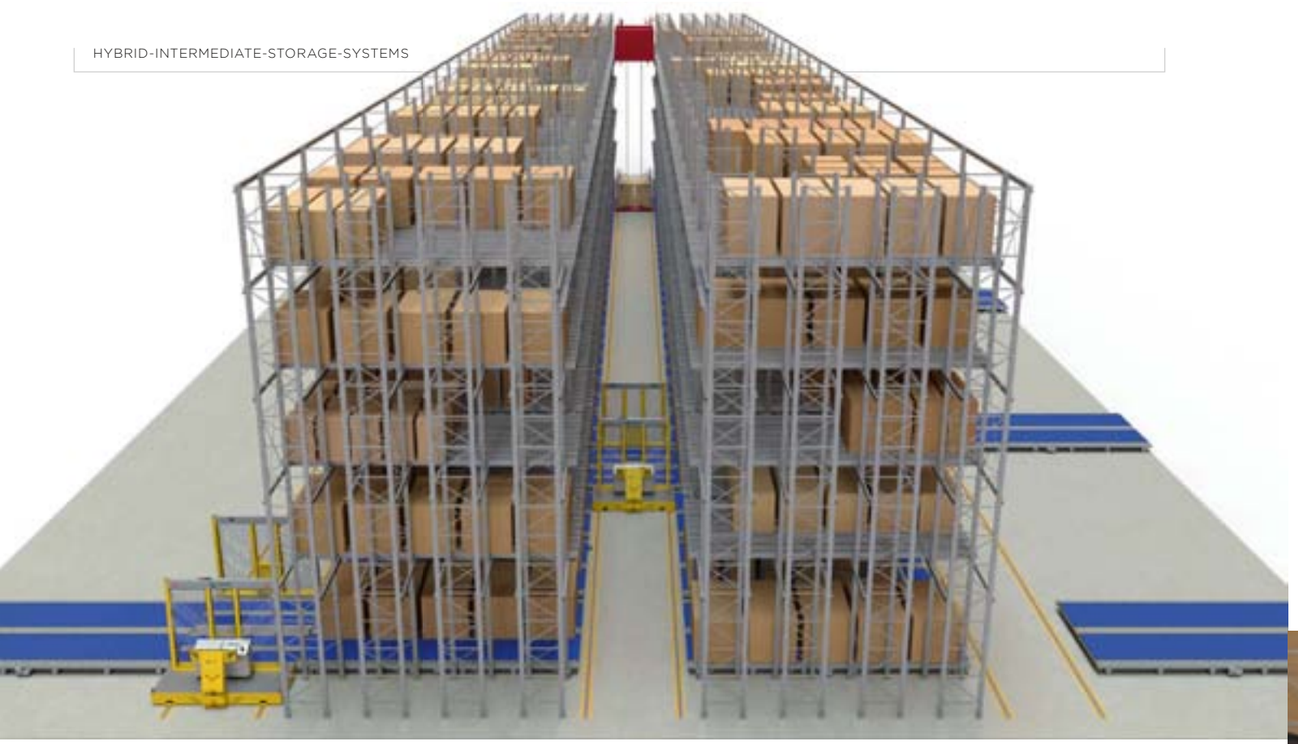

WESTFALIA AND DÜCKER CO-OPERATE ON A NEW PROJECT

HYBRID-INTERMEDIATE-STORAGE-SYSTEMS IS A NEW SYSTEM SOLUTION FOR CORRUGATED MANUFACTURERS

The Hybrid-Intermediate-Storage-Solution (HISS) can be used for the interim storage of semi-finished goods and makes full use of the hall height, saving space and creating new pallet rack positions. Conveyor systems, conventional transfer cars and off-floor storage and retrieval machines (SRMs) form a complete system in a customised rack layout.

A quick look inside the halls of many corrugated plants is enough to understand the challenges faced – different corrugated board formats as far as the eye can see, metres and metres of blue conveyor belts and little space. The corrugated stacks are often bulky and occupy a lot of space. If put into interim storage as semi-finished goods for further processing in-house, they are usually transported on large-scale buffer conveyors which are usually spread across a maximum of two storage levels.

WHEN NEW SEMI-FINISHED GOODS COME OFF THE CORRUGATOR, A TRANSFER CAR BUILT BY DÜCKER PLACES THEM IN INTERIM STORAGE. A SECOND TRANSFER CAR AND THE OFF-FLOOR AVIATOR® WORK TOGETHER INSIDE THE WAREHOUSE AND SHARE THE AISLE.

Interim Storage Without Compromises

Combining large-scale buffer conveyors with tried-and-tested warehouse logistics technology produces a cost-effective solution for the automated interim storage of semi-finished goods. Storage system manufacturer Westfalia and corrugated conveyor technology specialist Dücker co-operate in such projects.

Depending on the project and available hall height, additional levels can be added for a high-density storage design with racks above some or all conveyor belts. With such optimal use of space, maximum storage capacity can be achieved as required for stacks of corrugated board in an existing or new hall.

Saving Space and Creating Positions

The technology of Westfalia's off-floor storage and retrieval machine – Aviator® – forms the conceptual basis for the Hybrid-Intermediate-Storage-System. This winning combination is only made possible thanks to the Aviator®, which, not requiring travel rails on the floor, is both off-floor and flexible. It operates at the topmost rack level, accessing all levels from there as well as the buffer conveyors in the lowest high-density storage level integrated into the warehouse.

Ropes lift and lower the load handling device within the aisle. Smart automation technology directs the load handling device to the compartments in a highly precise manner.

The Aviator® uses several Satellites® to pick up and drop off the stacks of corrugated board. Since different formats may have to be stored together, there must be the option of flexible arrangements. The Aviator® uses its satellites to map these arrangements, storing several stacks next to and behind one another in any number of different arrangements.

Transfer Car and SRM

When new semi-finished goods come off the corrugator, a transfer car built by Dücker places them in interim storage. A second transfer car and the off-floor Aviator® work together inside the warehouse and share the aisle. The transfer car on the lowest level ensures timely throughput for most of the semi-finished goods and handles goods distribution.

However, a small proportion of the goods produced cannot or should not be processed yet. The Aviator® then stores these in the newly created high-bay storage system, providing a fully automated and compact solution. A third transfer car distributes the goods to the finishing lines at the other end of the storage system.

In another practical scenario, the belt conveyors at the lowest level can be continued through the aisle, dispensing with the transfer car in the middle. Only a few 'landing zones' serving as receiving and delivery points for the Aviator® are kept to ensure system flexibility.

In a Hybrid-Intermediate-Storage-Solution, both systems can also work separately within the respective application and are not necessarily interdependent. Should one of them suffer an outage the other system can then take over all or some of its tasks, depending on the system design and ensure downstream processes are still supplied. ■

About Westfalia Westfalia is a leading manufacturer of automated storage systems. As a full range service provider, the company implement projects in intralogistics and along the supply chain. They also use technologies as well as IT and control expertise in automated parking systems. The machinery and equipment accommodate a wide range of temperature requirements. Intralogistics and transport logistics can be combined using automated trailer loading and unloading systems. Customer service, maintenance and modernisation ensure high availability and durability of the respective systems.