

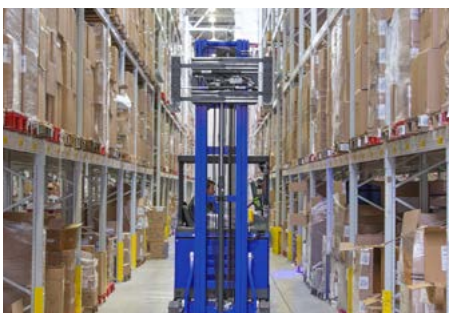
**YOU ARE CURRENTLY LOOKING FOR  
INNOVATIONS FOR YOUR WAREHOUSE?  
LET US HELP YOU!**



## **RHENUS WAREHOUSE INNOVATIONS** YOUR PARTNER FOR INTERLOGISTIC SOLUTIONS.

At Rhenus, we are shaping the future of logistics together with our customers and employees. Our goal is the identification and implementation of useful innovations in the long term. Autonomous-high-reach forklifts and robot-supported storage based on big data are the fields we are currently focusing on.

Our warehouses are evolving through the use of newly implemented and developed innovations. We offer specific know-how and are able to adapt implemented and existing solutions according to the requirements and needs of our customers.

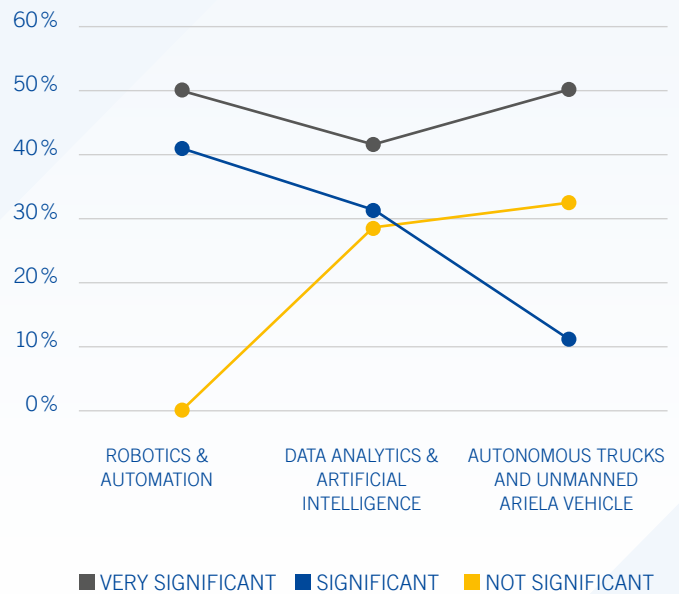


# RHENUS WAREHOUSING INNOVATIONS

Since the material flow of production is controlled directly or at least indirectly via intralogistics, the demands on availability and productivity are particularly high. Therefore, the requirements for the automation of various technologies and the inclusion of innovations are increasing. The results of a survey on the importance of logistic trends and the significance of innovation are given here:

## SURVEY OF LOGISTIC TRENDS THE SIGNIFICANCE OF TECHNOLOGIES

The surveyed companies stated that autonomous vehicles, robotics and automation are just as important as innovations in data analytics and artificial intelligence. Robotics and automation ultimately reveal the greatest potential for future innovations.



Source: Statista, Megatrends – Logistikbranche <https://de.statista.com/statistik/daten/studie/980502/umfrage/megatrends-in-der-logistik-in-deutschland/>

## RHENUS CORRESPONDING INNOVATIONS FIELDS OF TECHNOLOGIES

- /// RACKING/SHELVING/STORING
- /// PALLET STRAPPING/WRAPPING
- /// TRUCKS AND CONTAINERS
- /// LOADING/UNLOADING
- /// WORK SAFETY
- /// WAREHOUSE (BUILDINGS)
- /// DIGITALISATION
- /// BIG DATA AND SOFTWARE
- /// PICKING
- /// PACKING
- /// FORESTRY & BATTERIES
- /// INTERNAL TRANSPORT & CONVEYOR SYSTEMS
- /// PALLETIZING/LOAD HANDLING
- /// CLEANING
- /// INVENTORY
- /// RETURNS

OVER  
**137**  
INNOVATIONS

**56**  
SUCCESSFULLY  
IMPLEMENTED

# RHENUS WAREHOUSING INNOVATIONS



## DIGITALIZATION

AUTOMATED ANALYTICS OF MANUAL PROCESSES, WHICH REDUCE EFFORT AND COSTS, CAN SAVE TIME AND COLLECT DATA FROM MULTIPLE SOURCES AT THE SAME TIME.



## AUTONOMOUS VEHICLES

AUTONOMOUS VEHICLES USING SENSORS AND REFLECTORS TO NAVIGATE THROUGH THE WAREHOUSE AND TO WORK IN MIXED OPERATIONS HUMANS/ MACHINES.



## ROBOTICS

ROBOTICS, WHICH ARE EASY TO PROGRAM WITH COLLABORATIVE AND RELIABLE SOLUTIONS CAN BE USED TO AUTOMATE A LOT OF DIFFERENT PROCESSES.



## MECHANISATION

USE OF MACHINES, WHOLLY OR IN PART, TO RELIEVE WORKLOAD OF WORKERS.



We believe learning about new technologies is key to be successful in the future. We therefore want to be at the forefront of the latest technological developments in the areas of robotics, big data, digitalisation, autonomous vehicles, etc... Rhenus only implements innovations which add value to our clients' value chain and improve the satisfaction at work for our employees.

**Andreas Pliakat, General Manager Warehousing Solutions**





## // **CLEANFIX ROBOT** AUTONOMOUS CLEANING

Our autonomous cleaning robot helps to keep the warehouse clean in the warehouse and reduces further efforts. Its long working time encourages an efficient and smooth work flow.

// **REDUCTION OF CLEANING COSTS**

// **FULL REPORT OF THE (UN)CLEANED AREAS**

## // **INVENTORY X** AUTONOMOUS FLYING DRONE

The autonomous flying drone comes with different scanners for e.g. barcodes, temperature or humidity. It is possible to control the drone via a tablet. The temperature is easily adjustable for a customised service.

// **MULTISENSORS,  
NO INFRASTRUCTURE IS NEEDED**

// **POSSIBLE SCAN OF TWO  
PARALLEL STANDING SHELVES  
AT THE SAME TIME**





## // **AUTOSTORE** DYNAMIC STORAGE

This innovation is a dynamic storage solution which provides storage space for all goods. The form and size of the grid is matched with the warehouse, to enable the transport of the plastic bins inside the grid.

## // **MULTI-FLOOR INSTALLATION** POSSIBLE

## // **CONTINUOUS LOADING OF THE** PORTS WITH NEW BINS

## // **MOTION MINING** PROCESS OPTIMISATION

The Motion Mining solution supports the logistic processes inside the warehouse through different analyses: the data of mobile sensors or small Bluetooth beacons is collected while employees are wearing special wristbands or belts.

## // **OPTIMISATION OF WORK** PROCESSES

## // **ANONYMISED COLLECTED DATA**





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