



## Sappi Alfeld, Germany

The Sappi Alfeld GmbH plant, which is located south of Hanover on the river Leine, employs around 900 people working a three-shift pattern and has a proud history dating back 350 years. Rolls of paper weighing up to 5000 kilos are transported using Rocla's Automated Guided Vehicles (AGVs). This transport system, with its total of three vehicles, was commissioned in 2011.

Transporting the paper rolls requires precision and meticulous work as the rolls can easily be damaged. This is why Sappi Alfeld decided to go for Rocla's AGVs and the MetRo warehouse management system (WMS). The AGV operating area is lit only dimly, thereby saving on additional costs. No additional light source is required for operation of the AGVs. The vehicles find their way around by means of the reflectors secured to the walls and supporting beams in the warehouse.

"The vehicles operate reliably and do not take breaks. Not one roll has been damaged since they were commissioned, nor have we had to search for one. Automated Guided Vehicles move more slowly than conventional forklift trucks, but because they work constantly, they are generally more efficient than their predecessors", departmental manager Mr. Manfred Rohling explains.

The scope of supply for the entire system at Sappi included the MetRo warehouse management system (WMS) and the AGV system. There are interfaces to the existing roll conveyor system and the Sappi Mill Execution System (MES). A data interface provides the WMS with the master data for the rolls and the production data in order to create a process-related warehouse strategy. The system can be monitored via an operator interface at the control centre. The interface shows a graphic display of the warehouse, indicating the position and status of the vehicles in real time. Precise information is also provided on stock status, system status, performance and statistics.

One significant aspect is the safety offered by the AGVs.

"We have had no accidents with the vehicles to date", says Manfred Rohling.

Annual maintenance and repairs are carried out by a Rocla partner company. Some servicing measures are also carried out by Sappi itself. A detailed system and maintenance training allow staff to remedy minor issues themselves without problems. There have been no major repair requirements to date. Sappi also carries out battery maintenance itself. The batteries are charged at a station and are swapped manually by means of roller conveyors.

"Occasionally we find ourselves in situations in which we have to contact the 24-hour Rocla Customer Service team so that we can rectify any potential problems together. But if a problem cannot be resolved in this way, our maintenance agreement requires a Rocla specialist to turn up on site promptly. That said, we are constantly attempting to learn more about the servicing of our transport vehicles", says Manfred Rohling.

Two driverless transport vehicles are actually sufficient to meet the current needs of the Sappi Alfeld plant. However, according to Manfred Rohling the third vehicle ensures that transport can continue to take place smoothly; this is because the vehicles do not have to operate constantly, thereby easing their burden. "This ensures a longer service life for our machines. At our company, we like to take the long-term view", says Manfred Rohling.



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**Manfred Rohling,**  
Departmental Manager,  
Sappi Alfeld GmbH

## Green Bay Packaging, USA

Green Bay Packaging Inc. manufactures and supplies customized corrugated shipping containers, folding cartons and coated labels. As part of the expansion of their Coated Products Operations, Green Bay Packaging constructed a new high-bay warehouse (sequencer) for paper rolls and palletized goods ready for shipment. Rocla's automated guided vehicles connect the warehouse to the existing coating and slitting/rewinding lines and the newly constructed production areas.

Acting as a design-integrator, Rocla's partner Hörmann Logistik engineered the impressive high-bay warehouse on site; including conveyor and handling system, and two different AGV systems supplied by Rocla. All requirements were fulfilled with innovative developments like roll manipulators, slave board dispensers and Rocla's customized probe AGVs. Two transfer shuttles are used to connect to another production area. The intralogistic system includes software for flexible storage and retrieval strategies for the two-aisle highbay warehouse and its three stacker cranes.

In order to achieve high warehouse capacity and remain cost-effective, the channel warehouse was designed with two aisles which are operated with rail-guided storage and retrieval machines (SRM). Each SRM can handle loads up to 5 tons. Accessibility to the central rack from both sides guarantees redundant supply to production. The shelf modules are designed to fit variable load dimensions. This allows a dynamic and optimal use of the available storage capacity.

Positioning of the packaging area remotely from the slitter-rewinders allows for flexibility and effective handling of customer pallets. Rocla probe AGVs, with a load handling device, are utilized to bring slit rolls from the slitter-rewinders to the packaging area. As the load handling device required for this purpose was not available on the market, Hörmann Logistik and Rocla designed a customized solution. This groundbreaking design is able to transport a set of rolls with a total width of 1,400 mm and a weight of 2 tons from the slitter-rewinder to different locations with the packaging area. This feature uncouples slitting and packing process and allows for order picking of special customer rolls without multiple handling.

The redundant warehouse and material flow concept, provides an optimal availability. Every key function within the warehouse is doubled. The AGVs are constructed in the same way and can operate in any production zone.

Hörmann intra Logistic System Hi LIS not only coordinates material movements between warehouse and production. A special interface between Hi LIS, Rocla AGVs, production machines and the conveyor system communicates roll data and other production data parallel to the physical transport to assure the integrity of information in the customer network.

