

MULTISHUTTLE DELIVERS FOR FERDINAND GROSS

Leading German fastener and connectivity technology supplier Ferdinand Gross has transformed its supply chain performance following the installation of Dematic's new Multishuttle Automated Storage and Retrieval System (ASRS).

Multiple benefits of Dematic Multishuttle®

Incorporating both types of Dematic's Multishuttle for the first time Worldwide, Ferdinand Gross has achieved remarkable service improvements including:

- A reduction in order processing times, from up to three and a half hours to as little as 30 minutes
- The ability to extend daily order cut-off deadlines by three hours
- Reducing order fulfillment times for Kanban customers from one week to one day.

Multishuttle helps deliver new levels of customer service

Improving customer service was a primary objective of Ferdinand Gross' logistics systems upgrade at its distribution center (DC) in Leinfelder-Echterdingen, Germany.

The Multishuttle brings the total number of shelf storage locations within the DC to 120,000, which is necessary to house the company's massive product range of 72,000 standard parts, 24,000 customer specific parts and 11,000 tools permanently in stock.

Being able to extend the incoming order cut-off time by three hours provides customers with considerably greater ordering flexibility, and reduced distribution costs.

At a delivery deadline established by the customer, all pending orders in the system are bundled into a single shipment.

The later order dispatch window made possible by Multishuttle allows better bundling of individual orders, reducing the number of packages to be consigned, and associated transport and other costs.

Transforming the Kanban supply chain

Customers utilizing Kanban have benefited the most from Ferdinand Gross' enhanced supply chain, with order fulfillment times being cut from an average of one week to a single day.

Previously, customers' shipping containers had a fixed label, showing article number, article description, amount and customer name. Once the customer emptied the container, Ferdinand Gross would collect and return it to the DC, ready to be refilled and shipped out again.

With the new system, customer containers can now be relabeled for filling with any product rather than waiting for the original empty container to return to trigger the order. Consequently, return trips with empty boxes can now be bundled, reducing the number of trips to and from the customer, further cutting transport and handling costs.

Dematic Multishuttle

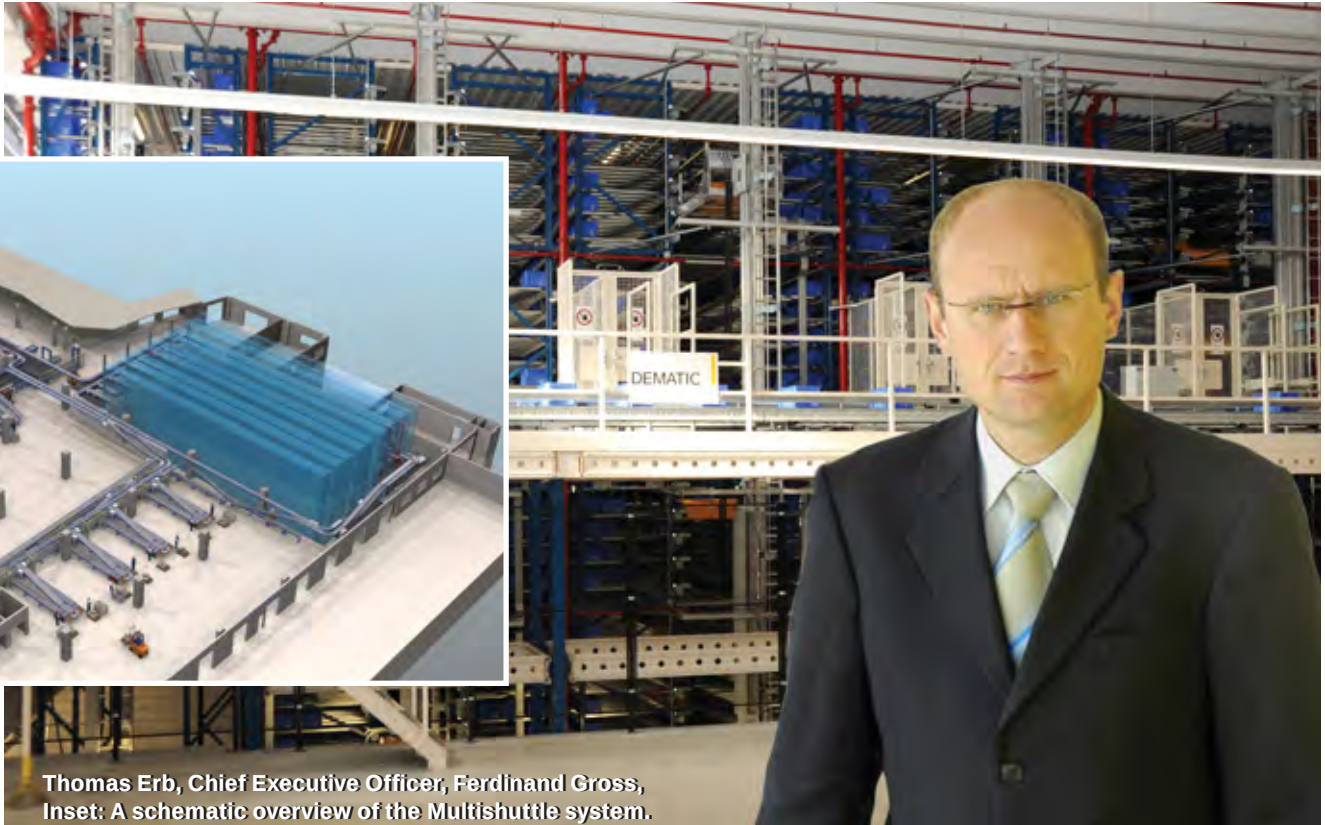
Dematic Multishuttle is a versatile new technology for fast, accurate, automated picking within high-density storage systems, making it ideal for supporting a wide range of manufacturing and logistics applications, from kitting and product assembly to order picking and distribution. Instead of using cranes in each aisle to pick and transport goods, Multishuttle uses multiple intelligent self-propelled carts, which can roam throughout the different levels of the storage systems. Increased throughput is achieved by adding extra carts. The carts automatically 'shuttle' goods in and out of the densely packed storage system, interfacing with an integrated conveyor, which delivers the picked items in exactly the correct sequence to facilitate and significantly improve the productivity and accuracy of product or order assembly.



MULTISHUTTLE
ROAMING

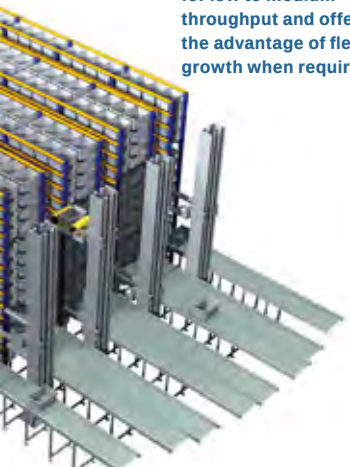
MULTISHUTTLE
CAPTIVE



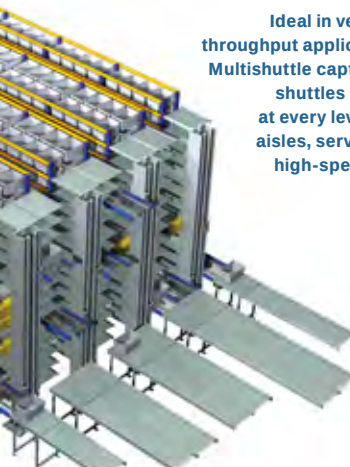


Thomas Erb, Chief Executive Officer, Ferdinand Gross,
Inset: A schematic overview of the Multishuttle system.

Multishuttle roaming applications are designed for low to medium throughput and offer the advantage of flexible growth when required.



Ideal in very high throughput applications, Multishuttle captive has shuttles located at every level in all aisles, serviced by high-speed lifts.



Ferdinand Gross implements world-first Dematic Multishuttle

The Multishuttle at Ferdinand Gross has highly dynamic picking with unsurpassed flexibility, due to its unique installation. This project features the world's first installation of Dematic's two Multishuttle versions – "Captive" and "Roaming" – in a single storage system with identical shuttles in both areas. Up to 30 shelf levels are provided within the high density Multishuttle, which is contained in an area measuring around 12m high, 20m wide and 30m long

The Multishuttle consistently provides picking performance in excess of 1,000 picks per hour, typically processing around 40 tons each of incoming and outgoing goods each day.

Multishuttle Roaming

The Multishuttle Roaming system is dedicated primarily to the fastest moving items, improving availability and flexibility.

The Roaming system delivers significant optimization and cost-savings compared to conventional automated small parts picking systems. In the Roaming area, 20 shuttles service 59,000 storage positions at a throughput rate of 615 double cycles (parallel put-away and pick operations) per hour. Every aisle contains one shuttle, with the carts transferring between levels via a lift in a matter of seconds. The self-propelled shuttle carts run on rails to the selected storage position, and put-away or retrieve the required goods.

Multishuttle Captive

The Multishuttle Captive area manages order picking of items from the Roaming section, shelf storage system and picking-related logistics.

Here, each level in the aisle is equipped with its own shuttle. The shuttles retrieve tote boxes from storage positions and convey them to a lift at the end of the lane. The lift vertically transfers the boxes to the outfeed conveyors, which lead to ergonomically-optimized picking stations. Here, sequencing to customer specification is possible, i.e. delivery of goods from inventory in the precise sequence that they are needed for picking for the order.

A total of 12 shuttles are operational in the Captive area, servicing 5,000 storage positions at a rate of 514 double cycles per hour.

Multishuttle Benefits

- Space-efficient expansion of storage capacity by 60,000 positions
- Improvement in order fulfillment times, extending order cut-off deadlines by three hours
- Improved service performance thanks to the additional Multishuttle Captive lane
- Automated sequencing to customer specifications and individual labeling
- Ergonomic order assembly workstations for improved operator performance and safety
- One employee processes the entire order, improving accuracy and traceability
- Modular concept, allowing for future expansion.