ANDRITZ PULP & PAPER, Service & Units
Capital Market Day 2010, Austria
Contents

- Business profile and historic development of the business area
- Growth strategy and market

▲ The TX68 refiner provides operational flexibility for all types of processes to meet specific pulp and quality targets
Business profile
Service & Units

- Pulp and paper mill life cycle services, including complete mill maintenance, refiner plates, screen baskets, cleaners, forming fabrics, technical wires, equipment upgrades and rebuilds, modernizations, automation solutions, engineered wear products, parts and consumables, and field service.

- Complete lines for mechanical pulping and medium density fiber board.

- Complete recycled and virgin fiber stock preparation and paper machine approach systems.
Major strategic achievements during last three years

- Entrance in market for **maintenance outsourcing** by acquisition of Sindus, the major maintenance outsourcing company in pulp and paper in Brazil.

- Entrance in the **forming fabrics business segment** by acquisition of Kufferath.

- Successful introduction of **service products for competitor installed base** (wash presses, screw presses, pulpers, refiners, etc.) and development of **upgrades solutions with fast pay back** for installed base.

- Market leadership for **fiber preparation systems** and successful establishment of **center of manufacturing** for nearly all products in **China**.

- Market leadership for **mechanical pulping systems**. Successful development of low energy softwood TMP (ATMP) technology with first references sold (Pulpaca, Venezuela; Nanping, China; UPM Steyrermühl, Austria). Important references for P-RC APMP: Sun Paper, China; Klabin, Brazil; MCC Yinhe Paper, China. Braviken, Sweden, is an excellent reference for low consistency refining.
Important references

Yueyang, China: complete fiber preparation technologies

**Customer:**
Yueyang Paper Co., member of Hunan Tiger Forest & Paper Group.

**Project:**
Fiber preparation technology preparing quality stock for two new 5.3 m wide paper machines for the production of environmentally friendly copy paper and premium offset printing paper.

**Scope of supply:**
Complete 3-loop deinking line with sludge dewatering, stock preparation systems, paper machine approach systems, control engineering, erection supervision, and start-up services.

**Start-up:**
July 2009
Important references
Sun Paper, China: energy efficiency for high-quality pulp

Customer:
Sun Paper Group.

Project:
Sun Paper's 23 paper machines (the installation of the 24th is underway) with a total capacity of more than 2.5 million t/a are now being supplied – at least partially – by two ANDRITZ P-RC APMP lines (totaling more than 300,000 t/a).

Scope of supply:
Three P-RC APMP lines (Alkaline Peroxide Mechanical Pulping): ideal process for various Asian hardwoods (e.g. poplar, eucalyptus, and acacia) for the production of high-quality pulp for various grades (board grades, LWC) in a very energy-efficient way (compared to a conventional CTMP process with post-bleaching, this pre-treatment uses less overall electrical energy); in addition, better chemical efficiency with improved optical and strength properties in the pulp.

Start-up:
Major orders 2009/2010

- **CVG Internacional, Venezuela (Pulpaca):**
  RT-RTS™ TMP technology for Porto Ordaz mill (250,000 t/a newsprint and containing papers).

- **Fujian Nanping Paper, China:**
  Mechanical pulping system (RT-RTS™ TMP technology) for new mill (500 t/d newsprint, culture paper, and lightweight grades).

- **Zhanjiang Chenming Pulp & Paper, China:**
  All process technologies for a 700,000 t/a bleached hardwood kraft greenfield pulp mill, as well as the complete stock preparation and approach flow systems for a fine-paper machine in the same mill.

- **Taiyuan Qixing Weiye Paper**
  Taiyuan City, China:
  500 t/d OCC processing line and 100 t/d DIP line including paper machine approach system.

- **Zhejiang JingXing of Pinhu, China:**
  250 t/d recycled fiber (MOW) processing line for white top board.

▲ ANDRITZ ATMP (Advanced Thermo Mechanical Pulping) process
Research & development (1)
Focus on sustainable production

Energy savings:
- Main focus on sustainable production with higher capacities and higher energy-efficiency.

Waste-To-Power:
- Waste-To-Power systems (WTP) is a newly created unit within the PULP & PAPER business area; focus is on the development of technologies to produce energy out of paper mill residuals (mainly sludge and rejects from waste-paper recycling processes).

- The main benefits of WTP systems are reduced volume of waste going to landfills and an increase energy production by the mill.
Research & development (2)

Improving chemical-mechanical pulping systems

O-effluent systems is a project within the business area to equip chemi-mechanical pulping systems with technologies to reduce effluent volumes and install chemical recovery systems.
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▲ Refiner for Holmen Braviken pulp mill, Sweden: the largest LC refiner worldwide, significantly reducing energy consumption
Growth strategy

- Penetrate competitor installed base and selected niche industries with existing products.

- Expand maintenance outsourcing.

- Enter the growing used equipment business (joint division approach).

- Complete service portfolio for paper and board machines.

- Enter Waste-To-Power market.
### Expectations for next 12 months and main market drivers

**Good project activity expected in Asia**

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<th>Expectations for next twelve months</th>
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<td>- Further growth of mechanical pulping lines in China/Asia → growing project activity partly driven by announced closure of inefficient old mills.</td>
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<td>- Increase of project activities in South East Asia since Chinese companies shift packaging grades production to lower-wage Asian countries.</td>
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<td>- High pulp prices should support demand for service in established markets.</td>
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<td>- Continuous increasing service business for installed base in Asia expected.</td>
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<th>Main market drivers</th>
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<td>- Growing demand for upgrade solutions to optimize use of resources in traditional markets due to rising energy prices and limited supply of production means (wood, water).</td>
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<td>- Increased environmental focus (effluent loads, CO₂ regulations).</td>
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<td>- Subsidies for production of bio-energy.</td>
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<td>- Goal to minimize/avoid waste in the production process leads to development of new energy sources (Waste-To-Power).</td>
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<td>- Shift of paper board consumption to countries with high economic growth (Asia, Latin America).</td>
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<td>- Shift of production capacities to countries with favorable wood resource availability in southern hemisphere.</td>
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<td>- Full use of biomass in the production process as well as the maximization of energy production and chemical recycling drive demand for new modern installations in fast developing countries and upgrades of existing facilities in mature markets.</td>
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Disclaimer

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According to IFRS.