
WAT
OTONOM
Factories of the Future
Koç

CREDITS

STEP INTO THE FUTURE

The journey we began in 2017 continues today under the umbrella of WAT Motor in the field of autonomous systems.

In processes extending from intralogistics to production, we offer end-to-end solutions by combining our local strength with global experience.

With our solutions such as AGV, AS/RS, dark warehouse, and automatic loading, we make operations **faster, safer, and more efficient;** by eliminating errors, we are carrying production lines into the future.

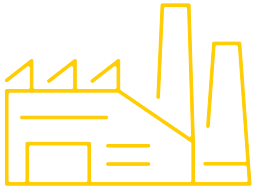
We develop special systems tailored to the needs of each sector, not only shaping the factories of today but also those of tomorrow. WAT Autonomous Systems sets new standards in the industrial process of **“Factories of the Future”**.


01
02

WE DRAW OUR STRENGTH FROM DATA, AND CREATE EFFICIENT SOLUTIONS!

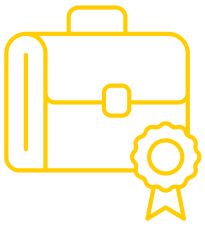
190+

Active Vehicles



21

Operational Sites



7+ years

Experience

190+ Active Vehicles

Today, hundreds of our vehicles are operating in the field, carrying operations into the future with speed, efficiency, and safety.

21 Operational Sites

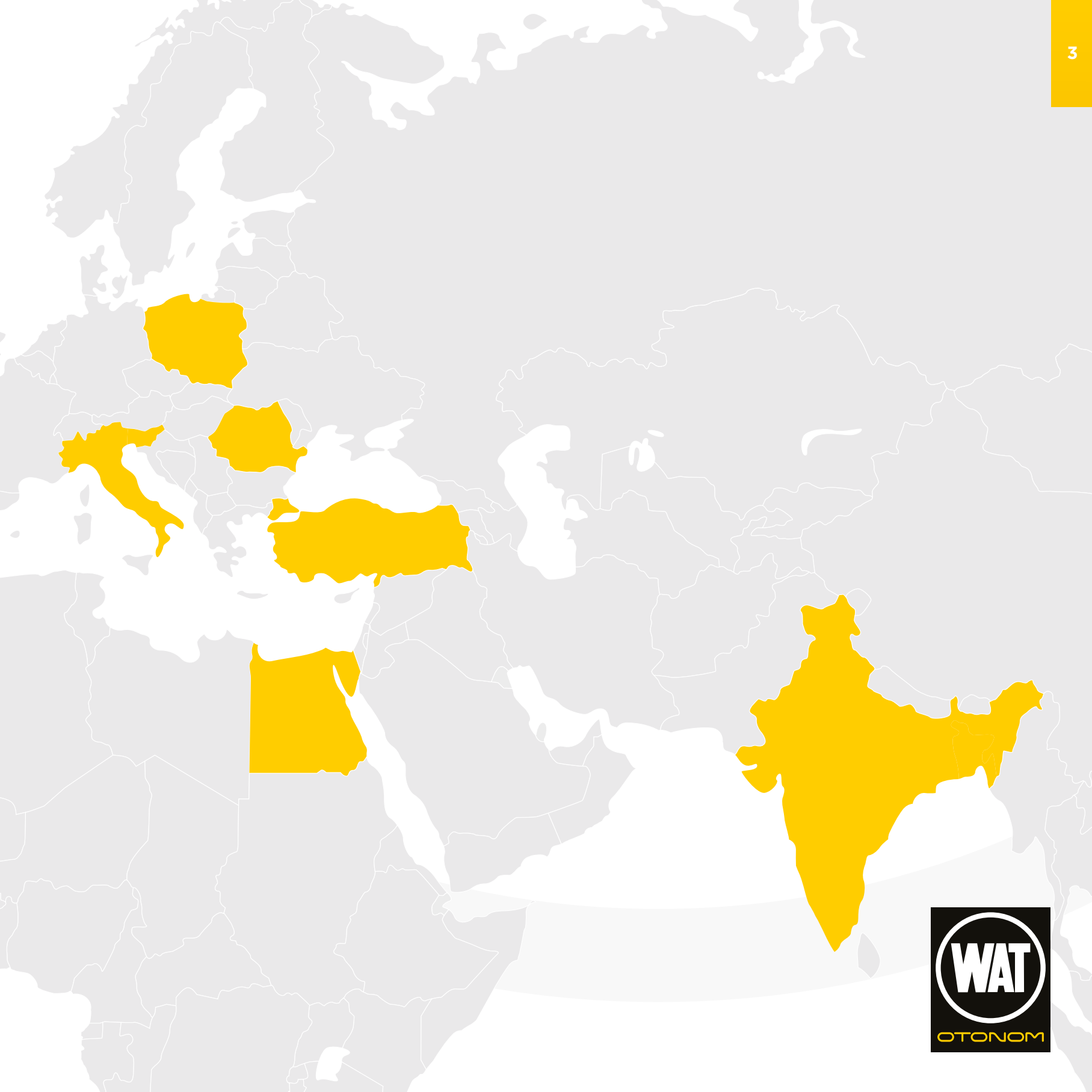
With our projects implemented across 21 different sites in various industries, we are shaping the industrial transformation.

7+ Years Experience

With our experience in the field of autonomous systems, we provide reliable, tailor-made solutions for every industry.

WE ARE CARRYING PRODUCTION PROCESSES INTO THE FUTURE ON A GLOBAL SCALE.

Our Mission; is to shape the future of production by expanding our autonomous system integration on a global scale. Starting from Turkey, we are accelerating industrial transformation through the projects we implement across various industries in regions spanning Europe, the Middle East, and Asia.

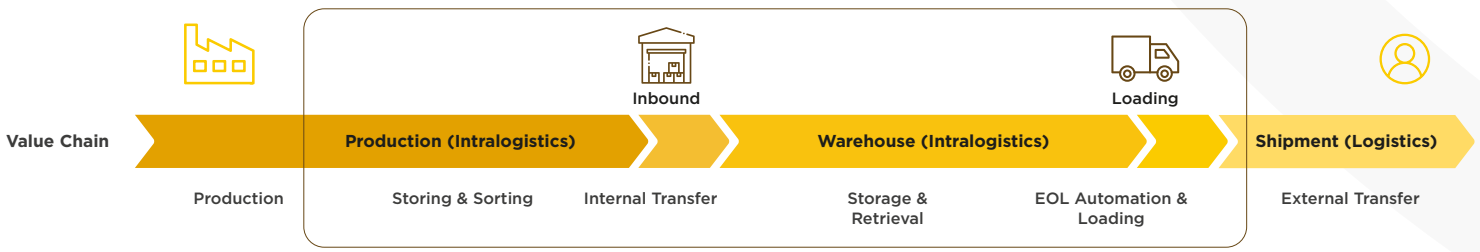

WAT
OTONOM

WHAT WE OFFER

At WAT Autonomous, we bring together various technologies, software, and hardware under one roof to efficiently manage the flow of materials and products in production and warehouse facilities. Our goal is to establish a seamless, automated, and efficient workflow within the facility.

We consolidate all the required equipment and software and manage the entire process from a single source. We design, install, and deliver turnkey solutions that provide the shortest path to your goal. This way, by working with a single point of contact, we reduce risks, ensure fast commissioning, and make your investments future-proof.

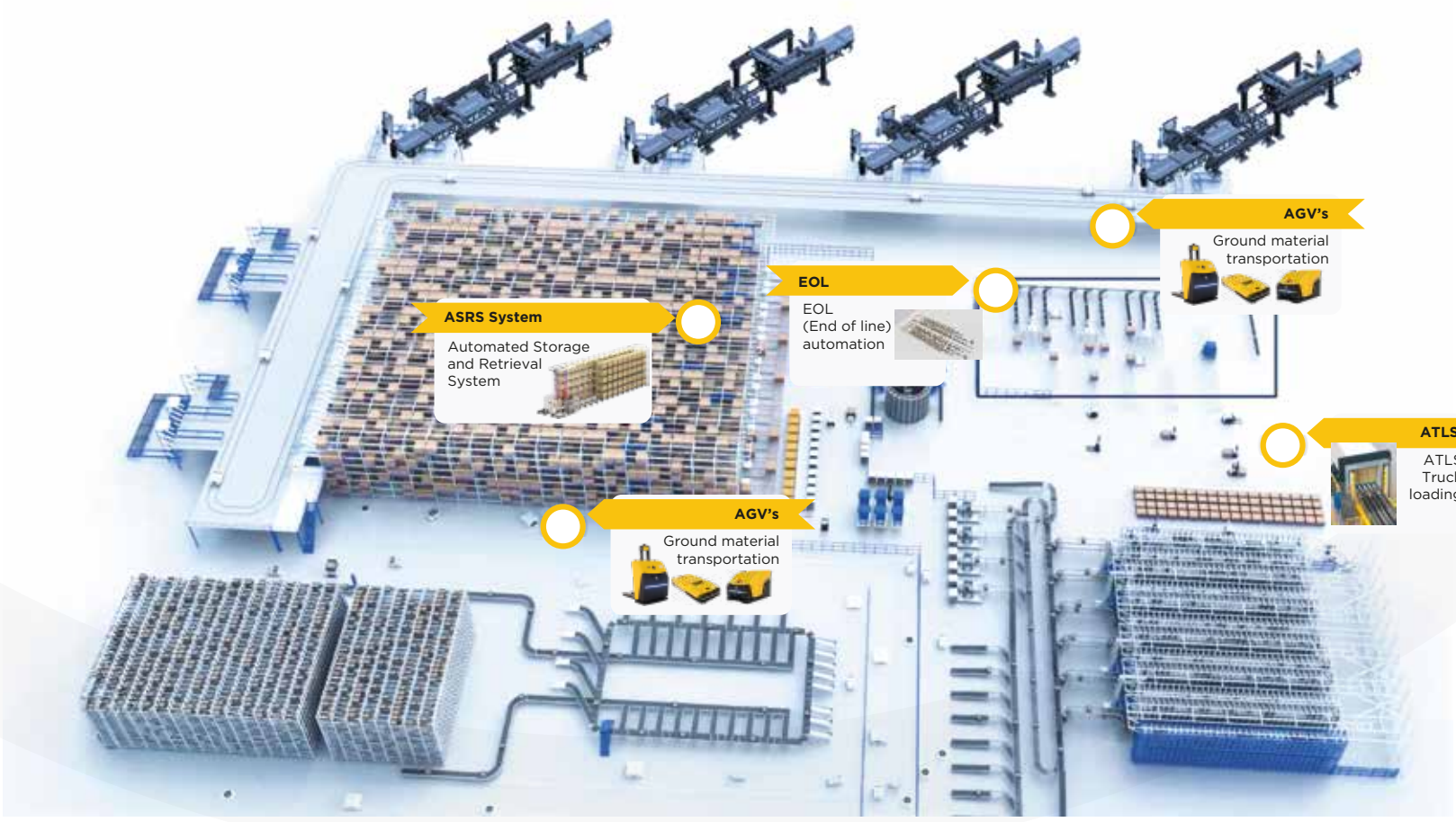
THE ROLE OF SYSTEM INTEGRATORS IN INTRALOGISTICS



FROM VISION TO EXECUTION

Our end-to-end approach manages and supports the project through all stages, from delivery to after-sales service.

Kaynak: STIQ Ltd Research & Analysis


AGV's
Ground material transportation
EOL
EOL (End of line) automation
ASRS System
Automated Storage and Retrieval System
ATLS
ATLS Truck loading
AGV's
Ground material transportation

OzUBEX Industry Transformation Center, established in cooperation with Özyeğin University, BEYSAD, and TÜSİAD, under the Competitive Sectors Program of the Ministry of Industry and Technology and financed within the framework of financial cooperation between the European Union and the Republic of Türkiye, is shaping the future with R&D, digital transformation, and Industry 4.0 technology solutions. As a TÜBİTAK Green Innovation Technology Mentor and a European Digital Innovation Hub (EDIH), OzUBEX leads the way in innovation and transformation.

Artificial Intelligence and Data Driven Systems
Efficiency and optimization through smart solutions

Digital and Green Transformation
Sustainability-focused Industry 4.0 applications

Manufacturing Technologies
Additive manufacturing, machining, plastic injection, and head treatment

Robotic and Automation Solutions
Industrial automation and robot-assisted production

MISSION & VALUES

OzUBEX aligns the flow of information, materials, and processes from supplier to customer with the goals of digital and green transformation. By analyzing the current state (as-is), it determines the software, hardware, and other resource needs, and with a value stream approach, it designs the future state (to-be/conceptual design) and puts the necessary applications and equipment into operation.

1. Innovation

Developing industry-leading solutions by keeping up with the technological advancements.

2. Reliability

Building trust with the businesses through impartial and transparent service principles.

3. Sustainability

Offering environmentally conscious and energy-efficient approaches.

4. Collaboration

Creating sustainable business models by strengthening university–industry partnerships.

5. Customer Orientation

Understanding the needs of businesses and offering tailored solutions.

CONSULTANCY SERVICES

OzUBEX analyzes the current state of businesses, identifies their needs and areas for improvement, and develops customized transformation roadmaps accordingly. It also supports the businesses in addressing the needs that arise in line with these roadmaps.
This process aims to increase the efficiency of businesses, optimize their costs, and support them in achieving their green transformation goals.
Some of the areas in which businesses are evaluated during the consultancy process:

- Digital Maturity Assessment
- Sustainability and Green Transformation Assessment
- Automation Potential Analysis
- Industrial IoT Maturity Assessment
- R&D Competency Assessment

R&D AND INNOVATION

Aiming to enhance university-industry collaboration, OzUBEX offers a comprehensive support mechanism to help businesses discover and implement their R&D potential. Additionally, with its expert staff and technical infrastructure, it enables companies to develop goal-oriented R&D projects and strengthen their competitiveness by producing innovative solutions.
Some of the services available to companies within this scope include:

- Support for establishing R&D centers and personnel training
- Support for participation processes in national and international projects
- Consultancy for accessing financial support

TRAININGS AND TRANSFORMATION PROGRAMS

OzUBEX offers training programs at all levels in the fields of digitalization and green transformation. Through 8-to-16-week 'Learn & Transform' programs, participants have the opportunity to apply what they learn in pilot projects and lead transformation processes. While the trainings provide both theoretical and practical knowledge in the relevant field, participants also have the chance to gain hands-on experience in a model factory.
Through these programs, participants gain the following:

- Analytical Observation Skills
- Use Cases on Digitalization and Sustainability
- Project-Based Learning

ENTREPRENEURSHIP

In collaboration with Özyeğin University Technology Transfer Office and the Fit Startup Factory, OzUBEX provides entrepreneurs with cost-effective access to innovative solutions through incubation, acceleration and scaling-up programs focused on digital and green transformation.
These programs, which enable entrepreneurs to turn their ideas into success in competitive markets, are supported by a wide network of experts, mentors, and investors. This collaboration accelerates the processes of concept development, prototyping, and market entry, offering entrepreneurs a strategic advantage.
Comprehensive support mechanism from concept to market:

- Incubation
- Acceleration
- Scaling-up

WAT OTONOM

THE JOURNEY TO THE FUTURE BEGINS...

WAT Motor's autonomous solutions maximize performance and efficiency in intralogistics processes.
With our expertise in system integration and innovative perspective, we bring real value to the vision of "Factories of the Future."

ATLAS CARRY

This AGV operates fully autonomously using natural navigation software. Thanks to its electric structure, it is environmentally friendly and can transport both vertical and horizontal loads using a dolly.

It is designed to carry loads of appropriate dimensions up to **600 kg** and can perform **pivot and angled turns**.
It offers **two different charging options: opportunity charging** and **battery swapping**.

Technical Specifications	
Vehicle Type	Carry
Navigation Type	Natural Navigation
Carrying Capacity	600 kg
Vehicle Dimensions (L x W x H)	1800 x 790 x 360 mm
Vehicle Weight	420 kg
Maximum Forward / Reverse Speed	60 m/min
Maximum Travel Speed (Loaded/Unloaded)	60 m/min
Position Accuracy	± 10 mm
Brake Type	Electromagnetic
Safety Level	PLd, Category: 3
Battery Type	TPPL – Silica Gel
Network	Wi-Fi or 4.5G
Battery Voltage / Capacity	24 (V) / 185 - 166 (Ah)

HYBRID STACKER

The Hybrid Stacker Yale MS16X is an electric stacking vehicle operating with natural navigation software.

It can lift loads of up to 1500 kg to a height of 1500 mm, offering reliable and efficient operation in narrow spaces.

Technical Specifications	
Vehicle Type	Lift & Carry
Navigation Type	Natural Navigation
Load Capacity	1500 kg
Vehicle Dimensions (L x W x H)	790 x 2100 x 2800 mm
Lifting Height	1500 mm
Maximum Forward Travel Speed	60 m/min
Maximum Travel Speed (Loaded/Unloaded)	60 m/min
Position Accuracy	± 10 mm
Brake Type	Lithium-Ion
Network	Wi-Fi or 4.5G
Battery Voltage / Capacity	24 (V) / 288 (Ah)

WAT OTONOM

HYBRID COUNTERBALANCED STACKER

The Hybrid CB Stacker is an electric stacking vehicle operating with natural navigation software.

It provides efficient and reliable operation in warehouse and production areas by lifting loads of up to 1500 kg to a height of 1500 mm.

Technical Specifications	
Vehicle Type	Lift & Carry
Navigation Type	Natural Navigation
Load Capacity	1500 kg
Vehicle Dimensions (L x W x H)	3630 x 1012 x 2344 mm
Lifting Height	1500 mm
Maximum Forward Travel Speed	60 m/min
Maximum Travel Speed (Loaded/Unloaded)	60 m/min
Position Accuracy	± 10 mm
Brake Type	Lithium-Ion
Network	Wi-Fi or 4.5G
Battery Voltage / Capacity	24 (V) / 288 (Ah)

ATLAS
CONVEYOR

This AGV operates fully autonomously using **natural navigation software**.

Thanks to its **electric design**, it can transport vertical and horizontal loads on **roller conveyors**.

It is designed with a load **capacity of up to 1000 kg** and has the capability to perform pivot and angled turns.

It offers two charging options: **opportunity charging** and **battery swapping**.

Technical Specifications	
Vehicle Type	Carry & Convey
Navigation Type	Natural Navigation
Carrying Capacity	1000 kg
Vehicle Dimensions (L x W x H)	1608 x 1099 x 598 mm
Vehicle Weight	620 kg
Maximum Forward / Reverse Speed	60 m/min
Maximum Travel Speed (Loaded/Unloaded)	60 m/min
Position Accuracy	± 10 mm
Brake Type	Electromagnetic
Safety Level	PLd, Category: 3
Battery Type	TPPL – Silica Gel
Network	Wi-Fi or 4.5G
Battery Voltage / Capacity	24 (V) / 185 - 166 (Ah)

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ATLAS FORK

The Atlas Fork AGV is an electric vehicle that operates autonomously using **natural navigation software**. It transports vertical and horizontal loads via **pallets or load carriers with forklift entry**.

With a load **capacity of up to 1000 kg**, it can perform transfers between different points and offers the ability to lift its forks up to 900 mm from the ground. Thanks to its **tri-cycle drive structure** (1 steering wheel, 2 stabilizing wheels), it can perform angled turns.

Its charging system supports opportunity charging, making it suitable for uninterrupted operation.

Technical Specifications	
Vehicle Type	Lift & Carry
Navigation Type	Natural Navigation
Carrying Capacity	1300 kg
Vehicle Dimensions (L x W x H)	1952 x 986 x 1800 mm
Vehicle Weight	660 kg
Maximum Forward / Reverse Speed	60 m/min
Maximum Travel Speed (Loaded/Unloaded)	60 m/min
Position Accuracy	± 10 mm
Brake Type	Electromagnetic
Safety Level	PLd, Category: 3
Battery Type	TPPL
Network	Wi-Fi or 4.5G
Battery Voltage / Capacity	24 (V) / 166 (Ah)

ATLAS TOW

The Atlas Tow AGV operates autonomously using **natural navigation** and can tow loads of up to **1000 kg via transport carts**.

It offers both **automatic and manual locking options**. Thanks to its three-wheel design, it has high maneuverability with a **turning radius of 2 meters**.

Two charging options are available: **opportunity charging** and **battery swapping**.

Technical Specifications	
Vehicle Type	Tow Truck
Navigation Type	Natural Navigation
Carrying Capacity	600 kg
Vehicle Dimensions (L x W x H)	1417 x 954 x 876 mm
Vehicle Weight	420 kg
Maximum Forward / Reverse Speed	60 m/min
Maximum Travel Speed (Loaded/Unloaded)	60 m/min
Position Accuracy	± 10 mm
Brake Type	Electromagnetic
Safety Level	PLd, Category: 3
Battery Type	TPPL – Silica Gel
Network	Wi-Fi or 4.5G
Battery Voltage / Capacity	24 (V) / 185 - 166 (Ah)

WAT OTONOM

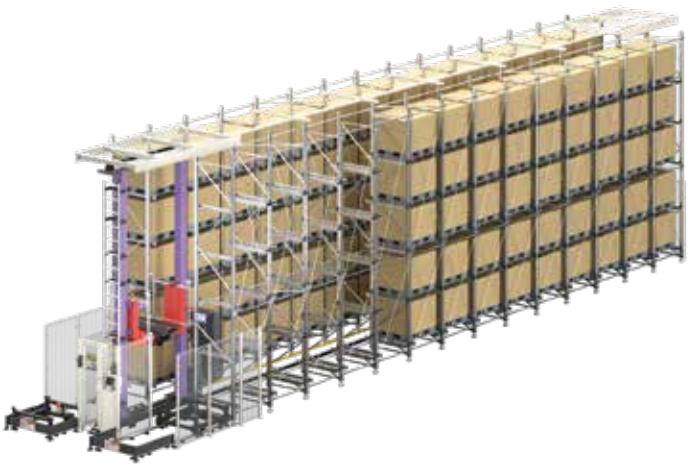
DAIFUKU

UNIT LOAD AS/RS

Renowned for its high-density pallet storage, rapid operation, and adaptability, Daifuku's Unit Load Automated Storage and Retrieval System (AS/RS) stands as one of the world's top-selling automated storage and retrieval systems. Its versatile design spans up to 40 meters, allowing customization to seamlessly integrate into your specific installation environment and operational requirements.

Daifuku Unit Load AS/RS – High-Density, High-Speed Automated Pallet Storage

- **High-Speed, Reliable Operation:** Stacker cranes deliver fast, smooth pallet handling with minimal forklift traffic and reduced cycle times.
- **Versatile Load Handling:** Supports closed pallets, Euro pallets, long items, rolls, and other loads.
- **Advanced Control System:** Real-time inventory management and system monitoring for seamless automation.
- **Built for Freezing Environments:** Works in cold storage facilities down to -30°C.
- **Scalable Configurations:** Single-deep and double-deep setups to match your space and throughput needs.
- **Integrated Automation:** Add shuttle carts, conveyors, STVs, and case picking robots for end-to-end efficiency.



SHUTTLE RACK M

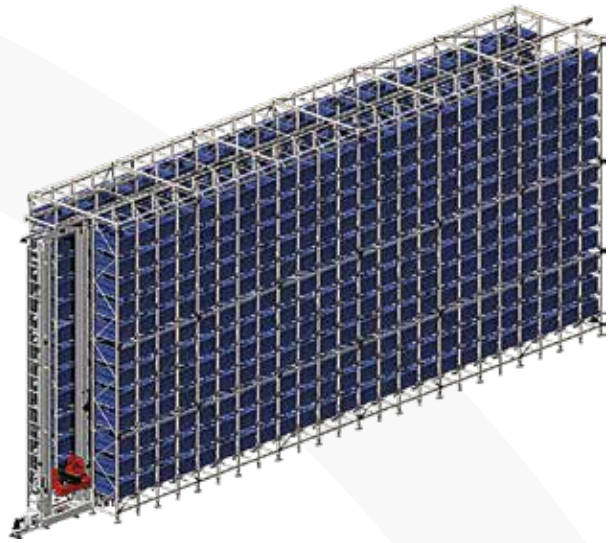
Daifuku's multi-shuttle system, the Shuttle Rack M, is a fast, vehicle-type automated storage and retrieval system (AS/RS) designed to provide temporary storage, sorting and sequencing functions in the manufacturing and distribution sectors.

Shuttle Rack M
Smart, Fast, Flexible Automated Storage

- **High-Speed AS/RS:** Vehicle-type system for rapid buffering, sorting, and sequencing.
- **Flexible Storage:** Handles various container and carton sizes with automatic location management.
- **Easy Maintenance:** Faulty shuttles can be swapped without stopping operations.
- **Cold Storage Ready:** Operates in environments down to -30°C—ideal for frozen goods.

MINI LOAD AS/RS

Daifuku's Mini Load Automated Storage and Retrieval System (Mini Load AS/RS) provides fast and efficient storage and retrieval for containers, trays, cases, and other small loads. Its high speed ensures timely inventory supply for both order-picking and manufacturing operations. The Mini Load AS/RS is user-friendly and can be easily integrated into an existing material flow.



Daifuku Mini Load AS/RS
Fast, Compact, and Intelligent Small-Load Storage

- **Fast & Precise Handling:** High-speed stacker cranes ensure quick, accurate retrieval of containers, trays, and cartons.
- **Space-Efficient Design:** High-rise shelving maximizes vertical space for dense, compact storage.
- **Quiet Operation:** Smooth, low-noise movement—ideal even for office-adjacent or upper-floor installations.
- **Optimized Picking & Sequencing:** Delivers items directly to operators or sorting systems, boosting efficiency.
- **Cold Storage Compatible:** Operates in frozen environments down to -30°C for food and pharma applications.
- **Flexible Configurations:** Single-deep and double-deep setups with extractor options for varied load types.

SORTING TRANSFER VEHICLE (STV)

Daifuku's Sorting Transfer Vehicle (STV) is a pallet sorting system that employs rail-guided vehicles for swift and efficient material handling. Designed to integrate seamlessly with Automated Storage and Retrieval Systems (AS/RSs), the STV ensures high-throughput operations. It facilitates sorting onto conveyors linked to an STV line or loop, optimizing warehousing tasks such as transferring goods between automated warehouse aisles, order picking stations, and sorting based on shipping directions. Additionally, a freezer model is available, catering specifically to cold chain automation and warehousing needs.

Daifuku STV
High-Speed Pallet Sorting & Transfer System

- **Fast & Efficient Transport:** Rail-guided vehicles reach up to 200 m/min, enabling rapid pallet movement across AS/RS aisles, picking stations, and shipping sortation.
- **Flexible Configurations:** Available in single shuttle, dual shuttle, and multi-vehicle loop systems to match layout and throughput needs.
- **Reliable & Low-Maintenance:** Dual and loop systems allow for maintenance without system downtime.
- **Cold Storage Ready:** Operates in environments down to -30°C—ideal for frozen goods and cold chain automation.
- **Versatile Applications:** Supports raw material supply, WIP transfer, finished goods handling, and truck-based sortation.

WAT OTONOM

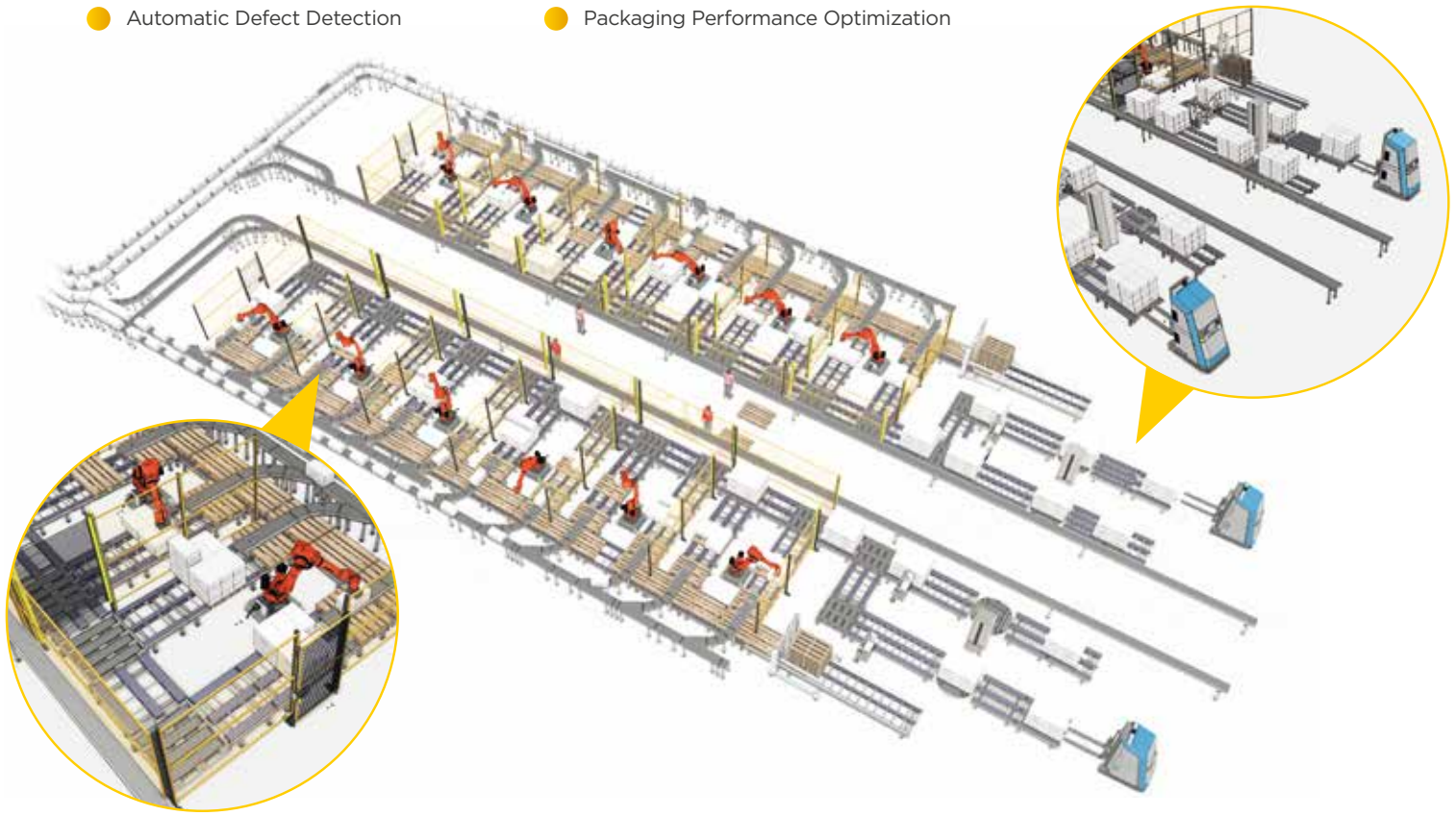
END-OF-LINE (EOL)

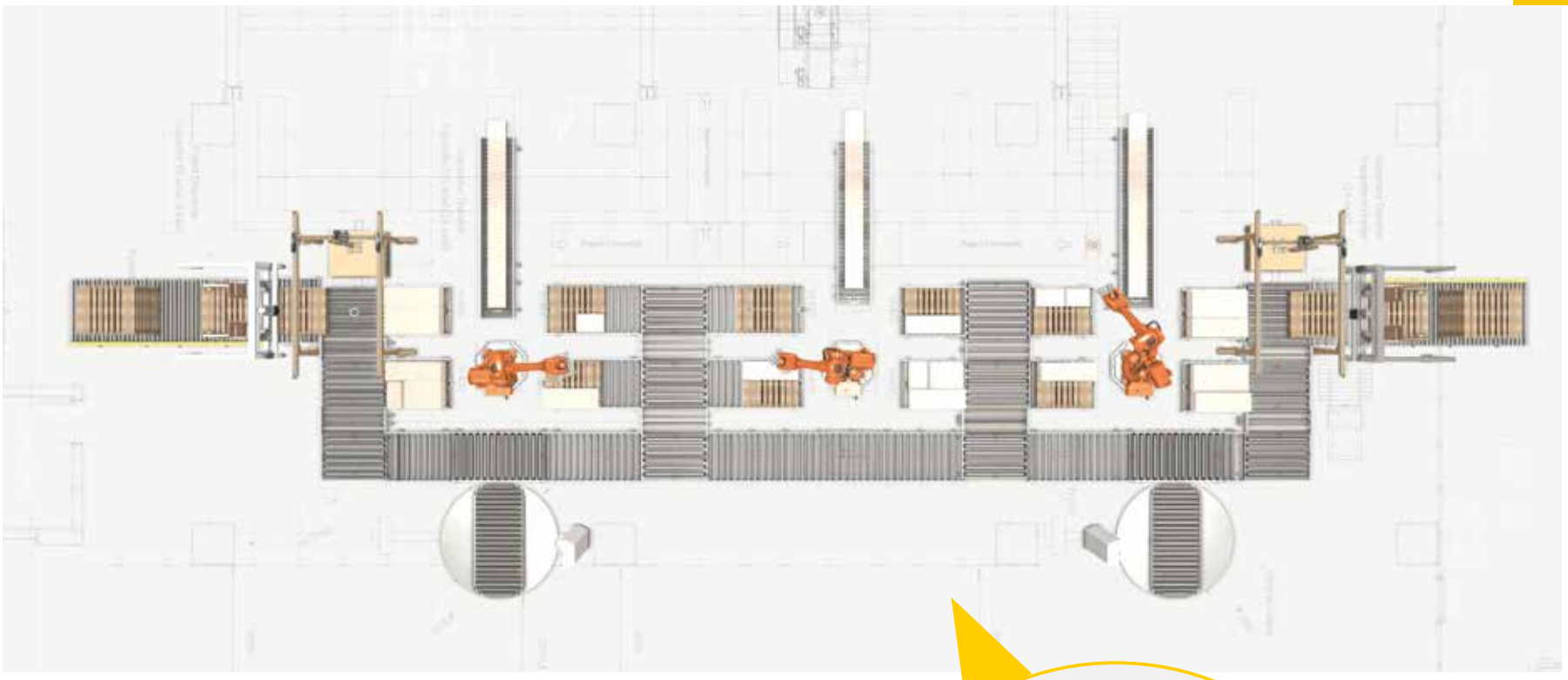
END OF LINE SYSTEMS

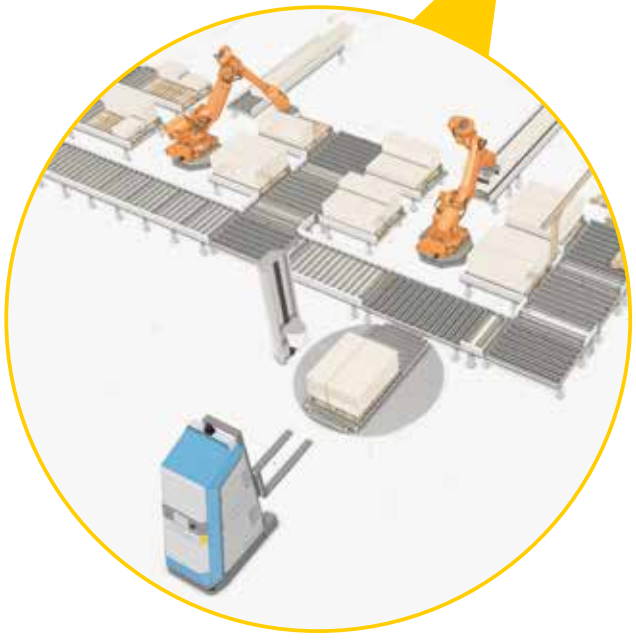
The EOL (End-of-Line) packaging process ensures that products are packaged securely and in compliance with standards at the end of the production line. While conveyors transport the products, robotic arms perform precise stacking and packaging, and automatic labelers ensure correct identification of the packages. Stretch wrapping machines wrap the packages to prevent damage during transport, while AGVs automate the transfer of products and packages between lines, streamlining logistics. Depending on the need, a single process or all steps can be integrated to achieve efficiency and workforce optimization.

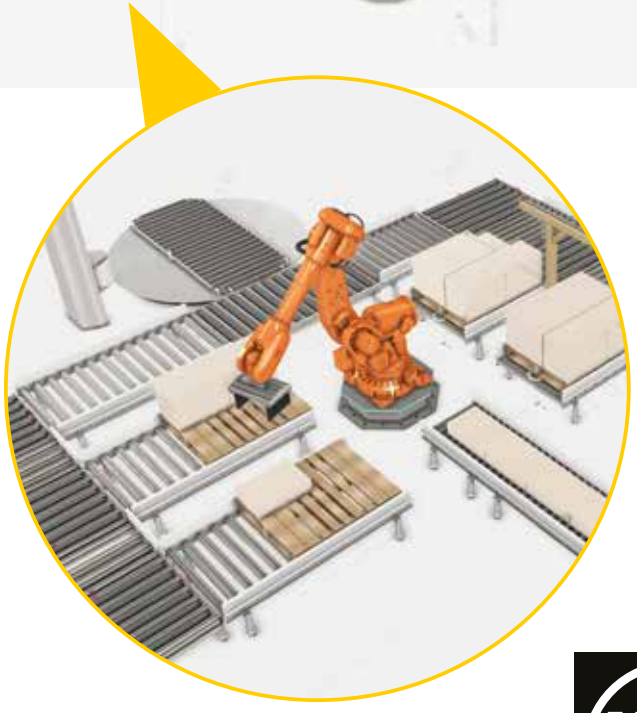
Features

- High Cycle Capacity
- Recipe-Based Programming
- Fast and Flexible Integration
- Automatic Defect Detection
- Real-Time Monitoring
- Integration with Autonomous Vehicles
- Sustainable Packaging
- Packaging Performance Optimization









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ATLS - AUTO TRUCK LOADING SYSTEM

ATLS (Auto Truck Loading System) is an innovative solution that enables the automatic loading of palletized or boxed loads into trailers. It operates with a combination of dock, conveyor, and/or mobile robot (AGV/AMR) infrastructure.

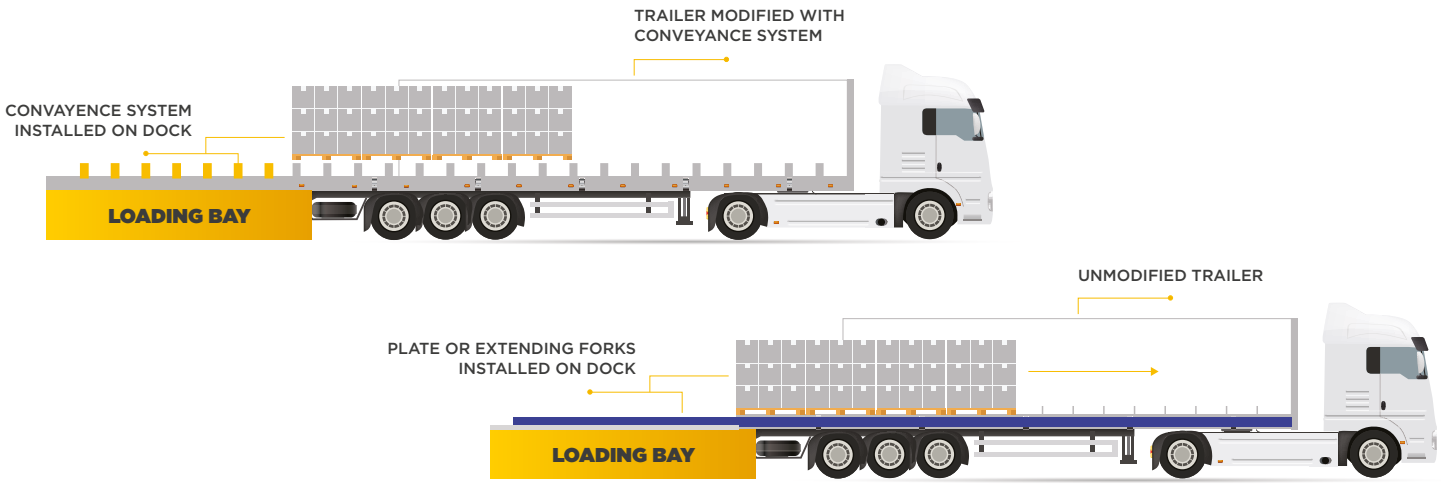
LOADING IN MINUTES WITH ATLS

Automation from a single point with **Modified & Unmodified Trailer** solutions:

- Faster trailer loading cycle
- Less forklift traffic, higher safety
- More predictable cost and capacity

Application Areas

- FMCG
- Beverage and retail distribution
- White goods
- Automotive sub-industry
- 3PL warehouses
- Production EOL (End of Line) → warehouse lines



TYPE 1: MODIFIED TRAILER SOLUTION

Usage Area

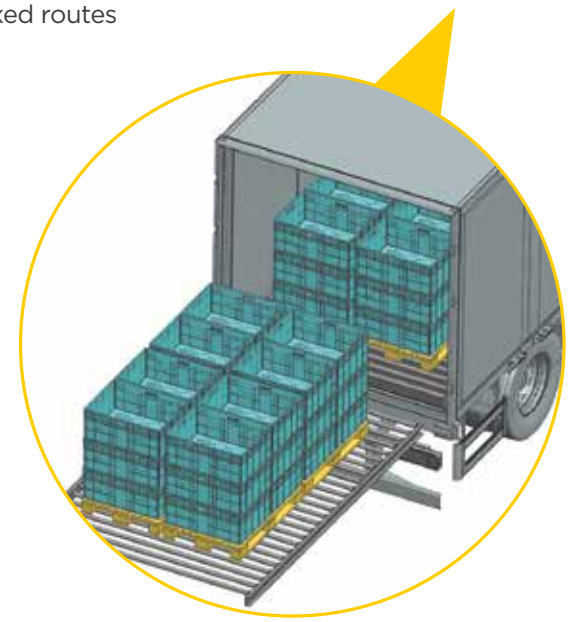
Closed-loop shuttle lines (EOL – warehouse), dedicated fleet, regular route operations with the same vehicles.

Technology

- Single-shot loading based on slip-chain / skate / moving-floor systems
- Modifications on the dock and trailer (mechanical interface)
- Optional bidirectional use: loading + unloading

Advantages

- High speed, low operator requirement
- Low investment, lean mechanical architecture
- Maximum efficiency for uniform loads and fixed routes



TYPE 2: UNMODIFIED TRAILER SOLUTION USAGE AREA

Usage Area

Open-loop distribution; working with different 3PLs/carriers; general-purpose trailer variety.

Technology

- Single-shot loading based on slip-chain / skate / moving-floor systems
- Modifications on the dock and trailer sides (mechanical interface)
- One directional use: loading only

Advantages

- Does not require trailer standardization, full compatibility with 3PLs
- Flexible scalability in multi-dock areas

WAT HARMONY

SMART TASK MANAGEMENT

WatHarmony minimizes the need for manual intervention by automatically sending task commands to AGVs. Thanks to this feature:

Efficiency increases: Tasks are planned quickly and effectively.
Time is saved: AGVs follow optimized routes.
Error rates decrease: Digital processes reduce human error.

This data can be used to ensure workflow continuity and optimize processes.

OPERATIONAL EXCELLENCE THROUGH SMART SCENARIOS

WatHarmony offers scenarios that optimize material flow in the field:

Stacking Area Management: AGVs are automatically directed to the appropriate location (Drop-off) by efficiently utilizing stacking areas.
Production Support: Automatically selects the pallet closest to production from the stacking area and integrates it into the workflow (Pick-up).
Task List Creation: Generates task lists for AGVs using physical buttons or other triggers.

This data can be used to ensure workflow continuity and optimize processes.

AUTOMATIC WORK ORDER TRIGGERING

WatHarmony offers the ability to generate work orders through various triggers:

Physical Buttons: Automatic triggering via various sensors.
Operator Tablets: Operators can create requests via tablet or PC.
Warehouse Management Systems (WMS): Automatic generation of work orders through integration with the management layer.

This data can be used to ensure workflow continuity and optimize processes.

DIGITAL WORKFLOW & DETAILED REPORTING

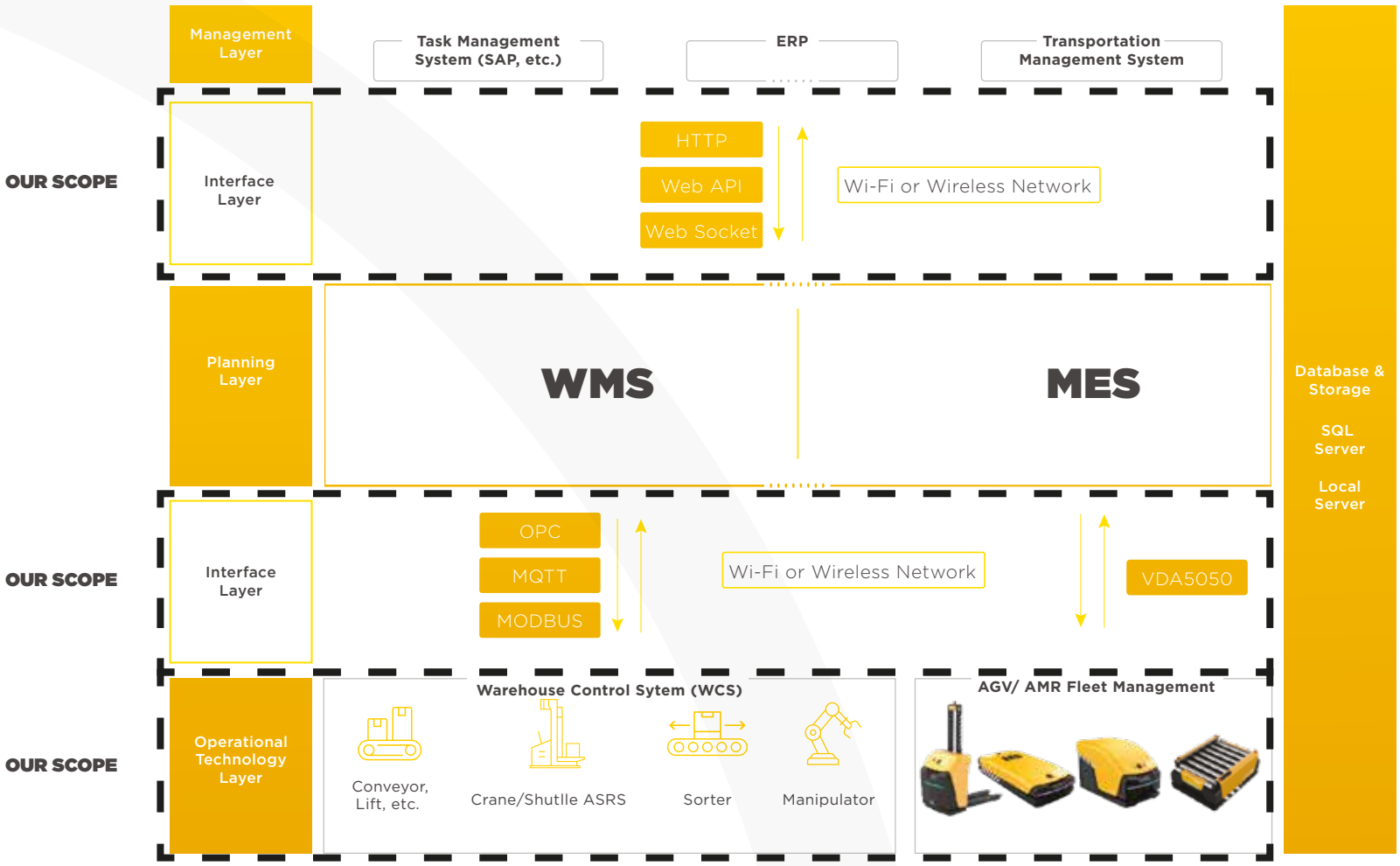
WatHarmony digitizes work processes and provides detailed reporting capabilities. This enables:

Operational Data:

- Total time spent on product flow
- Number of completed trips (cycles)
- Detailed reports of encountered issues & errors
- Daily and weekly product movement within the workflow

This data can be used to ensure workflow continuity and optimize processes.

Intralogistics Layers



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