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INTERNATIONAL PAPER

International Paper (INPACEL)
Sawmill Arapoti

Turnkey Automation Solution

The American International Paper group (IP) is one of the world-wide leading manufacturers of paper, packaging materials and wood products. For its Inpacel division, the global player erected a new sawmill in Arapoti (Paraná, South Brazil). IP also runs a paper mill at the same location, which is directly connected to the chip conveying system of the Inpacel sawmill.

Raw material for the sawmill or paper mill is exclusively supplied from the surrounding and company-owned pine plantation of about 150,000 acres.

The sawmill produces approximately 220,000 m3 of ready-made timber and planing mill products. 95 % of the whole outcome is exported.

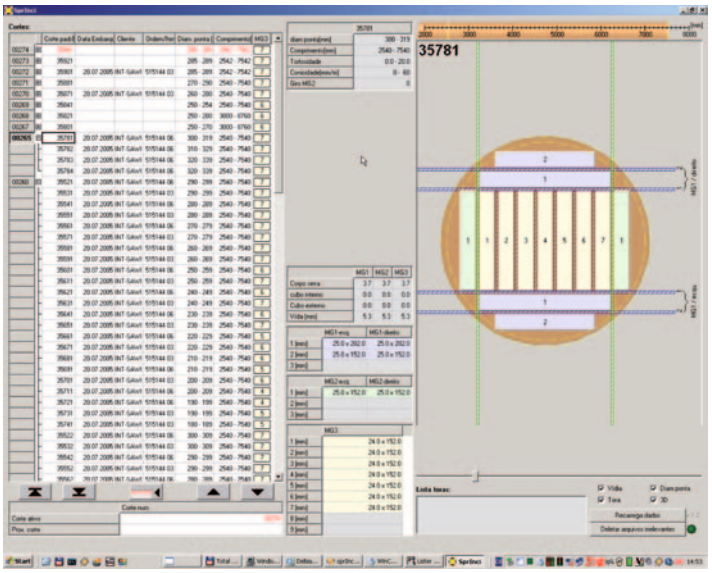
This optimum location – the combination of a sawmill and planing mill surrounded by long-term available raw material resources – also attracts competitors. Furthermore, the world-wide market leader IP has announced to re-forcen its focus on the core-business.

Projects had already been conducted before together with the Brazilian machine manufacturer Inserma/Moosmayer Technology.

In January 2003, Sprecher Automation received the order for the complete electro-technical equipment valued at 4.1 million Euros. At the same time, Inserma/Moosmayer Technology was assigned as the overall provider for mechanisation.

This cooperation led to the largest sawmill automation project ever engaged in South America. Manufacturing officially started in August 2004, only after 8 months of complete engineering. The break even point had been reached 6 months after commissioning start-up. Considering the whole environmental situation, which is somewhat different from Euorpean conventions, this project is rated as a South American all-time record by the local experts.

Beside the above-mentioned subjects, Sprecher Automation also received several additional orders regarding production control, data tracking as well as process optimisation.



Order-specific cutting and production status

The following divisions were realised:

- 1 log yard with direct connection to saw infeed
- 1 saw infeed with triple cascading and additional external double-infeed
- 1 sawing line with 3 main machine groups (up to 120 m/min)
- 2 edging systems (up to 350 m/min) with direct connection to primary breakdown of sawing line
- 1 side board sorting and packaging system with 30 bins (including an 11-stage trimming machine with servo control for infinitely variable length trimming)

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- 1 packaging system
- 1 planing system (up to 350m/min) with a 17-stage trimming machine with servo control for infinitely variable length trimming
- 1 waste wood and chip conveying system with direct connection to the adjoining paper mill

The networked sawmill

All systems from the log yard to the planing mill and the drying chambers are connected to the superior computer system provided by Sprecher Automation. This also includes the overall data interface to the existing IT system of the adjoining paper mill.

As a result of Sprecher's customised made-to-measure data interfacing, both sawmill with drying chambers and the paper mill are integrated into one network, which therefore allows total control also for production as well as storaging in the sawmill.

State-of-the-art scanner systems

With its world-wide known SPRESCAN series, Sprecher Auto-mation provides a wide range of measurement and imaging systems for the various applications of wood industries.

The following scanner systems are integrated into the Inpacel sawmill:

- SPRESCAN 3D
  log measurement, production-based raw material processing, log rotation and cutting pattern optimisation
- SPRESCAN WANE
  product optimisation in edging and sorting systems
- SPRESCAN LONGLINE
  length measurement for timber sorting and in the planing mills (transverse conveying)
- SPRESCAN BTWS
  width and thickness measurement for timber sorting and in the planing mills (transverse conveying)
- SPRESCAN SIGNREADER
  fully automated quality evaluation for sorting and trimming control in the planing mill through recognition of manually applied character combinations

A significant challenge for the Sprecher scanner experts was the development and customisation of the SPRESCAN SIGN-READER. Within 3 months only, this unique scanner system had been developed to the level of series-production readiness.

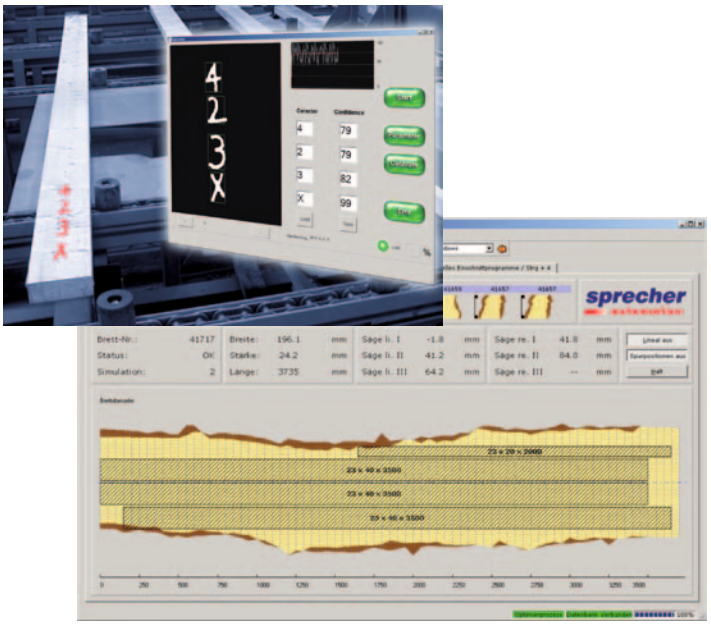
Completely automatically, the SPRESCAN SIGNREADER unquestionably recognises optional hand-written characters and transmits the data to the superior computer system. Availability and repeatability of the SIGNREADER is at 100%, which clearly shows the high demands on the system.

When the scanner stops, the whole production comes to a standstill. There is no possibility of emergency operation.

Control systems for the optimum production process

Tens of years of experience together with best practice gained from large-scale projects have resulted in mature control systems especially developed for the wood industries. Continual optimisation of machine sequences as well as continuity and efficiency of the production processes are in the center of attention.

SPRESCAN SIGNREADER



Optimisation of edging and planing

All systems provided by Sprecher Automation can be maintained online from Linz, whereas a highly reliable 24-hours support service is guaranteed.

In August 2005, the Inpacel sawmill of Industria de Papel Arapoti Ltda was fully put in to operation. Beside planning, engineering and commissioning of the above-mentioned items, Sprecher Automation also conducted essential planning and engineering tasks in the areas of building systems, infrastructure, logistics and mechanisation.

As a result of the new large-scale sawmill, which is equipped with the most sophisticated control and scanner technology currently available, IP now has a certain dominance over its competitors.

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