Altachem optimises production logistics and studies suitability of automated guided vehicles (AGV)

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Located in Harelbeke, Belgium, Altachem is a world leader in the development and manufacturing of aerosol valves and foam applicators. To scale up further, Altachem is looking at installing additional production lines on the existing production floor. The production lines at Altachem are high-throughput lines. However, current operations do not allow for smooth scaling for several reasons: first, there is a shortage of free space, plus various manual interventions and dedicated tools (lifting equipment) are required for the handling of boxes and other goods. Altachem wishes to avoid having to invest in these dedicated tools for every new production line.

Evaluation and testing of logistics concept

With the support of Sirris, Altachem started an evaluation exercise to find the logistics concept best suited to expand production. The idea was to remove goods (Work-in-Process; WIP) from the shop floor to the greatest extent possible and to centralise these in a dedicated area, from which an AGV can take the right material to the right place at the right time. This would free up space on the shop

floor, relieve operators of logistics tasks and prevent the duplication of dedicated tools for each new production line. After a thorough study of the current situation, an initial logistics concept was drawn up for production, resulting in a dedicated preparation zone with a special carrier mounted on an AGV, to transfer and deliver components to the machines without manual intervention.

This initial concept was then iteratively evaluated in the Sirris application lab. A prototype of the custom carrier was built and several emptying methods were tested. A prototype of the preparation zone was also built, to be suitable for the specific shop floor environment.

An initial estimate was made of the AGV and operator occupancy rate for a scenario in which two machines were supplied with components. These components are supplied to the machine and finished products are transported to the outbound zone. Although some details still remain to be finalised, the results of this study are enabling Altachem to make a well-informed strategic decision on the next steps in this process.

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