

CASE STUDY

The faster in place, the better

Strauss: The CI Factory is at the center of Strauss's objective to consistently optimize its supply chain network—together with Infios.



At a glance

Company
Strauss

Industry
Apparel

Facility
CI Factory Schlüchtern,
additional facilities
to follow

Capacity
1 million storage locations

Output
Up to 50K orders/day

Going live in record time, while consistently improving a vast supply chain network spanning multiple interconnected locations. That is how Strauss is driving digitization with the help of Infios's DOM and a digital twin.

As Europe's leading manufacturer of workwear, Strauss is digitalizing its entire supply chain with consistency, speed and foresight. The aim is a completely integrated digital process from receipt of the order to the arrival of the goods at the customer. The central link in this chain is the CI Factory, which went into operation in 2020—a modern production facility for customized corporate clothing. There, Strauss manages around 1 million storage locations and an output of 4,000 parcels per hour, up to 50,000 per day. The award-winning facility was built in record time, followed by the integration of further logistics locations to continue the optimization of the company's inventory and order management.

Objective

Realization of a digital and cross-location system landscape from distributed order management to the PLCs at the technical level.

The solution

Successive migration of various warehouses and systems to WMS and WCS as well as integration into the superimposed DOM.

25%

increase in
fulfillment
speed

01

day for digital
twin to be in
operation

infios
a Körber company



Record-breaking realization

A major role in this success story had a digital twin and the distributed order management system (DOM). With this, and with the support from Infios, Strauss was able to bring a highly automated system to life, including a 20-aisle small parts warehouse, a shuttle warehouse—counting 16 aisles and 430 vehicles—and 28 goods-to-person picking stations. All of these components went into operation after two years of construction. However, the system was productive right from the start, and the effort of going-live reduced to a minimum. This was possible because all the components were tested and pre-parameterized already, including the warehouse management system (WMS), warehouse control system (WCS) and the interfaces to the technical level.



Close to full-fledged operations prior to topping-out

On the day of the ground-breaking ceremony, the development of the digital twin of the entire facility was already underway, managed by the supplier of the technical level. So while the facility was still under construction, emulations were already available. The emulation model works with assumptions, yet the exact and detailed emulation via the digital twin allowed to virtually represent the complex plant in a way that would otherwise only have been possible after go live. A necessary condition was a set of realistic data to model a future state of operation; data that Infios would provide. This was generated in the form of assumed operational data in high quality, processed and analyzed in the model. Between topping-out ceremony and the opening, Infios was able to simulate the system's capabilities from a both holistic and granular perspective.

“When looking at the granular database, however, we must not lose sight of the overall behavior of the plant,” says Michael Brandl, Executive Vice President Operations Software EMEA at Infios Business Area Supply Chain. A holistic dimension of modeling, by going beyond the functional and process level, needs to include considerations around the formation of congestion under full load, upon which the system can be assessed and optimized—even if it is not yet operational.



“With Infios, the optimization of the logistics network is more than according to plan. The processing and commissioning was significantly shorter and less complicated than expected. The logistics hub in Schlüchtern alone was realized 25% faster than originally planned. An outstanding achievement.”

Matthias Fischer
COO, Strauss



At the Schüchtern site, this approach ensured that the processing and commissioning phase could be considerably shortened. In figures: The project was realized around 6 months earlier, 25% faster than expected. This enabled Strauss to bring forward the anticipated closure of a warehouse in Frankfurt ahead of schedule, after its activities at the Schüchtern logistics site could be taken over earlier than planned.

A full-fledged digital twin for testing and evaluating new functionalities, processes or scenarios can be made available from day one. Among other things, this allowed to simulate the effects of changed material flows, market requirements or product ranges, predict anomalies and errors. Countermeasures can be emulated in advance. All this can be based on real realtime data from productive operations without impact on the existing system.

Integrating additional locations

The rapid go-live was also the starting signal for longer term projects. The next stage is the ongoing integration of several warehouses into the overarching order management system DOM, which is to take place in several stages.

The DOM aggregates and distributes orders in the logistics network according to capacities and stock levels at the individual locations. The system also allows for the automated organization of delivered goods or stock transfers to help optimize stock levels and the efficient utilization of warehouses and resources in the network as a whole. As a system layer between warehouse management and resource management, DOM allows the system operator to act faster and more dynamically than via an ERP. At Strauss, the roles are clearly defined: The ERP takes account of commercial tasks, DOM manages all supply chain processes. Data exchange takes place via interfaces.

Next to the distribution center at Schlüchtern, Strauss runs another fully automated warehouse in Biebergemünd as well as two smaller decentralized warehouse locations. A step-by-step strategy was developed for their integration. While DOM only manages the one location so far, the integration of the two smaller warehouses will follow next. The facility in Biebergemünd is migrating simultaneously to a modern WMS and WCS landscape and then connected to the DOM. This creates a digital and cross-location system landscape from the DOM via WMS and WCS material flow computer to the PLCs at the technical level.