

## Schur Automates with JBT AGVs

### Summary

Schur is a global company that operates in the packaging industry making packaging materials, machines and systems. Schur has several divisions and the Carton division includes operations in Denmark, Sweden, Norway and Germany. The Denmark production facility, located in Horsens, makes general packaging mostly for food companies.

Schur wanted to improve the working environment in the Denmark facility by automating the repetitive movements within their operation. In order to achieve this goal, Schur installed an automatic guided vehicles (AGV) system to move materials at the end of the production line in their facility.

### Background

Schur produces carton board packaging for customers at this facility. At the end of the production line, the finished product (corrugated boxes) are stacked on pallets. The full pallets are first moved to an automated strapping and wrapping machine and then on to the warehouse for storage. In addition, empty pallets are moved from a pallet stacking machine and delivered to the palletizers. There are 4 different types of pallets depending on the product and the export destination.

The AGV's also move raw materials from the bulk store to the production machines! One added operation was for the AGV's to move pallets to the store and place them into storage lanes thus avoiding the need for overnight FLT resource to clear the handover point!

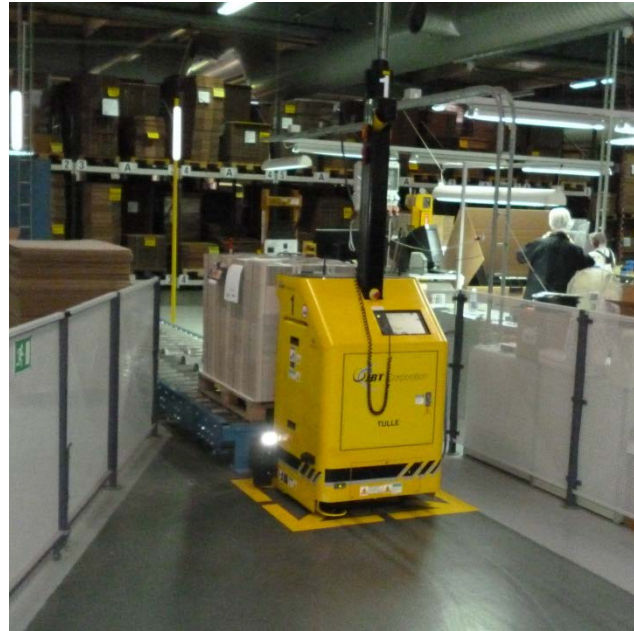
Movement of the full pallets to the strapping/wrapping machine and to the warehouse has historically been done using manual fork lift trucks. Schur recognized that because of the repetitiveness and predictability

of these movements, that they would be good candidates for automation. And by automating they may be able to reduce costs, improve efficiency, improve safety, and increase productivity.

### Approach to solving the problem

Schur considered two technologies, transfer cars and AGVs, to automate the movement of pallets.

After a thorough evaluation of both approaches, they preferred a solution using automated guided vehicles (AGVs). Schur chose the AGV based solution because it offered much more flexibility in adapting to changes in capacity and plant layout. The AGV system was much easier to reconfigure and could be expanded by simply adding more vehicles. It represented a much better long term solution and would be an asset in helping Schur quickly respond to changes in their markets.



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In addition to flexibility, an AGV system would allow Schur to achieve their primary goals of reducing costs, improving efficiency, improving safety, and increasing productivity. Schur contacted several AGV suppliers and determined JBT Corporation was the best supplier for this project. They chose JBT Corporation because they felt that JBT was the most knowledgeable and experienced supplier. In addition, Schur liked the user friendly, intuitive operating features of the JBT vehicles and software. And Schur had received several positive references about JBT from other companies in Scandinavia.

The JBT Corporation AGV solution included 4 compact fork-over style AGVs. Minimizing the size of the vehicles was an important consideration for Schur because it allowed for tighter turns in narrow aisles.

At the beginning of the project, Schur was concerned with how employees would react to the fleet of automated vehicles. JBT provided training on safety and awareness to all employees who would work around the AGVs to help with the transition to automation. Schur was pleased at how quickly the employees became comfortable working around the AGVs. The predictable operation, accurate navigation, smooth acceleration/deceleration, non-contact safety bumpers, and visual and audible warning signals gave workers confidence that the AGVs would improve safety compared to manual vehicles and systems.

### Results

The results of the AGV automation project at Schur's Denmark facility have been excellent and the project has been a complete success. Increased efficiency, safety and productivity were achieved and costs saving goals were met. Schur estimates that the system payback will be in 2 years.

Because of this success, Schur will implement two new AGVs in their warehouse during the last quarter of 2012. These AGVs will operate in the printing department transporting full pallets from a pile turner conveyor to one of two presses and also transport empty pallet stacks from conveyors to storage areas or the point of use.

The new AGVs can also collect and store pallets post press, buffering them for secondary operations use.

Schur understands the benefits of automation in their facility. Automation with AGVs has increased their ability to effectively compete in the global market. They are looking forward to installing the new AGVs and the additional benefits they will generate.