



CASE STUDY  
**DRIV**



# Next-Level Distribution Center





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## Optimized customer service thanks to KNAPP technology

DRiV is the automotive aftermarket brand of automotive supplier Tenneco. Worldwide, the company employs about 9,000 people at 17 manufacturing locations and 29 distribution centers. The Willebroek location in Belgium is home to the European DC for the aftermarket segment. From there, DRiV supplies end customers and merchants with automotive spare parts for more than 30 brands including Moog, Ferodo and Champion. Each year, the

Willebroek DC ships 30 million spare parts from two million product lines. In order to optimize their customer service, DRiV decided to implement an automation solution. This solution is central to their “high-velocity supply chain” strategy, with the goal of becoming the preferred supplier of customers by maintaining optimal inventories and increasing efficiency in parallel to demand.



**Sector:** Automotive

**Location:** Willebroek, Belgium

**Employees:** 9.000 worldwide

**Business areas:** Automotive supply

**In operation since:** January 2023

**Warehousing space:** 27,000 m<sup>2</sup> (290,625 ft<sup>2</sup>)

**Storage locations in the Evo Shuttle:** 55,000 (container 600 x 400 mm; 23.6 x 15.7 in)

**SKUs:** 13,000 in the Evo Shuttle

**Throughput:** 1,170 double cycles/h

**Delivery area:** EMEA (Europe, Middle East, Africa)

**Orders / hour:** up to 1,000 order lines / hour

**Lines / day:** Up to 15,000 order lines / day

**Items / day:** 4,000 (including weekends), max. 7,500

**Delivery window:** 1 day (express/e-commerce), 4–5 days (warehouse orders and intercompany replenishment)

**Technical solution:** Evo Shuttle, 5 Pick-it-Easy work stations, 8 decanting work stations, 4 shipping work stations



# What the automation solution offers

01

## Efficient use of resources

When skilled labor is in short supply, efficiency matters. Thanks to the optimized processes in the new system, the human resource is efficiently used. The same team can now achieve a greater output.

02

## Flexibility for future growth

The flexible Evo Shuttle offers room for growth. The system can be expanded and adapted for different sizes of containers. With KNAPP as their technology partner, DRiV can flexibly integrate further technologies into their complete solution later on.

03

## Fast, reliable deliveries

The automated small parts warehouse and automatic packing accelerate lead times, promote growth in e-commerce and improve customer service for the growing number of regular DRiV customers. Simultaneously, the optimization of packing volumes has a positive effect on the company's transport efficiency and sustainability.

04

## Maximum storage density

The Evo Shuttle offers tremendous storage density, which makes it possible for DRiV to store 30 percent more goods. With efficient space utilization, the fixed costs cover more, sidestepping the need to expand the building.

05

## Installation during ongoing operation

The project was implemented during ongoing operation. The communication and cooperation of the teams made it possible to maintain productivity during installation and startup.

**„With the automation project,  
we have reached the first major  
milestone in our automation  
strategy.“**

**Thomas Vandael**  
Executive Director Supply Chain EMEA  
Tenneco Inc.



# The system at a glance



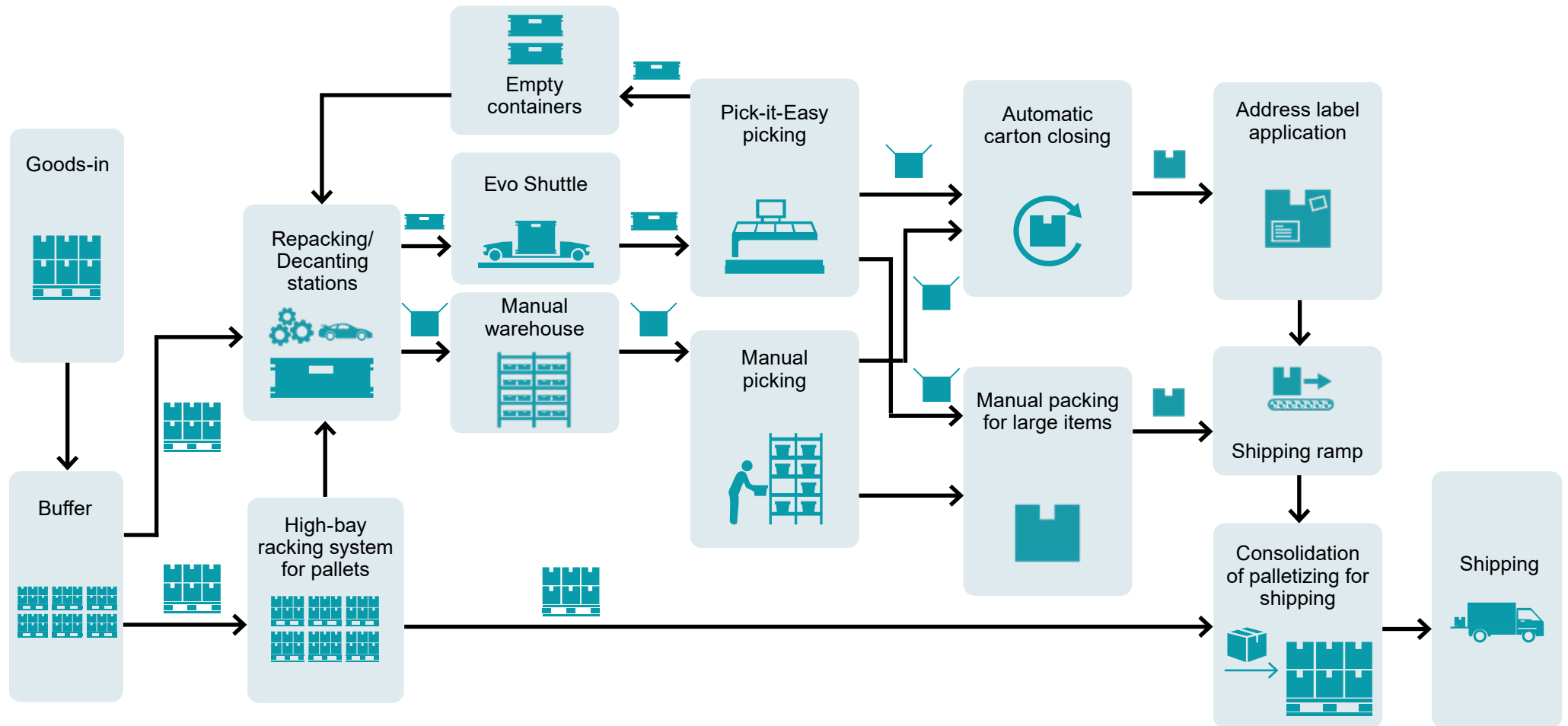
## GROUND FLOOR

- 1 Inbound goods
- 2 Decanting / repacking  
8 work stations
- 3 High-bay racking system
- 4 Shipping
- 5 Automated small parts warehouse (Evo Shuttle)  
2 aisles, 54 shuttles  
27 levels, 12,25 m high (41 ft)  
2 lift systems (4 single lifts)  
55,000 storage locations  
Triple-deep storage

## MEZZANINE

- 6 Goods-to-person picking  
5 Pick-it-Easy work stations
- 7 Manual picking: Person-to-goods picking
- 8 Automated volume reduction and carton closing
- 9 Manual packing stations for large sizes
- 10 Machine for applying address labels

# Material flow



# Central warehouse processes

## 1| Goods-in

Goods are delivered on pallets. They are stored temporarily on floor locations and then brought to the high-bay racking system for pallets or to the decanting work stations. At the work stations, the goods are separated and repacked into containers or cartons. The height and weight of the load units are checked, after which they are conveyed to either the Evo Shuttle or to the manual warehouse.



## 2| Storage

The Evo Shuttle offers space for 55,000 containers, storing the goods triple-deep on 27 levels and in two aisles. The 54 shuttles provide smooth processes in the warehouse, bringing small parts to picking as needed. Large items are stored as usual in the existing high-bay racks.



## 3| Picking

The picking area is located on a mezzanine above the shipping area. In a goods-to-person process, orders are brought from the Evo Shuttle to the five Pick-it-Easy work stations, where they are picked directly into shipping cartons. The weight is automatically checked to ensure error-free picking.





## Central warehouse processes

### 4| Packing

After the documents are automatically printed and inserted, the still-open cartons meant for direct shipping are conveyed to the automatic carton closer, where the machine reduces the cartons to the minimum size. All cartons that cannot be automatically closed are conveyed to one of the four manual packing work stations. Afterwards, the shipping labels are applied by machine, and the cartons are ready for onward transport.



### 5| Shipping

Cartons leaving the packing area are conveyed by order to the shipping ramps on the ground floor. Orders coming out of the automated small parts warehouse, the manual warehouse and the pallet storage area are consolidated here. Finally, the orders are shipped to the customers.



**“With the new solution, lead times were significantly reduced. This gives us additional potential for growth in the e-commerce segment and for us to care for our rapidly growing base of regular customers.”**

**Thomas Vandael**  
Executive Director Supply Chain EMEA  
Tenneco Inc.

## Evo Shuttle: Maximum flexibility and storage density

The heart of the new system is the Evo Shuttle, an automated small parts warehouse with space for 55,000 containers. Containers are stored triple-deep on 27 levels. The shuttle system connects with goods-in via an existing conveyor system and offers DRiV 30 percent more storage capacity thanks to the system's high storage density.

The Evo Shuttle handles the following processes:

- Storage and retrieval of items
- Space-optimized triple-deep storage
- Order assembly and picking
- Highly efficient goods-to-person picking





## Pick-it-Easy: Next-level picking

Five goods-to-person stations from the Pick-it-Easy work station series have been set up for order picking, where orders are picked directly into shipping cartons. This introduction made picking 2.5 times more productive in comparison to the most efficient picking zone prior to the introduction of the new stations. Now, 62 percent of the order lines are picked from the Evo Shuttle, which has increased the location's overall productivity by over 35 %.

Another part of the efficient solution is an automated packing line featuring volume reduction. Before arriving at the shipping ramps, the cartons are checked for errors, weighed and volume-optimized before being closed and given an address label. This process involves no personnel resources, is completely automatic and is environmentally friendly thanks to the optimized package sizes.

## The new automation solution: success in numbers

+ 35 %

Overall productivity  
of the location

+ 30 %

Storage capacity

7 times  
faster

in comparison to  
manual picking

18

month implementation schedule  
during global supply crises

- 50 %

Transit time from  
delivery to shipping

+ 38 %

Picking productivity

„The new automation solution resulted in an overall increase in productivity of 35 percent for the location and raised the storage capacity by more than 30 percent.“

**Raphael Zagni**

DC Operations Director EMEA  
Tenneco Inc.

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## Intelligent software – the key to efficient processes

A highly automated warehouse is only as good as the software that runs it. The all-in-one software KiSoft One provides the mindpower for the automation solution and connects directly to the Manhattan WMS at DRiV. Several interfaces were developed and routings, target options and document and label exchange were integrated into the Manhattan operating system. KiSoft controls and coordinates storage, picking and shipping. Additionally, a complete sandbox system was integrated to test all changes and improvements up front with the existing Manhattan test system. Once the test is passed successfully, the changes are uploaded to the live system.



## Smooth-running teamwork for a successful implementation

DRiV's clear strategy is to achieve a high-speed supply chain in the European region. With the new automation solution, DRiV will optimize customer service and set the benchmark for a next-level DC. To implement this automation solution, DRiV sought a partner who understood their challenges. Criteria in the selection of a new partner included company size and presence, IT approach, available services and references.

By choosing KNAPP, DRiV has a partner that provides the software as well as the hardware. From the beginning, both partners shared the same values: commitment, critical thinking and flexibility – also in terms of keeping critical deadlines. *“A motivated and dynamic team who takes a solution-oriented approach to problems and always keeps the goal in focus”* is what Thomas Thys, PMO Director EMEA at DRiV

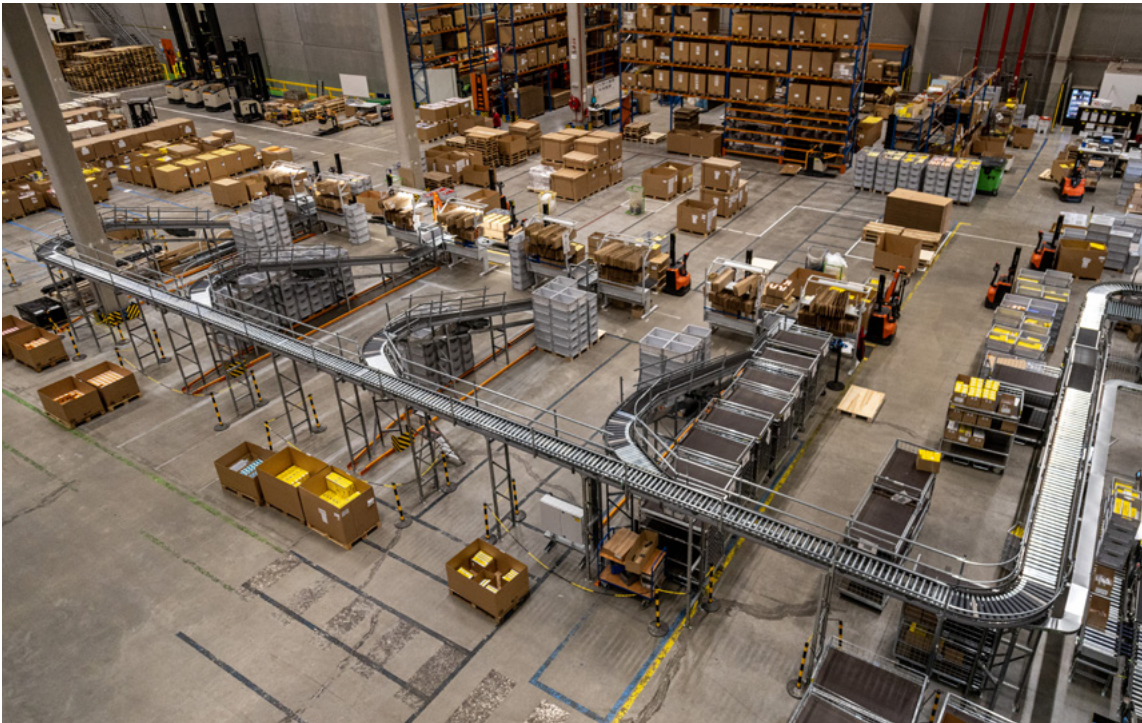
particularly appreciates about working with KNAPP. Cooperation was outstanding throughout the entire process, from initial inquiries and ultimately to the go-live. Open dialogue between DRiV and KNAPP was always part of the process. The management and the teams from both companies worked together harmoniously, which helped to speed decisions. *“As with any other major project, there were challenges, but we always mastered them as partners,”* explains Thomas Thys with satisfaction.

The automation project was implemented within 18 months during the global supply chain crisis and blended seamlessly with existing infrastructure. The successful collaboration and implementation of the project has also prompted DRiV to consider further improvements in the automation of the warehouse.

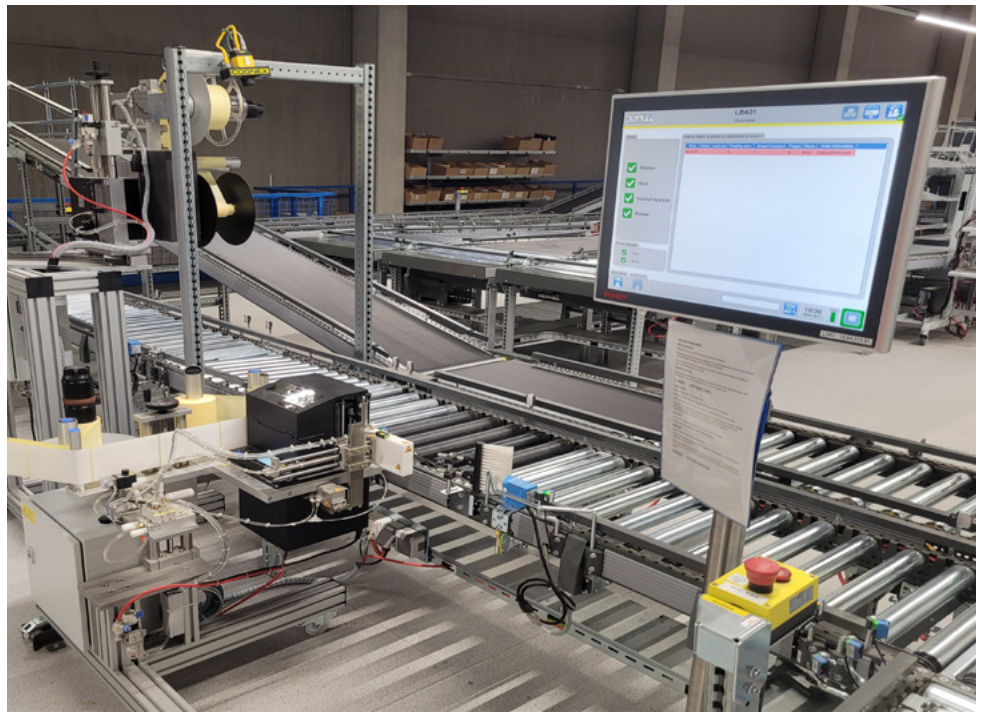


**“With KNAPP, we have a partner to rely on who shares our attitude towards commitment, cooperation, critical thinking and flexibility.”**

**Thomas Thys**  
PMO Director EMEA  
DRiV



**The DRiV solution:  
Efficient, fast and flexible.**







Fashion



Food Retail



Healthcare



Industry



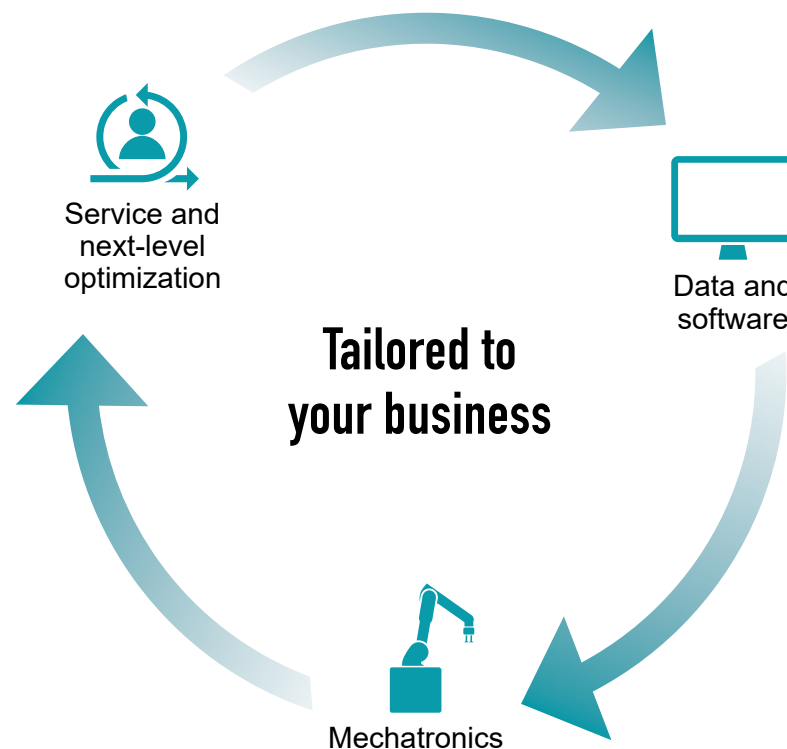
Retail



Wholesale

## Expand your competitive advantages

We work together with you to design and build a system tailored to suit your logistics requirements, growth targets and investment strategy. At KNAPP, we don't deliver systems off the rack; we take the time that's needed to learn about your needs, business model and challenges in the industry. Whether you want micro or macro, a semi-automatic system to help you get started or a fully automatic distribution center for top performance – we have just the right all-in-one solution for you.



We look forward to hearing from you:  
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