



A Solid Guarantee for the On-Time Supply of Spare Parts

# BMW CASE STUDY



**Through modern conveyor systems, automated small parts warehousing with agile shuttles, and ergonomically tailored order-picking stations, Inther Group has unlocked new throughput potential, ensuring timely delivery of spare parts with enhanced quality and dependability for BMW Group.**

To meet the growing order volume and the increasing need for fast, on-time order production and delivery of spare parts, the established processes, and the existing warehouse equipment at the BMW Group site in Dingolfing, Germany have been optimized and expanded.

Inther Group Germany was awarded the contract to implement a complete concept including an automated small parts Automated Storage and Retrieval System (AS/RS), intelligent material flows and the latest conveyor technology.

The Dutch headquarters in Venray supported the comprehensive analysis, design and system planning as well as the project implementation in Dingolfing.

### **The Shuttle System**

As the heart of the logistics facility, Inther set up a new, highly automated four-aisle small parts shuttle system. With four layers of depth and 20 levels

of height, the shuttle installation offers an enormous capacity of about 80 000 container spaces for storing spare parts. The dimensions of said containers used are 650 x 450 x 270 mm with a maximum weight of 30 kg each.

"The shuttles have been specially developed for the requirements of current and future small parts warehouses," explains Stefan Weisschap, CEO of Inther Group Germany. "With its four-layer

deep storage, the shuttle system offers enormous capacity with compact, high-density storage, and the automation of retrieval speeds up the delivery of goods to the picking workstations."

For the networking of the AS/RS and the workstations, Inther Group implemented an intelligent, dynamic conveyor technology concept including container buffers. Each workstation is served in cycles by special conveyor lines for source containers, destination containers, and shipping cartons at a speed of 0.8 m/sec.

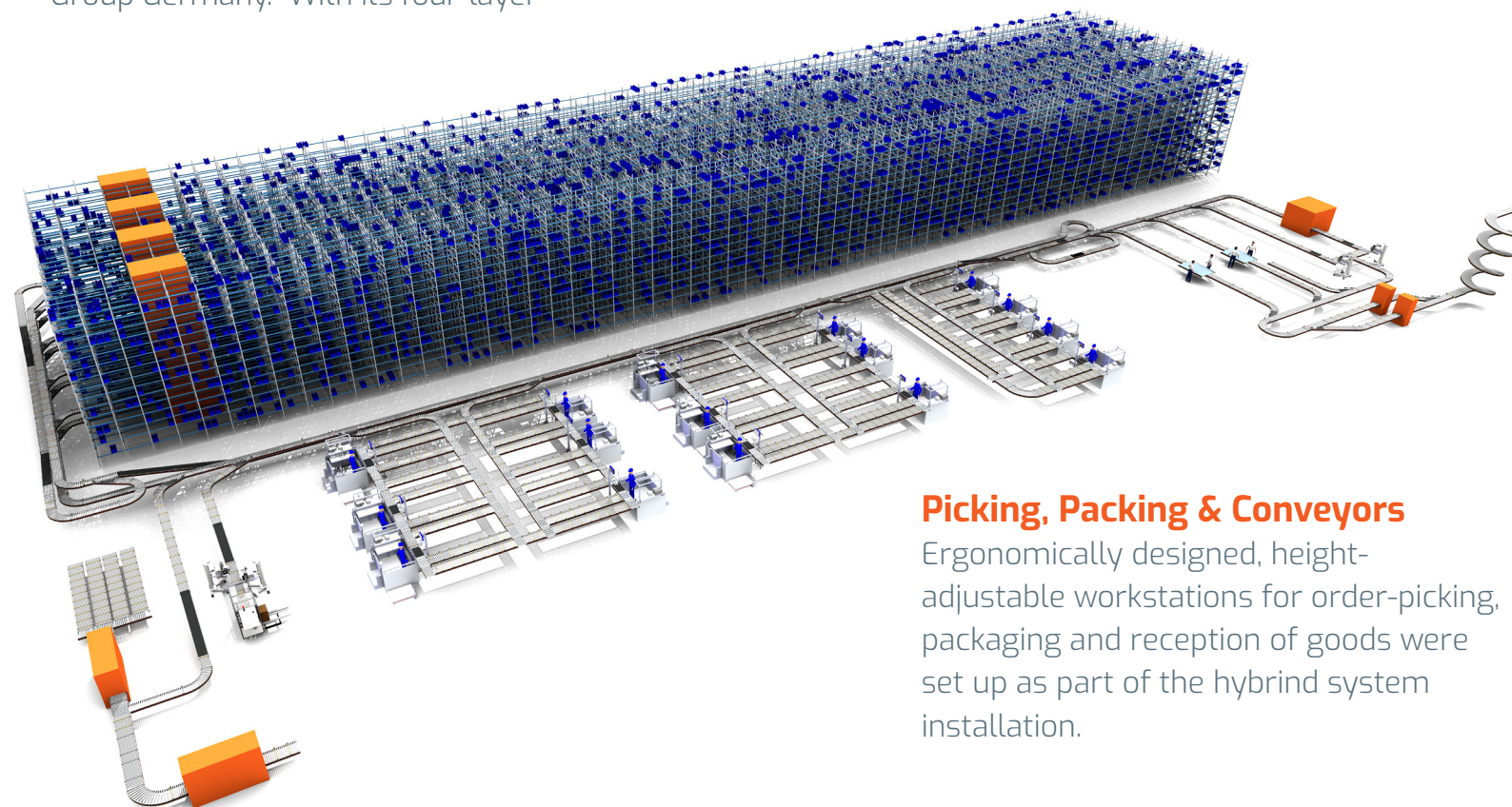
Carton erectors dispense prefabricated cartons onto the conveyor line while the spare parts are picked for shipping using a pick-by-light system. Working with both cartons and reusable containers, the conveyor technology is designed to transport both types of load carriers.

After picking is completed, the conveyor technology returns the partially picked containers to the AS/RS transfer points.

Destination containers and cartons are transported to the four packing stations via the conveyor line. Finally, ready-to-ship load carriers are guided to the shipping area by the conveyor technology.

### **Picking, Packing & Conveyors**

Ergonomically designed, height-adjustable workstations for order-picking, packaging and reception of goods were set up as part of the hybrid system installation.





### Inther's Reliability Guarantee

Automated weight checks in the conveyor line verify the correct picking by comparing it with order and master data. Faulty cartons are diverted to a NiO loop. Subsequently, the cartons pass through a carton sealing machine, and containers are capped before automatic labeling takes place on the conveyor line.

"The entire conveyor technology has been designed according to a bypass concept," explains Weisschap. "This allows the AS/RS and all stations to mutually serve each other as needed, for example, to carry out returns more quickly, to avoid or bypass congestion or short-term component malfunctions on the system.

### Flexible System Integration

The new automated storage and conveyor technology was seamlessly connected with the existing system technology. This was made possible through Inther's top-quality hardware and sophisticated software.

The visualization of the conveyor technology is done through the Zenon software, which Inther configured to meet the specific requirements at BMW.

Incoming goods processing, picking, packaging, and workstation dialogs are controlled by SAP. This also applies to the shuttle system and document printing for the shipping boxes and containers.

### Service Commitment

With the agreed after-sales services for support and maintenance of the system, Inther Group guarantees long-term, reliable system availability.

"A high-performance automation solution that ensures rapid supply of spare parts with enormous storage capacity, efficient processes and reliable picking quality," summarizes Inther Group Germany CEO Stefan Weisschap.

### The System at a Glance:

- ◆ 4 shuttle aisles
- ◆ 79,360 storage locations
- ◆ 12 Goods-to-Person stations
- ◆ 3 receiving workstations
- ◆ Automated packing system
- ◆ 1,000 meters of Inther Conveyor Equipment







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