

Autonomous mobile robot

MILES Series

THE KNOW-HOW FACTORY

FLEXIBLE AUTOMATION

WITH UNLIMITED ACCESSIBILITY

INDIVIDUAL, DRIVERLESS TRANSPORT SYSTEMS FOR PRODUCTION AND LOGISTICS PROCESSES

In recent years, autonomous mobile robots (AMRs) have developed into a revolutionary force that has transformed industries and redefined efficiency in many different sectors. AMRs are intelligent, self-navigating machines that are designed to perform tasks without direct human intervention.

They combine state-of-the-art technologies to navigate complex environments, interact with objects and perform tasks with precision.

OUR EXPERTISE – YOUR ADVANTAGE

Free accessibility

- ▶ The best view of the working area at all times
- ▶ Collaborative system – people and machines in a single system

Modular concept with free layout design

- ▶ No safety enclosure needed for the automation system
- ▶ Free positioning options for the individual modules
- ▶ Later integration into existing processes

Transport of various goods such as pallets, material containers or small parts, automatic intake and release of loading carriers and even fully automated fleets.



Simple expansion of the automation

- ▶ Additional AMRs can be integrated into the system later on

Different goods can be transported in a single system

- ▶ (Euro) pallets, off-cut, trolleys
- ▶ Commissioning carts
- ▶ Robot modules

Minimal space requirement

- ▶ Free transport system without fixed installation requirements on hall floors
- ▶ AMR travel path remains able to be walked on and driven on
- ▶ Small AMR turning radius

Intelligent safety concept

- ▶ Laser scanners guarantee 360° protection of personnel in the drive direction
- ▶ Object detection even to the sides of the vehicle

Efficiency

- ▶ Combined automated and manual operation possible at all times
- ▶ Simple and fast expansion and maintenance
- ▶ The smallest of downtimes in automation thanks to the fastest interchangeability of the AMRs
- ▶ Cross-area communication in the spirit of Industrie 4.0

BASIC VEHICLE WITHOUT LIFTING UNIT

Order No.	▶ Technical data		
	MILES500	MILES1500	MILES3500
Load max. [kg]	500	1500	3500
Length [mm]	1205	1530	2375
Width [mm]	678	910	1100
Height [mm]	293	293	350
Max. speed [m/s]	1.5	1.5	1.5
Runtime [h]	10	10	8
Chassis type	Differential drive	Differential drive	Differential drive
Turning radius [m]	0	0	0



BASIC VEHICLE WITH LIFTING UNIT

Order No.	▶ Technical data		
	MILES500	MILES1500	MILES3500
Dimensions with lifting unit retracted (LxWxH) [mm]	1380 x 678 x 408	1530 x 910 x 408	2375 x 1100 x 360
Load max. [kg]	500	1500	3500
Stroke [mm]	55	55	80

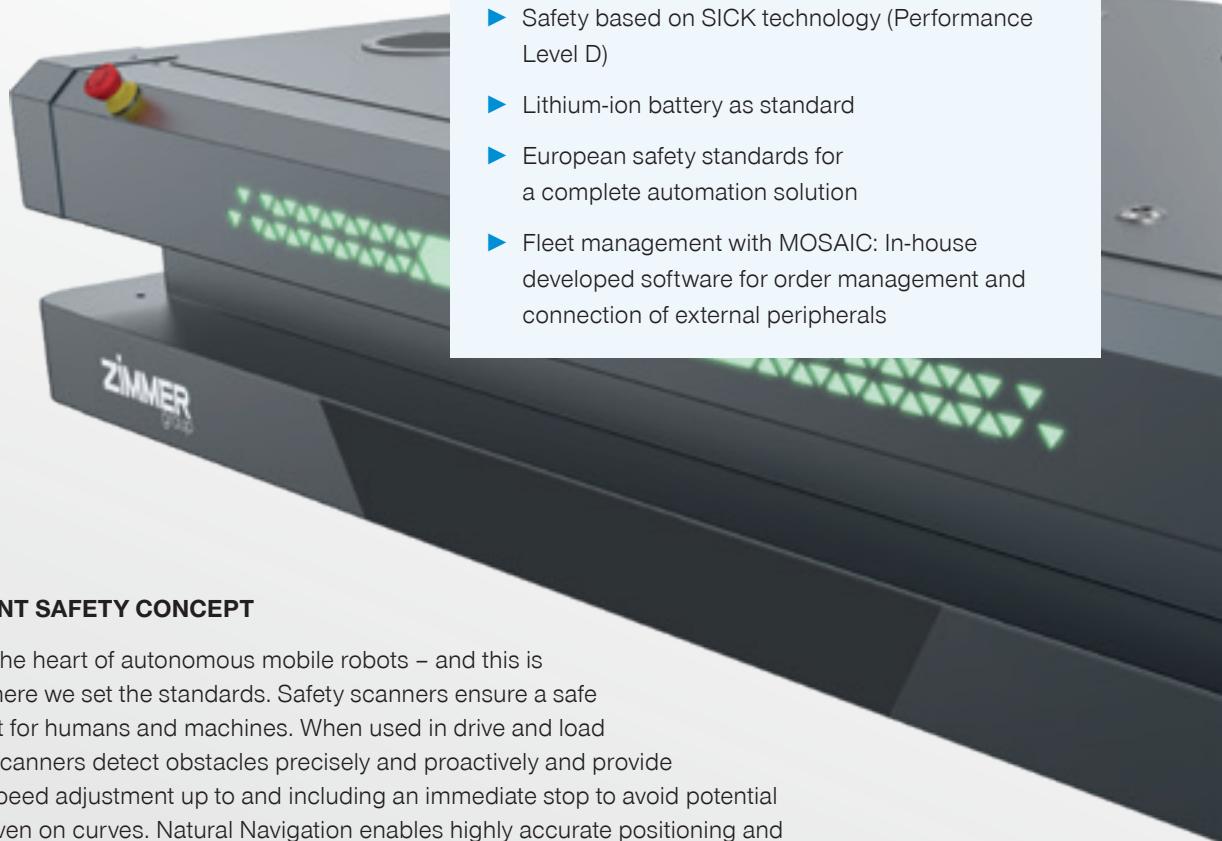
COMPLETE AUTOMATION ON THE SHOP FLOOR

MILES IN DETAIL

AMRs move collaboratively with humans in one and the same system and can avoid obstacles. In the process, they transport pallets, robot modules, trolleys and commissioning carts safely and efficiently from location to location.

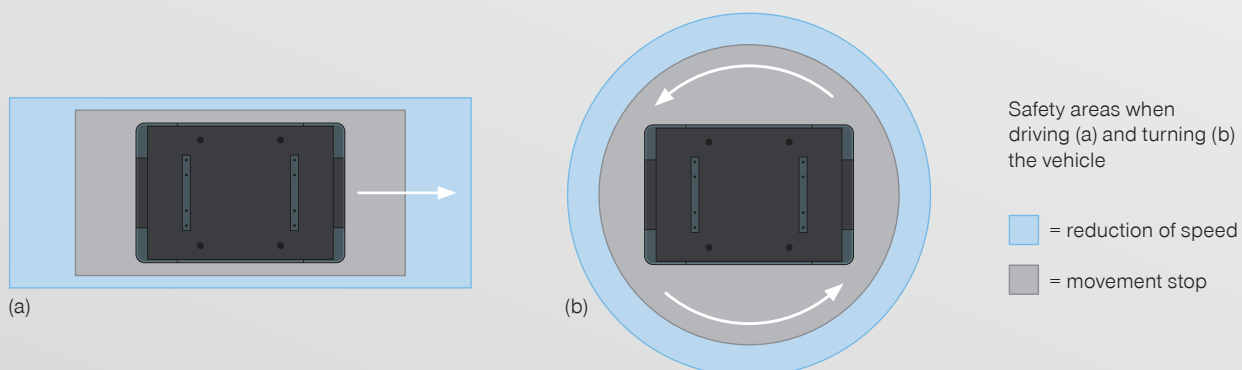
OUR EXPERTISE – YOUR ADVANTAGE

- ▶ Customer-specific, tailored platforms
- ▶ Collaborative automation solution with free layout design
- ▶ Omnidirectional movement in some cases for minimal space requirements (turning radius 0 m)
- ▶ Natural Navigation
- ▶ Safety based on SICK technology (Performance Level D)
- ▶ Lithium-ion battery as standard
- ▶ European safety standards for a complete automation solution
- ▶ Fleet management with MOSAIC: In-house developed software for order management and connection of external peripherals



INTELLIGENT SAFETY CONCEPT

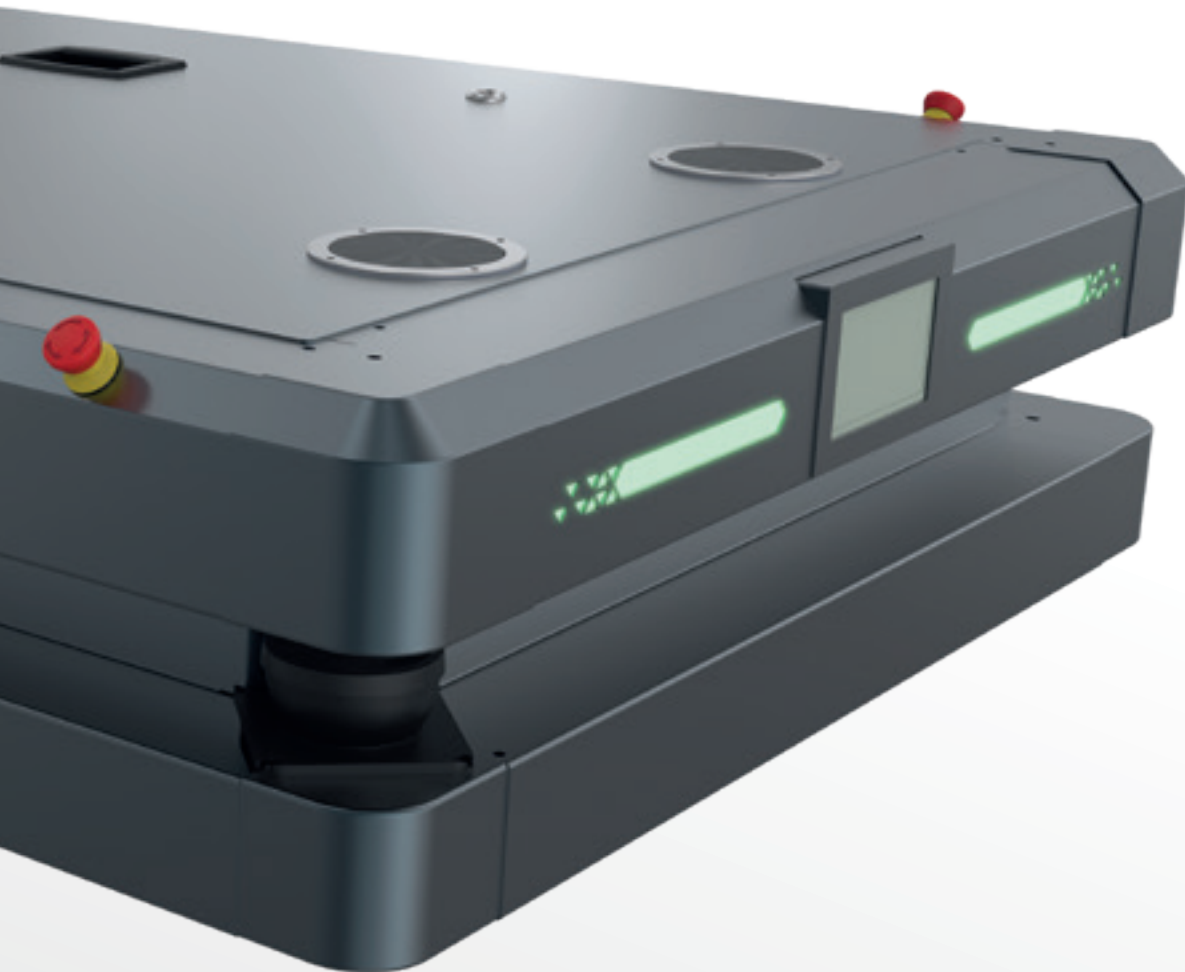
Safety is at the heart of autonomous mobile robots – and this is precisely where we set the standards. Safety scanners ensure a safe environment for humans and machines. When used in drive and load directions, scanners detect obstacles precisely and proactively and provide automatic speed adjustment up to and including an immediate stop to avoid potential collisions, even on curves. Natural Navigation enables highly accurate positioning and collaborative working without the need for markers or laser reflectors.





COMMUNICATION

The Zimmer Group offers you seamless integration into the fleet management and, via MOSAIC; into your ERP system. Our custom-developed MOSAIC software, designed for order management and connecting external peripherals, integrates production and building infrastructures, coordinates vehicle bodies, thereby bridging the communication gap between the machine level and the vehicles. At the same time, MOSAIC also serves as the interface to the ERP system and enables integration into existing fleet management and control systems. Integrated diagnostic systems help you to plan ahead and thus achieve significantly higher availability.



INDUCTIVE BATTERY TECHNOLOGY

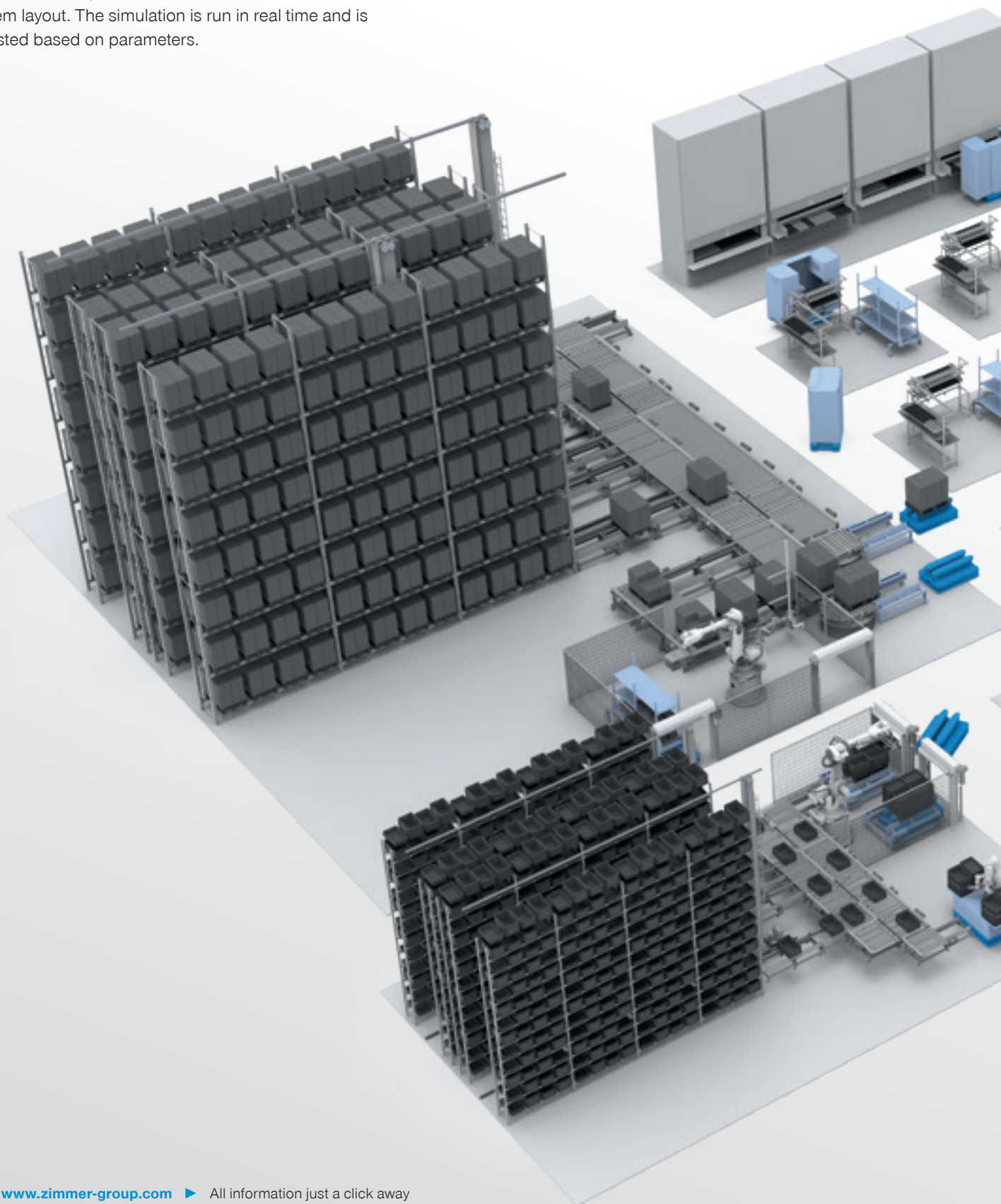
The battery is the heart of every AMR. The Zimmer Group uses state-of-the-art lithium-ion technology for maximum energy efficiency. In addition, it is maintenance-free, has a long service life and ensures fast charging times with maximum flexibility in use. MILES uses contactless and wear-free inductive charging technology. This system does not require any employees. The AMRs receive their charging commands from the fleet management.

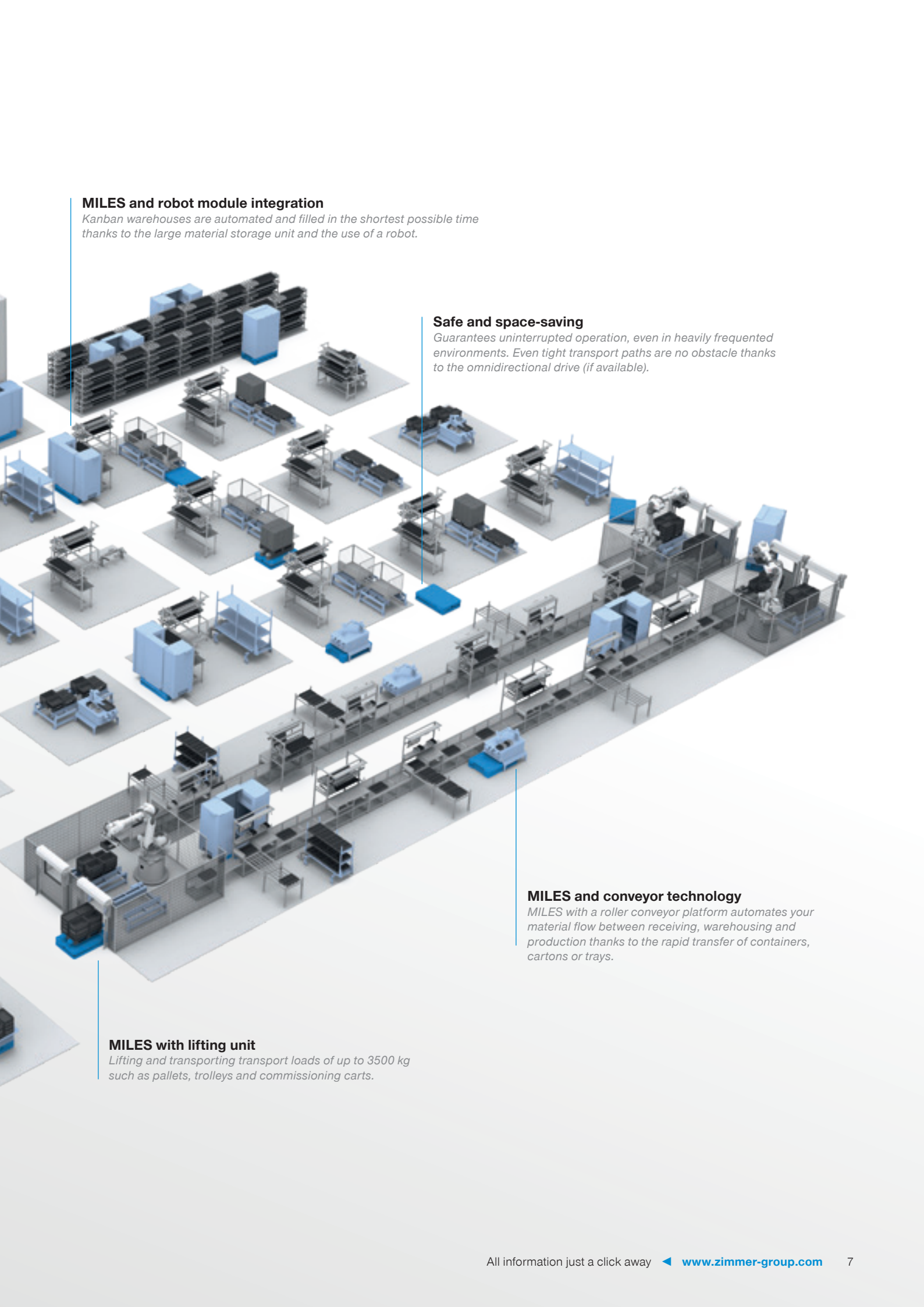
USE CASES

IN AN AMR-BASED PRODUCTION

AMR FOR ANY REQUIREMENTS

An optimum concept for any customer requirements is developed with help from simulation software. The layout of the automation system is created based on the customer's system layout. The simulation is run in real time and is adjusted based on parameters.





MILES and robot module integration

Kanban warehouses are automated and filled in the shortest possible time thanks to the large material storage unit and the use of a robot.

Safe and space-saving

Guarantees uninterrupted operation, even in heavily frequented environments. Even tight transport paths are no obstacle thanks to the omnidirectional drive (if available).

MILES and conveyor technology

MILES with a roller conveyor platform automates your material flow between receiving, warehousing and production thanks to the rapid transfer of containers, cartons or trays.

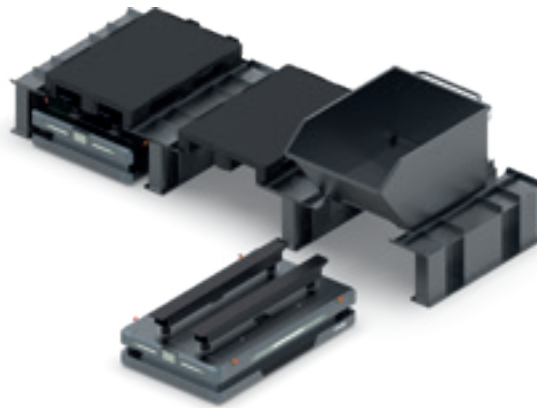
MILES with lifting unit

Lifting and transporting transport loads of up to 3500 kg such as pallets, trolleys and commissioning carts.

IN USE AS A LIFTING UNIT

MILES with a lifting unit provides a broad range of customized adaptation options that can overcome nearly any challenge. This means that the parts to be transported can be adapted with complete flexibility. Despite its small size and compactness, the system, which is equipped with a lifting unit, can transport loads of up to 3500 kg.

- ▶ (Euro) pallets
- ▶ Off-cuts
- ▶ Trolleys
- ▶ Commissioning carts
- ▶ and much more



PRODUCT ADVANTAGES

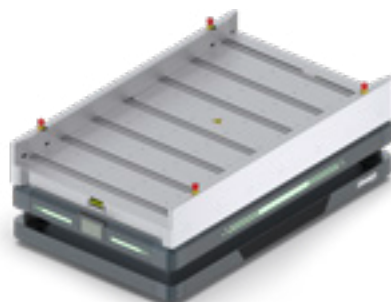
- ▶ Up to 80 mm stroke to lift the loading carriers
- ▶ Up to 3500 kg load capacity
- ▶ Customized adaptations of the structure at any time
- ▶ One system for many applications

IN COMBINATION WITH ROLLER CONVEYORS

MILES with a roller conveyor platform automates your material flow between receiving, warehousing and production. The roller conveyor enables the transfer of containers, cartons or trays to transfer stations, conveyor systems or workstations, thus ensuring fast, reproducible loading and unloading. Whether for supplying assembly stations, transporting Kanban containers or connecting buffer zones: The system adapts to your layouts and processes, creating end-to-end intralogistics – ready for changing requirements.

PRODUCT ADVANTAGES

- ▶ Fast, automated loading and unloading using roller conveyors
- ▶ Seamless transfer to conveyor systems and transfer stations
- ▶ High process reliability thanks to reproducible material transfers
- ▶ Flexible to changes in layout and processes
- ▶ Shorter walking distances and less manual handling





INFORMATION

The combination of MILES and a robot module enables an automation chain that can be expanded almost without limit.

IN USE IN COMBINATION WITH A ROBOT MODULE

Maximum availability and flexibility by integrating your MILES autonomous mobile robot with a robot tailored to your processes and transported goods. From autonomous transport with MILES into the central warehouse, to automated shelf stocking, all the way to the assembly line, where the robot supplies workstations with the necessary parts as needed. The result is an end-to-end automation chain that can be expanded almost without limit.

PRODUCT ADVANTAGES

- ▶ Robots with high load capacity
- ▶ Optionally available with automatically opening safety fence
- ▶ Optional battery packet for longer runtimes
- ▶ Compact design
- ▶ Positioning to the hand-off location using a camera



MOSAIC

MODULAR AUTOMATION PLATFORM

COMPREHENSIVE MODULARITY

MOSAIC (Modular System of Automation, Information and Communication) is the Zimmer Group's own custom-developed, modular and scalable platform for controlling, networking and monitoring technical systems in production and logistics. It combines automation and communication technologies with powerful data processing, controls orders, communicates with external peripherals, enables the mapping of vehicle bodies, thereby bridging the communication gap between the machine level and the vehicles.

Functional units and integration

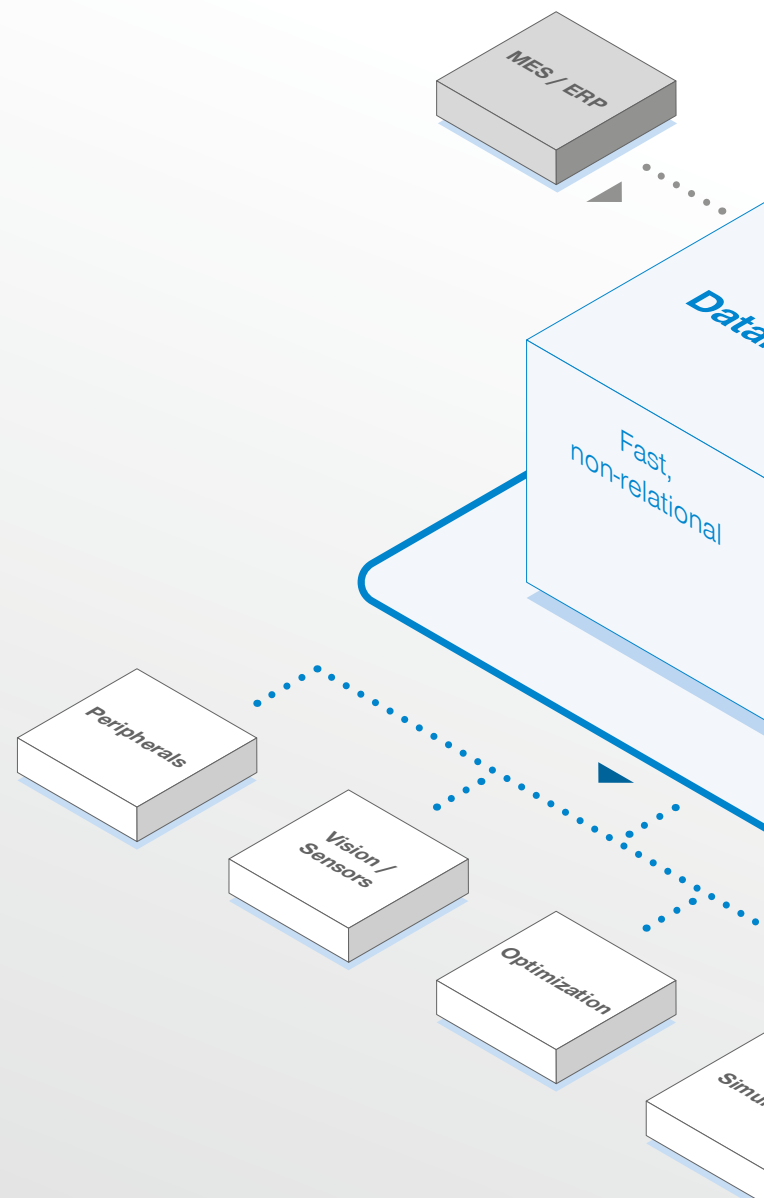
- ▶ Seamless integration into existing structures
- ▶ Interfaces to MES and ERP systems for direct ordering and order tracking
- ▶ Connection to fleet management for autonomous mobile robots (AMRs)
- ▶ Efficient material flow control through modular transport controls
- ▶ Prioritization and sequence of orders
- ▶ Communication with gates, elevators and fire alarm systems

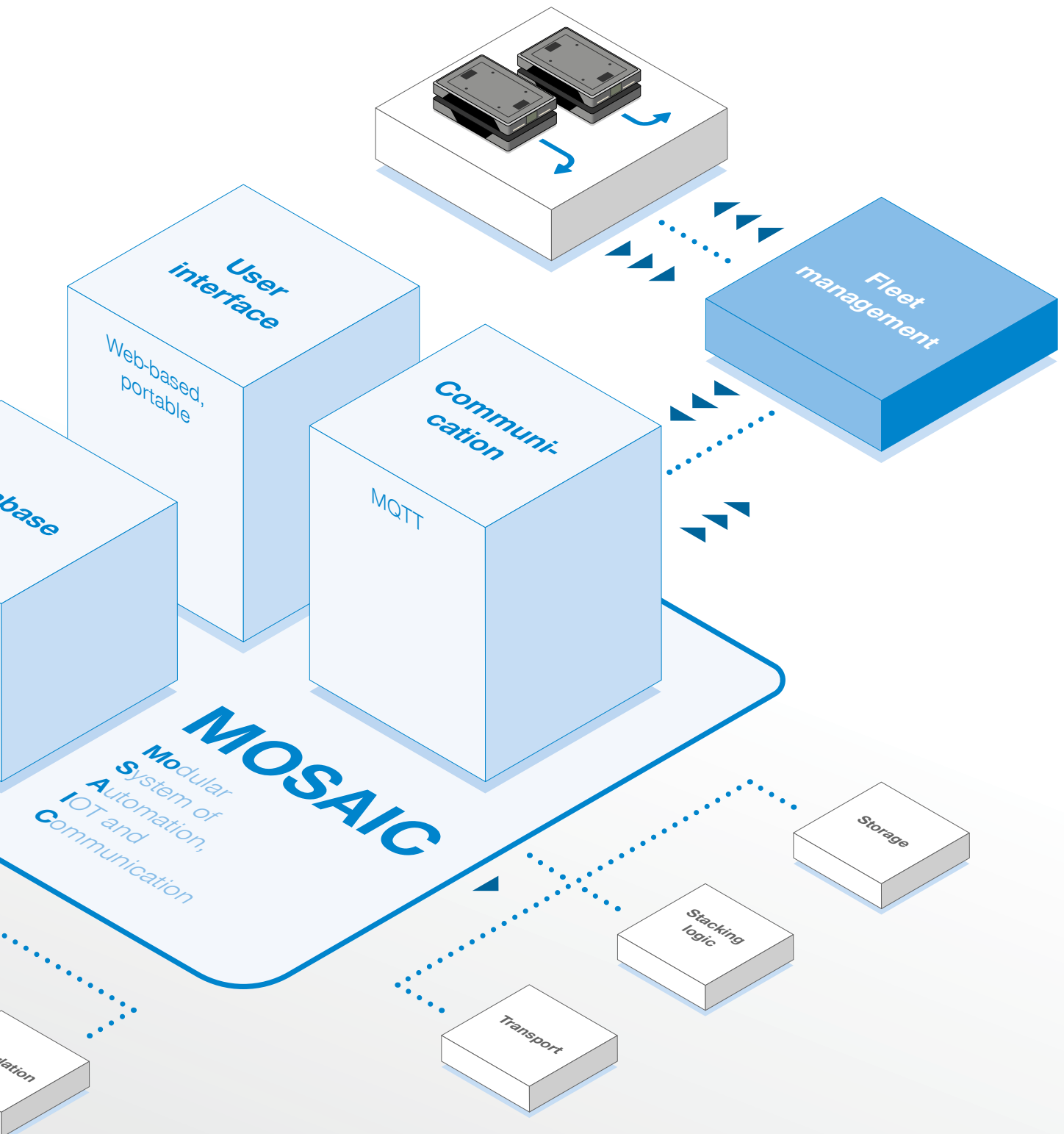
Vision and sensor systems

- ▶ Recognition of objects, statuses and quality features
- ▶ Periphery connections for integration of external components such as doors, gates, machines or building technology
- ▶ Modules for simulation and optimization in logic design, cycle time calculation and process improvement

Complete solution

- ▶ MOSAIC as a comprehensive solution for state-of-the-art networked automation and logistics environments.





MORE INFORMATION ABOUT MOSAIC

From the storage cell to the AMR
 For more information on the control system for all tasks, please visit our website.





OUR EXPERTISE – YOUR ADVANTAGE

- ▶ Customer-adapted solutions
- ▶ Reliable operation 24/7
- ▶ Intuitive and quickly teachable functions through graphic-supported operation
- ▶ Complete integration into the process chain of customer logistics

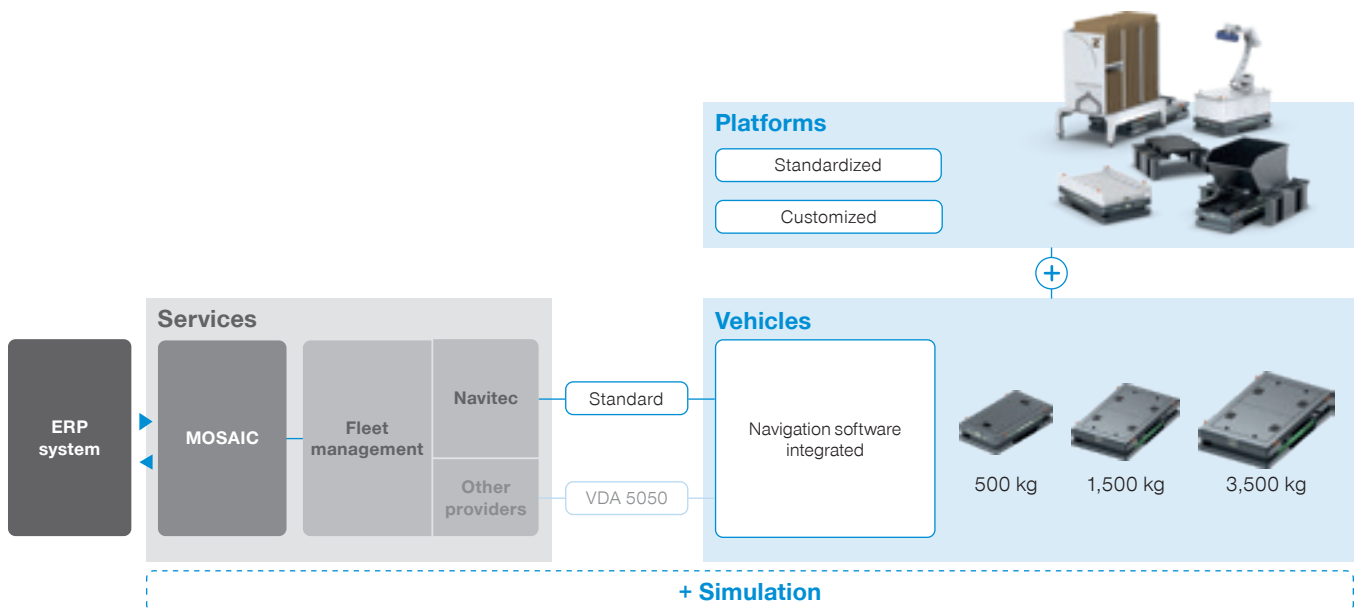
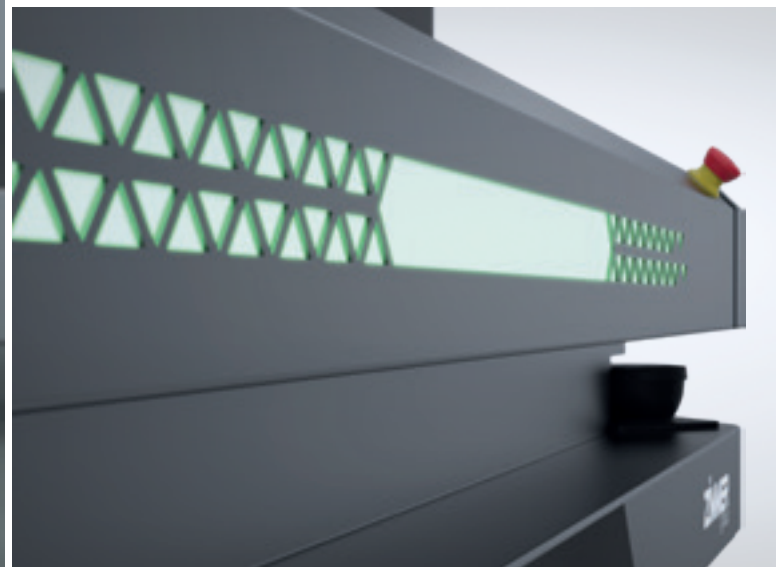
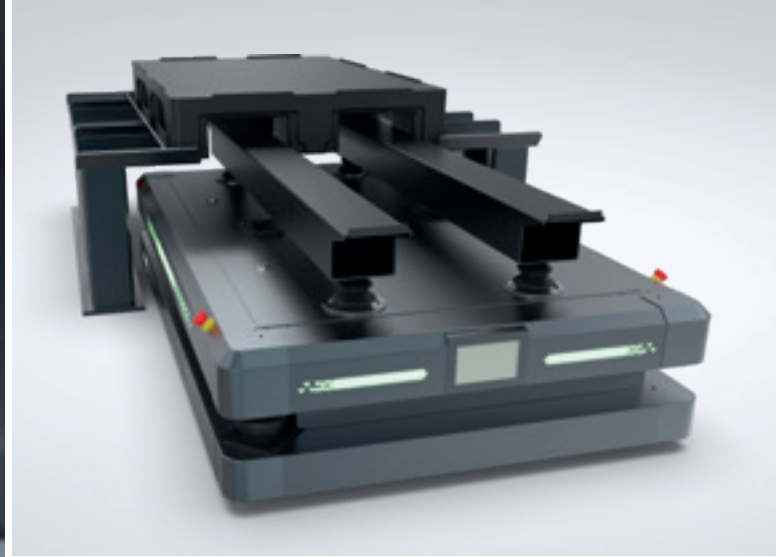


ARCHITECTURE OF AN AMR-BASED PRODUCTION

DESIGNED TO WORK TOGETHER

Optimally coordinated, the ERP system, our custom-developed software MOSAIC and the fleet management system are crucial for the efficient control and monitoring of your fleet and operational processes. A complete system made up of hardware, software and customer service from the Zimmer Group enables:

- ▶ Customized concepts and designs
- ▶ Planning the hall and the AMR fleet using simulation
- ▶ Fully automated process chain in various areas of logistics and production
- ▶ Commissioning by the Zimmer Group, including complete integration into the ERP system





A STRONG PARTNER SERVICE

TECHNICAL SUPPORT



As required, you can rely on the know-how and experience of our service technicians. Our innovative service products help run diagnostics and troubleshooting quickly and efficiently. Each error message can be systematically analyzed in a short time.

REPAIR SERVICE



For the repair and overhaul of your Zimmer products, count on the know-how of our specialists. Our repair service includes:

- ▶ Analysis of existing defects
- ▶ Repair by replacing the defective parts
- ▶ Complete overhauls

ON-SITE SUPPORT



- ▶ Commissioning and installation support
- ▶ Product briefing and inspection
- ▶ Troubleshooting
- ▶ Exchanging components
- ▶ Repairs, modifications and extensions

SPARE PARTS



Original Zimmer Group spare parts and wear parts are perfectly harmonized to your systems and meet the most demanding quality standards. Our worldwide logistics network ensures that the required parts reach you within the shortest time possible.

The contents and data are correct as of printing. Edition 04/2026.

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ZIMMER GROUP – THE KNOW-HOW FACTORY

OUR KNOW-HOW FACTORY WORKS WITH ALL INDUSTRIES AND DELIVERS EVERYTHING FROM A SINGLE SOURCE. OUR PRODUCT RANGE IS FAR REACHING, BOTH IN ITS DEPTH AND ITS BREADTH.

DO YOU HAVE A DEVELOPMENT PROBLEM? WE'LL SOLVE IT! SET US A CHALLENGE IN RESEARCH AND DEVELOPMENT. COUNTLESS INNOVATIONS ORIGINATE FROM OUR COMPANY. WE ARE ENTHUSIASTIC ABOUT NEW PRODUCTS AND PRIDE OURSELVES ON OUR CORPORATE PIONEERING SPIRIT.

CONTACT – WORLDWIDE

With our current 19 global subsidiaries and partners in over 125 countries, we offer the excellent service of a technology leader. We look forward to hearing from you!



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ZIMMER GROUP SYSTEM TECHNOLOGY – THE SPECIALISTS FOR CUSTOM SOLUTIONS

With over 30 years of development experience, the system technology develops special solutions for handling and automation.



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OUR NEW PRODUCTS

Zimmer Group is renowned as an innovator and for its pioneering spirit. Accordingly, each year we can offer new innovative and individual solutions. For current product highlights, refer to:



www.zimmer-group.com/en-us/innovations

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