

# ANDRITZ AUTOMATION

## Successful market introduction of several new products

**Andritz Automation is a global network formed by the individual automation groups within the Andritz Business Areas, the fully-owned affiliates IDEAS Simulation & Control and Universal Dynamics Group, as well as the automation specialists from Andritz VA TECH HYDRO. More than 890 engineers at locations in 24 countries worldwide focus on the development and implementation of automation solutions for Andritz's systems and plants and provide service support.**

By combining in-house automation process expertise with intimate knowledge of the production equipment that only the machinery supplier can possess, Andritz Automation creates unique and specific automation solutions to meet customer needs. Fewer interfaces and practical experience with all leading industrial automation components and systems lead to fast start-ups and smooth operation of Andritz plants and technologies. Improvements to existing customer plants using simulation models, and advanced process control technologies and special sensors are part of the comprehensive services.

### Business development

With the acquisition of VA TECH HYDRO in 2006, the Andritz Automation network was further strengthened by the electrification and automation specialists of Hydro Automation who focus on the development, engineering, implementation, and servicing of automation systems for new power stations, as well as the rehabilitation and upgrade of existing plants. The NEPTUN concept, developed by Andritz VA TECH HYDRO, is an integrated solution for hydropower automation containing modules for control, excitation, protection, monitoring and diagnosis, power plant management, synchronizing, and electronic turbine controllers.

In 2006, Andritz Automation successfully launched the service business for paper mill automation. The highlights of the offering are the HydraulicCommander™ which is a refiner plate positioning control system and RPS™, a refiner plate protection device.

Components for Andritz plants and systems which are knowledge-intensive and quality-critical are manufactured in Andritz facilities around the world. In 2006, the manufacturing capacities were extended with new workshops in China and India serving the local markets. To be closer to the customer and better support local standards and requirements, Andritz established new automation groups in South America and China.

### Product developments

Advanced Control Expert (ACE™) is the common Andritz software platform for all process optimization solutions for the pulp and paper industry. The ACE™ platform is based on the patented BrainWave® technology. ACE™ helps to reduce process variabilities by more than 50% and provides tools for comprehensive mill data analyses. The new generation Cooking ACE™ was installed at VCP, Jacarei, Brazil. The first PulpDrying ACE™, Kiln ACE™, and Recaust ACE™ will be put into operation in 2007. Further ACE™ orders were received from CMPC Santa Fe, Chile; Tiger Paper Group, China; and PT Lontar Papyrus Pulp and Paper, Indonesia.

An innovative technology was developed to simultaneously measure various properties of pulp, such as consistency and freeness, based on a multi-ingredient scan (MIS™) of pulp by installing an inline sensor. The first industrial installation of the MIS™ sensor platform was successfully implemented in a thermo-mechanical pulping plant (TMP).

The research activities of Hydro Automation focused on the development of ideal ergonomics for human/machine interfaces (HMI), electronic protection, and excitation systems.

## Important orders

Andritz has developed a Mill Management System (MMS™) for rolling mills which manages and documents all process-relevant data of the mill. The system also includes an order and roll management, as well as a coil tracking module. With its modular design, MMS™ can be adapted easily to customers' requirements. In 2007, MMS™ will be used for the first time at JINDAL Stainless Steel in India.

Five shape control systems were equipped with the new MPC (Model Predictive Control) Controller and commissioned successfully. The MPC Controller has proven to be successful in enhancing quality and increasing productivity in silicon steel rolling.

IDEAS Simulation & Control developed a full range of BrainWave® solutions for kraft pulp mills. These products, which allow customers to optimally control various processes, have won market acceptance at the Arauco Valdivia mill, the CMPC Santa Fe mill, both in Chile, as well as at the Weyerhaeuser Longview mill in the USA, and the Mondi Frantschach mill in Austria. Other significant BrainWave® orders came from McCain Foods in Canada, Nova Chemicals in the USA, and Phelps Dodge in Chile.

A clear trend for customers in the pulp and paper industry is to order full packages instead of single parts. Andritz Automation received orders for complete electrification and automation packages from Heinzl Pulp, Austria; SCA Obbola, Sweden; SCA Östrand, Sweden; and Tracodi, Vietnam.

Another trend focused on the upgrading of existing pulp mills. Customers in Indonesia, Brazil, and Spain decided to benefit from the experience and knowledge that electrification and automation engineers gained during the start-up of the initial installation. Pulp mill process equipment, combined with unique Andritz Automation solutions, was supplied to Sappi, South Africa; April Group, Indonesia; Tiger Group, China; APP, China; and Norske Skog-Klabin, Brazil.

Andritz Automation entered a new business segment to improve and upgrade control systems for paper and board machines. In cooperation with Andritz Küsters, several orders were received from customers in South-east Europe.

Hydro Automation received orders for turnkey projects in Papua New Guinea, Venezuela, and Bulgaria. Automation control and protection systems were delivered to Vattenfall Europe for one of the biggest pumped storage plants in Europe. The cooperation between Andritz and VA TECH HYDRO formed the basis for solutions which convinced Verbund-Austrian Hydro Power to place important orders, including supplies for the Bösdornau project.

Andritz Automation continued to supply automation solutions for rolling mills and strip processing lines in China, India, and Russia. All Andritz stainless steel plants were equipped with Andritz software packages, including mathematical models for process optimization. A couple of automatic gauge control systems (AGC™) were ordered by customers in the Far East and Europe. Andritz Automation received two orders to supply complete automation systems to TISCO, China for one of the largest cut-to-length lines.

For a greenfield project in Russia, Andritz Automation will supply the complete electric and automation system with integrated Level 2 for a push-pull pickling line and acid recovery plant. All systems are pre-tested and simulated to guarantee a very short start-up time.

Hyperbaric filters and chamber filter presses for dewatering coal and bauxite sludge equipped with up-to-date SCADA control (Supervisory Control and Data Acquisition) were delivered to China and Brazil.

IDEAS Simulation & Control received simulator orders for kraft pulp mills in Brazil, Chile, and Australia and for a recovery boiler in Sweden, as well as several orders from the oil sands industry in Canada and the mining industry in South America. ■