production process, and to increase the generation of electric power.

Services, in particular, can achieve significant savings at comparatively low costs. Take the production of mechanical pulp, for instance. There are still production lines running without heat recovery. By installing a heat recovery system, we can recover one ton of steam for every one megawatt of applied energy. This translates into possible energy savings of up to 30%. In thermo-mechanical pulp production, we have helped customers achieve energy savings of up to 10% by advising them on the right refiner plate design for their application. •



‘Only about one-third of the realistic hydropower potential has been harnessed globally, and existing hydropower stations still offer considerable potential for capacity and efficiency increases.’

Friedrich Papst, member of the Executive Board, HYDRO and FEED & BIOFUEL business areas

How do you expect the hydropower segment to develop in view of the current economic crisis and increased environmental protection efforts? What technologies does ANDRITZ HYDRO offer?

Friedrich Papst: The importance of hydropower as the major renewable energy source will further increase due to the international efforts for climate protection. Currently, the share of renewable energy sources in global power generation is approximately 20%, almost 90% of which comes from hydropower. >

However, only about one-third of the realistic hydropower potential has been harnessed globally, and existing hydropower stations still offer considerable potential for capacity and efficiency increases.

Due to the economic crisis, many governments have initiated intensive infrastructural measures, which include – in many cases – investments in the construction of new, or the upgrade of existing, hydropower plants to support the economy. Thus, the increased use of renewable energy sources – with its positive effect on the environment – is coming as a favorable side-effect of the economic crisis. We are, therefore, optimistic that ANDRITZ HYDRO's business will develop favorably.

In hydropower, there is also considerable potential for output increases through the rehabilitation and upgrade of existing plants. For instance, the general overhaul that we carried out in a power station on the Danube in Romania boosted its output from 1,068 to nearly 1,200 megawatts. This corresponds to the construction of a new mid-size station. •

What developments can be expected in the METALS and the ENVIRONMENT & PROCESS business areas? How can ANDRITZ contribute to a sustainable development and minimized use of resources?

Franz Hofmann: Saving raw materials and reducing emissions play an essential role in the production and processing of steel strip. ANDRITZ METALS is one of the very few suppliers worldwide capable of providing all technologies and processes involved in the manufacture of stainless steel strip – rolling, annealing, pickling, finishing. This includes the recovery of acids, which has reached a very high level. With our zero-effluent mixed acid process, almost 100% of the acids from the pickling process are recovered and can be reused. All of our processing lines are equipped with technology that minimizes or even eliminates emissions. Our DeNOx systems for nitrogen oxide removal in stainless steel pickling lines and acid recovery plants deserve special mention here. The plants that we have supplied reduce emissions of nitrogen oxide – one of the so-called indirect greenhouse gases – by over 30,000 tons per year.

„The DeNOx systems we have supplied for stainless steel pickling lines and acid recovery plants reduce emissions of nitrogen oxide – one of the so-called indirect greenhouse gases – by over 30,000 tons per year."

Franz Hofmann, member of the Executive Board, METALS and ENVIRONMENT & PROCESS business areas

ANDRITZ ENVIRONMENT & PROCESS has been a successful supplier of sewage sludge drying plants for many years now. Our plants convert liquid sewage sludge into granulate, which can be used to replace fossil fuels in heat and power generation. For instance, in a German cement factory, sewage sludge from several European wastewater treatment plants is dried in an ANDRITZ belt dryer using waste heat from the clinker cooler. The granulate produced has a calorific value of 10 to 13 megajoules per kilogram and is used as fuel in the cement production. To meet the increasing demand for plants to dry wood chips and sawdust, we have adapted our belt drying system for biomass applications. ANDRITZ is supplying two belt drying systems for sawdust to the German Pfeifer-Heggenstaller group. Another belt dryer for sawdust is being supplied to Sweden; this major delivery also includes ANDRITZ pelleting machines. •

STRATEGY

The overall strategic goal of the ANDRITZ GROUP is to be a globally leading supplier of customized plants, process technologies, and services with full-line capabilities in all of its business areas. All strategic measures and decisions are focused on the continuation of profitable growth.

Average annual sales growth 1998-2008:

+17%

During the last decade, sales of the ANDRITZ GROUP have grown by an average of approximately 17% per year. This growth has been predominantly based on strong organic expansion supported by market growth and product innovation, as well as the successful acquisition of companies with complementary products, technologies, and services.

The Group's strategy is based on the following principles:

Focus on existing markets and customers

As a global leader in the supply of plants, process technologies, and services for hydropower stations, the pulp and paper industry, the metals and certain other industries (solid/liquid separation, feed, and biofuel), ANDRITZ serves industries with long-term growing markets. Within these markets, ANDRITZ will continue to focus on the fastest growing segments, e.g. energy generation from renewable resources (hydropower and biomass), production and finishing of stainless steel, or tissue paper production.

Complementary acquisitions

ANDRITZ will continue to seek opportunities to acquire companies and businesses that complement its existing range of products, process technologies, and services. The goal is to offer customers full-line capabilities with regard to products, process technologies, and services in all business areas. This allows ANDRITZ to design and supply all production plants, process technologies, and services required by its customers.

ANDRITZ has a very strong long-term commitment to the companies it acquires. Frequently, the businesses acquired have been owned by the same families for decades. As part of the global ANDRITZ GROUP, acquired companies can grow quickly by using the comprehensive global distribution network of ANDRITZ to market and sell their – often local – products on a global basis.

Research and development

ANDRITZ will continue to invest in the development of new plants, equipment, process technologies, and services, often in cooperation with customers, in order to consolidate or expand its competitive position. The main goal is to be a preferred technological supplier and leader in all business areas and to continuously expand this edge by launching new plants, equipment, process technologies, and services that are cost-efficient and reliable, as well as energy-efficient, and will increase productivity for the customers.

On average, approximately 3% (including expenses related to customer projects) of the Group's sales have been spent for R&D over the last few years. In addition, pilot plants are run and operated together with customers. In total, over 300 people work in the Group's research centers.

Global presence

In all of its business areas, the ANDRITZ GROUP serves leading international companies and industries with a global reach. Efficient support and fast service, together with local expertise, are, therefore, the main requirements for ANDRITZ to optimally satisfy the customers' needs. Thus, ANDRITZ has established a well-organized global organization with a presence in all major geographic market areas.

Since the Group has production sites in all major economic areas of the world, it can better balance potential currency fluctuations, thus avoiding or reducing major negative impacts on its competitiveness.

Extension of the service network

The service business is an integral part of the ANDRITZ product portfolio. It covers not only the sale of spare parts, but also engineered wear products whose technical features have a major influence on the quality of the customers' final product, as well as on the reliability and profitability of the plants and processes. The services portfolio also encompasses maintenance, from single services to full-service contracts. In a partnership with our customers' maintenance personnel, ANDRITZ efficiently maintains the machines, production lines, and complete plants.

It is ANDRITZ's goal to further expand its strong global reach by enhancing its service presence and sustaining contacts with its key customers worldwide. ANDRITZ has, therefore, established service centers in the growth areas of Chile, Brazil, China, and India, thus contributing to the further development of technological competence in these countries, while also benefiting from local expertise.

ANDRITZ will continue to seek to grow its service capabilities in order to support its customers in reaching their defined production, profitability, and sustainability goals, while also striving to better balance potential cyclical swings in its own capital business. Recognizing the importance of local presence in the service business, ANDRITZ will organically expand its geographic network and, when appropriate, acquire specialized service providers in local markets. ●

The financial year 2008:

SOLID DEVELOPMENT DESPITE DIFFICULT ENVIRONMENT

Despite the global financial and economic crisis, the ANDRITZ GROUP's business developed satisfactorily in 2008, with increases of relevant financial key figures compared to 2007.

FINANCIAL PERFORMANCE

Sales

Sales of the ANDRITZ GROUP during 2008 amounted to 3,609.8 MEUR, an increase of 10.0% compared to last year (2007: 3,282.5 MEUR). In particular, the HYDRO and METALS business areas achieved strong increases in sales compared to the previous year. Organic growth of the Group in 2008 amounted to approximately 2.2%.

Sales 2007: 3,282.5 MEUR
Sales 2008: 3,609.8 MEUR

+10%

Order intake and order backlog

The order intake of the ANDRITZ GROUP amounted to 3,705.3 MEUR in 2008, thus being only slightly below the record high of last year (2007: 3,749.5 MEUR). The HYDRO, ENVIRONMENT & PROCESS, and FEED & BIOFUEL business areas showed a very favorable development and achieved increases in order intake compared to the previous year. The order intake of the PULP & PAPER business area, on the other hand, declined over the course of the year; the global economic crisis caused a significant decrease in order intake in this business area, especially during the fourth quarter of 2008.

The order backlog of the ANDRITZ GROUP amounted to 4,277.4 MEUR as of December 31, 2008, up 11.3% from the previous year (December 31, 2007: 3,843.3 MEUR). While the order backlog of the PULP & PAPER business area dropped, the HYDRO and METALS business areas were able to considerably increase their order backlogs over the previous year.

Order backlog as of December 31, 2007: 3,843.3 MEUR
Order backlog as of December 31, 2008: 4,277.4 MEUR

+11%

Earnings

The ANDRITZ GROUP's EBITA in 2008 amounted to 233.2 MEUR. This is an increase of 11.2% compared to 2007 (209.7 MEUR), thus showing a slightly stronger growth than sales. Thus, the Group's EBITA margin increased to 6.5% in 2008 (2007: 6.4%). In the face of the global economic and financial crisis, provisions were made for restructuring and capacity adjustments. Without these measures, the EBITA margin for 2008 would have been 6.8%. In particular, the HYDRO and ENVIRONMENT & PROCESS business areas showed a favorable earnings and profitability development.

The net income after minority interests amounted to 139.7 MEUR (2007: 134.5 MEUR).

Net worth position and capital structure

Total assets as of December 31, 2008 increased to 3,086.3 MEUR (December 31, 2007: 2,509.4 MEUR). This is mainly due to the first-time inclusion of the assets and liabilities of the companies acquired in 2008 and the successful issue of a public 150 MEUR corporate bond in February 2008. This bond (tenor: seven years, fixed coupon: 5.25% p. a.) replaced the 100 MEUR corporate bond (tenor: six years, fixed coupon: 6.0% p. a.), which was redeemed at the beginning of June 2008.

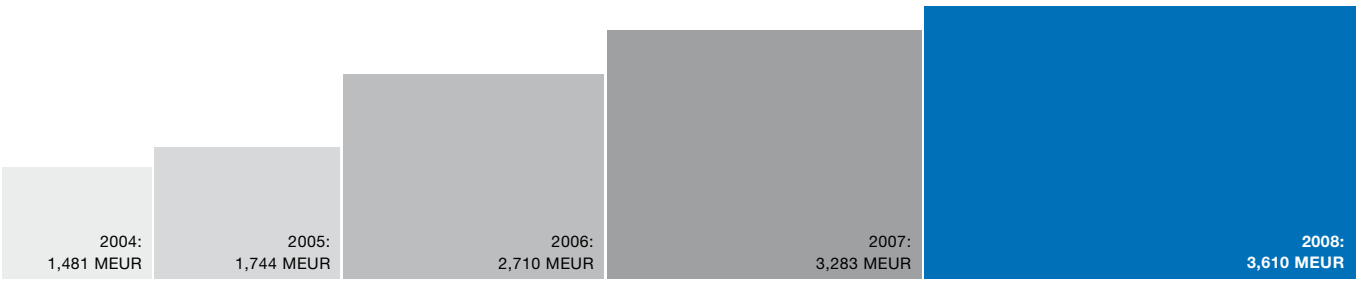
The equity ratio as of December 31, 2008 was 18.7% (December 31, 2007: 19.2%).

Liquid funds amounted to 821.8 MEUR as of December 31, 2008. The net liquidity increased to 408.9 MEUR and was, thus, significantly higher than at the end of last year (December 31, 2007: 246.5 MEUR).

Net liquidity 2007: 246.5 MEUR
Net liquidity 2008: 408.9 MEUR

+66%

Sales of the ANDRITZ GROUP 2004-2008



Capex and cash flow

The Group's investments in tangible and intangible assets amounted to 69.7 MEUR in 2008 (2007: 57.0 MEUR). Capital expenditure mainly focused on building and workshop modernizations.

Cash flow from operating activities amounted to 255.0 MEUR, considerably up from the previous year (2007: 33.1 MEUR).

IMPORTANT ACQUISITIONS

In March 2008, ANDRITZ acquired 100% of Maerz Industrieofenanlagen GmbH, Düsseldorf, Germany. ANDRITZ Maerz is one of the world's leading suppliers of industrial furnaces and heat treatment plants. The product and service portfolio comprises engineering, know-how, and process technology for heat treatment plants for the steel industry and for melting/refining plants, including planning, design, supply, erection, and commissioning.

In May and June 2008, ANDRITZ acquired hydropower technology and certain assets of GE Energy's hydropower business, as well as GE Energy's majority interest in the joint venture GE Hydro Inepar do Brasil. Through these acquisitions, ANDRITZ has further enhanced its market position as one of the leading suppliers of hydropower equipment and can serve its customers in Brazil, China, North America, and Scandinavia even better.

In October 2008, ANDRITZ purchased major assets of Andreas Kufferath GmbH & Co. KG, Düren, Germany, including the affiliates in Slovakia and China, from bankruptcy. The business segments acquired – forming fabrics and technical cloths, with a staff of 550 employees – will further expand ANDRITZ's service business with the pulp and paper industry. ●

KEY FINANCIAL FIGURES

MEUR	2008	2007*	+/-
Sales	3,609.8	3,282.5	+10.0%
EBITDA[1]	278.2	250.7	+11.0%
Earnings Before Interest and Taxes (EBIT)	218.5	200.9	+8.8%
Earnings Before Taxes (EBT)	210.5	200.8	+4.8%
Net income (before minorities)	147.0	137.8	+6.7%

* restated

KEY BALANCE SHEET RATIOS

	2008	2007*
Equity ratio (%)	18.7	19.2
Net liquidity[2] (MEUR)	408.9	246.5
Net debt[3] (MEUR)	-242.9	-94.8
Net working capital[4] (MEUR)	22.7	99.1
Capital employed[5] (MEUR)	406.8	405.6
Gearing[6] (%)	-42.1	-19.7

* restated

KEY CASH FLOW RATIOS

MEUR	2008	2007
Cash flow from operating activities	255.0	33.1
Capital expenditure[7]	69.7	57.0
Free cash flow[8]	187.5	-19.6
Free cash flow per share[9]	3.6	-0.4

1) EBITDA: Earnings before interest, taxes, depreciation, and amortization
2) Cash and cash equivalents plus Marketable securities plus Fair value of interest rate swaps minus Financial liabilities
3) Interest bearing liabilities including Provisions for severance payments, pensions, and jubilee payments minus Cash and cash equivalents and Marketable securities
4) Non-current receivables plus Current assets (excluding Cash and cash equivalents as well as Marketable securities) minus Other non-current liabilities and Current liabilities (excluding Financial liabilities and Provisions)
5) Net working capital plus Intangible assets and Property, plant, and equipment
6) Net debt/Total shareholders' equity
7) Additions to Intangible assets and Property, plant, and equipment
8) Cash flow from operating activities minus Capital expenditure plus payments from the sale of Intangible assets and Property, plant, and equipment
9) Free cash flow/Total number of ANDRITZ shares

All facts and figures for the business year 2008 are included in the annual financial report and the online version of the annual report 2008:
reports.andritz.com/2008/

Special technical and financial terms are marked ABC at their first occurrence in a chapter. They are explained in the glossary starting on page 104. If you have any queries, please do not hesitate to contact us at
welcome@andritz.com

ANDRITZ SHARE

SHARE PRICE DEVELOPMENT

In 2008, the international stock markets were negatively impacted by the financial market crisis and the general economic slowdown. As a result, the ANDRITZ share price declined by 54.4% during the period under review, but it again outperformed the ATX, which fell by 61.2% during the same period.

The highest closing price of the ANDRITZ share during the reporting period was 43.53 Euros (May 19, 2008). The lowest closing price was 15.96 Euros (November 25, 2008).

TRADING VOLUME

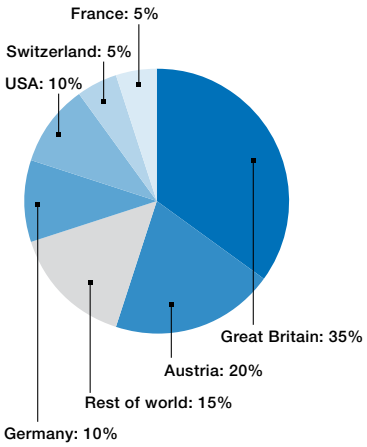
The average daily trading volume of ANDRITZ shares at the Vienna Stock Exchange in 2008 was 488,638 shares (2007: 452,909 shares). The highest trading volume was recorded on November 25, 2008 (4,330,504 shares), the lowest on June 13, 2008 (102,710 shares).

Note: Trading volume is double count, as published by the Vienna Stock Exchange.

SHAREHOLDER STRUCTURE

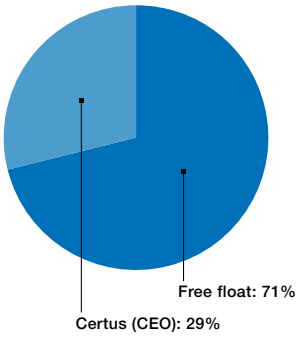
ANDRITZ has a very stable and well-balanced shareholder structure. Approximately 29% of the shares are owned by Certus Beteiligungs-GmbH, whose Managing Director is Wolfgang Leitner, President and CEO of ANDRITZ AG. With approximately 71% of free float, ANDRITZ has a widely diversified shareholder structure consisting of institutional investors and private retail shareholders. The majority of institutional investors come from Anglo-Saxon countries (particularly Great Britain and the USA), but also from Austria and Germany. Retail investors are mainly based in Austria and Germany.

Free float by region (as of December 31, 2008)



Source: ANDRITZ estimate

Shareholder structure (as of December 31, 2008)



INVESTOR RELATIONS

During 2008, 330 one-on-one meetings (2007: 230 such meetings) with institutional investors and financial analysts were held in Amsterdam, Brussels, Frankfurt, Copenhagen, London, Lugano, New York, Paris, Tokyo, Denver, San Francisco, Stockholm, Chicago, Toronto, Warsaw, Vienna, Zurich, Geneva, and Munich.

ANDRITZ presented itself at several investor conferences, such as JPMorgan's Capital Goods Conference in London, HSBC's Small-/Mid-Cap SRI Conference in Frankfurt, Cheuvreux' German Corporate Conference in Frankfurt, Deutsche Bank's German & Austrian Corporate Conference in London, Goldman Sachs' Small-/Mid-Cap Symposium in London, Cheuvreux' European & Middle East Large- & Mid-Cap Conference in New York, UniCredit's Investor Conference in Kitzbühel, and Erste Bank's Investor Conference in Stegersbach, Austria.

ANDRITZ also presented itself to retail investors, at the international GEWINN fair in Vienna and at the roadshow of Börse-Express/Aktienforum in Vienna. In addition, site visits were arranged for retail investment clubs.

KEY FIGURES FOR ANDRITZ SHARES

ISIN Code	AT0000730007
First listing day	June 25, 2001
Types of shares	no-par value shares, bearer shares
Total number of shares	52 million
Authorized capital	none
Free float	approximately 71%
Stock exchange	Vienna (Prime Market)
Ticker symbols	Reuters: ANDR.VI; Bloomberg: ANDR, AV
Stock exchange indices	ATX, ATXPrime, WBI

At this year's ANDRITZ Capital Market Days, held in Southern Styria on October 21, 2008, the members of the Executive Board presented their business areas, including products, long-term strategies, and goals. They also spoke about the outlook and expectations for the coming years. The participants also visited the production site of ANDRITZ HYDRO in Weiz, Austria.

ANDRITZ receives further Investor Relations awards

Since the Initial Public Offering in 2001, ANDRITZ has received several awards for its Investor Relations activities.

In May 2008, ANDRITZ received the Viennese Stock Exchange Award 2008. ANDRITZ won the main category, the ATX prize, which is awarded to companies for the quality of their work in the Austrian capital market. The assessment criteria included: financial reports (e.g. depth of information of annual and quarterly reports, disclosure in accordance with the Corporate Governance Code [ABC]), Investor Relations activities (e.g. completeness of the flow of information, availability, readiness to do roadshows), strategy and business management (clarity and detailedness of strategy, accuracy of forecasts, information about potential risks), and market-related factors (price performance and liquidity of the shares in 2007).

In October 2008, ANDRITZ again received an award for its Investor Relations activities. At the international GEWINN fair held in Vienna, ANDRITZ was ranked third place in the most important category, which assesses the companies' Investor Relations activities, transparency, financial reporting, etc.

Research coverage

In December 2008, HSBC started the coverage of ANDRITZ shares. Thus, as of the end of the reporting period, twelve national and international banks and investment companies published reports on ANDRITZ on a regular basis. They are (in alphabetical order): Berenberg Bank, Crédit Agricole Cheuvreux, Deutsche Bank, Erste Bank, Goldman Sachs, HSBC, JPMorgan, Kaupthing Sofi, Sal. Oppenheim, Raiffeisen Centrobank, UBS, and Unicredit. ●

For further information please contact:

ANDRITZ Investor Relations
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Phone: +43.316.6902-2722
Fax: +43.316.6902-465
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Corporate Governance

ANDRITZ decided to comply with the new Austrian Code of Corporate Governance following the changes made by the Business Law Reform Act (Unternehmensrechts-Änderungsgesetz), although the new Code only needs to be applied to business years after December 31, 2008. The Corporate Governance report and other information on the subject are included in the annual financial report 2008 and at:
www.andritz.com/corporate-governance

Financial calendar (preliminary)

- March 6, 2009: Results for the financial year 2008
- March 27, 2009: Annual General Meeting [ABC]
- March 31, 2009: Ex-dividend [ABC]
- April 3, 2009: Dividend [ABC] payment
- May 7, 2009: Results for the first quarter of 2009
- August 7, 2009: Results for the first half of 2009
- November 6, 2009: Results for the first three quarters of 2009

The financial calendar with updates as well as information about the ANDRITZ share are available on the ANDRITZ website:
www.andritz.com/share

STOCK EXCHANGE FIGURES FOR ANDRITZ SHARES

	2008	2007*	2006*	2005	2004
Earnings per share (EUR)	2.73	2.61	2.30	1.53	1.03
Dividend per share (EUR)	1.10[1)]	1.00	0.75	0.50	0.35
Payout ratio (%)	40.3	38.3	32.6	32.6	34.3
Equity attributable to shareholders per share (EUR)	10.59	9.07	7.86	6.25	5.18
Highest closing price (EUR)	43.53	54.00	41.08	23.21	14.13
Lowest closing price (EUR)	15.96	35.80	23.13	14.15	8.75
Closing price at year-end (EUR)	18.16	41.45	41.08	23.21	14.03
Market capitalization as of December 31 (MEUR)	944.3	2,155.6	2,135.9	1,207.1	729.3
Performance	-54.4%	+2.6%	+74.9%	+62.8%	+52.5%
ATX weighting as of December 31 (%)	2.9209	2.3950	2.4080	1.8200	1.7656
Average daily number of shares traded	488,638	452,909	355,580	335,972	282,976

* restated
[1)] Proposal to the Annual General Meeting
Note: On May 3, 2007, the ANDRITZ share was split in a ratio of 1:4. Historical share price data were adjusted accordingly. Source: Vienna Stock Exchange

Company boards:

EXECUTIVE BOARD

PRESIDENT AND CEO

Wolfgang Leitner

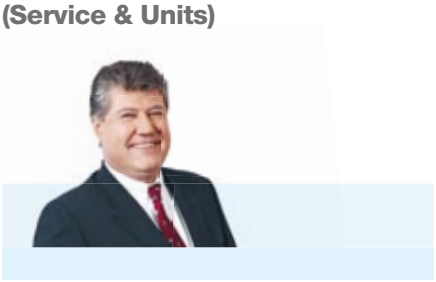
Joined ANDRITZ in 1987 as CFO and has served as President and CEO since 1994. His responsibilities encompass central Group functions such as Human Resources Management, Controlling and Finance, Treasury, Corporate Communications, Investor Relations, Internal Auditing, Information Technology, as well as Organization and Business Process Development. **Professional career:** member of the Managing Board of AGIV AG ▪ founder and president of GENERICON Pharma GmbH ▪ Management consultant at McKinsey & Company ▪ Research chemist at Vianova/HOECHST.

PULP & PAPER (Capital Systems)

Karl Hornhofer

Joined ANDRITZ in 1996 and held managerial positions in the PULP & PAPER business area. He was appointed as member of the Executive Board as of January 2007 and is responsible for the Capital Systems segment of the PULP & PAPER business area. **Professional career:** Head of the Pulp and Paper Machines division at ANDRITZ AG ▪ Head of the Pulp Drying Systems division at ANDRITZ AG ▪ Design engineer at Austrian Energy.

PULP & PAPER (Service & Units)



Humbert Köfler

Joined ANDRITZ in 1987 and held managerial positions in the PULP & PAPER business area. He was appointed as member of the Executive Board as of April 2007 and is responsible for the Service & Units segment of the PULP & PAPER business area. **Professional career:** Head of the Paper Mill Services division at ANDRITZ AG ▪ Head of the Mechanical Pulping Systems division at ANDRITZ AG ▪ Regional sales manager at ANDRITZ Sprout-Bauer GmbH ▪ Export marketing manager at Biochemie GmbH.

HYDRO, FEED & BIOFUEL

Friedrich Papst

Joined ANDRITZ in 1979 and held leading positions in manufacturing and logistics. He has been a member of the Executive Board since 1998 and is responsible for the HYDRO and the FEED & BIOFUEL business areas, as well as for Manufacturing, Procurement, and Quality Management. **Professional career:** Vice President of ANDRITZ Sprout-Bauer Inc. ▪ Director of Manufacturing at ANDRITZ AG ▪ Director of Production Planning at ANDRITZ AG.

METALS, ENVIRONMENT & PROCESS

Franz Hofmann

Joined ANDRITZ in 1999 as member of the Executive Board. He is responsible for the METALS and the ENVIRONMENT & PROCESS business areas, as well as the ANDRITZ Automation network. **Professional career:** Divisional Director at SMS Schloemann-Siemag AG ▪ Management consultant at A.T. Kearney ▪ Researcher at Vereinigte Deutsche Metallwerke.

SUPERVISORY BOARD

Appointed members

Kurt Stiassny
(Chairman of the Supervisory Board)
Chief Executive Officer of Buy-Out Central Europe II Beteiligungs-Invest AG; chairman of the Supervisory Board of ANDRITZ AG since 1999 and elected until the Annual General Meeting of ANDRITZ AG in 2010. **Other Supervisory Board functions:** member of the Supervisory Board of Palfinger AG; chairman of the Supervisory Board of Tiroler Röhren- und Metallwerke AG, and chairman of the Supervisory Board of Chemson Polymer-Additive AG.

Hellwig Torggler
(Deputy chairman of the Supervisory Board)
Attorney-at-law; deputy chairman of the Supervisory Board of ANDRITZ AG since 2004, member of the Supervisory Board of ANDRITZ AG since 2000 and elected until the Annual General Meeting of ANDRITZ AG in 2009. **Other Supervisory Board functions:** member of the Supervisory Boards of Mondi AG, Mondi Services AG, FRAPAG Beteiligungsholding AG, A.S.A Abfall Service AG, and FIMBAG Finanzmarktbeteiligung Aktiengesellschaft des Bundes; deputy chairman of the Supervisory Board of Theater in der Josefstadt Betriebsges.m.b.H.

Peter Mitterbauer
Chairman of the Managing Board of MIBA AG; member of the Supervisory Board of ANDRITZ AG since 2003 and elected until the Annual General Meeting of ANDRITZ AG in 2010. **Other Supervisory Board functions:** chairman of the Supervisory Boards of ÖIAG (Österreichische Industrieholding AG) and FFG (Österreichische Forschungsförderungsgesellschaft m.b.H.); member of the Supervisory Boards of Oberbank AG and Rheinmetall AG.

Christian Nowotny
Full-time professor at the University of Economics in Vienna; member of the Supervisory Board of ANDRITZ AG since 1999 and elected until the Annual General Meeting of ANDRITZ AG in 2013. **Other Supervisory Board functions:** member of the Supervisory Boards of CA Immo AG, Allianz KAG, and Generali Drei Banken Holding AG.

Klaus Ritter
President & CEO of AVI Alpenländische Veredelungs Industrie Ges.m.b.H, EVG Entwicklungs- und Verwertungs-Gesellschaft m.b.H., and Stahl- und Walzwerk Marienhütte Ges. m.b.H.; member of the Supervisory Board of ANDRITZ AG since 2004 and elected until the Annual General Meeting of ANDRITZ AG in 2012. **Other Supervisory Board functions:** none.

Fritz Oberlerchner
Deputy chairman of the Managing Board of STRABAG SE; member of the Supervisory Board of ANDRITZ AG since 2006 and elected until the Annual General Meeting of ANDRITZ AG in 2011. **Other Supervisory Board functions:** member of the Supervisory Boards of STRABAG AG (Cologne), STRABAG AG (Spittal/Drau, Austria), and STRABAG Zrt.; chairman of the Supervisory Boards of STRABAG A.S. (Prague) and STRABAG Sp.z.o.o. (Warsaw).

Delegated members

Andreas Martiner
Member of the Supervisory Board of ANDRITZ AG since 2001.

Martha Unger
Member of the Supervisory Board of ANDRITZ AG since 2007.

Brigitta Wasserbauer
Member of the Supervisory Board of ANDRITZ AG since 2000.

PRODUCT AND SERVICE PORTFOLIO

ELECTROMECHANICAL SYSTEMS – IN PARTICULAR, TURBINES, HYDROPOWER GENERATORS, AND TURBO GENERATORS – AND SERVICES FOR NEW HYDROPOWER STATIONS AS WELL AS FOR MODERNIZATIONS OF EXISTING HYDROPOWER STATIONS; PUMPS FOR THE PULP AND PAPER INDUSTRY AND FOR OTHER APPLICATIONS (DRINKING WATER SUPPLY, ETC.).

ANDRITZ Hydro

The Hydro Power business area was renamed ANDRITZ HYDRO as of January 1, 2009.

The business area managers (left to right):

Michael Komböck ■ Vienna ■ Austria
Compact Hydro, Service & Rehab

Harald Heber ■ Weiz ■ Austria
Turbo Generator, Finance, Supply Chain

Manfred Wörgötter ■ Graz ■ Austria
Pumps

Wolfgang Semper ■ Linz ■ Austria
Large Hydro

18,000,000,000,000 kilowatt-hours

Due to the rise in demand, global power production has tripled since 1970 to an annual level of about 18,000 terawatt-hours (18,000,000,000,000 kilowatt-hours). (Source: IHA/IEA)

About one-fifth of global power production comes from environmentally and climate-friendly renewable energy sources, approximately 90% of which from hydropower. This share of one year would be sufficient to meet Austria's total electricity demand for a period of about 50 years (Austria has a population of approximately 8.3 million).

Electricity production from hydropower has risen an average 3% annually in OECD countries and 5% in other countries during the past few years. The strong economic growth of countries such as China, India, and Brazil, as well as rising crude oil prices in the long term and the scarcity of many fossil energy sources, suggest that electricity production from hydropower will show even stronger growth in the future. ANDRITZ HYDRO is among the world market leaders in this growth market. >

After a career lasting 38 years, Franz Strohmer, who was the speaker of many years for the ANDRITZ HYDRO Executive Board until the end of June 2008, was appointed member of the Supervisory Board of the company. Franz Strohmer made a substantial contribution to this business area's success and will continue to support ANDRITZ HYDRO in the future as a member of the Supervisory Board and as consultant.

◀ The skyline of Vancouver, Canada.

PROFILE

ANDRITZ HYDRO is a leading global supplier of turnkey electromechanical systems and services for hydropower plants. It offers new hydroelectric power stations, as well as services, rehabilitation, and upgrading of existing plants.

The business area also focuses on the development, design, and manufacture of large pumps for selected applications, such as water transport, cooling water pumps for thermal power stations, and centrifugal pumps for the pulp and paper industry.

The business area also designs and manufactures air-cooled turbo generators used in gas and steam power plants. >

Different methods are used by ANDRITZ HYDRO to manufacture runners for Pelton turbines ABC. The conventional method is based on milling the runner from a fully forged disc. The MicroGuss™ method allows faster and more precise production. Using forged steel for the component that is subjected to the greatest load – the runner disc – also significantly extends the runner's useful life. More than 300 hydropower stations worldwide are equipped with products manufactured to the MicroGuss™ method. ▶

MARKET DEVELOPMENT

Project activity in the hydropower sector during 2008 remained very high worldwide.

Investment activity in Europe and North America focused on modernization, rehabilitation, and capacity increases for existing plants. Due to the relatively high average age of the installed base in these regions, there is large demand for the refurbishment of installed equipment. Project activity in the pumped storage sector also continued on a high level due to the necessity of securing electrical grid stability.

In South America and Asia, many new hydropower projects are in the development and realization phases. The strong economic growth in these regions has resulted in heightened electricity demand, with renewable energy sources playing an increasingly important part in meeting this demand.

The market for small hydropower stations also showed a continued positive development in 2008.

The demand for turbo generators continued to increase on a global scale; this increase was particularly pronounced in the Middle East, Russia, and Asia.

Investment activity for irrigation and drinking water pumps in Asia continued to be strong, particularly in China and India. Project activity was favorable both for rehabilitations and new plants, especially with regard to thermal power stations in Germany, for which the business area supplies cooling water pumps. The market for centrifugal pumps remained very attractive in China and Southeast Asia. With its 60:40 joint venture ANDRITZ Kenflo in Foshan, China, ANDRITZ HYDRO has been the clear market leader for this product in this region for several years.

▲ Two impellers manufactured for a spiral casing pump used in the irrigation of farmland in India.

BUSINESS DEVELOPMENT

The business area continued its favorable development of the past few years in 2008 and was able to increase sales by 32.5% to 1,205.9 MEUR (2007: 910.0 MEUR). EBITA ABC, at 87.9 MEUR (2007: 52.2 MEUR), showed even stronger growth than sales. As a result, profitability (EBITA margin ABC) increased to 7.3% (2007: 5.7%).

Order intake also developed very favorably during the reporting period, reaching the new record high of 1,543.4 MEUR (+26.9% vs. 2007: 1,216.1 MEUR).

Order intake 2007: 1,216.1 MEUR
Order intake 2008: 1,543.4 MEUR

+27%

The 40% stake in Waplans Mekaniska Verkstads AB, Sweden was increased to 100%. Waplans Mekaniska Verkstads AB (now ANDRITZ Waplans) specializes in repair and overhauling work for hydropower plants and pulp and papermaking equipment.

ANDRITZ HYDRO established a new site in Melbourne, Australia to be able to better serve customers in New Zealand and Australia.

ANDRITZ HYDRO is performing modernization orders for Natsionalna Elektricheska Kompania EAD (NEK), the national Bulgarian energy company, on three hydropower stations (Kardjali, Studen Kladenets, and Ivailovgrad in the Dolna Arda cascade). Three units have been handed over to the customer. Cooperation with NEK dates back to 1910; ANDRITZ HYDRO has supplied NEK with more than 45 hydro turbines and replacement runners so far.

At the end of February 2008, the first out of a total of four Francis runners to be renewed in the Infiernillo hydropower station, Mexico was officially taken over by the customer. ANDRITZ HYDRO had received the order for modernizing and overhauling this hydropower station in Morelia from Comisión Federal de Electricidad (CFE), the state-owned Mexican utility company. With this and other hydropower projects, Mexico – one of the world's largest oil producers – has been favoring renewable energy sources.

ANDRITZ HYDRO received the final acceptance certificate for one bulb turbine under a contract to modernize eight bulb turbines, each with a capacity of 33 MW, in the Portile de Fier II power station on the Danube, Romania. Another unit was handed over to the customer for commercial operation three weeks ahead of schedule. ANDRITZ HYDRO has also been entrusted with modernization work on the entire electromechanical equipment for the same power station. The contracts for the modernization of Portile de Fier II and Gogosu hydropower stations were concluded in 2001 and 2002 with Hidroelectrica S.A., Romania's largest energy supplier.

At Aschach hydropower station on the Danube, which is operated by Verbund-Austrian Hydro Power (AHP), rehabilitation work is progressing. Two of four units have been rehabilitated by ANDRITZ HYDRO and are back on the grid; rehabilitation of the third unit is underway.

For the 540 MW underground pumped storage power station Kopswerk II of Vorarlberger Illwerke AG, Austria, ANDRITZ HYDRO supplied three six-jet Pelton turbines with turbine governors, three synchronous generators, penstocks, and steel linings. The plant is designed as a highly flexible station to compensate heavy demand variations of the grid. Within seconds, high electric power can be supplied to or taken from the electrical grid. It is Vorarlberger Illwerke AG's largest and most modern hydropower station. >

Special technical and financial terms are marked ABC at their first occurrence in a chapter. They are explained in the glossary starting on page 104. If you have any queries, please do not hesitate to contact us at welcome@andritz.com

KEY FIGURES (MEUR)

	2008	2007*	2006*	2005	2004
Order intake	1,543.4	1,216.1	585.4	71.5	58.7
Order backlog as of December 31	2,590.1	1,954.9	1,659.5	60.5	40.7
Sales	1,205.9	910.0	467.9	52.7	43.8
EBITDA	105.7	66.3	35.7	4.8	5.5
EBITDA margin	8.8%	7.3%	7.6%	9.1%	12.6%
EBITA	87.9	52.2	27.6	2.6	3.8
EBITA margin	7.3%	5.7%	5.9%	4.9%	8.7%
Capital investments	35.0	25.4	13.5	3.4	2.4
Employees as of December 31	5,606	4,390	3,678	474	365

* restated

Two units of the Oymapinar power station, Turkey were handed back to the customer after rehabilitation. The power station is equipped with four units and supplies 70% of the power produced to the ETI Alüminyum A.S. aluminum smelter in Seydisehir. The Turkish transmission grid is currently being prepared for interconnection with the European transmission grid (UCTE). For this purpose, several Turkish power stations, including Oymapinar, have to be equipped with state-of-the-art automation systems, turbine governors have to be adapted, and Power System Stabilizers (PSS) have to be installed.

The first two of four units to be rehabilitated in the course of the general overhaul of Rouna 2 underground hydropower station in Papua New Guinea were handed over to the customer, PNG Power Limited. The unit power will be increased by approximately 30%. In addition to the technical improvements to the power station, a comprehensive social and medical program for the local communities has been jointly developed and is being systematically implemented.

Ea Krong Rou power station, Vietnam, supplied by ANDRITZ HYDRO's Indian location, was successfully taken into operation in early 2008.

In Glendoe underground power station (nominal output 110 MW), Scotland, the turbine generator unit was successfully synchronized to the national power grid. Glendoe, owned by the Scottish utility company, SSE, is the largest new plant installed in Scotland in the last fifty years. ANDRITZ HYDRO's scope of supply includes the supply and installation of the hydro turbine and turbine governor, the spherical valve, penstock steel lining, and the generator with protection, excitation and automation, as well as the auxiliary systems, substation, and transformers.

Australian Pacific Hydro started the construction of the first out of four planned power stations in Chile that will be linked to SIC, the Chilean Central Interconnected System. Chacayes station will supply a total of 110 MW of electric energy as of 2011. ANDRITZ HYDRO's scope of supply includes the two 55 MW Francis turbines ABC, the complete electromechanical equipment, and automation.

The major turbo generator overhaul for Kelenföld thermal power plant, owned by Hungarian Budapesti Erömü ZRt., was successfully completed by ANDRITZ HYDRO. The outage period was only 45 days.

The Turbo Generator division achieved a new record in supplies and order intake in 2008. Order backlog, which was already high at the beginning of 2008, was further increased in the course of the year. Several orders for four-pole generators (delivery by the Bhopal, India site) were received. The division was able to significantly enhance its competitive position by systematically implementing optimization programs and successfully launching new, cost-optimized generators.

The supply and installation of eight large pumps for Hui Nang Zhuang pumping station, China were successfully completed in 2008. The pumps are the largest of their type worldwide. Two further large orders for pumping stations in India are in the realization phase.

▲ Complete electromechanical equipment for large hydropower stations: Verbund-Austrian Hydro Power AG's Freudenau hydropower plant on the Danube, Austria.

MAJOR ORDERS

- ANDRITZ HYDRO received an order from Madeira Energia S.A., Brazil for the supply of equipment, as well as erection and commissioning supervision for the Santo Antônio hydropower plant to be built in Brazil. The Santo Antônio hydropower plant is part of the Madeira River Complex and will substantially contribute to meeting Brazil's strongly growing electricity demand. The plant will be equipped with 44 generating units including the most powerful bulb turbines in the world (72 MW each). ANDRITZ HYDRO's Brazilian location and the joint venture ANDRITZ HYDRO Inepar do Brasil (formerly GE Hydro Inepar do Brasil) will supply 12 turbines and 12 generators as well as 24 voltage regulating systems for the generators. Bulb units are particularly suitable for hydropower projects with low heads and large water flows, such as in the Madeira River.

- Xekaman 3 Power Company, Laos entrusted ANDRITZ HYDRO with the supply of the complete electromechanical equipment for Xekaman 3 hydropower station. The supplies and services include two complete Francis turbine generator systems, the governors, controls, protection system, shut-off devices, and auxiliary equipment, as well as the entire substation. With an output of 254 MW and a head of 515 m, the power station, which is located near the Vietnamese border, will produce over 1,000 GWh of power per year. This is sufficient to supply approximately one million people in Laos and Vietnam with electric energy. Xekaman 3 will essentially contribute to grid stability in both countries, thus promoting the economic and industrial development of the two states. With the Xekaman 3 order, ANDRITZ HYDRO has again underlined its strong position in this promising hydropower market.

- ANDRITZ HYDRO's Canadian location (formerly GE Hydro) received an order from the private Canadian energy supplier Brookfield Renewable Power Inc. for supplies and refurbishment work at the Aubrey Falls hydropower plant in Ontario, Canada. The order comprises the supply and installation of new stator windings as well as the refurbishment of the field windings and poles of two 87 MVA generators at Aubrey Falls. The decisive factors for awarding the contract to ANDRITZ HYDRO were the special winding bar design of the shop in Peterborough and the advanced manufacturing technology in the Lachine plant, both in Canada, as well as the short delivery time.

- SN Aboitiz Power Magat Inc., Philippines entrusted ANDRITZ HYDRO with the complete rehabilitation of one Francis unit and the electromechanical equipment at Magat hydropower plant, and an engineering contract for Ambuklao power station. >

Rehabilitation for small hydropower plants: the Kilmorack hydropower plant of SSE (Scottish and Southern Energy), Scotland. ▼

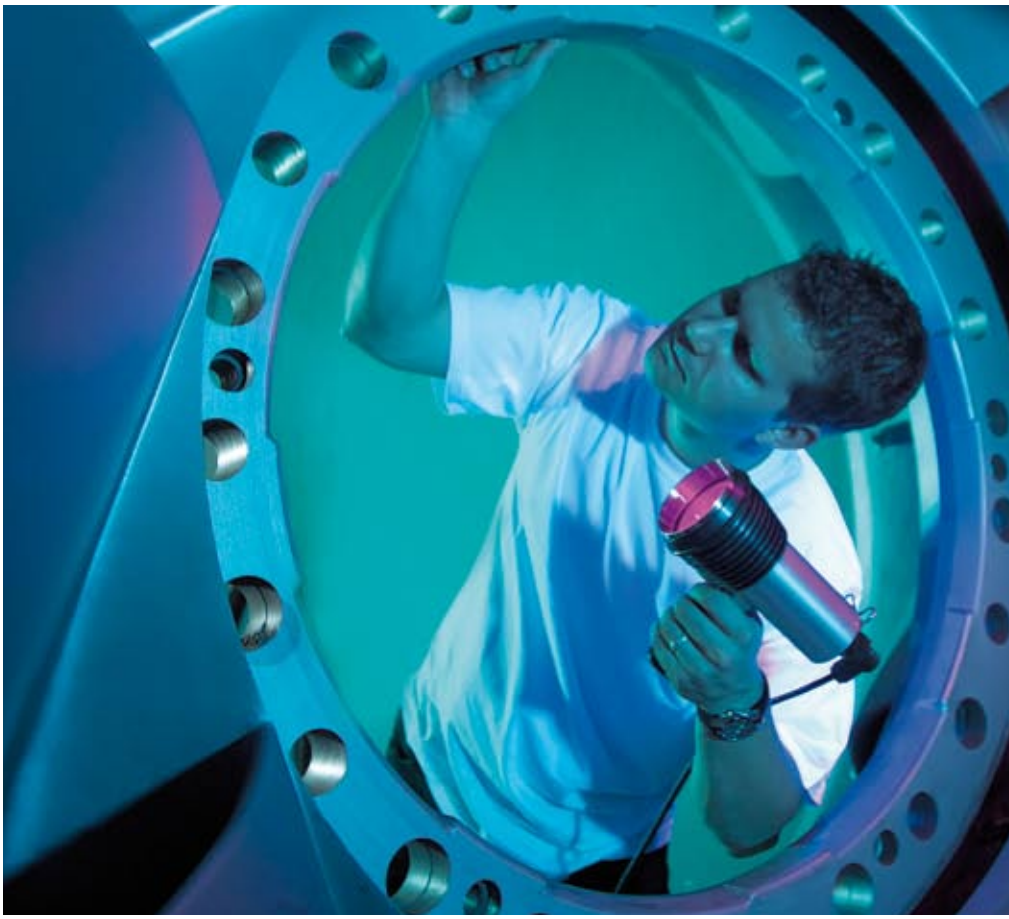
- Elektroprivreda Serbia entrusted the business area with the general refurbishment of Bajina Basta hydropower station in Serbia. The station generates over 10% of Serbia's entire electricity production. The complete electromechanical equipment will be rehabilitated and the output of each of the four units will be increased, which will result in a 13% higher output for the entire hydropower station. In addition, the refurbishment will secure reliable operation for another 30 years.

- From EDP Gestão da Produção de Energia S.A., Portugal, ANDRITZ HYDRO received a contract for the extension of the Bemposta hydropower station located in the frontier area between Portugal and Spain. The Francis turbine and the generator to be supplied will be among the largest in Europe in terms of diameter and weight. This large order again shows the good position of ANDRITZ HYDRO in the strongly growing hydropower market in southwestern Europe. In late 2007, ANDRITZ HYDRO already received two orders for the Cabril and Bouca power stations of the Spanish energy company EDP.

- Endesa Generación S.A., Spain placed an order with ANDRITZ HYDRO for the refurbishment of a Francis turbine in Burguillo power station, Spain.

- In Vietnam, ANDRITZ HYDRO received a contract from the Dak Psi Investment and Development Company for the supply of a full electromechanical solution (water to wire) for the Dak Psi 4 power station.

- ENDESA Italia placed an order for the modernization of the Galleto hydropower station. Two new vertical Francis turbines with generators will be installed in the Monte Sant'Angelo section of the station. The supply also comprises new hydraulic and digital turbine governors, static excitation systems, the complete plant automation as well as a SCADA ABC system.



This is the fourth major order that ANDRITZ HYDRO has been awarded by ENDESA Italia. Orders received from this customer in 2007 included refurbishments at the Galleto, Baschi, and Alviano power stations. Due to the new energy and emission certificate trading on the stock market, modernization of hydropower plants has become economically attractive in Italy.

- Verbund-Austrian Hydro Power (AHP) ordered a compact bulb turbine ABC unit for the Gstatterboden weir power station, Austria. Also for AHP, ANDRITZ HYDRO will carry out rehabilitation work on the bulb turbines and synchronous generators at Melk power station on the Danube. This rehabilitation will increase the output to 26.5 MVA.

- Kraftwerke Oberhasli AG, Switzerland placed an order for the modernization of the automation and control systems of four units as well as the substation in Handeck II hydropower station.

- Vattenfall AB Vattenkraft, Sweden entrusted ANDRITZ HYDRO with the rehabilitation and output increase of two Francis turbines in the Harsprånget (117 MW) and Kilforsen (100 MW) power stations. The contract comprises the hydraulic design and manufacture of two Francis runners and is carried out by ANDRITZ Waplans in Sweden. The nominal output of the machines will be increased by 20%.

▲ About half of the equipment installed in hydropower stations worldwide is more than 30 years old. ANDRITZ HYDRO is one of the global market leaders in the modernization and refurbishment of existing hydropower plants.

- From Alcan Aluminium UK, an affiliate of Rio Tinto Alcan, ANDRITZ HYDRO received a modernization order for Lochaber power station in Scotland. The order comprises the supply, installation, and commissioning of five new turbine/generator units. This modernization will ensure the increased use of renewable energy from hydropower for aluminum production in Lochaber. The scope of supply includes the electromechanical equipment with governors, main inlet valves, as well as unit automation and protection. The station will remain in operation during the modernization.

- Enerjisa, a joint venture of Austrian Elektrizitätswirtschafts-AG (Verbund) and H.Ö. Sabanci Holding A.S., Turkey placed an order with a consortium under the leadership of ANDRITZ HYDRO for the supply of the entire electromechanical equipment, including services, for the power stations in Kahramanmaras (consisting of Kandil, Sarigüzel, and Hacınınoğlu hydropower stations, total capacity: 452 MW) in the Turkish Kandil cascade. Enerjisa currently plans a total of nine hydropower stations with a total capacity of approximately 1,000 MW. The hydropower stations of the Kandil cascade are scheduled to go online in 2010. The total installed capacity of hydropower stations currently in operation in Turkey is approximately 13,500 MW; further hydropower stations with about 4,500 MW are under construction. Almost two-thirds of these hydropower stations were equipped by ANDRITZ HYDRO – a clear indication of the excellent position that ANDRITZ HYDRO holds in the rapidly growing Turkish hydropower market.

- GES Elektrik, Turkey entrusted ANDRITZ HYDRO with the modernization of the control and protection units in the Oskan and Berkman power stations.

- Private energy company First Gen Hydro Power Corp ordered the entire modernization of Pantabangan hydropower station, Nueva Ecija, Philippines. The station's output will be increased by 18 MW and its life span will be extended by another 25 years. The order comprises the rehabilitation of two 52 MW units, the electrical equipment, the automation equipment, and the controls, as well as supply of the stator winding.

- E.ON Sverige AB placed an order for the rehabilitation of a Kaplan turbine ABC in Solleftra, Sweden.

- A modernization order for the control and protection system for two units including substation was placed by Zurich Municipal Electric Utility, Switzerland, for its Tiefencastel East power station.

- From JSC Ruselprom, ANDRITZ HYDRO received an order for the rehabilitation of a turbine runner in Tsimlyanskaya hydropower station, Russia.

- AES SONEL, Cameroon, entrusted ANDRITZ HYDRO with the modernization of Edéa I and Songloulou hydropower stations. Turbines 1-3 for Edéa I had been originally delivered by ANDRITZ HYDRO between 1949 and 1955. The modernization order comprises the replacement of the three turbine/generator units, the block transformer, the unit controls, the SCADA system, and various ancillary systems. Work is scheduled to be concluded in 2011. At Songloulou hydropower station, the business area carried out extensive refurbishment work during the past seven years. The present order relates to the rehabilitation of four penstocks. In Cameroon, hydropower accounts for nearly 90% of the entire electricity production. Songloulou (384 MW) and Edéa (263 MW) are Cameroon's largest hydropower stations.

- Despite the difficult economic environment, the order intake for pumps continued to develop favorably during the 2008 business year. Several large orders for the supply of centrifugal pumps for new plants in Germany and Eastern Europe have essentially contributed to this success, bringing the total to approximately 5,600 orders for centrifugal pumps during the reporting period. Also in Germany, orders for cooling water pumps for thermal power stations were received. >

RESEARCH AND DEVELOPMENT

In the field of hydraulic R&D, both contract-oriented developments and basic innovations were carried out successfully.

One focus during the reporting period was the integration of the research and development know-how of the assets acquired from GE Hydro and ANDRITZ HYDRO in the areas of hydraulic and mechanical development as well as dynamic simulation. Former GE Hydro has extensive experience in the area of large Francis turbines, and ANDRITZ HYDRO contributes the results of value analyses for this product.

Hydraulic developments focused on low-pressure Francis turbines. Using Computational Fluid Dynamics (CFD) methods and model tests, a new hydraulic design was developed for the plant in Bemposta (head: 63.3 m, output: 193 MW), Portugal.

In the area of high-pressure Francis turbines, a new hydraulic design was developed for the Karcham Wangtoo project in India (head: 300 m, output: 255 MW). This new design enables complete coating of the blade channels as protection against sand abrasion. Due to the high sand content of the water, uncoated stainless steel runners would be abraded very rapidly. The new coating significantly extends the runner's useful life.

▲ Part of a turbo generator which is used in gas and steam power stations.

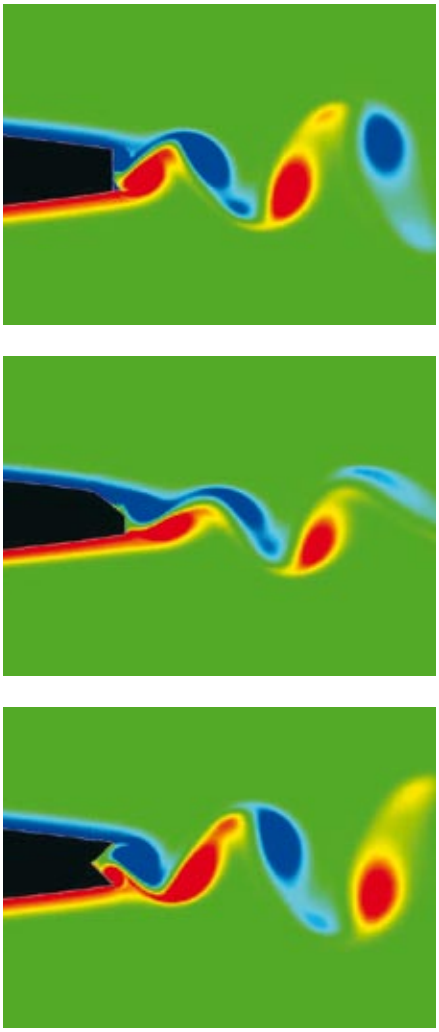
For pump turbines ABC, development work was successfully continued in the area of high-pressure pumps. Developments included a new runner profile for the rehabilitation of a 300 MW pump turbine in Europe. Flow simulation and subsequent model tests were used to optimize the customized characteristics of the runner.

The new Kaplan turbine hydraulics developed for the Box Canyon, USA rehabilitation project have resulted in a capacity increase of 30%. The very high efficiencies and excellent cavitation behavior were proved in acceptance tests.

Based on the long-term, intensive research activity in the CFD area of the distributor ring for Pelton turbines and Pelton jet, CFD has become the standard for analysis and optimization of the turbine characteristics. Thus, in the hydropower station project Lotru, Romania, CFD and model tests were successfully combined. The current focus of research work is on the Pelton jet.

A focus of the generator development during the year under review was the optimization of vertical generators. Generators with a comparatively low capacity are now beginning to be the subject of a parameterized design system, which would allow carrying out the necessary optimizations.

Also with the goal of optimization, a concept for flexible coupling of the plate stacking to the rotor was developed for a specific generator type. This design solution will result in significant cost savings. >



▲ Flow simulation of a supporting blade: The research and development team at ANDRITZ HYDRO in Zurich, Switzerland examines 'vortex trails', which can lead to blade cracks.

Based on a comprehensive value analysis for turbo generators, a further prototype of the new series was successfully tested in 2008. Extensive real-time recordings of approximately 1,100 measuring points allowed precise calibration of the finite element method and the CFD models applied. The findings of these tests have been practically applied to a further prototype of this new turbo generator series.

Parameterized CFD models were also developed for radial fans, as they had been for axial fans, in the aim to permit comparatively rapid and reliable calculation of the characteristic curves. In-depth CFD analyses for fresh oil feed to bearings have led to efficiency increases. A design for spring-supported bearings for large generators has enlarged the spectrum of potential designs.

The quality of bar manufacturing has been considerably improved with regard to process-related variances of the dielectric features of insulation, resulting in more uniform and better insulation quality.

In the development of bulb generators, the prototype of the new thermomechanically decoupled stator concept installed in Freudenau power station, Austria was extensively tested. The technical requirements of the customer, Verbund-Austrian Hydro Power (AHP), were fully met, resulting in a further order including the new stator concept for the rehabilitation of Melk power station on the Danube.

An essential focus of the research and development work related to automation for hydropower stations. Following optimizations to 250 SCALA (the leading SCADA system for control rooms and operator stations including the smallest displays), an extensive development project was started in 2008 in the high-end range with the goal of achieving an all-around system and safety solution for groups and cascades of power stations. In addition, a hydro-energetic overall optimization of hydropower cascades is performed on the basis of mathematical models. These automation developments have become necessary because of the rising number of widely spread hydropower parks incorporating a large number of single stations. This is a consequence of the liberalization of the energy market and of mergers of energy generation companies.

The research and development work for large pumps focused on the further development of existing hydraulic designs for impellers and distributors. This has led to significant improvements in efficiency and cavitation behavior. In addition, a development project for a concrete spiral pump with high specific speed for large flow rates was started and successfully completed. In the area of centrifugal pumps, the focus was on efficiency improvements of the existing product series with the goal of further reducing the energy costs for end users. ●

ANDRITZ HYDRO ACQUIRES HYDROPOWER ACTIVITIES FROM GENERAL ELECTRIC

▲ GE Hydro technology: the turbine runner for the Three Gorges dam, China, manufactured by the GE Hydro/Voith Siemens consortium.

In 2008, ANDRITZ HYDRO took over hydropower activities from General Electric (GE) with 400 employees in Canada, Brazil, Sweden, Finland, Great Britain, and China. Thus, ANDRITZ HYDRO has been able to further strengthen its position as a globally leading supplier of hydropower equipment.

ANDRITZ HYDRO in the Canadian growth market

The history of GE's hydropower activities in Canada dates back as far as 1892 – the year when the Canadian General Electric Company Limited was founded through the merger of Edison Light Electric Company and Thomson-Houston Electric Light Company of Canada. At that time, 500 employees in Peterborough, Province of Ontario already manufactured generators, transformers, motors, wire and cable, and lamps. Over a hundred years later, in 1999, GE Hydro acquired the entire hydroelectric turbine business of the Kvaerner Group. The company specializes in the supply of Francis turbines for the entire head range and for specific speed ranges. Turbines with runner diameters in excess of 9 m for outputs up to over 800 MW and heads up to 800 m can be supplied.

In May 2008, ANDRITZ acquired the hydropower technology and certain other assets of the hydropower business from GE Hydro. The acquired scope includes engineering and project management resources, a research and development facility, and the manufacturing site for generator components.

ANDRITZ HYDRO Inepar: joint venture in Brazil

In June 2008, ANDRITZ acquired the majority interest in the GEHI (General Electric Hydro Inepar) joint venture from GE Energy. The new joint venture – ANDRITZ HYDRO Inepar do Brasil S.A. – has sites in Campinas and Araraquara, Brazil; Kristinehamn, Sweden; and Tampere, Finland.

The manufacturing site in Araraquara, state of São Paulo, is one of the largest heavy equipment plants in Latin America. As of 2009, Araraquara will be equipped with a new universal hydraulic laboratory for model testing and simulation of all turbine types. This will be the only laboratory of its kind in Brazil.

Over 150 years of experience in Sweden and Finland

The site in Kristinehamn, Sweden has over 150 years of experience in the development of complete technical solutions. It has supplied the majority of large hydro turbines installed in the country.

In 1856, the Tampere Oy company based in Tampere, Finland started manufacturing hydro turbines. Over a hundred years later, in 1992, it was acquired by Kvaerner and later by GE. Today, the Tampere site of ANDRITZ HYDRO Inepar is one of the most advanced production sites worldwide focusing on the development and manufacture of turbine solutions for low heads.

Good start

Just a couple of weeks after the acquisition, ANDRITZ HYDRO received an order from the private energy company Brookfield Renewable Power Inc. for the Aubrey Falls, Ontario, Canada power station. The prime reasons for the order award were the special winding bar design provided by the site in Peterborough, the manufacturing technology in the Lachine plant, as well as the short delivery time. ●

Further information on ANDRITZ HYDRO is available at:
www.andritz-hydro.com

PRODUCT AND SERVICE PORTFOLIO

PLANTS AND SERVICES FOR THE PRODUCTION OF ALL TYPES OF PULP (CHEMICAL, MECHANICAL, RECYCLED FIBER PULPS), PAPER, BOARD, TISSUE, AND MEDIUM DENSITY FIBERBOARD (MDF[ABC]); BIOMASS BOILERS[ABC] FOR POWER GENERATION.

ANDRITZ
Pulp & Paper

The business area managers (left to right):

Karl Hornhofer ■ Graz ■ Austria
Capital Systems

Humbert Köfler ■ Vienna ■ Austria
Service & Units

661 billion annual reports

Paper is said to have been invented by Cai Lun, a Chinese court official, in 105 AD. He was the first to describe the papermaking process as we know it today. Today, the average annual paper consumption per capita in Europe is 186 kilograms, 301 kilograms in the USA. Global production of paper and board is close to 380 million tons annually (source: VDP, 2006). This would be enough to produce 661 billion copies of this annual report – if you were to stack these copies one on top of the other, the pile would be more than five million kilometers high.

Wood, annual plants, and wastepaper are used to produce pulp for paper, tissue, board, fiberboard, and nonwovens production. ANDRITZ PULP & PAPER is among the global market leaders for equipment to produce all types of pulp (chemical, mechanical, recycled fiber pulps). >

◀ Library at Admont Benedictine Monastery, Austria, the largest library in a monastery worldwide.

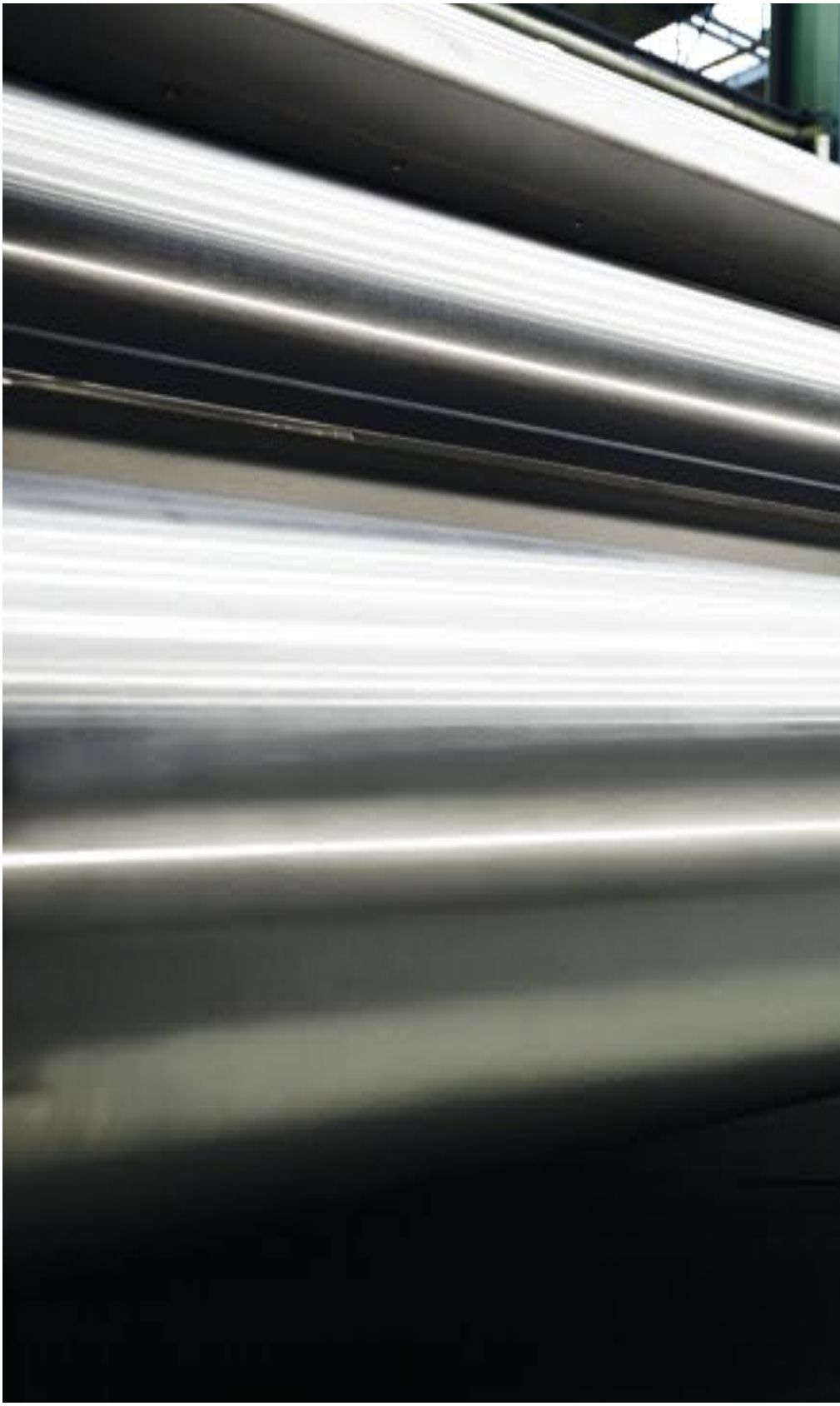
PROFILE

The PULP & PAPER business area is a leading global supplier of systems, equipment, and services for the production of all types of pulp (chemical, mechanical, recycled fiber pulps), paper, board, tissue, Medium Density Fiberboard (MDF), and nonwovens, as well as of biomass power boilers for electricity generation.

Through the acquisition and integration of complementary technologies, the business area has become a full-line supplier of production systems and services to the pulp and paper industry. The technologies are employed for the processing of logs and annual fibers; the production of chemical and mechanical pulps (cooking or refining, washing, bleaching, and drying); the recovery and reuse of chemicals; the generation of energy from biomass; the preparation of paper machine furnish from virgin or recycled fibers; the production of tissue and board products; the calendering and coating of paper; and the handling of reject materials and sludges.

Services include complete mill maintenance; equipment upgrades and rebuilds; engineered wear products for all types of equipment; and complementary technical services.

Depending upon a customer's needs, the business area provides basic and detailed engineering, procurement, manufacturing, equipment erection, construction supervision, training, and start-up services, as well as EPC deliveries. >



The wire wrap of a twin-wire press is being measured. Twin-wire presses are used to dewater fiber stock in pulp production. ANDRITZ twin-wire presses achieve high dry solids contents and, thus, high production capacities for customers. ▶

MARKET DEVELOPMENT

The market for pulp production plants and systems showed a varying development during 2008. During the first three quarters of 2008, investment activity remained satisfactory, both for modernizations and greenfield projects, in spite of the prevailing financial and economic crisis. During the fourth quarter, however, project activity declined significantly, mainly as a result of the marked decrease in pulp prices, capacity reductions in pulp and paper mills in the USA and Europe, and difficulties in the financing of single projects.

This development was also reflected in significant pulp price changes during 2008. The price for NBSK ABC (Northern Bleached Softwood Kraft Pulp) increased from approximately 860 USD per ton at the beginning of January to approximately 920 USD per ton at the beginning of July. Then it started to decline and was at 650 USD per ton at year's end, with spot prices being significantly lower. The main reasons for the marked price decrease during the fourth quarter of 2008 were a significant reduction of pulp inventories, the substantial decline in pulp demand, particularly in China, as a result of the economic downturn, and the strength of the US dollar against the Euro.

The price for short-fiber pulp (birch and eucalyptus) showed a similar development. It increased from approximately 750 USD at the beginning of January 2008 to approximately 850 USD at mid-year and – due to the difficult economic situation – decreased markedly to approximately 650 USD by year's end, with spot prices being significantly lower in this segment, too.

Special technical and financial terms are marked ABC at their first occurrence in a chapter. They are explained in the glossary starting on page 104. If you have any queries, please do not hesitate to contact us at welcome@andritz.com

▲ Metsä-Botnia's Fray Bentos mill in Uruguay is the first pulp mill worldwide to have the entire process equipment, maintenance concept, and maintenance services provided by one supplier – ANDRITZ.

BUSINESS DEVELOPMENT

Sales of the business area in 2008 amounted to 1,326.6 MEUR, thus lower compared to the previous year (2007: 1,462.2 MEUR). EBITA, at 66.3 MEUR, was significantly lower than in the previous year (2007: 87.8 MEUR). This is mainly due to a considerable deterioration in market conditions as from the end of the third quarter of 2008, which led to capacity underutilizations in some divisions. The financial provisions made for capacity adjustments required as a result of this development also had a negative impact on earnings.

Order intake during the reporting period was 1,033.8 MEUR, thus considerably down from the very high value of the previous year (2007: 1,406.4 MEUR). The global economic crisis caused a significant decline in project activities and order awards, in particular as from the end of the third quarter of 2008.

The Metsä-Botnia pulp mill in Fray Bentos, Uruguay, for which ANDRITZ provided all major production technology, reached full production just 145 days from start-up (calculated on a 30-day rolling average), beating the existing start-up record set by CMPC of Chile (for this mill, too, ANDRITZ supplied the main production systems) by 26 days.

Major production systems were successfully started up for Tiger Forest & Paper Co., Ltd. – Hunan Juntai Pulp & Paper Co. as part of the complete mill delivery by ANDRITZ. Start-ups included a modern, high-capacity debarking line with the first horizontally-fed HHQ-Chipper™ in China, a 1,300 t/d bleached fiberline, a 1,350 t/d drying line, a 489 t/h evaporation plant , and a 2,200 t/d recovery boiler.

Sappi Saiccor (Pty) Ltd. finalized the mill extension at their mill in Umkomaas, Kwa Zulu-Natal in the Republic of South Africa. ANDRITZ's delivery included screening systems, oxygen stage, and bleach plant for the 870 t/d fiberline; a 370 t/h evaporation plant with a foul condensate stripping system and methanol liquefaction equipment custom-tailored for the mill's magnesium sulphite pulping process; and the first twin-wire drying line for dissolving pulp. ANDRITZ PULP & PAPER chipping and chip handling systems had previously started up as part of this same project.

A tree-length debarking and chipping line was started up at Australian Paper's Maryvale, Victoria mill. The capacity of the debarking line is one of the highest in the world. Earlier in the year, ANDRITZ completed a two-step modernization of the mill's double-drum recovery boiler. At year's end, modernization of the cooking and screening systems at the same mill was completed. As part of the modernization, ANDRITZ PULP & PAPER provided new systems for washing, oxygen delignification, and bleaching.

Aracruz Celulose S.A. completed an upgrade at their Barra do Riacho unit in Brazil. As part of the project, ANDRITZ increased production of the 8 m pulp machine supplied in 2002 from its initial design of 2,325 t/d to a guarantee of 2,972 t/d. After the performance test in March 2008, the machine achieved a new production record: 3,112 t/d of prime quality eucalyptus pulp.

The first biomass power boiler delivered by ANDRITZ PULP & PAPER was started up at ENCE Group's Navia Asturias mill in Spain. The boiler has a capacity of 120 t/h steam production.

For a greenfield newsprint and LWC production line – the first in the area of the former Soviet Union in the last 20 years – an RTS TMP system, supplied together with Petrozavodskmash, was started up for the end customer RUE, Republican Unitary Enterprise Newsprint Mill, Molodyozhnaya, Belarus.

A PrimeLineCOMPACT tissue machine was started up at Fripa Papierfabrik in Miltenberg, Germany. After only two weeks, an operational speed of 1,800 m/min was achieved.

ANDRITZ acquired major assets of Andreas Kufferath GmbH & Co. KG, a German company well-established in the production of forming fabrics and technical wire cloth for the pulp and paper industry. >

KEY FIGURES (MEUR)

	2008	2007*	2006*	2005	2004
Order intake	1,033.8	1,406.4	1,432.4	1,017.0	1,218.9
Order backlog as of December 31	752.8	1,060.4	1,124.4	950.4	951.1
Sales	1,326.6	1,462.2	1,304.2	1,032.9	884.6
EBITDA	84.5	105.3	89.6	76.1	77.9
EBITDA margin	6.4%	7.2%	6.9%	7.4%	8.8%
EBITA	66.3	87.8	75.9	63.6	64.8
EBITA margin	5.0%	6.0%	5.8%	6.2%	7.3%
Capital investments	20.2	21.8	21.7	13.6	14.3
Employees as of December 31	5,102	4,843	3,863	3,018	2,805

* restated

MAJOR ORDERS

The business area received an order from Mondi Syktyvkar pulp and paper mill in Komi Republic, Russia to supply a new woodyard, evaporation plant, and recovery boiler, and to rebuild the mill's two existing fiberlines. The woodyard consists of two debarking lines with the highest capacity in the world. The HHQ-Chippers™ are the world's largest, with 3.87 m disc diameters and 18 cutting knives. The six-effect evaporation plant, which includes condensate stripping and a methanol liquefaction system, has a capacity of 550 t/h with a final product solids content of 75%. The 3,560 t/d recovery boiler is equipped with odorous gas incineration systems and is the first in Russia with modern steam parameters (93 bar pressure and 490 °C temperature).

In addition, the individual divisions received the following major orders:

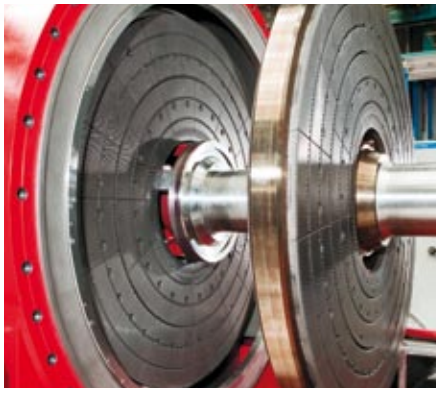
The **Wood Processing** division received two significant orders from Russia: one for the supply of a complete woodyard at a new MDF plant for Pfleiderer of Germany and the other from Investlesbumprom for a woodyard based on RotaBarker™ debarking technology. Additionally, Veracel Celulose S/A in Brazil selected the division to increase the capacity of their woodyard. The delivery will include the largest single chipping line in the world (500 sub m^3/h).

The **Fiberline** division received the first orders for its new AWP wash press. The first press will be installed at Stora Enso's Skutskär mill, Sweden and the second was ordered by Södra Cell Värö Bruk in Värö-backa, Sweden. Also, the division received an order from Sun Paper Co. Ltd., Yanzhou, Shandong Province, China for a Downflow Lo-Solids® cooking system and ECF bleaching system for a greenfield project. In addition, the division received an order from Chuetsu Pulp & Paper Company Limited for the modernization of fiberlines with ECF bleaching at their Sendai mill in Sendai City, Kagoshima Prefecture, Japan.

The **Recovery** division received an order from Grupo Empresarial ENCE, S.A., Spain for a power boiler at its Huelva mill. In addition, the division received two orders from Portucel-Empresa Produtora de Pasta e Papel, S.A., Portugal for power boilers at the company's Setúbal and Cacia mills. The division also received an order from Fortum Termest AS for a low-emissions Bubbling Fluidized Bed (BFB) boiler for a greenfield Combined Heat and Power (CHP) plant in Pärnu, Estonia. In addition, Sappi Fine Paper North America ordered a retrofit to increase the capacity of a recovery boiler at its Somerset mill in Skowhegan, Maine, USA. For Södra Cell's Värö mill in Sweden, the division will deliver a new evaporation plant and a recovery boiler retrofit. Visy Pulp & Paper of Australia selected the division to provide a new liquid methanol plant. The division will also supply an ash leaching chlorine removal system for a MeadWestvaco mill in Texas, USA. This will be the first chlorine removal

▲ ANDRITZ debarking drums are used to debark and wash logs for pulp production.

▲ The newly developed ANDRITZ wash press is used in chemical and mechanical pulp production; it is particularly well suited for rebuilds and upgrades to increase the capacity of existing pulping lines. Shortly after the new product was launched, the first two wash presses were ordered by a customer in Sweden.



▲ Refining zone of an ANDRITZ refiner used in mechanical pulp production. This high-consistency refiner is the largest double-disc refiner worldwide.

system in the USA that leaches the ash from the recovery boiler precipitator. Metsä-Botnia's mill in Fray Bentos, Uruguay also ordered an ash leaching chlorine removal system, which will be one of the largest in the world.

The **Chemical Systems** division received an order from Sun Paper Shandong for systems to increase white liquor production and quality at the Yanzhou City mill in Shandong Province, China. In addition, the division was awarded orders to supply a gas collection system for April's Rizhao mill in China and a green liquor cooler to Marusumi Paper in Japan.

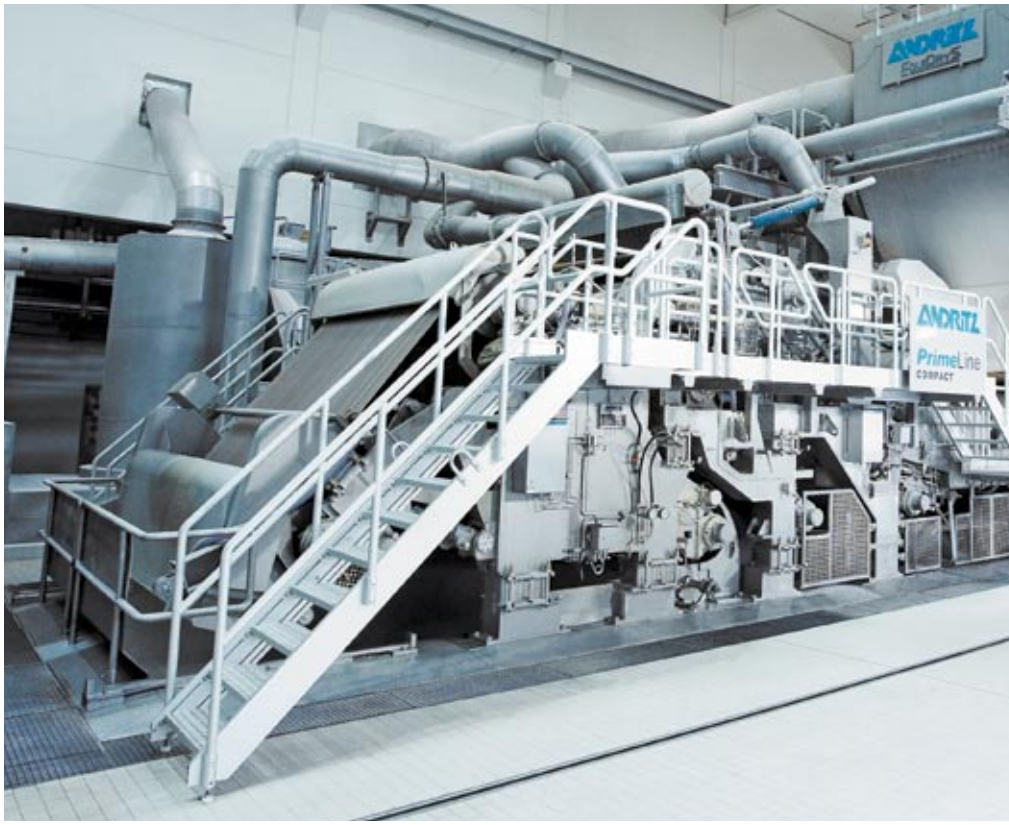
The **Pulp Drying Systems** division received an order from Guangxi Jingui Pulp & Paper Co., Ltd. for two slab presses at Guangxi, China. In addition, the division will also upgrade the existing screening plant at Södra Cell AB's mill in Mönsteras, Sweden.

The **Paper Machine** division received an order from Saigon Binh Dinh Paper Corp. in Vietnam for a new PrimeLineCOMPACT tissue machine, including a steel Yankee. The division also received an order from Procter & Gamble to supply a new tissue and towel machine for the Family Care plant being constructed in Box Elder County, Utah, USA. In addition, the division will upgrade a paper/board machine for Cartonstrong Italia S.r.l. at Monza, Italy and will supply a new headbox. The division received an order to rebuild a board machine producing white-lined chipboard for Kartonsan Karton Sanayi ve Ticaret A.S. at the Izmit mill in Izmit, Kocaeli, Turkey. For a customer in Italy, the division will supply a shoe press and auxiliary equipment. Sappi Austria Produktions-GmbH & Co KG., Austria ordered another sheet stabilizer. >

The **Fiber Preparation Systems** division will supply a complete deinking line to Yueyang Paper Co., Ltd. for the mill in Yueyang, Hunan Province, China. SCA Graphic Laakirchen AG of Laakirchen, Austria ordered an extension of its existing deinking plant, including disc filters and twin-wire presses. Portucel, a member of the Portucel Soporcel Group, ordered a complete refining line for its Setúbal, Portugal mill. At the same mill, the division will supply a FlyingWing Deculator®. Stock preparation and paper machine approach equipment was ordered by Nanping Paper at Nanping, Fujian, China.

The **Mechanical Pulping Systems** division received an order to double the capacity of an existing bleach plant for cotton combers at Louisenthal's Königstein mill in Germany. The division also received two repeat orders from customers in China: one from MCC Paper Group Yinhe Co. Ltd. at Linqing, Shandong Province, and the second from Sun Paper Group in Yanzhou, Shandong Province for complete P-RC™ systems. Investlesbumprom in Kama ordered the first P-RC™ APMP system to be installed in Russia.

The **Panelboard Systems** department received an order from Pfleiderer MDF OOO for the supply of a turnkey front-end package for a new plant in Novgorod, Russia. The scope of supply comprises the complete woodyard (incl. a RotaBarker™), chip washing system, the pressurized refining system, as well as the steel structure, piping, cabling, complete erection, and start-up assistance. Also, the department was awarded two orders by Yingang Wood Based Panel Co. Ltd. for the delivery of pressurized refining systems for plants in Sichuan and Hubei, China. Orders for pressurized refining systems received via Dieffenbacher, Germany were for Fengkai Weilibang Wood Industry Co. Ltd., Guangdong (the fifth ANDRITZ PULP & PAPER line for the Weihua Group), and ShaanXi Zhong Xing Timber Co. Ltd., Shaanxi, China. Anhui Huqian Investment & Industry Co. Ltd., Anhui, China ordered a fiber preparation system consisting of a woodyard, a chip washing, and pressurized refining system.



▲ Tissue paper production: The first ANDRITZ PrimeLineCOMPACT plant was started up at Fripa (Papierfabrik Albert Friedrich), Miltenberg, Germany.

The **Paper Finishing** division received an order from Cham-Tenero Paper Mills Inc. in Switzerland to perform a turnkey rebuild of an existing coating line. The rebuild will be the first application of a multi-layer curtain coater on a real off-line paper coating machine. After the successful installation of the new threading system PrimeFeeder at Burgo Mantova, Italy, eight more feeding systems have been installed, seven at a German mill. The division received an order from Fujian Quingshan, Fujian Province, China for a PrimeCal Hard calender. The division also introduced a new product – PrimeRoll Eco – and the first unit was sold to a mill in Sweden. An order for a PrimePress X, which is part of a turnkey rebuild of an existing press, was received from Stora Enso for its Imatra, Finland mill.

The **Engineered Wear Products** division was awarded a contract from Boise Cascade, USA, for refiner plates at all of their mill locations. The division renewed three-year contracts with White Birch Papers in the USA and Canada. The division was also awarded a major order for refiner plates from PT Kertus Kraft in Ache, Indonesia for the restart of its kraft linerboard mill. Major orders for screen baskets were received from Nine Dragon in China, Ust-Ilimsk in Russia, and AbitibiBowater in Canada.

The **Pulp Engineered Services** division signed long-term Overall Production Efficiency (OPE®) agreements for customer mills in Russia and Sweden. The division received a major wood processing upgrade order in Denmark, and an order for a woodyard upgrade from Stora Enso's Fors mill in Sweden. One of the largest cooking upgrade orders came from Finland for new digester screens and a top separator. Another large cooking

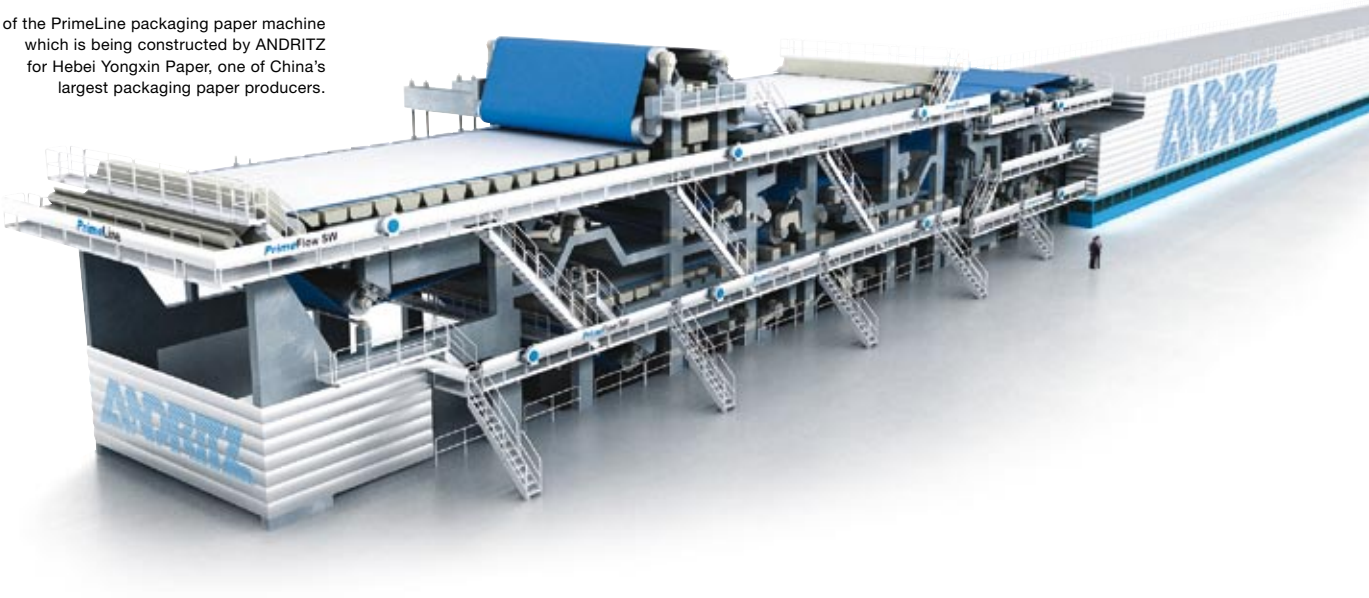
▲ Detail of the PrimeLine packaging paper machine which is being constructed by ANDRITZ for Hebei Yongxin Paper, one of China's largest packaging paper producers.

upgrade order was received from International Paper, Eastover, SC, USA. The division received several orders for recovery boiler upgrades in Central Europe, Portugal, Finland, and China.

The **Paper Engineered Services** division received significant orders for dewatering equipment from CMPC in Chile, Matussière in France, and AbitibiBowater in the USA. Orders were received from CMPC, Chile for service and a refiner upgrade and from Perlen Papier, Switzerland for refiner upgrades. In Russia, a contract for the overhaul of a refiner and bearing unit was signed at Mondi Syktyvkar. In France, the division received an order from NSI Golbey to service five refiners over a contract period ending in 2011. In North America, the division will upgrade the hydraulic system and provide a new refiner protection system for Abitibi-Consolidated Inc., Beaupre, Quebec, Canada. In South America, Duratex SA ordered a wear part rebuild for a pressurized MDF refiner at its plant in Agudos, São Paulo state, Brazil. Production increases were achieved for various Brazilian customers – Suzano Bahia Sul (Mucuri mill), Cenibra (Belo Oriente mill), and Lwarcel (Lenções Paulista mill). For VCP's Jacareí mill in Brazil, the division has been contracted to analyze and maintain 15 of the mill's hydraulic units, including programming of the logic controllers.

The **Automation Solutions** division received an order from Papierfabrik Palm GmbH, Aalen, Germany for modernization of the deinking plant's DCS and automation technology. A special service concept ('On-the-Fly' upgrade) will be employed to minimize production interruptions. To Freeport-McMoRan's Climax molybdenum mine in Colorado, USA the division will supply a dynamic simulator and modernization of the automation systems. An order was awarded by PetroCanada for an IDEAS Simulator including models, operator training, and software for its Fort Hills oil sands plant in Alberta, Canada. >

Scheme of an ANDRITZ PrimeLine machine for paper and board production. ▼



RESEARCH AND DEVELOPMENT

The business area is focusing its R&D activities on both new greenfield plants and plants that are already in use (brownfield plants). Activities are focused on optimization of energy, raw materials, and effluents; upgrades of existing products to improve their energy efficiency and reliability; and new products which will continue to maximize production while lowering investment and operating costs.

ANDRITZ technologies that support the drive for sustainable production considerably reduce waste of energy, chemicals, water, and fibers. This is also evident in the development of new systems which efficiently process both wood and plantation fibers and systems which maximize energy efficiency. Considerable effort is being employed to effectively utilize biomass as an energy source. Advanced control systems for all pulp and paper mill processes are being developed and tested.

The divisions' R&D programs in detail are as follows:

Wood Processing

The increasing importance of environmental performance and the push towards full utilization of renewable resources is focusing the development of wood processing systems for biomass handling and processing.

Fiberline Systems

Technology development continues to focus on lowering the investment cost per ton of pulp produced, which is being accomplished through process simplification, increased unit capacities, standardization, and modularization. In terms of scale and capacity, the 5,000 t/d single fiberline is already a reality.

To lower the environmental impact, less chemicals are now required for cooking and bleaching, and fresh water consumption has been reduced. Simplified process design and improved equipment efficiencies are also consuming less energy.

Chemical Systems

The division is further developing technologies for environmental sustainability and increased capacities of pulp mills. In terms of capacity, a new lime kiln has been commissioned with a capacity of 1,000 t/d. The application of centrifuge technology for dregs dewatering and washing is gaining acceptance, which minimizes the volume of dregs in landfills. A new front-end technology for lime kilns, LimeFlash™, is now in operation to considerably boost the throughput that can be achieved from existing conventional or LMD kilns.

Recovery Systems

Rising energy costs have boosted the demand for advanced biomass-fired power boilers which are suited for bark, forest residues, and short-rotation small trees. The first biomass gasification plant using Carbona technology to produce fuel gas is now in operation in Denmark; ANDRITZ's affiliate Carbona is a specialist in gasification systems. Applications for lime kiln fuel gas production (to replace oil/natural gas) are ready for the market. Development of pressurized gasifiers for liquid biofuels continues. Other gasifier applications under development include upgrading of the steam parameters in recovery boilers and integrated gasification combined-cycle plants (IGCC) for improved electrical efficiency.

▲ ANDRITZ service specialists finalizing modernization work in the course of a disc filter rebuild at Stora Enso's mill in Saxony, Germany.

High Energy Recovery Boilers (HERB ABC) at pulp mills increase electricity generation from black liquor ABC. As mills continue to close their chemical circulation loops to reduce emissions and generate more electricity, chloride removal is becoming more important. The new leaching-based chloride removal process by ANDRITZ PULP & PAPER offers a lower cost alternative to ash re-crystallization.

Technology development in the evaporation business is aimed at producing highly efficient, low (or zero) effluent evaporation systems. These environmentally friendly evaporators and related technologies ensure low energy consumption and minimal raw material losses.

Pulp Drying Systems

The focus is on increasing the production capacity of drying lines to the target of 600 t/d per meter working width to cover the needs of pulp mills of the future that will produce 1.5 million t/y or more in a single line. This requires new forming and pressing concepts, improved heat transfer within the airborne dryer ABC , and operating speeds of the cutter/layboy in excess of 300 m/min. For the finishing line, the target is to increase the production rate and improve equipment availability. >

Paper Machines

Developments in tissue machines include the PrimeDry Steel, made of welded steel, which gives higher performance and is operationally safer than a cast iron Yankee. In the air engineering department, the focus is on energy savings. A new step in heat recovery from the exhaust of Yankee hoods (ReEvaporation) saves up to 25% primary steam by re-evaporating condensate in a heat exchanger using exhaust air.

Fiber Preparation Systems

R&D work focused on optimizing the new low-consistency pulping systems in wastepaper processing. This is a major step in improving system efficiency and reducing energy consumption.

Mechanical Pulping Systems

One focus of the division's R&D work is the testing of new wood species such as eucalyptus, acacia, birch, maple, and also annual plants such as bagasse, reed, or kenaf for mechanical pulping. This supports sustainable development in countries with different wood species or where wood is a rare resource.

Further research is being conducted to reduce the effluent flows from all mechanical pulping systems and in the panelboard industry. The goal is to develop low-effluent mills and chemical recovery systems which reduce effluent pollution to the minimum.

Minimizing energy consumption remains the main focus in the panelboard industry. In addition, there are ongoing investigations to produce high-quality fibers from annual plants as an alternative to wood chips and other wood by-products.

Paper Finishing

The main focus of development work has been on shoe rolls for pulp, paper, and tissue applications. For the tissue-making industry, a newly developed shoe roll – the smallest and fastest in the market – has been successfully installed and started up.

In calendering technology, a value analysis study was completed. Cost reduction and acceleration of deliveries have been reached through modular calender design which achieves the same functionality as conventional units.

A new design PrimeFeeder technology has been introduced that stabilizes the threading process and shortens the time it takes for a paper machine to reach full production after a sheet break.

Pulp Engineered Services

The leading development program continues to be OPE® (Overall Production Efficiency), where the target is to enhance production efficiency and maintenance practices in order to secure the highest life cycle profits for customers. Supporting OPE® is the Life Cycle Profits (LCP) program, which helps to secure and maximize profitable operations for customers. The program consists of several elements, where predictive tools for online diagnostics of pulping processes are being developed. Software tools for improving predictive maintenance are being introduced. Examples: software to determine the most cost-effective timing for changing chipper knives; software to predict the maintenance needs for hydraulic drives; software to ensure the smooth functioning of washers even under difficult, volatile circumstances.

Paper Engineered Services

The R&D focus is on reducing operating costs of equipment already installed in a customer's plant. This involves optimizing the machine design to reduce energy consumption and the usage of consumables, to increase reliability, and to reduce maintenance costs. Newly developed technologies have been introduced in the areas of sealing, wear, and machine control, thus enabling customers to profitably operate their existing equipment, regardless of the original manufacturer. For the pulping of stock, broke, and recycled fiber, a development program is in progress to enable up to 20% energy savings for the majority of pulpers installed in mills.

Automation Solutions

In the automation area, SpectraVision™ optical sensors were introduced to measure fiber properties continuously without sampling. The sensor requires significantly less maintenance and eliminates the need for intense recalibration often required for competitive units. Advanced process control systems to achieve fully automated production lines were introduced for all process areas of pulp and paper mills. These systems are built using the BrainWave® model-predictive controller and the expertise of ANDRITZ technologists encapsulated into the ACE™ (Advanced Control Expert) products. The IDEAS training simulator was augmented using the new Instructor™ software to monitor the operator's progress as he/she learns the new processes and to provide a certification process for operators. ●

Growth market China:

INDEPENDENT SUN SHINES IN THE EAST

Paper consumption in China is growing rapidly; the needs of the 1.3 billion people for paper products of increasingly high quality have to be met. The worldwide lack of raw materials, however, is limiting the offering and, thus, growth of the paper industry. ANDRITZ technologies help customers to produce their own pulp – the raw material for paper production – in their own country and thus gain independence from international pulp suppliers.

One paper producer with a strategy to become independent in this respect is the Sun Paper Group in Yanzhou, Shandong Province. In China, Sun Paper is the largest privately owned and managed paper business, as well as the largest producer of premium coated packaging board. The company's 22 paper machines (the 23rd is now under construction) with a total capacity of 2.5 million tons per year, are now being partially supplied by their first ANDRITZ P-RC™ APMP line with a mechanical pulp production capacity of 100,000 tons per year. Earlier, Sun Paper purchased this pulp from other APMP plants, but they are now in a position to produce their own. Shortly after starting up the first line, Sun Paper and ANDRITZ PULP & PAPER signed a second contract in March 2008 for another line with almost double the capacity of the first one.

High product quality and energy efficiency

The ANDRITZ P-RC™ APMP process is ideally suited for the pulping of various Asian hardwoods like poplar and eucalyptus, because it produces a high-quality pulp in a very energy-efficient way, which makes it perfectly matched for the Chinese needs.

Ying Guangdong, Deputy General Manager and Chief Engineer of Sun Paper Group, is complimentary of the technologies provided. 'The major advantages of ANDRITZ technologies are their highly flexible design, low energy consumption, and high production capacity,' he says. 'The start-up of the plant was so successful that we were reaching quality and capacity targets within a week,' adds Manfred Fitz, ANDRITZ Project Manager.

'The major advantages of ANDRITZ technologies are their highly flexible design, low energy consumption, and high production capacity.'

Ying Guangdong, Deputy General Manager and Chief Engineer of Sun Paper Group

Evaporation for zero discharge

Sun Paper needed the APMP pulp to blend with their other raw material grades (e.g. deinked pulp from imported wastepaper, kraft, and other mechanical pulps) to achieve the required paper properties. As part of the investment, an evaporation system was needed to process the effluents and recover the water. Sun Paper chose to install three new MVR evaporation systems from ANDRITZ PULP & PAPER.

The Sun Paper Group's new evaporation units are the first in China to be used in this way for the wastewater system. 'With the evaporation units from ANDRITZ, we get very good results, which is a favorable precondition for us to achieve zero discharge,' Ying points out.

Taking care of interfaces

For such a major greenfield project, several interfaces (e.g. wood handling, chip storage, fiberline, evaporation, etc.) have to be taken care of. 'We selected the Distributed Control System from ANDRITZ because it could control multiple systems with its own supervisory functions,' Ying says. 'The interface with other systems is quite efficient. ANDRITZ understands all the various system controls, providing us with the most suitable solution. Of course, this was strengthened by frequent positive communications between ANDRITZ specialists and our operators.'

Cooperation is the key

'The cooperation between ANDRITZ and Sun Paper has been very effective, congenial, and professional,' Ying confirms. 'We exchanged views about every question and issue, and came to a solid and satisfactory conclusion without effort. Only with this kind of cooperation could we get a successful start-up. The fast-track delivery of ANDRITZ's equipment was excellent. In this way, the whole project period was shortened.' •

Further information on ANDRITZ PULP & PAPER is available at: www.andritz.com

PRODUCT AND SERVICE PORTFOLIO

PRODUCTION AND FINISHING LINES FOR METALLIC STRIP, ESPECIALLY FOR CARBON AND STAINLESS STEEL.

ANDRITZ Metals

The Rolling Mills and Strip Processing Lines business area was renamed ANDRITZ METALS as of January 1, 2009.

The business area manager:

Heinz Hödl ■ Vienna ■ Austria

500 million tons of metallic strip

The origin of metal strip making is likely to date back to the Bronze Age, when soft metals (bronzes) were hammered into thin sheets. These were used mainly for jewelry and also for household objects.

Producing and treating metal strip in rolling mills was not developed until the 19th century, but grew very quickly during the 20th century. In 2008, over 500 million tons of metallic strip were produced.

Applications of stainless steel range from architecture to heavy-duty components in the chemical industry, to power stations. The global demand for stainless steel has increased by an annual average of 10% since 2003, with the strongest growth rates in China and India.

ANDRITZ METALS is a supplier of plants and components that are used in many areas of metals production and processing, and holds the global lead in stainless steel strip production lines. >

◀ Stainless steel is also being used increasingly as high-grade building material and as an architectural element.

PROFILE

The METALS business area designs and builds complete lines for the production and further processing of cold-rolled carbon steel, stainless steel, and non-ferrous metal strips. These lines consist of equipment for cold rolling, surface treatment, strip coating and finishing, punching and deep drawing, and acid regeneration. The business area also supplies turnkey industrial furnace systems for thermal processes such as heat treatment of slabs, forged pieces, and strips, as well as refining furnaces for the copper industry.

ANDRITZ METALS is one of the few suppliers worldwide capable of providing all technologies and processes involved in the manufacturing of steel strip (mechanical, process, electrical equipment, automation, and services). This ensures minimized interfaces and enables full-line optimization. >

Gravitel anode box for electrolytic galvanizing plants: ANDRITZ METAL's Gravitel process is used in the production of top quality electro-galvanized steel strip for the automotive and household appliances industries. ▶

MARKET DEVELOPMENT

▲ Galvanizing section of the electrolytic galvanizing line supplied by ANDRITZ METALS to Baosteel, Shanghai, China. The line is based on the Gravitel process and started operation in December 2008.

Project activity for plants and equipment to manufacture carbon steel, stainless steel, and non-ferrous metal strips showed a varied development during the course of the year. During the first three quarters, project activity continued at the high level of the previous year, both with regard to modernizations and new plants. In the fourth quarter, a marked slowdown was noted due to the global financial and economic crisis. In all regions relevant to the industry – Northern Europe, Russia, India, and China – many projects and project awards were postponed; delays also occurred in the execution of a few projects.

The market for heat treatment and forging furnaces developed very favorably. ANDRITZ Maerz, an affiliate acquired in March 2008, booked a number of major orders and, thus, developed considerably better than projected.

▲ Inside of a Gravitel cell, where zinc is deposited electrolytically onto the steel strip.

BUSINESS DEVELOPMENT

Sales of the business area developed very satisfactorily in 2008. At 566.2 MEUR, sales were 38.8% higher than in the previous year (2007: 408.0 MEUR). EBITA also showed an increase, reaching 40.1 MEUR (2007: 30.6 MEUR).

Despite the difficult economic conditions during the fourth quarter of 2008, order intake amounted to 611.5 MEUR, thus only slightly below last year's record (2007: 636.4 MEUR). ANDRITZ Maerz, in particular, showed a very favorable development, achieving an order intake significantly above expectations.

Sales 2007: 408.0 MEUR
Sales 2008: 566.2 MEUR

+39 %

Voestalpine Stahl GmbH, Austria successfully started up the hot-dip galvanizing line No. 4 at the site in Linz. The plant's production capacity is 450,000 tons of sheet steel for the automotive industry. ANDRITZ METALS acted as the consortium leader and supplied the complete mechanical equipment, including a four-high skin-pass mill and the furnace technology. Also, the business area handed over a 5,000 l/h regeneration plant to voestalpine Stahl GmbH. The order comprised a hydrochloric acid regeneration plant, a waste acid purification (WAPUR) plant, and an oxide storage.

At Baoshan Iron & Steel Co. in Shanghai, China, ANDRITZ METALS successfully completed the extension of an electrolytic galvanizing line in a cold rolling mill. The line had been supplied by the business area and started operation in June 2000 with a production capacity of 263,000 t/y, which has now been raised to 310,000 t/y.

A 20-high rolling mill supplied to Jindal Stainless Steel Ltd. successfully started operation during the reporting period. The scope of supply also included the complete automation and electric drive technology.

Jiuquan Iron & Steel Co. (JISCO), Jiuquan, China started the annealing and pickling line for cold-rolled strip, two 20-high rolling mills, a skin-pass mill, the grinding and polishing line, and two trimming lines supplied by ANDRITZ METALS. The stainless steel mill in Jiuquan processes hot-rolled strip of up to 6 m thickness and a maximum strip width of 1,600 mm into cold strip of 0.3 mm minimum thickness.

Arinox S.p.A., Italy successfully started up a 20-high rolling mill for 1,350 mm strip width and a slitting line for precision stainless steels in the thickness range between 0.1 and 1.5 mm and with a strip width of 1,260 mm maximum.

Lianzhong Stainless Steel, China successfully started up its new annealing and pickling line for cold-rolled strip with integrated skin-pass mill. The plant can produce strip between 800 and 1,600 mm wide and 0.3 to 3.0 mm thick.

Taiyuan Iron and Steel, China took over a 20-high rolling mill, an S6-high rolling mill, and a skin-pass mill. The 20-high rolling mill plant is designed for strip thicknesses of 10 to 0.15 mm and strip widths of up to 1,625 mm. The S6-high rolling mill can handle strip up to 2,100 mm wide and up to 14 mm thick at the inlet, with a finished thickness of up to 0.8 mm. The offline skin-pass mill rolls the strips that have been reduced on the aforementioned rolling mills.

A chamber furnace annealing plant was handed over to Böhler Edelstahl GmbH, Austria. It consisted of a high-temperature furnace with recuperative burners, two low-temperature annealing furnaces, cooling chamber, manipulation machine, and quenching basin. >

Special technical and financial terms are marked ABC at their first occurrence in a chapter. They are explained in the glossary starting on page 104. If you have any queries, please do not hesitate to contact us at welcome@andritz.com

KEY FIGURES (MEUR)

	2008	2007*	2006*	2005	2004
Order intake	611.5	636.4	401.9	444.8	266.7
Order backlog as of December 31	736.2	631.5	403.7	458.9	293.1
Sales	566.2	408.0	450.5	275.9	235.4
EBITDA	42.6	33.1	33.4	18.2	14.3
EBITDA margin	7.5%	8.1%	7.4%	6.6%	6.1%
EBITA	40.1	30.6	31.1	15.9	12.1
EBITA margin	7.1%	7.5%	6.9%	5.8%	5.1%
Capital investments	4.3	3.2	2.3	2.2	3.2
Employees as of December 31	996	880	819	749	736

* restated

MAJOR ORDERS

- Jindal Stainless Steel Ltd., India's largest stainless steel producer, ordered a hot-rolled and a cold-rolled strip annealing and pickling line for the new mill in Orissa, India. Both annealing and pickling lines incorporate special S6-high cold rolling mills to enable production of final products in one manufacturing process. The hot-rolled strip annealing and pickling line with integrated S6-high cold rolling mill has an annual capacity of 850,000 tons and produces strip with a width of up to 1,650 mm in the thickness range 1.4-10 mm. The cold-rolled strip annealing and pickling line with three integrated S6-high cold rolling mills and skin-pass mill has an annual capacity of 450,000 tons and produces strip with a width of up to 1,650 mm in the thickness range 0.3-5 mm.

- As part of the expansion program of the steel plants under its fold, India's largest steel producer, Steel Authority of India Limited (SAIL), ordered a hot-dip galvanizing system for the mill in Bokaro, India. The plant is designed for an annual capacity of 380,000 tons. It will produce high-end galvanized and galvannealed products for the automotive, white goods, and appliance industries. ANDRITZ METAL's scope of supply for this project comprises engineering, as well as supply, erection, and commissioning of the furnace and cooling tower.

- Salem Steel, an affiliate of Steel Authority of India Limited, entrusted ANDRITZ METALS with the supply of a coil preparation line.

- The Finnish steel producer Rautaruukki placed an order for supply of a cut-to-length line for the Raahe mill, Finland. The plant is designed for high-strength strip with a width of up to 2,050 mm and thicknesses of 1.5 to 10 mm. The annual output is 250,000 tons. The heart of the line is the precision leveler with three different roll diameters in a patented cassette module system.

- Antwerp Decoil Center B.V., Belgium ordered a cut-to-length line for its new steel service center. The plant is designed for strip widths of up to 2,050 mm and thicknesses of 2 to 20 mm. Plate lengths of 1,000 to 16,000 mm can be processed.

- Thyssen Krupp Steel AG ordered a leveler for hot-rolled sheets and strips for its Hüttenheim, Germany works. The leveler is designed for sheet thicknesses of up to 60 mm, widths of up to 3,800 mm, and strengths of up to 2,000 N/mm².

- WISCO Wuhan Iron & Steel Group Corp., China ordered an electrolytic galvanizing plant. This line – the first electrolytic galvanizing plant in the Wuhan steel works – will produce steel strip for the highest quality standard of the automotive and electrical appliance industry. WISCO selected ANDRITZ METALS – with its Gravitel process – as the main supplier for the process section of the electrolytic galvanizing line. After the two orders received from Baosteel, China in 2006, this is another milestone in the success story of ANDRITZ METALS electro-galvanizing systems.

- Taiyuan Iron and Steel (Group) Co., Ltd., Taiyuan, Shanxi, China ordered three Pyromars-type acid regeneration systems, which completely recover the spent acids from the stainless steel pickling operations. The combined capacity of these plants amounts to 22.5 m³ of acid per hour; they will meet stringent environmental standards and will minimize discharge of waste material from the pickling lines.

- From Tianjin Tiantie Metallurgical Group Co., Ltd, China, the business area received an order to supply a complete electrolytic galvanizing line. This line will produce approximately 300,000 tons of high quality electrogalvanized steel strip per year for the automotive, household appliances, and electronics industries.

- Tianjin Tiantie Metallurgical Group Co., Ltd, China also placed an order for the supply of a furnace for a continuous annealing line. It is the second furnace that ANDRITZ METALS will supply to this customer in just two years.

- Baoji Titanium Industry Co., Ltd., China's largest titanium producer, ordered a pickling line for hot-rolled and cold-rolled strip as well as a 20-high rolling mill with roll grinding machine. The pickling line has a capacity of 20,000 t/y and will process ti-

▲ Cold-rolled strip annealing and pickling line by ANDRITZ METALS for Taiyuan Iron and Steel (Group) Company Ltd., China.

tanium and titanium-alloy strip of 0.3 to 7 mm thickness and 600 to 1,370 mm width. The 20-high rolling mill is designed for strip widths of 600 to 1,370 mm and thicknesses of 0.3 to 5.0 mm. The complete electrical equipment for all plants, including drive systems, automation, and the required technological controls such as strip thickness and shape controls will also be supplied by ANDRITZ.

- ANDRITZ Kaiser will supply its largest press ever built (press force 25,000 kN) for making automobile parts to the Gutbrod Group, an affiliate of voestalpine Austria.

- Shortly after launching the new servo-press series developed by ANDRITZ Kaiser, the business area received four orders for such presses for the range between 3,150 and 8,000 kN.

- Tower Automotive, a large international supplier to the automotive industry, entrusted ANDRITZ Kaiser with the supply of an automatic punching machine with a press force of 10,000 kN including ancillaries.

- Böhler Edelstahl GmbH, Austria awarded ANDRITZ Maerz an order to supply heat treatment furnaces for the new Böhler forge. The scope includes three car bottom furnaces, three chamber furnaces and three double chamber furnaces, as well as two rotary hearth furnaces, each designed for the high requirements of the aircraft and automotive industry. Böhler is a leading supplier to these industries.

- Based on several successful projects carried out for German Forge Saar, ANDRITZ Maerz received a further order to supply thirteen horizontal and eight vertical heat treatment furnaces for the new forge of Forge Saar/Saarschmiede GmbH, Germany. The furnaces will be used in the heat treatment of forged pieces and for hardening and tempering rotationally symmetric forged pieces and shafts.

- A heat treatment plant for train wheels will be supplied by ANDRITZ Maerz to the ironworks combine Nizhniy Tagil Iron & Steel Works (NTMK) in Tagil, Russia, a member of the Russian EVRAZ Group. The plant operates on the basis of highly advanced annealing technology and will produce train wheels of the highest quality.

- DanSteel A/S, Denmark placed an order with ANDRITZ Maerz for a double walking beam furnace. The special type of walking beam furnace will be used for annealing heavy plates.

- Several heat treatment systems will be supplied by ANDRITZ Maerz to Buderus Edelstahl GmbH, Germany. The eight batch-type furnaces with different dimensions will be used in the heat treatment of forged parts for the power generating industry. >

RESEARCH AND DEVELOPMENT

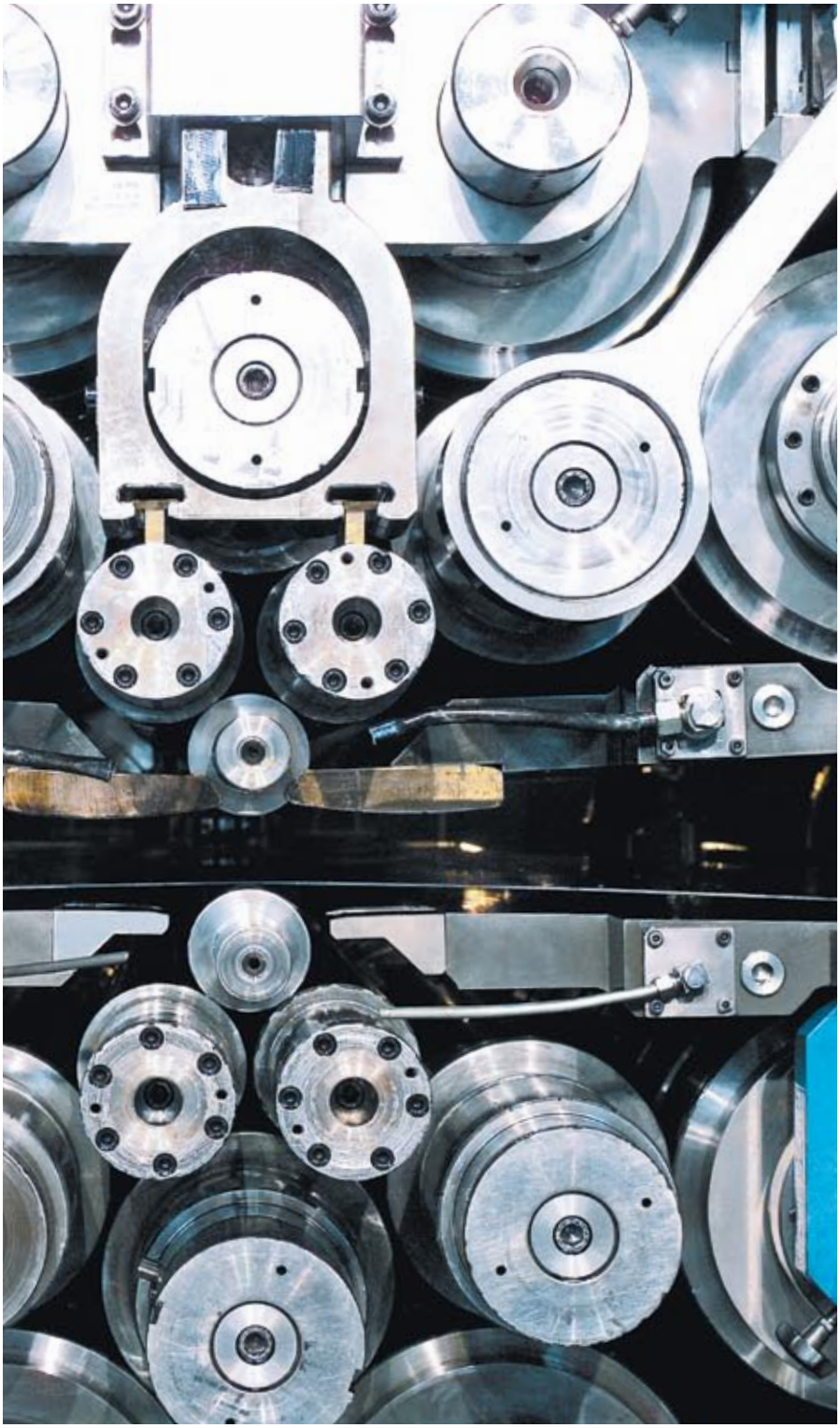
The research and development activities of the business area concentrated on new coating technologies using electrogalvanic and CVD processes (CVD: Chemical Vapor Deposition). Both processes were successfully demonstrated on a pilot scale.

In the stainless steel annealing and pickling area, a new, patented process was implemented for the first time. It uses the excess heat in the exhaust gas from the annealing furnace in catalytic denoxification (DeNOx process) of the mixed-acid pickling plant. This process significantly reduces energy consumption for the DeNOx process and reduces the nitrogen oxide content in the annealing furnace exhaust gas.

The global automotive industry produces over 25 million tons of scrap material per year when processing galvanized steel. The busines area has developed a process to recover the zinc from the scrap material. The zinc-free scrap is of high value to foundries. This process saves raw materials and reduces the environmental impact.

A high-pressure vacuum strip cleaning system has been developed for continuous strip processing plants with inline rolling mills. It features a very compact, low-priced design compared to conventional systems. Additionally, this system does without chemicals and is, thus, very environmentally friendly.

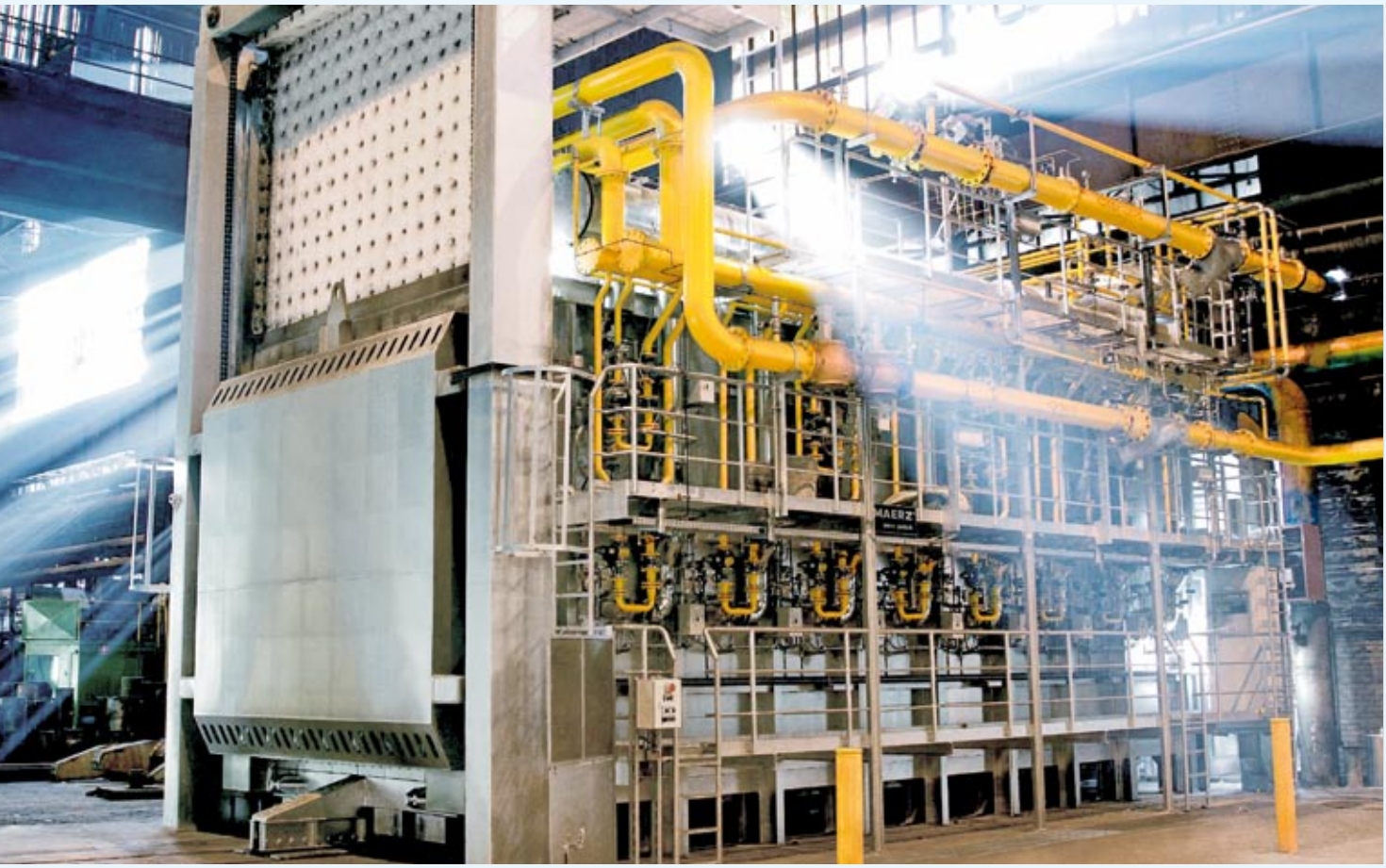
The delivery program of punching and metal forming presses was extended to press forces of up to 25,000 kN. In addition, punching and metal forming equipment with servo drives was developed for the range between 2,000 and 8,000 kN. ●



▲ Roll set of a 20-high rolling mill for stainless strip cold rolling.

ANDRITZ Maerz:

THE FURNACE SPECIALIST FOR THE STEEL AND COPPER INDUSTRY



▲ ANDRITZ Maerz car bottom forging furnace for Saarschmiede GmbH, Völklingen, Germany.

In March 2008, ANDRITZ acquired Maerz Industrieofenanlagen GmbH based in Düsseldorf, Germany. The company, which has been renamed ANDRITZ Maerz, has a versatile and comprehensive supply and services program for thermal process plants for the steel and copper industry and ideally complements the METALS business area's product portfolio.

Founded in 1911, ANDRITZ Maerz is one of the globally leading companies in the field of heat treatment plants and melting furnaces. The products and services spectrum comprises engineering, supply, installation, and start-up of furnaces for the steel industry as well as smelting plants for the copper industry.

About 85% of annual sales are derived from steel industry orders and the remainder from the copper industry and other services. In addition to the product portfolio customary in furnace construction, the company has specialized on various modernizations for continuous furnace plants, e.g. pusher-type furnaces. ANDRITZ Maerz leads the market for batch-type furnaces for highly specialized forges. In 2008, demand was particularly high for sophisticated forging furnaces and heat treatment plants.

As for copper, the company is one out of four major global suppliers of systems for primary and secondary copper production. Apart from innovations such as an elliptic anode furnace, ANDRITZ Maerz has built the world's largest anode drum furnaces with a capacity of approximately 600 tons of copper in China. ●

Further information on ANDRTIZ METALS is available at:
www.andritz.com

PRODUCT AND SERVICE PORTFOLIO

PLANTS, EQUIPMENT, AND SERVICES FOR SOLID/LIQUID SEPARATION FOR MUNICIPALITIES AND INDUSTRIES (E. G. MINING, CHEMICAL AND PETROCHEMICAL INDUSTRIES, FOOD INDUSTRY).

ANDRITZ

Environment & Process

The business area managers (left to right):

Johannes Kappel ▪ Graz ▪ Austria
Separation Technologies division

Werner Hölblinger ▪ Graz ▪ Austria
Thermal Process Technologies division

600,000 tons of sewage sludge

Maintaining an intact environment is a goal that can only be reached by a joint effort. Many countries have, therefore, substantially increased their environmental efforts during the past few years, also with regard to wastewater treatment. Treatment methods and technologies have improved to the point where the negative impact of wastewater on the environment – once a major cause of pollution – has become negligible. Drinking water quality, too, has improved for a growing number of people.

Improved treatment of wastewater and drinking water, however, also results in increasing amounts of sludge that need to be treated. Dewatering and drying turns the sludge into a material that is used as a biomass fuel in energy production (CO_2-neutral, same calorific value as brown coal) or as a fertilizer in agriculture (drying results in pasteurization). The wastewater treatment plants for Paris and Athens, for instance, both of which are equipped with ANDRITZ ENVIRONMENT & PROCESS technologies, treat 600,000 tons of sewage sludge per year.

The continued efforts for environmental protection in a large number of countries will result in a further increase in demand for these technologies. ANDRITZ ENVIRONMENT & PROCESS is among the globally leading suppliers in this growth market. >

◀ Moraine Lake in Banff National Park, Rocky Mountains, Canada.

PROFILE

The ENVIRONMENT & PROCESS business area offers a comprehensive range of products and services for mechanical and thermal solid/liquid separation of municipal and industrial sludges, as well as suspensions (coal, ore, and mineral processing, chemical, petrochemical, and food industries).

The business area is a global leader in these fields and offers comprehensive support, from design to the manufacture of key components for thickening, dewatering, drying, and sludge incineration, as well as erection and start-up of turnkey plants, including automation and safety engineering.

The large installed base, including more than 10,000 centrifuges, 10,000 filter presses, and 120 sludge drying lines worldwide, is serviced from more than 15 dedicated service centers in Europe, the Americas, Asia, South Africa, and Australia. >

Filter shaft for a vacuum disc filter used in hard coal dressing to obtain coking coal. ▶

MARKET DEVELOPMENT

The market for municipal sewage and drinking water sludge dewatering plants developed solidly in 2008. China, South America, and the Arabic area, in particular, showed significant growth compared to the previous year. The demand for industrial sludge dewatering equipment (e.g. for the metal and chemical industries and power stations) also remained stable at a high level.

In the field of solid/liquid separation in industrial applications (coal, ore, and mineral processing, chemical industry, food industry), project activitiy was very high during the first three quarters of 2008, especially so in the mining sector. During the fourth quarter of 2008, however, project activity declined as a result of the global economic slowdown and the drop in raw material prices in many regions.

Project activity for sludge drying plants mainly focused on the UK, Turkey, the Arabic states, Brazil, China, and Southeast Asia. Due to strongly rising energy (gas) prices in the first half of 2008, the market for refurbishments of drying plants with combined heat and power solutions, heat recovery, and plants with combined incineration developed favorably. In the USA and Canada, there was high demand for dryers from the potash industry.

The increased use of alternative fuels has resulted in brisk project activity for dryers for different kinds of biomass (especially wood chips, sawdust, and sugarcane bagasse[ABC]) for pellet production, as well as plants to dry residues from bioethanol production.

▲ ANDRITZ ENVIRONMENT & PROCESS membrane filter press used to dewater sludge from municipal wastewater treatment plants. The press reduces the sludge volume and produces clear filtrate that can be discharged to the sewer.

BUSINESS DEVELOPMENT

Sales of the business area amounted to 366.6 MEUR in 2008, thus almost unchanged compared to last year (2007: 364.4 MEUR). The Separation Technologies division, in particular, showed very solid sales development. EBITA ABC rose to 27.3 MEUR (+6.2% vs. 2007: 25.7 MEUR), showing a slightly stronger increase than sales. The EBITA margin ABC increased to 7.4% (2007: 7.1%).

Order intake during the reporting period was 361.2 MEUR, thus higher than in the previous year (2007: 346.9 MEUR). Order intake of the Separation Technologies division, in particular, continued its strong organic growth.

Order intake 2007: 346.9 MEUR
Order intake 2008: 361.2 MEUR

+4 %

A belt drying plant with a water evaporation capacity of 4.9 t/h was constructed for the City of Antalya, the first of its kind in Turkey. The dryer is 50% operated with waste heat and warm water from a gas motor.

In August 2008, ANDRITZ ENVIRONMENT & PROCESS successfully handed over a sludge drying plant in Singapore. At an evaporation capacity of 55 t/h, it is the largest plant of its type globally.

The order from Anglian Water, Great Britain for construction of a complete sludge drying plant, including sludge storage and dewatering, was successfully completed. >

Special technical and financial terms are marked ABC at their first occurrence in a chapter. They are explained in the glossary starting on page 104. If you have any queries, please do not hesitate to contact us at welcome@andritz.com

KEY FIGURES (MEUR)

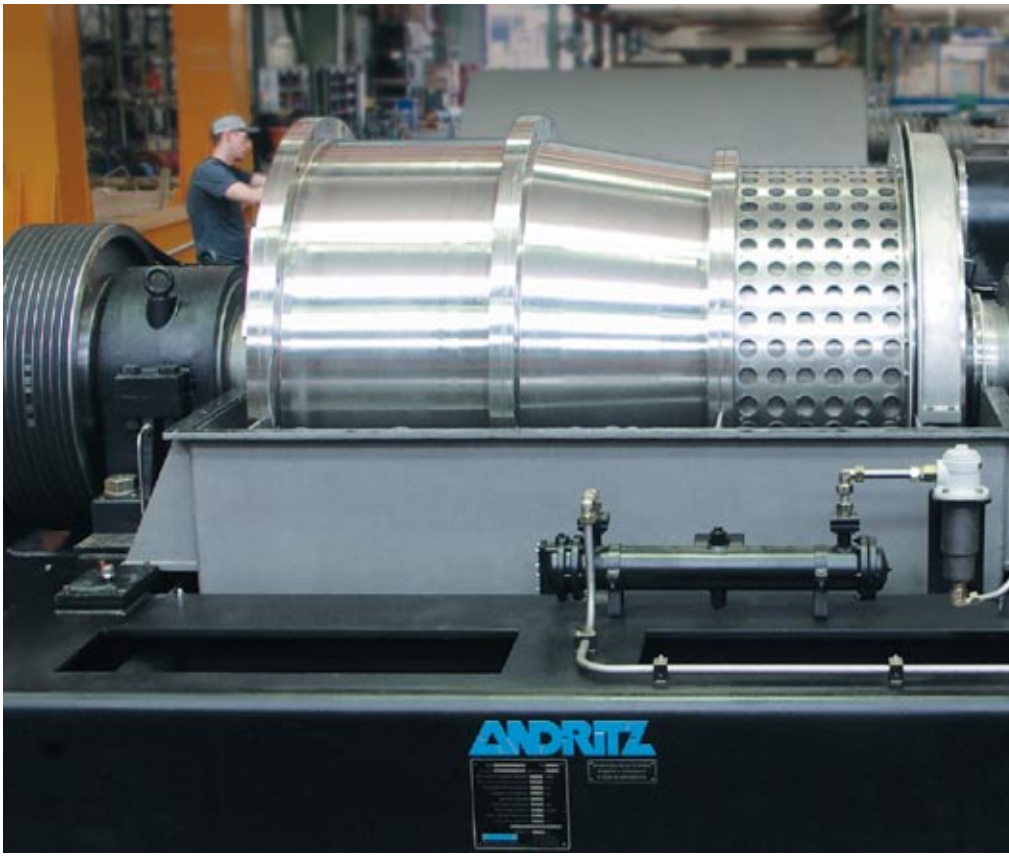
	2008	2007*	2006*	2005	2004
Order intake	361.2	346.9	344.2	340.1	200.7
Order backlog as of December 31	151.8	161.1	179.3	202.2	138.3
Sales	366.6	364.4	366.5	289.2	217.9
EBITDA	32.1	30.8	25.9	22.0	12.6
EBITDA margin	8.8%	8.5%	7.1%	7.6%	5.8%
EBITA	27.3	25.7	20.9	17.7	9.9
EBITA margin	7.4%	7.1%	5.7%	6.1%	4.5%
Capital investments	7.4	4.9	6.5	6.6	7.9
Employees as of December 31	1,437	1,349	1,324	1,213	926

* restated

MAJOR ORDERS

Separation Technologies division

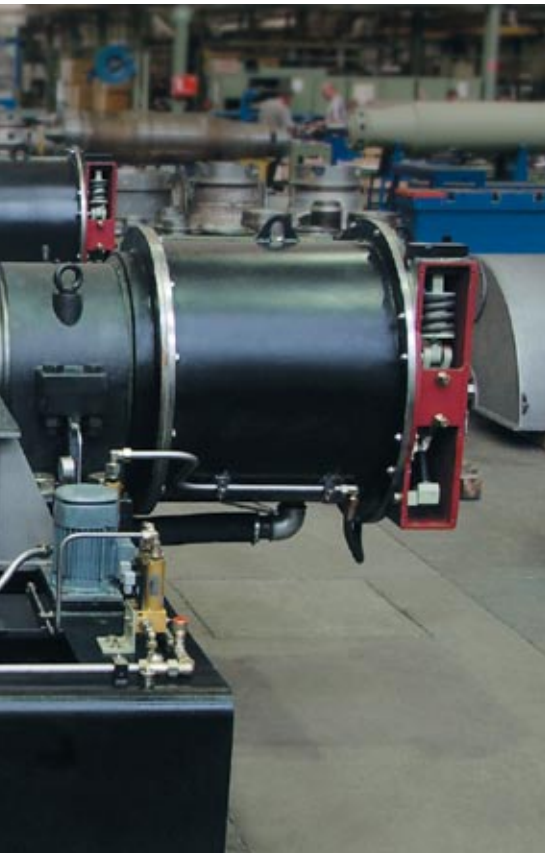
- The Separation Technologies division received a large number of orders for hyperbaric filtration (HBF ABC) systems, including orders for coal, bauxite, and copper dewatering in Russia, China, Brazil, and Chile.
- In the mining sector, numerous orders for filter presses were booked: The Votorantim Group ordered 26 filter presses for different applications in Brazil and Peru; Hindustan Zinc Ltd., India ordered 13 presses; and several filter press plants were also sold to customers in China and Poland.
- Thirteen centrifuges with a diameter of 1.4 m each for potash were sold to customers in Russia, Jordan, and Canada.
- Eight filter presses with a filtration area of approximately 1,300 m² each will be supplied for dewatering the contaminated sludges from the Fox River, USA.
- Centrifuges and pressure filters for PVC, HDPE ABC (High Density Polyethylene), and PTA ABC (Purified Terephtalic Acid) were ordered for petrochemical plants in China.
- Customers in Taiwan and Saudi Arabia ordered a total of twelve large centrifuges for bisphenol production.
- The City of Columbus, Ohio, USA placed an order for the supply of five decanter ABC centrifuges (four with a diameter of 1,200 mm and one with 700 mm) for sewage sludge thickening.
- Customers in Japan, France, and England ordered centrifuges for bioethanol plants. The division has, thus, been able to considerably increase its market share in this segment.
- Several customers in Russia ordered vacuum disc filters, belt presses, and centrifuges for coal dressing plants.



Thermal Process Technologies division

- JSC Kaustik, Sterlitamak, Bashkiria, Russia placed an order for a 100,000 t/y drying plant for S-PVC ABC. Two plants previously supplied to the same customer have been in operation since 1998.
- The first order for biomass belt dryer plants (evaporation capacity: 2 x 11 t/h) was awarded by Heggenstaller Holzindustrie GmbH in Lauterbach, Germany.
- A further belt dryer for biomass (water evaporation: 18 t/h) will be supplied by the division to Stora Enso Timber AB, Sweden as part of a wood pelleting plant. The pelleting lines will be supplied by the FEED & BIOFUEL business area.
- Yucheon Engineering Co. Ltd. ordered two drum dryers for a sludge drying plant for the City of Suwon, Korea.
- Shanghai Municipal Sewage Company signed a contract for three sludge drying plants for the extension of the Bailongang wastewater treatment plant in Pudong, China.
- Gezer, Turkey placed an order for a plant to dry sludge from the steel production process at Iskenderun steel works.
- PCS Potash Cory and AMEC-PCS, Canada, as well as Intrepid-Potash – NM LLC, USA ordered fluidized bed dryers ABC for potash.

RESEARCH AND DEVELOPMENT



▲ Screen bowl centrifuge used in salt (potassium chloride) production to separate the salt from aqueous solutions. Potassium chloride is used, e.g., in fertilizer substitutes or detergents. With a bowl diameter of 1.4 meters, this is the largest centrifuge for this application worldwide.

▲ One of the five drying drums supplied by ANDRITZ ENVIRONMENT & PROCESS for the drying plant for PUB (Public Utility Board), Changi, Singapore.

The programs to further enhance performance and/or reduce manufacturing costs for centrifuges were continued; numerous new products with an improved cost/benefit ratio were successfully introduced to the market. This has further increased the market share of ANDRITZ ENVIRONMENT & PROCESS even in very competitive markets. Promising results were achieved in large-scale tests to increase the throughput and dry contents achieved on centrifuges. Successful tests have continuously extended the applications for ANDRITZ centrifuges in the food industry. A quick-opening filter press for mining applications was developed and a patent filed; two such plants have been sold to customers in South America and Europe after successful long-time testing.

Work to develop a reliable and environmentally friendly system to minimize odor and TOC (Total Organic Carbon) compounds in the offgas from sludge drying plants was continued. Selected technologies will be tested on a pilot-scale in early 2009 to obtain practical findings on their efficiency.

Development work in biomass drying yielded the first successes soon after it had been started in 2007; the first two orders for the new belt dryer generation for biomass were won during the reporting period. Another development program in the field of biomass focused on increasing the value of biomass fuels through thermal pretreatment (torrefication). This treatment is aimed at increasing the energy density of biomass and making it insensitive to moisture. The pellets derived from torrefication are an ideal auxiliary fuel for power stations with coal dust firing. The Austrian research promotion agency (FFG – Forschungsförderungsgesellschaft) has granted subsidies for this project, which are now being used for research, development, and pilot testing by a consortium of which ANDRITZ is a member. The ANDRITZ Thermal Process Technologies division is focusing on the drying process, and the ANDRITZ FEED & BIOFUEL business area on the grinding and pelleting of the torrefied biomass fraction after the reactor.

Also in the field of biomass drying, pilot tests were successfully carried out with wheat-based DDGS (Dried Distillers Grains with Solubles).

To meet the demand for ever more energy-efficient drying systems, a drying plant has been developed that energetically links two different ANDRITZ drying systems to achieve extraordinarily low thermal energy consumption. This DoubleDry technology combines a fluidized bed dryer and a belt dryer, both of which are fed with sludge and produce dry granulate. The combined system reuses the residual heat from the fluidized bed dryer in belt drying, thus making two-fold, and therefore maximum, use of the heat contained in the primary energy applied.

Large-scale tests with residual fractions of shredded plastics in an industrial belt dryer were successfully concluded. The aim is to replace coal as fuel. ●

Further information on ANDRITZ ENVIRONMENT & PROCESS is available at: www.andritz.com

PRODUCT AND SERVICE PORTFOLIO

PLANTS, EQUIPMENT, AND SERVICES FOR THE PRODUCTION OF ANIMAL FEED AND BIOMASS PELLETS, ESPECIALLY WOOD PELLETS.

ANDRITZ
Feed & Biofuel

The business area manager:

Peter Fuchs ▪ Esbjerg ▪ Denmark

8.4 million households could be provided with electricity

In 2008, nine million tons of wood pellets were produced in 440 production plants worldwide. Burning all of these pellets would generate enough energy to cover the annual electricity needs of approximately 8.4 million European households (based on an annual consumption of 5,000 kWh per household and the fact that 215 grams of wood pellets are needed to generate one kilowatt-hour of electricity).

Biofuel pellets are mainly made of waste wood, such as shavings, and are thus a very cost-efficient source of energy. The use of wood pellets also helps to protect the environment as their production is CO_2 neutral and they replace fossil fuels.

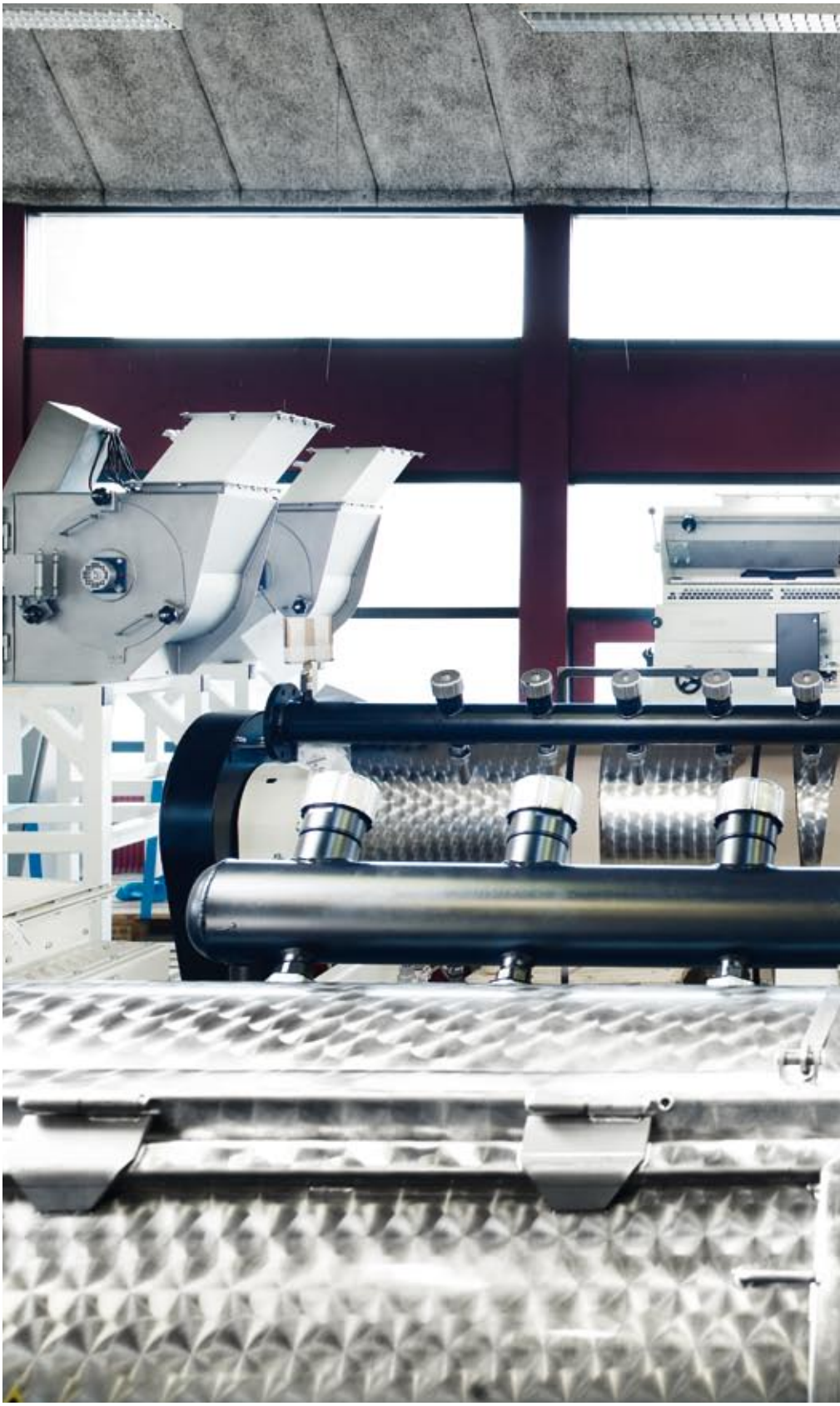
The strong growth in the demand for wood pellets is mainly driven by the increasing efforts of many countries in environmental and climate protection, as well as rising oil and gas prices. Wood pellet production increased by an annual average of 20% between 2006 and 2008. ANDRITZ FEED & BIOFUEL is among the leading suppliers of machinery in this growth market. >

◀ The Bohemian Forest, a range of wooded mountains and hills running along a 120 km stretch of the borders between Germany, the Czech Republic, and Austria.

PROFILE

The FEED & BIOFUEL business area is a global market leader for supplying machines and systems, pellet mill consumables, such as dies and rolls, and other technical services to the animal feed industry (the pet food industry, and the fish and shrimp feed industries). The business area also holds a leading position in the fast-growing markets for wood fuel pelleting and for pelleting of agricultural and industrial by-products.

The business area operates globally from five main sites (Esbjerg, Denmark; Geldrop, the Netherlands; Muncy, PA, USA; Humenné, Slovakia; Sanshui, China) and ten regional sales and service offices, being supported by a strong network of local distributors and sub-suppliers. >



ANDRITZ FEED & BIOFUEL conditioner for animal feed production plants. Conditioning helps to generate a homogeneous product (for subsequent pelleting) from different raw materials by adding fluid and steam. Steam heating also eliminates bacteria, thus resulting in pasteurization of the material. ▶


ANDRITZ

MARKET DEVELOPMENT

The investment activity in the animal feed sector continued at a good level in 2008, with Eastern Europe, Russia, and Central and South America being the most active regions. This positive development was mainly driven by the expansion projects of large international vertically integrated meat producers, as well as medium-sized regional companies.

In the area of aquatic feed, projects focused on both plant expansions and greenfield projects; in particular, the freshwater fish farming sector in Asia was very active. Project activity for expansions of aqua-feed capacities in the Middle East and Mediterranean regions was high during the first half of the year. Investment activity in the pet food industry remained at a good level, with Western Europe and South America being the most active regions.

The renewable energy sector continued to develop favorably. The wood and other biomass pelleting industry released several new projects in Northwestern, Southern, and Eastern Europe. The market activity in North America was at a fair level, even though it did not reach the very high level of 2007. In the new regions for wood and other biomass pelleting for fuel production – South America and Asia – project activity was on the rise.

▲ ANDRITZ FEED & BIOFUEL extruder ABC supplied to Internacional de Comercio y Servicios S.l. for a cereal feed production plant in Marin, Spain.

▲ Pellet mill supplied by ANDRITZ FEED & BIOFUEL to Vapo Oy, Vilpulla, Finland for a wood pelleting application.

BUSINESS DEVELOPMENT

Sales of the business area increased to 144.5 MEUR in 2008 (+4.9% vs. 2007: 137.8 MEUR). EBITA ABC amounted to 11.6 MEUR (2007: 13.4 MEUR), the EBITA margin ABC decreased to 8.0% (2007: 9.7%). This is mainly due to reduced capacity utilization of the business area in North America resulting from the global economic crisis.

Order intake showed very satisfactory development during the reporting period, increasing to 155.4 MEUR, 8.1% up from the previous year (2007: 143.7 MEUR). >

Order intake 2007: 143.7 MEUR
Order intake 2008: 155.4 MEUR

+8%

Special technical and financial terms are marked ABC at their first occurrence in a chapter. They are explained in the glossary starting on page 104. If you have any queries, please do not hesitate to contact us at welcome@andritz.com

KEY FIGURES (MEUR)

	2008	2007*	2006*	2005	2004
Order intake	155.4	143.7	127.1	101.2	92.0
Order backlog as of December 31	46.5	35.3	30.2	23.6	16.0
Sales	144.5	137.8	120.6	93.6	99.6
EBITDA	13.3	15.2	12.9	9.8	5.1
EBITDA margin	9.2%	11.0%	10.7%	10.5%	5.1%
EBITA	11.6	13.4	10.6	7.2	2.2
EBITA margin	8.0%	9.7%	8.8%	7.7%	2.2%
Capital investments	2.9	1.7	1.7	0.9	1.6
Employees as of December 31	566	553	531	489	482

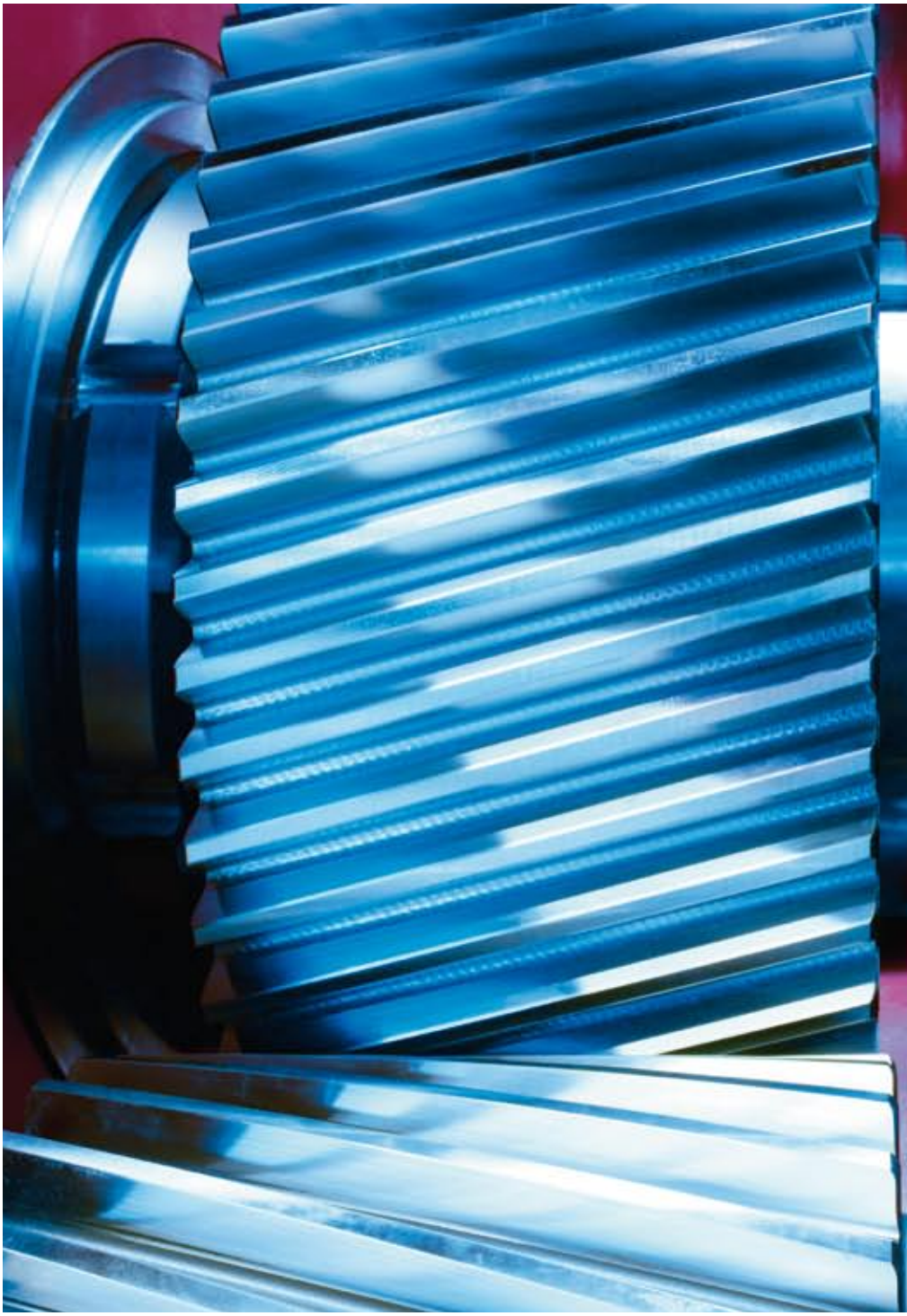
* restated

MAJOR ORDERS

- The business area booked several orders for large processing lines for animal feed production, mainly in Eastern and Western Europe and South America.

- Several orders were booked for aquatic feed extrusion ABC lines, including orders in Asia and a large order for a greenfield aquatic feed plant from a Western European customer.

- Significant orders for large wood and other biomass pelleting lines were won in North America, Southern and Eastern Europe, and Scandinavia. A large order for a complete 160,000 t/y wood pelleting plant including the drying solution, which will be provided by the ENVIRONMENT & PROCESS business area, was secured in Sweden. An energy company in the UK ordered a large straw pelleting plant. The business area also received an order for pelleting solutions for a new bio-ethanol plant in Northern Europe.



RESEARCH AND DEVELOPMENT

▲ Close-up of an ANDRITZ FEED & BIOFUEL pellet mill for animal feed pelleting. Shown is the gearbox.

The business area developed a new-generation automation concept for its processing lines, which offers – besides process automation – process and raw material ingredients traceability.

A solution for increasing capacity from 6 to 10 t/h for medium-sized extruders, targeting the pet food and aquatic feed segments, was developed and successfully introduced to the market.

The FEED & BIOFUEL business area is taking part in a development program aimed at increasing the value of biomass fuels through thermal pretreatment (torrefication). This program is also part of the ENVIRONMENT & PROCESS business area's R&D activities. Torrefication is used to raise the energy density of biomass and make it insensitive to moisture. The torrefied pellets are an ideal auxiliary fuel in power stations with coal dust firing. The Austrian research promotion agency (FFG – Forschungsförderungsgesellschaft) has granted subsidies for this project, which are now being used for research, development, and pilot testing by a consortium of which ANDRITZ is a member. The FEED & BIOFUEL business area is focusing on the grinding and pelleting of the torrefied biomass fraction. ●

Further information on ANDRITZ FEED & BIOFUEL is available at: www.andritz.com

MANUFACTURING

The ANDRITZ GROUP runs 57 manufacturing and service sites in Europe, North America, South America, and Asia. These sites manufacture and assemble the key components for ANDRITZ equipment and systems. The highly qualified and experienced staff, as well as state-of-the-art production equipment and continuously improved processes, ensure the highest product quality and reliable, on-time order execution.

Manufacturing strategy

In order to remain successful and competitive on the global markets, ANDRITZ pursues a clear strategy to continually enhance its manufacturing competence and presence. The focus is on expanding the manufacturing presence in the growth markets of China, India, and South America, and on further developing and expanding well-established sites in Europe and North America.

The broad product portfolio, from single components to complete machines and to complex plants and services, holds specific challenges with regard to manufacturing equipment and cyclicality management. Procurement management is continuously optimized and adapted to the prevailing market requirements.

ANDRITZ's manufacturing strategy is based on in-house manufacture and purchase of manufacturing services, taking into account the optimum utilization of its own capacities. In accordance with this make-or-buy strategy, all process-relevant key components for plants and individual products are made and assembled at ANDRITZ's own workshops. Simple components, on the other hand, are purchased from qualified suppliers, who are subjected to regular quality checks and on-time performance monitoring.

Investments focus on new manufacturing technologies, automation, capacity adaptations at bottlenecks, and targeted enlargement of the value-added chain.

Capacity and time management

Short lead times and on-time production require precise planning, as well as committed and flexible employees. Internally, ANDRITZ uses flextime contracts and a high portion of temporary workforce to cope with cyclical fluctuations and peaks in workload. In addition, handling of the outsourced business volume is continuously improved by efficient supplier management; the pool of suppliers is permanently enlarged with new, qualified companies.

Professional project management ensures that ANDRITZ meets its contractual milestones over the entire manufacturing process chain, from order intake to start-up.

Major developments in 2008

To be able to process the large order backlog as of December 31, 2007 according to schedule, the purchase of manufacturing services was increased during the first half of 2008 – in addition to the full utilization of existing Group-wide manufacturing capacities. As a result of the global economic weakness, workload began to decrease in some segments, particularly in PULP & PAPER, during the second half of 2008. In the HYDRO business area, on the other hand, workload increased during the same period.

The program initiated to achieve the global target of establishing World Class Standards at all existing and newly acquired manufacturing sites was continued, and the following additional projects were implemented:

- Cooperation between the manufacturing site in Weiz, Austria (ANDRITZ HYDRO) and the manufacturing site in Tiszakécske, Hungary (ANDRITZ Kft.) to ensure sufficient manufacturing capacity to cover the increasing demand.

- Integration and extension of the Tiszakécske, Hungary manufacturing site acquired in 2007, with focus on large component manufacture and implementation of an automated manufacturing line for heat exchanger plates.

- Successful implementation of a comprehensive optimization program at the Chinese sites in Foshan and Sanshui.

- Product transfer and production ramp-up of die manufacture at the facility in Sanshui, China.

- Realization of projects to increase capacity and enlarge the product portfolio at the ANDRITZ HYDRO sites in Bhopal and Faridabad, India.

- At the Pomerode, Brazil site, extension of manufacturing capacities for the Separa-

▲ Key process equipment for ANDRITZ plants and products is manufactured and assembled at ANDRITZ's own workshops. An example is the pressure vessel (shown in the picture) for a hyperbaric filtration plant (HBF ABC) that will be supplied to Anglo Chile for copper suspension filtration. Simple components are purchased from qualified suppliers who are subjected to regular quality checks and on-time performance monitoring.

tion Technologies division and installation of pump manufacture.

- Reorganization and structural improvements at service sites in the USA.
- Reorganization and capacity adaptations at the sites in Krefeld, Germany and Savonlinna, Finland.
- Implementation of improvement programs at the FEED & BIOFUEL sites in Denmark, Slovakia, and the USA.
- Ramp-up of the ANDRITZ Wolfensberger stainless steel foundry in Sanshui, China; successful qualification for ANDRITZ HYDRO products.

The acquisition of GE Energy's hydropower activities has added winding bar manufacture in Lachine, Canada to ANDRITZ HYDRO's manufacturing capacities. As a result of the acquisition of the majority interest in the GE Hydro Inepar do Brasil joint venture, now ANDRITZ HYDRO Inepar do Brasil (AHI), a manufacturing site for electrical equipment and large mechanical parts in Araraquara, Brazil, as well as a turbine service site in Tampere, Finland, have been integrated into the ANDRITZ manufacturing network.

The acquisition of Kufferath with two manufacturing sites in Düren, Germany and Levice, Slovakia has added technical cloth production to ANDRITZ's manufacturing capabilities.

Activities for the assembly and testing of stock pumps were combined at the Sanshui, China site. The new pump test center was started up, and construction of the new assembly and logistics center for pumps was commenced.

In Regensburg, Germany the first fully automatic assembly line for wire baskets was successfully started up.

ANDRITZ Kft., Hungary received an award from Siemens Power Generation as 'Supplier of the Year' for welded parts. ●

Manufacturing and service locations of the ANDRITZ GROUP

EUROPE

Austria: Graz (headquarters of the ANDRITZ GROUP), Weiz ■ **Denmark:** Esbjerg ■ **Finland:** Päiverinne, Hollola, Savonlinna, Tampere, Varkaus ■ **France:** Châteauroux, Saint Martin Le Beau ■ **Germany:** Bretten-Gölshausen, Düren, Hemer, Cologne, Krefeld, Ravensburg, Regensburg, Senden ■ **Great Britain:** Hull, Newcastle-under-Lyme ■ **Hungary:** Tiszakécske ■ **Netherlands:** Den Helder, Geldrop ■ **Norway:** Jevnaker ■ **Romania:** Sibiu ■ **Slovakia:** Humenné, Levice, Spišská Nová Ves ■ **Spain:** Madrid ■ **Sweden:** Nälden, Örnsköldsvik, Växjö, Vallentuna ■ **Switzerland:** Kriens

NORTH AMERICA

Canada: Brantford, Lachine, Saskatoon ■ **Mexico:** Morelia ■ **USA:** Arlington, Houston, Lakeland, Muncy, Pell City, Pittsburgh, San Leandro, Scott Depot, Spartanburg

SOUTH AMERICA

Brazil: Araraquara, Pomerode, Vinhedo

CHINA

Foshan, Sanshui

ASIA (EXCL. CHINA)

India: Bhopal, Chennai, Faridabad ■ **Malaysia:** Selangor ■ **Singapore:** Singapore

QUALITY MANAGEMENT AND PROCUREMENT

QUALITY MANAGEMENT

The high technical level of ANDRITZ products and systems requires the highest manufacturing standards, systematic organization, clearly defined business processes, and well-trained employees. ANDRITZ Quality Management plays a major role in implementing operating standards for products, process and personnel management, and in providing continuous feedback on the effects and fulfilment of these standards. Staffing of the quality team has been considerably increased in step with the strong growth of the ANDRITZ GROUP.

One focus of ANDRITZ's quality management activities in 2008 was again on product quality, with a two-fold approach for quality assurance in the engineering phase and in ANDRITZ's own, and outsourced, manufacturing. A key role is played by the quality of information transfer. The successful creation of the ERP module for quality assurance and continuous improvement has been an important milestone in this context.

In addition, the quality management team focused on supporting the integration of newly purchased companies as well as harmonizing and making available process- and product-related requirements and all necessary rules and standards. The Group-wide network of quality managers and engineers has made good progress in implementing the quality policy and reaching the set goals.

Special attention was given to the aspect of risk management. In the early stages of a customer project, when major decisions relevant for the outcome of a project are made, it is particularly important to utilize the entire experience available in all applicable units.

More resources have been deployed in supplier assessment and management to further improve efficiency in the cooperation with important suppliers, and to support Procurement in the search for and qualification of new suppliers.

PROCUREMENT

Due to the strong growth of the ANDRITZ GROUP over the past few years and in an effort to better utilize the potential of the increasingly globalized procurement markets, ANDRITZ has reorganized its procurement activities and, in 2008, installed a Group-wide, centrally coordinated network – ANDRITZ Global Procurement.

The new global organization aims to make an essential contribution to further increasing ANDRITZ's competitiveness by reducing the costs of material and services purchased. Strategies and measures to achieve this goal include:

- Optimum utilization of the global procurement markets.
- Early integration of Global Procurement in the project acquisition phase to fix target costs for materials and external services, reconciling sales and purchase strategies in the best possible way.
- Bundling of cross-divisional and global demand.
- Global implementation of a standardized supplier management process.
- Ensuring optimum supply through continuous improvement of logistics.

New purchasing functions were created to achieve these goals effectively and efficiently. Business Area Procurement was installed to coordinate the purchasing organizations of all divisions and sites of a specific business area, thus ensuring swift implementation of all purchasing strategies. Category Teams develop and implement worldwide purchasing strategies for defined material fields. The Project Procurement Management function was introduced to achieve optimum integration and utilization of purchasing resources for specific customer projects, thereby fixing as best as possible the target costs for materials and external services. Purchasing Controlling and support to purchasing organizations within defined regions were also enhanced.

A steering committee, consisting of the managers of the individual purchasing functions and headed by the Global Procurement manager, monitors effective and efficient functioning of the global purchasing network. ●

HUMAN RESOURCES MANAGEMENT

At the end of 2008, the number of ANDRITZ GROUP employees amounted to 13,707, an increase of 14.1% over December 31, 2007 (12,016 employees). This growth was mainly driven by sales force increases in emerging markets, by recruitment of highly skilled workers and engineers in Europe, and by acquisitions of companies: Waplans, Sweden; Maerz, Germany; Kufferath, Germany; General Electric's hydropower activities, Canada; and the majority interest in the joint venture GE Hydro Inepar, Brazil.

2007: 12,016 employees
2008: 13,707 employees

+14%

In 2008, the ANDRITZ GROUP was again able to successfully fill all vacant key positions; for some of these vacancies, managers with global experience were recruited externally. Internal development of management resources continued to be a focus of global ANDRITZ Human Resources activities in 2008. Special attention was given to high potentials and growth markets.

Due to the general economic weakness and its effects on the ANDRITZ GROUP, programs to reduce personnel capacities and costs were initiated in some areas of the company.

Major developments in 2008

Given the growth of the company over the past few years and the global presence of the ANDRITZ GROUP, Human Resources Management (HRM) was established as a Group function in 2008 to focus on and strengthen multi-site personnel management tasks. Planning succession to global top positions – for instance, management of business areas, divisions, or affiliates – and the targeted promotion of high potentials can, thus, be coordinated on a Group-wide basis and organized more effectively.

The global development programs for managers are planned to be made available to a larger group of key persons. This will ensure optimum preparation of internal candidates for succession to key posts, while also developing sufficient management resources for new business opportunities.

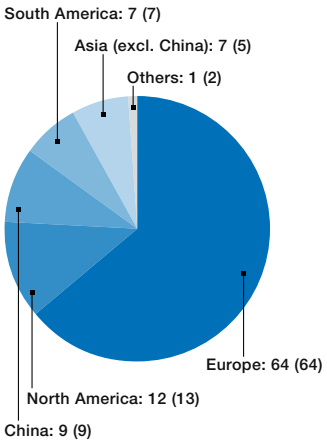
Target agreement and bonus systems will be further harmonized and a uniform evaluation plan introduced to render performances more transparent, thus supporting additional increases. Appraisal interviews will be further systematized to reveal employee potentials, enabling the HRM departments to better adapt training programs to requirements and targets.

A newly installed committee of Human Resources managers of major ANDRITZ companies will lead the implementation of the global HRM function ensuring Group-wide establishment of standards and best practices.

The practice of holding the Group-wide management trainings under the ANDRITZ GROUP Management Challenge program, which is carried out together with the St. Gallen Management Center of Switzerland, was successfully continued during the reporting year. To support the development of managers in growth markets, the program was successfully carried out with local management staff in Brazil for the first time. In Finland, the ANDRITZ Young Talents Development Program to promote future managers was held for the third time. The program aims to reveal the potential of junior staff for top management posts.

The number of employees delegated to affiliates to fulfill management tasks on a temporary basis considerably increased during 2008. The conditions for these deployments abroad have been systematized in cooperation with the local managements. ●

Employees by region 2008 (2007) in %



AUTOMATION

PROFILE

ANDRITZ Automation combines automation know-how with in-house expertise in process and mechanical design to develop unique customer-oriented automation products that meet customers' technical and economical requirements. Complete automation systems from one source enable short start-up times and the smooth operation of ANDRITZ plants and technologies.

ANDRITZ Automation: Global network with approximately 1,000 engineers at 67 sites in 24 countries.

The global network consists of the Automation Solutions division as well as the automation units ANDRITZ HYDRO Automation, ANDRITZ METALS Automation, and the electrification and automation specialists in the PULP & PAPER, ENVIRONMENT & PROCESS, as well as FEED & BIOFUEL business areas.

The Automation Solutions division was established in late 2007 and provides simulation models, advanced process control technologies, and special sensors to improve customer plants as part of comprehensive lifetime services.

PRODUCT DEVELOPMENTS

In 2008, the ANDRITZ Automation network continued to develop and implement new instrumentation and advanced process control solutions for the pulp and paper, mining, chemical, and glass industries. These developments are designed to achieve higher production rates, increased quality, and lower energy and operating costs, thus maximizing profitability of customer plants. SpectraVision™ optical sensors were introduced to measure fiber and pulp properties continuously and in-line without a complicated and separate sampling system. The ANDRITZ Process Control System, a DCS adapted to ANDRITZ processes, was developed and successfully implemented on three pulp lines in China.

ANDRITZ HYDRO Automation develops innovative digital protection, excitation, and SCADA (Supervisory Control and Data Acquisition) systems with ergonomically optimized solutions for operators in power stations. The development of the new excitation system, THYNE1, was completed with the successful commissioning of two systems in Italy and Austria.

In the ENVIRONMENT & PROCESS business area, controls for filter presses, belt presses, and centrifuges were developed and successfully introduced to the market. Automation modules for belt dryers were standardized with reliable sensors and controls.

For the FEED & BIOFUEL business area, ANDRITZ Automation developed a new generation of automation modules. A unique hardware and software platform for single machines and total plant process controls was developed. The product features excellent ability for modularization and scalability and allows easy adaptation to customer requirements.

BUSINESS DEVELOPMENT

ANDRITZ Automation successfully finalized the commissioning and start-up of three complete tissue plants with integrated automation solutions for process control, drive system, hydraulic system, and quality control system at ICT, Poland; KISA, Sweden; and FRIPA, Germany.

A major rebuild of a pulp screening, dewatering, and drying line with bale finishing was performed in minimum shutdown time at Celbi, Leirosa mill, Spain. ANDRITZ Automation supplied a power distribution system, drive system, and motor control center (MCC) for the entire pulp drying line and the integrated automation system BaleMatic™ for cutter, layboy, and baling line.

A pulp drying automation system with cutter control was handed over to Sappi Saiccor, Umkomaas mill, South Africa.

At the paper mills UPM Schongau, Germany, and Perlen, Switzerland, SpectraVision™ optical sensors in closed control loops were installed to continuously optimize the fiber and pulp properties.

A successful start-up of a pulp drying plant with BaleMatic™ for cutter, layboy, and baling line occurred at Hunan Tiger Forest and Paper Group, Huaihua mill, China.

Significant improvement of overall plant operation was achieved at the Brazilian Veracel pulp mill through the installation of a Pulp-Drying ACE™ solution. This advanced control and optimization solution helps to reduce downtime during pulp threading, optimize pulp flow, optimize steam flow, and reduce moisture variation after the dryer.

In the mining business, the use of IDEAS software for process design continued at BHP Billiton, the largest diversified resources company in the world. Several mining companies in Chile and Canada used the BrainWave® advanced control systems to optimize their SAG (Semi-Autogenous Grinding) mills and flotation circuits. Oil sand treatment in Canada continues to be a strong business for ANDRITZ, with companies choosing to use the IDEAS simulator to assist in the design of several new plants. Design work using the simulator began on the long-term PetroCanada Fort Hills oil sands project.

In the METALS business area, several important milestones were achieved in 2008 on projects involving process technology and AEI (Automation, Electrification, and Instrumentation). This included the first coil production on processing lines at Lianzhong Stainless Steel Corporation, China and North American Stainless, USA, as well as final acceptance certificates at Jiuquan Iron and Steel (Group) Co., Ltd., China and at OJSC Novolipetsk Steel, Russia.

Complete automation systems for municipal sludge drying plants were started up in Ashford and Tilbury, UK. The Changi, Singapore drum drying plant with the largest redundant PROFI bus system (1,200 nodes) in the Far East was successfully handed over to the customer in mid-2008.

IMPORTANT ORDERS

ANDRITZ HYDRO Automation received several orders for projects worldwide, including large control systems in Turkey and India, a SCADA system in Italy, protection systems in Austria and Germany, and large excitation systems in Asia. The existing excitation business with one of the leading suppliers of thermal power plants worldwide was successfully expanded.

In the METALS business area, Jindal Stainless Steel Limited ordered a hot-rolled strip annealing and pickling line with an inline reduction rolling mill, as well as a cold-rolled strip annealing and pickling line with three inline reduction rolling mills and one inline skin-pass mill for Hisar, India. ANDRITZ METALS Automation will deliver the process automation and instrumentation, and coordinate the overall electrification.

Wuhan Iron & Steel Co., Ltd., China ordered a new electrolytic galvanizing process section for which ANDRITZ METALS Automation will supply the complete electrification of the process.

ANDRITZ METALS Automation will supply the complete AEI (Automation, Electrification, and Instrumentation) for a new electrolytic galvanizing line at Tianjin Tiantie Metallurgical (Group) Corporation Steel Plate Co., Ltd., and for a new continuous pickling line and cold rolling mill at Baoji Titanium Industry Co. Ltd., both in China.

ANDRITZ METALS Automation was able to further improve its position as a leading supplier of automation systems for cold rolling mills. Orders in the strategic markets of China and India covered the total plant control with AGC (Automatic Gap Control) and AFC (Advanced Flatness Control) for two 20-high rolling mills at Baoji, China and Jindal Stainless Steel Limited, India.

Level 2 automation and advanced technology packages for rolling mills were ordered for the modernization of ArcelorMittal stainless steel mill, Belgium.

Palm GmbH, Aalen, Germany entrusted the Automation Solutions division with the modernization of the deinking plant's DCS and automation technology. A special service concept ('On-the-Fly' upgrade) will be employed to minimize production interruptions. ●

Special technical and financial terms are marked ABC at their first occurrence in a chapter. They are explained in the glossary starting on page 104. If you have any queries, please do not hesitate to contact us at: welcome@andritz.com

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GLOSSARY

A

ACE™
Advanced Control Expert
ANDRITZ software platform for all process optimizing solutions in the pulp and paper industry.

Advanced process control
Generic term for different control strategies; ANDRITZ mainly uses model-based controllers (e.g. BrainWave®) for complex control tasks.

Airborne dryer
A machine which, by means of hot air, evaporates water from the pulp mat which is formed on a pulp machine and feeds the pulp sheet, with approximately 10% residual moisture, into a pulp cutter with layboy.

Annealing
Process in which metal is heated, retained at a suitable temperature, then cooled rapidly or slowly to reduce internal stress. As a result, the metal becomes softer and more workable, particularly in cold processes.

Annual General Meeting
Body of a stock company which usually meets at least once a year and takes resolutions on important company matters according to company law.

APMP
See 'P-RC™ APMP.'

Approach equipment/flow system
Feeding system that provides stable feeding conditions for the paper/board machine.

ATX
Austrian Traded Index
Price index calculated by the Vienna Stock Exchange, containing the most actively traded shares on the Vienna Stock Exchange. The ATX comprises approximately 20 shares, weighted in the index according to market capitalization and free float.

ATXPrime
Price index calculated by the Vienna Stock Exchange and containing all the shares of the ATXPrime Market segment.

Authorized capital
Authorization by resolution of the Shareholders' Meeting allowing the Executive Board to increase the share capital by a maximum of 50% within five years by issuing new shares.

AWP
ANDRITZ Wash Press
Equipment for pulp washing and dewatering.

B

Bagasse
A residue of industrial sugar production from sugarcane. Apart from the plant juice, large amounts of fibrous material remain, approximately 30% of which is used as fuel within the sugar factory. The other 70% is a valuable raw material, which – due to its high cellulose content – can be used in a variety of production processes, e.g. of paper, board, and packaging materials.

BFB
Bubbling Fluidized Bed (BFB) combustion is the state-of-the-art combustion technology for a wide range of biomass and other fuels. The BFB consists of a layer of inert bed material (about one meter, usually sand) that is fluidized by blowing air through the bed layer. The fuel is fed in above the bed and combustion takes place in the boiler furnace with secondary air.

Biomass boiler
See 'Power boiler.'

Black liquor
Mixture of spent cooking chemicals and dissolved wood material remaining after sulphate cooking. Black liquor is recovered during pulp washing, concentrated by evaporation, and burned in the recovery boiler to regenerate the cooking chemicals and also produce energy for the mill.

BrainWave®
Model-based controller used for complex control tasks.

BTL
Biomass to Liquid
Production of liquid transportation fuels from solid biomass feed stocks.

C

Calender
In paper, nonwovens, and textile production, machine with one or several rolls, which causes certain profile and surface properties in web materials (gloss, strength, roughness).

Cassette module system
Enables the automatic changing of cassettes having rolls of different diameters and a differing number of rolls. This allows treating a larger spectrum of materials with one machine.

Coating
In paper production, process through which the surface of paper or board is closed by chemical substances or a color coat. This improves certain properties (e.g. the printability of paper) significantly and prepares the material for certain uses.

Cold-rolled strip
Cold-rolled stainless steel has been subjected to several processes after hot rolling including annealing, pickling, reduction rolling (cold rolling), and further thermal and surface treatment steps. These process steps serve to adjust the technological characteristics (corrosion resistance, temperature resistance, cold forming capability, etc.).

Compact bulb turbine
Special form of Kaplan turbine; generator and turbine in one housing directly in the flow current.

Condensate stripping system
A distillation system for treating evaporator foul condensate; removes methanol and TRS (Total Reduced Sulphur) compounds that would prevent water reuse. In modern mills, an integral part of an evaporation plant.

Cooking
Process to produce pulp (fibers) for papermaking. Wood chips or other cellulosic materials are treated in a pressure vessel with chemicals under elevated pressure and temperature. Reactions dissolve lignin ('glue') and liberate the fibers from the wood matrix without using mechanical action.

Corporate bond
Bonds are securities that embody the rights to certain claims. A corporation or state uses bonds to raise debt capital. Bonds are also often referred to as 'debentures', 'debenture bonds', or (because their payments usually remain the same) as 'fixed interest securities.'

Corporate Governance Code
Set of rules for Austrian corporations that provides a regulatory framework for responsible company management and control. It is a yardstick for good corporate governance.

Creping dryer (Yankee cylinder)
Creping dryers are used in the drying section of a tissue machine. They are steam-heated, with diameters between 3 and 5.5 m, widths between 2.5 and 6.5 m and weights of up to 125 tons. They run with circumferential speeds of up to 2,200 m/min. The paper is pressed onto these cylinders, dried, and, when dry, creped by a special doctor.

Curtain coater
Process for coating paper and board. The coating medium is applied to the paper web by means of a long, high-precision die installed above the web. As the coating medium is being applied onto the web, it gives the impression of forming a curtain.

CVD
Chemical Vapor Deposition
A coating process which generally uses a gas-phase precursor to deposit thin films on the surface of a substrate. Metal-organic precursors can be used to deposit corrosion resistant coatings on metal surfaces.

D

DD washer
Drum Displacer® washer
This washer can be used in all fiberline process stages to separate the waste liquor that is generated during cooking and that contains dissolved wood and chemicals from the stock. It is a pressurized multistage washer which can include as many as four stages.

DDGS
Dried Distillers Grains with Solubles
Animal feed produced from a by-product from bioethanol production.

Decanter centrifuge
A continuously-operating centrifuge for separating materials of different density using high centrifugal forces (approximately 3,000 times the gravitational acceleration).

Deinking
A process in which most of the ink, filler, and other extraneous material is removed from printed and/or unprinted recovered paper. The result is a pulp which can be used in the manufacture of new paper, including tissue, printing, writing, and office papers.

Delignification
Removal of lignin from wood fibers. This is performed primarily in the cooking process and further carried out in the washing and bleaching process. In bleaching, ECF pulp mills use chlorine compounds (chlorine dioxide) for this process, although it can be achieved with oxygen, hydrogen peroxide, or ozone (which do not create organo-chlorines).

Dividend
That part of a company's profits paid out to the shareholders. The amount of the dividend is proposed by the Executive Board of a company and approved in a resolution by the Shareholders' Meeting.

Downflow Lo-Solids® cooking
Continuous cooking process which makes use of the distributed reactive cooking chemicals addition (even alkali profile), clean filtrate addition, and multiple black liquor extraction points to create a 'cleaner', lower dissolved solids cooking environment. Chips and liquor inside the digester vessel are flowing most of the time cocurrently, and, together with the above-mentioned features, this results in improved chip column movement and more uniform pulp quality control.

E

EBITA
Earnings before Interest, Taxes, and Amortization of goodwill
This earnings measure is of particular interest in cases where companies have high goodwill. EBITA is a good measure of comparing companies within industries.

EBITA margin
Financial figure that calculates the EBITA in relation to sales and states the profitability over a specific period.

ECF
Elemental Chlorine-Free pulp
Pulp bleached without the use of any elemental chlorine. However, chlorine compounds (e. g. chlorine dioxide) may be used in the bleaching process.

EPC
Engineer Procure Construct
A project delivery where one supplier assumes total responsibility for product and project engineering, equipment and construction procurement, and on-site construction.

Equity ratio
The equity ratio indicates the proportion of equity capital in a company's total assets (balance sheet total).

Evaporation plant
System for removing water from black liquor so that it can be efficiently burned in a recovery boiler. At the same time, the evaporated water is segregated and cleaned for reuse in the pulp mill processes.

Ex-dividend
The price of the share is lowered by the amount of the dividend a few days before the dividend is paid out.

Extruder
See 'Extrusion.'

Extrusion
A continuous process in which animal feed components are cooked under pressure in a combination of frictional and steam heat in order to expand the resulting product and convert it into feed granulate. This process is very common in the production of pet food, fish feed, and cereals.

F

Fiberline
The machines and process systems involved in converting wood chips into pulp. Process steps can include cooking, washing, screening, knot separation, refining, and, if required, bleaching.

Fischer-Tropsch
Technology developed in the 1920s to convert coal into liquid fuels. Today, this method is also applied to converting gas from biomass gasification into liquid fuels.

Fluidized bed drying
Thermal process causing free-flowing products such as plastics, chemicals, etc., or sludges to float due to gas or air infeed and to dry by intensive material and heat transfer between the fluidizing gas and the product.

FlyingWing Deculator®
Equipment used in stock preparation and approach flow systems, which ensures complete removal of all entrained air and dissolved gases from the fibers.

Four-high skin-pass mill
The four-high skin-pass mill consists of four rolls arranged in a vertical line. The cold strip rolled in a reducing rolling mill, and subsequently annealed, is further treated in the skin-pass mill in order to improve the forming properties and surface quality.

Francis turbine
This reaction turbine is the most widely used and most universal type of water turbine; used primarily in run-of-river and storage power stations with medium flow rate and medium head.

Free float
The proportion of a corporation's shares that is traded on the stock market and is not held by investors with a very long-term interest in the company.

G

Gasification
Gasification is a process for converting carbon-containing feed stocks, such as coal, petroleum, or biomass, into gas by causing the raw material to react with a controlled amount of air, oxygen, and/or steam at high temperatures.

Gravitel
Process developed by ANDRITZ and used for electrolytic galvanizing of steel strip.

Green liquor
Aqueous solution of the smelt resulting from the burning of thickened waste liquor in the recovery boiler. Mainly consists of sodium carbonate and sodium sulphide.

H

HBF
Hyperbaric Filter
A disc filter that operates under elevated pressure inside a vessel. This helps to substantially increase the pressure difference vis-à-vis the atmosphere which is an important factor in filtration.

HDPE
High Density Polyethylene
Synthetic material used for pressure pipes and industrial coatings.

Headbox
Located in the wet section of a paper machine, the headbox delivers a uniform jet of paper stock (furnish) of essentially the same width as the paper to be produced. The word is derived from earlier days when the hydrostatic head within the box was sufficient to deliver a jet velocity matching the speed of the forming fabric. Today, the pressure within a modern headbox is maintained by pumps and controls.

HERB
The High Energy Recovery Boiler (HERB) increases the electricity generation from black liquor compared to conventional recovery boilers. This is achieved by increasing the steam temperature and pressure, and by preheating the combustion air and feed water.

HHQ-Chipper™
HHQ: Horizontal High Quality
Product name for a horizontally-fed wood chipper.

Hot-rolled strip
Hot-rolled stainless steel strip is material resulting from the rolling of slabs or other input materials at high strip temperatures (approximately 700-1,000° C).

I

IFRS
International Financial Reporting Standards
International accounting standards drawn up by the International Accounting Standards Board (IASB). Complying with IFRS should enable investors and other relevant stakeholders to better compare annual accounts presented by companies from different countries.

IGCC
Integrated Gasification Combined Cycle
IGCC is a power plant using gasification gas as fuel. Electric power is generated by a gas turbine and steam turbine.

Investor Relations
Interface between the company and the financial community. An Investor Relations department should regularly provide transparent, comprehensive, and up-to-date information on developments within the company to shareholders, financial analysts, and investors.

ISIN
International Securities Identification Number
Individual identification number of a security, enabling computerized international registration of a security.

K

Kaplan turbine
Water turbine with axial inward flow and adjustable runner, used in river power stations with high flow rate and low head.

Kenaf
Annual plant of the mallow family, and also the name of the fiber that can be extracted from it. Kenaf gives a bast fiber that can be used in the production of paper, fabrics, or pulp for industrial uses. The plant has originated from Africa but has meanwhile spread to most continents.

Kraft linerboard
Top layer and/or intermediate layer of corrugated or solid board.

L

Lime kiln
A long, slowly rotating kiln used to reburn lime mud (calcium carbonate) to form calcium oxide, which is reused in recausticizing.

LimeFlash™
A new type of lime mud feeding and drying solution for lime kilns. LimeFlash™ helps to increase the capacity of conventional types of kilns and kilns equipped with an external lime mud drying system. The LimeFlash™ system mixes hot flue gases with the lime mud before the gas enters the feed end housing, which allows the operation of the kiln at a higher feed end temperature without plugging and lime mud splitting.

Liquid methanol plant
Distillation system used to convert methanol separated from foul condensate in the foul condensate stripper into liquid fuel that can be used in the pulp mill processes.

LMD
Lime Mud Drying
A conventional lime mud feeding and drying solution for lime kilns. See also 'Lime Flash™.'

LMD kiln
A long, slowly rotating kiln equipped with a conventional lime mud feeding and drying solution (LMD), used to reburn lime mud (calcium carbonate) to produce calcium oxide, which is reused in recausticizing.

Lo-Solids®
See 'Downflow Lo-Solids® Cooking.'

LWC
Light-Weight Coated
Coated paper with comparatively low weight, generally below 72 gsm.

M

Market pulp
Pulp produced from wood and sold on the open market, as opposed to that which is produced for internal consumption by an integrated paper mill or affiliated mill.

MCC
Motor Control Center
Energy distribution and control of all electric drives in an industrial plant.

MDF
Medium Density Fiberboard
Board made of mechanical pulp from the refiner process.

Mechanical pulp
A generic term describing pulp produced by a mechanical (as opposed to a chemical) process. Also known as 'high-yield' pulp as the processes utilize a higher proportion of the raw material (wood) than the chemical processes. Mechanical pulp is produced using either grinders or refiners. It is principally used in the production of newsprint, magazine papers, printing papers, specialty papers, tissue, towelling, paperboard, and wallboard.

Methanol liquefaction system
See 'liquid methanol plant.'

MVR evaporation system
MVR: Mechanical Vapor Recompression
Evaporation plant that mechanically compresses the evaporated water and reuses it for heating, thus providing very low specific energy consumption.

N

NBSK
Northern Bleached Softwood Kraft
Pulp that is mainly produced in Canada and the Nordic countries but also, to some extent, in the northwestern USA and Russia. The industry's benchmark grade of pulp for pricing and inventory data.

Net liquidity
Cash and cash equivalents plus Marketable securities plus Fair value of interest rate swaps minus Financial liabilities.

Nonwovens
Flat textile structure consisting of single fibers bound together by such processes as thermal bonding, solidification by water jet, chemical bonding, or ultrasonic solidification. Nonwovens contrast with paper in that they lack the hydrogen bonds that give paper its strength.

O

OPE®
Overall Production Efficiency
A service concept based upon open cooperation with a customer to improve profitability of pulp and paper mills by focusing on production efficiency as well as operation and maintenance costs.

P

Papillon refiner
The Papillon refiner is applied to increase the strength properties of different fiber materials according to the requirements of the paper grade to be produced.

Pelton turbine
Impulse turbine used in storage power stations with low flow rate and large head in lower and in high mountain ranges.

Pickling
Process for chemical treatment of oxidized steel, applied to obtain a clean metallic surface. Here, the steel is dipped into a hot bath of diluted sulphuric or hydrochloric acid.

Power boiler
Steam boiler used for heat and/or electricity generation from a variety of fuels, e. g. coal, gas, biomass. ANDRITZ power boiler technology uses biomass fuels and is based on Bubbling Fluidized Bed (BFB) technology. See also 'BFB.'

P-RC™ APMP
Preconditioning-Refiner Chemical/Alkaline Peroxide Mechanical Pulp
P-RC™ APMP is a chemi-thermomechanical refining process preceded by single-stage or multi-stage impregnation with alkaline peroxide bleach liquors. P-RC™ APMP systems can operate without a post-bleach plant, since bleaching takes place during impregnation and in/after the refiner. Due to alkali impregnation, the specific energy consumption in the refiner is reduced significantly, the fiber characteristics are optimized. The process is particularly suitable for all kinds of hardwood and annual plants.

Prime Market
Market segment of the Vienna Stock Exchange which contains stocks that are admitted to listing on the official market or semi-official market and meet special additional listing criteria.

PrimeFeeder
System using a vacuum conveyor belt (JetBelt) to transfer the paper web in different sections of a paper or board machine.

PrimePress X
The PrimePress X shoe press is used for dewatering in paper machines. It is capable of extracting large amounts of water from the material while preserving the bulk. A special device (shaped like a shoe) is integrated in one of the two rolls (shoe roll) extending the nip. Thus, line forces can be increased and the dwell time in the nip extended. This design achieves higher dry contents and gentle dewatering; the press operates at high speeds and low energy consumption.

PrimeRoll Eco
Deflection-controlled roll with high energy saving effect used in a wide range of calendering applications. The quantity of oil inside the roll is reduced, which leads to a significantly lower energy consumption during roll rotation.

PROFI bus system
Bus system for link-up of decentralized sensors and actuators in an electronic control.

PTA
Purified Terephtalic Acid
An intermediate product in synthetics production.

Pump turbine
Can be used either as a turbine (generating) or as a pump (consumption) in modern pumped storage power stations.

Pyromars
When pickling stainless steel, a waste acid solution is produced containing hydrofluoric and nitric acid. This mixed acid is recovered in the Pyromars plant. The waste solution is thermally decomposed. The acid gases resulting from the process are absorbed in water and reused in the pickling plant. Mixed oxide (iron/chromium/nickel) is a by-product that can be reused in the stainless steel melt.

R

Recovery boiler
The recovery boiler is a steam boiler where the black liquor from the cooking process is burned, after it has been concentrated in the evaporation plant. The residual biomass (lignin) is burned and the inorganic chemicals are recovered and returned to the pulp mill chemical cycle. Simultaneously, combustion of the biomass generates steam to produce electricity and heat for the pulp mill.

Recuperative burner
Recuperative burners are mainly used in furnaces operating at up to 1,200° C. They operate as counter-current heat exchangers, using the energy contained in the hot flue gases for preheating the combustion gases.

Refiner
Machine used to grind pulp between two discs. Refiners can operate at low consistency or at higher consistencies. At low consistencies, the material is fed to the refiner using a pump. At higher consistency levels, conveying devices are used. Other refiner types are used for breaking down wood chips into fibers.

Regeneration system
The hydrochloric waste acid solution from carbon steel pickling is recovered in the regeneration system. The waste solution is thermally decomposed. The acid gas resulting from the process is absorbed in water and reused in the pickling plant. Iron oxide is a by-product that is reused in various applications such as ferrite production, etc.

Roadshow
The management of a listed company presents the company's activities, strategies, and long-term prospects to national and international institutional investors and retail shareholders.

RotaBarker™
Product name for wood debarking equipment. Debarking is based on the rotating shafts located in the lower part of machine.

RT Fibration
Pretreatment of wood chips ahead of an RTS TMP stage for further reduction of the specific refining energy. The wood chips are subjected to thermo-mechanical pretreatment in heavy-duty screw presses (MSD Impressafiner) involving controlled pressures and shearing forces. This is followed by a separate pressurized refining stage at low refining energy, followed by the refining stage proper. In conjunction with the RTS TMP process, approximately 30% of the energy can be saved while obtaining equal or even better pulp quality compared to the conventional TMP process.

RTS TMP
TMP process which reduces the specific refining energy by approximately 10-20% compared to conventional processes. The wood chips are subjected to high temperature (T) over a short time (R: Retention); the refiner is operated at high speed (S: Speed).

S

S6-high rolling mill
The specialty of the S6-high rolling mill in comparison with a standard 6-high rolling mill consists in the smaller work roll diameter and the horizontal support, permitting the rolling of thinner strip thicknesses.

SCADA
Supervisory Control and Data Acquisition
Centralized/decentralized systems that monitor, visualize, control and regulate the entire equipment and technical processes.

Shoe press
See 'PrimePress X.'

Shoe roll
See 'PrimePress X.'

SPO
Secondary Public Offering
Selling of further shares of a company that is already publicly listed.

S-PVC
Suspension PVC
Synthetic material mainly used in the building sector, e.g. for window frames and pipes, but also as packing material, for cable insulation, and many other applications.

T

Thermo-mechanical pulp
See 'TMP.'

TMP
Thermo-Mechanical Pulp
Pulp produced by refining chips in a refiner at high temperature and pressure. The process relies mainly on mechanical energy and heat. TMP is most commonly used in newsprint and magazine papers.

TOC
Total Organic Carbon
Limit value used to determine the total emission of organic hydrocarbon compounds.

Treasury
Company department that deals with allotment and investment of existing or incoming funds and with the monitoring and hedging of financial risks.

W

WAPUR
Process for separating chemical contaminants from the waste solution from carbon steel pickling plants. This cleaning process ensures that high-grade iron oxide can be produced in the regeneration system.

WBI
Wiener Börse Index – Vienna Stock Exchange Index
The WBI contains all shares listed on the official market and the semi-official market. The WBI, as overall index, reflects the development of the Austrian stock market as a whole.

White liquor
A strongly alkaline solution used in the cooking (digesting) process. Mainly consists of sodium hydroxide and sodium sulphide.

Y

Yankee
See 'Creping dryer.'

Yankee hood
The Yankee hood of a paper machine has two functions: It enables the drying process (hot air at high velocity is blown onto the paper to reach high dry contents), and it evacuates the exhaust air by directing it through slots in the hood located between the nozzle boxes.

SHAREHOLDERS' CLUB

ANDRITZ AG has a clearly defined objective focusing on openness and transparency in its information policy towards its shareholders.

We invite you, therefore, to register as a member of our Shareholders' Club, free of charge and without any obligation on your part. As a member of our Shareholders' Club you will be sent all new ANDRITZ GROUP reports and press releases automatically by e-mail.

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DISCLAIMER

Certain statements contained in the annual report 2008 and annual financial report 2008 constitute 'forward-looking statements.' These statements, which contain the words 'believe', 'intend', 'expect', and words of a similar meaning, reflect the Executive Board's beliefs and expectations and are subject to risks and uncertainties that may cause actual results to differ materially.

As a result, readers are cautioned not to place undue reliance on such forward-looking statements. The Company disclaims any obligation to publicly announce the result of any revisions to the forward-looking statements made herein, except where it would be required to do so under applicable law.

The annual report 2008 and the annual financial report 2008 contain assumptions and forecasts which were based on the information available up to the copy deadline on February 26, 2009. If the premises for these assumptions and forecasts do not occur, or risks indicated in the chapter 'Corporate Risks' and in the status report in the annual financial report 2008 do arise, actual results may vary from the forecasts made in the annual report 2008 and annual financial report 2008. Although the greatest caution was exercised in preparing data, all information related to the future is provided without guarantee.

ANDRITZ

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ENVIRONMENTAL AND CLIMATE PROTECTION IN PRINT

In the area of Global Care – the main subject of this annual report – ANDRITZ is focusing on energy efficiency and renewable energies. This focus is an integral component of the ANDRITZ corporate strategy which has been successfully pursued for over ten years now.

Therefore, this annual report has been printed in accordance with the highest requirements regarding environmental and climate protection.

Climate neutral print

In calculating the CO_2 emissions caused by the printing of this annual report, the following parameters have been considered: production and transport of the required printing raw materials (paper, printing ink, chemicals, fountain solution, and cleaning agents), the printing process (including the prepress and converting process), the total energy required for printing, human resources (including journeys), and delivery of the printed copies to ANDRITZ.

The emissions caused were compensated by buying ecologically valuable emission reduction certificates from recognized climate protection projects. The print shop entrusted with printing this annual report has followed the recommendation of the WWF (World Wide Fund For Nature) to support 'Gold Standard' projects. This standard was developed for climate projects in developing countries by international scientists and NGO representatives under the lead of the WWF.

Ecological quality with FSC paper

The pulp used in making the paper for this annual report was produced from wood out of forests certified by the Forest Stewardship Council (FSC). The FSC Rules provide for an environmentally, socially, and economically compatible use of forests.

The paper (Revive 50:50 for the inside pages and Algro Design for the cover of this annual report) is also produced on paper machines using stock preparation equipment from ANDRITZ PULP & PAPER.

The online version of this annual report offers you the following special features:

- Downloading of all tables with key financial figures as well as individual chapters.
- Targeted search for pre-defined topics that were of special importance to the ANDRITZ GROUP during the reporting period.
- Selection of individual sections and compilation of a customized report.
- Advanced search functions for such areas as share, key figures, consolidated financial statement, order intake, and acquisitions.

reports.andritz.com/2008/

All annual reports, annual financial reports, and quarterly reports since the IPO in 2001, are available at: www.andritz.com/reports

The **Annual financial report 2008** of the ANDRITZ GROUP contains further information about: Status report, Corporate governance report, Corporate risks, Statement by the Executive Board, Report of the Supervisory Board, Auditor's report, Consolidated balance sheet, Consolidated income statement, Consolidated cash flow statement, Consolidated statement of recognized income and expense, Consolidated statement of shareholders' equity, as well as Notes to the Consolidated financial statements.

The annual financial report is available at reports.andritz.com/2008/ – you can also order a printed copy for free:

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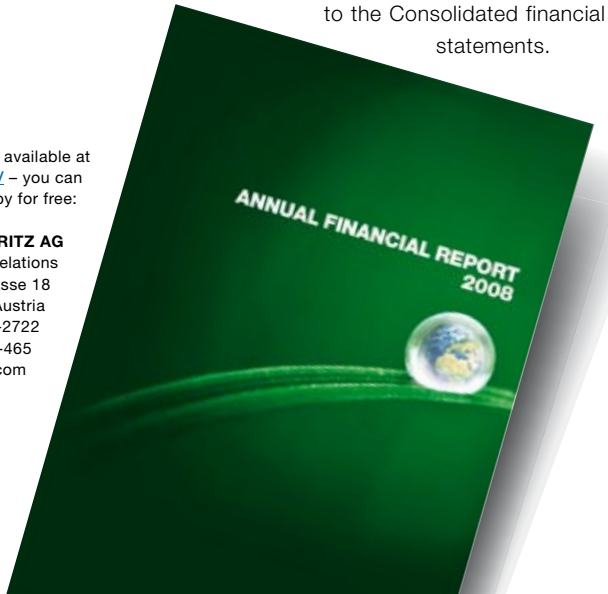

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