



Product Portfolio

Empowering your workforce through Sustainable Automation

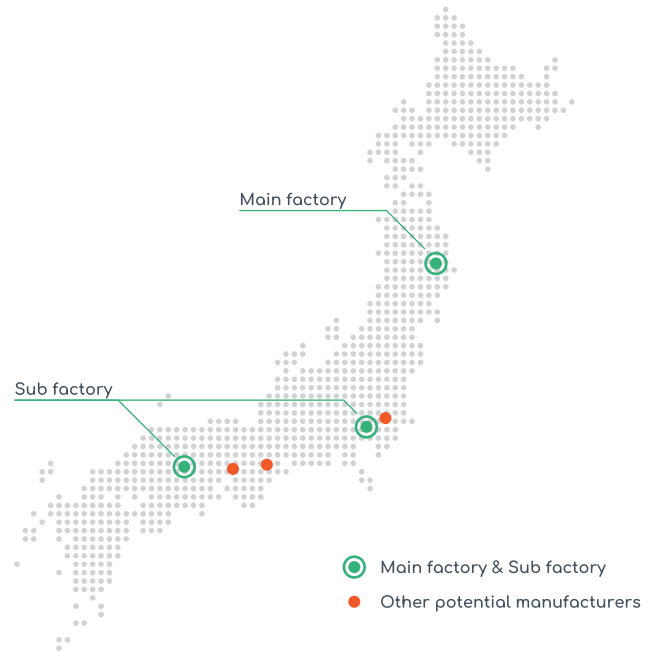


Sustainable Industry, Sustainable Life

Empower Workforce / Seamless Integration / Boost Collaboration / Redefine Workflow

At LexxPluss, we recognize the urgent challenges stemming from global labor shortages and evolving consumer demands. Our mission is to expedite the transition to autonomous infrastructure through tailored solutions for the logistics and manufacturing sectors.

Production capacity of units/year : 1000



As an industrial robotics startup headquartered in Japan, we specialize in developing highly customizable Autonomous Mobile Robots (AMRs) for automated transportation systems. All our products are meticulously designed and manufactured in Japan, ensuring precision, reliability, and quality."



LEXXPPLUS K-lab, Japan

Industries: MANUFACTURING

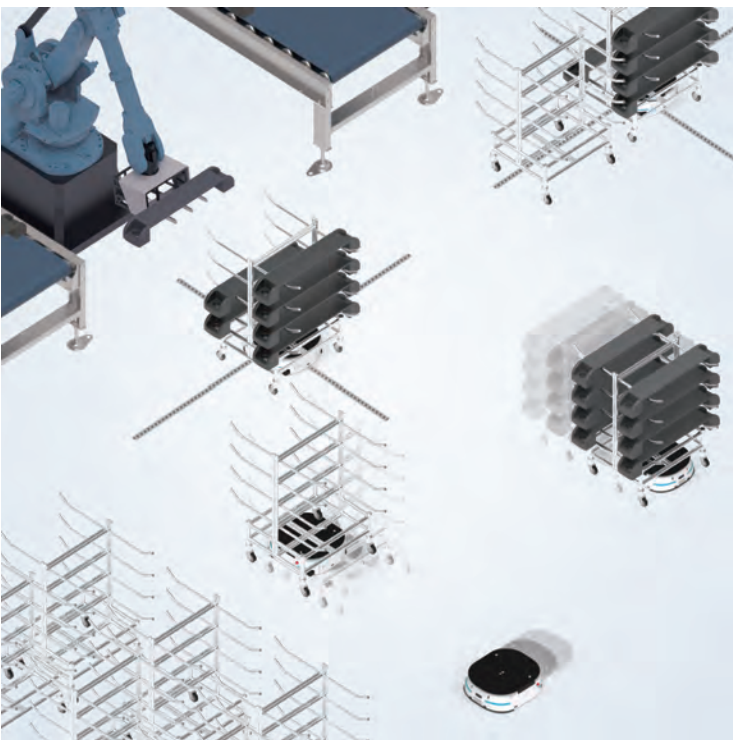
Accelerate your Manufacturing Processes

Our solutions integrate with assortment systems, enhancing efficiency in manufacturing processes by working alongside human operators, facilitating the receiving and delivering of parts while autonomously collecting empty trolleys.

Our AMR optimizes cycle time by taking the shortest route from storage areas to production lines. Their compatibility with various equipment maximizes flexibility in production setups, catering to various manufacturing needs, promoting flexible production processes.



Receiving and Delivering of parts
Use case includes a major automotive parts manufacturer



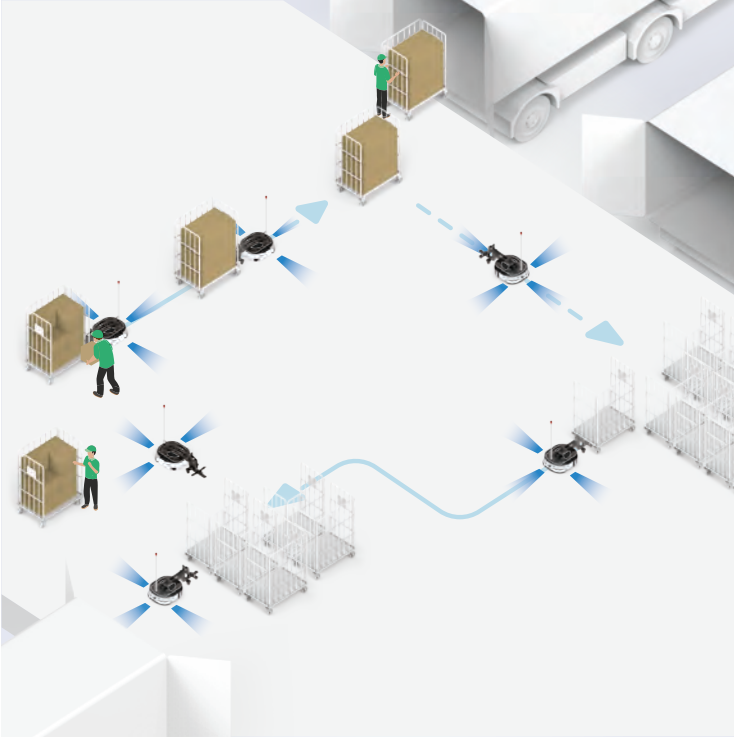
Transporting between processes
Use case includes a major automobile manufacturer

In manufacturing facilities, the movement of products between different processes is a common requirement. Our solutions address this need by automating cart linkage and obstacle avoidance during transport operations.

This automation reduces the need for manual labor and enhances efficiency without disrupting pre or post-process activities.

Industries: LOGISTICS

Effortlessly Navigating a Changing World



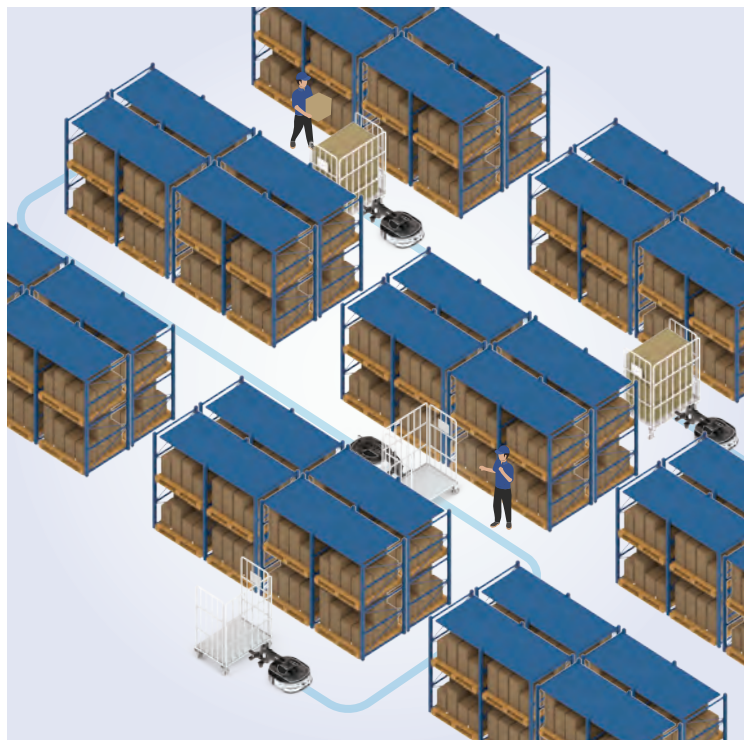
Sorting and transportation of goods in carts
Use case includes an industrial equipment manufacturer

In warehouses, loading processes are often manual, prioritizing shipping operations. Our solutions offer a flexible alternative to conveyor systems for efficient loading. Automated cart collection and parking streamline operations, reducing manual effort.

At transshipment bases, we automate transportation to truck berths, handling heavy loads up to 500 kg. This alleviates workload and eliminates staff shortages, operating 24/7.

Our solutions automate transportation tasks, reducing manual labor and improving efficiency by up to 75%.

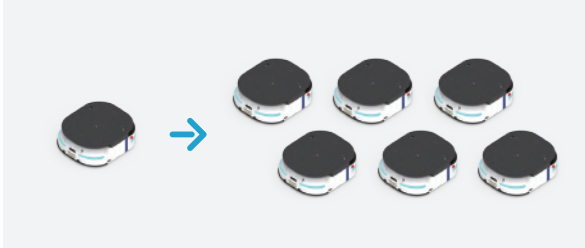
By integrating with WMS, we streamline operations and collaborate with workers, maintaining existing layouts. In retail distribution centers, our AMRs serve as picking assistants, reducing the workforce by 50% and enhancing efficiency by about 40%. They can transport heavy cargo up to 500 kg, reducing work intensity in logistics operations.



Picking assistant for heavy loads
Use case includes a distribution center for a food wholesaler

Product Overview

Accelerate your Manufacturing Processes



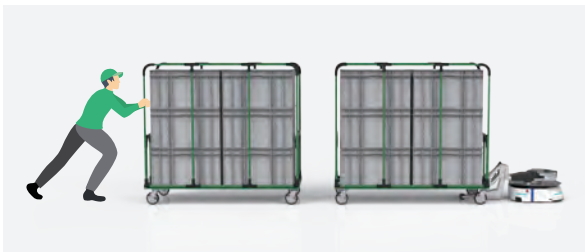
Scalability - Start from a single unit

With Lexx500, businesses can begin operations with just one unit. As their needs evolve, they can seamlessly scale up by adding more units. Businesses can expand and adjust transfer processes without causing disruptions to their operations.



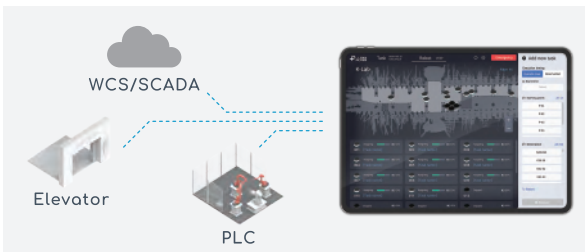
Safety - Synch with human workers

Multiple sensors monitor the environment to ensure the safety of workers and goods being transported. In the event of contact, the bumper sensor is activated to safely stop the vehicle.



Flexibility - Minimum modifications

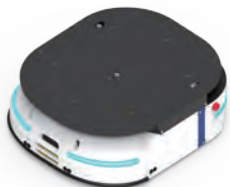
LexxTug is an attachment equipped with an automatic disconnect function. Allowing it to tow general purpose trolleys up to 500 kg without modification, resulting in minimal change to the current operation.



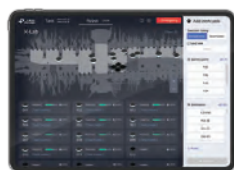
Integration - Link to existing systems

API and I/O connectivity with LexxHub enables information exchange with higher level systems such as WCS/MES and operational connectivity with elevators, fire shutters and industrial equipment.

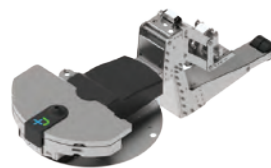
Our Solutions



Lexx500



LexxFleet



LexxTug



LexxHub

Lexx500

Key benefits

COOPERATIVE SYSTEM

The Lexx500 system enables the robot to work in conjunction with assorting systems and conveyor belts for the seamless transport of goods.

NAVIGATION IN TIGHT SPACES

Hybrid control allows for obstacle avoidance and safe operation in tight spaces, enabling the robot to operate wherever you need it.

QUICK AND AUTOMATIC CONNECTION WITH TROLLEYS

With hybrid AMR functionality, the robot can automatically link with a variety of trolleys, optimizing the flow of goods without the need for human intervention.

MULTI-SENSOR

With multi-sensor sensibility, the robot can detect humans and obstacles for safe on-site operation.

TROLLEY CONTACT DETECTION

The Lexx500 actuator sensors electrically link the robot to any trolley it is carrying. The robot can communicate with bumper switches on the trolley, enabling it to stop on the spot in the event of a collision or towing failure.



Technical Specifications



Lexx500

A cutting-edge Autonomous Mobile Robot (AMR) capable of transporting heavy loads up to 500 kg, autonomously, with or without attachments.

Spec	Size	707 (L) x 645 (W) x 228 (H) mm
	Turning Radius	380mm
	Weight	76kg (167 lbs) (including battery)
	Navigation	AMR/AGV ※1
	Stopping Accuracy	±1 mm (AGV mode, without load) [Lab tested]
	Actual payload	100 kg (220 lbs) when lifting objects
	Towing Weight	500 kg (1100 lbs) with LexxTug ※2
	Pulling Weight	300kg (660 lbs) ※3
	Max Speed	2.0 m/s ※4
	Operation /Charging Time	18 hours operation 1.8 hours for full charge ※5
	Communication	WiFi IEEE 802.11a/b/g/n
	Sensors	LiDAR x 2 / USS x 5 / Visual Camera / IMU / Temp Sensors x 7
	Operational Temperature	Operation:0~40 degrees Celsius Charging:10~40 degrees Celsius
Cart Type	Custom Carts	Transportable (with LexxAdaptor) ※6
	Roll Box	Max 500 kg, No modification Required
	6 Wheel Cart	Max 300 kg, No modification Required
	Pallet	In combination with custom carts
Safety	Output device	Speaker / LED lights
	Emergency Stop	Bumper / S-emergency Stop / E-Stop button Software Braking System (optional)

※1. Lexx500 can operate in both AMR mode (autonomous driving) and AGV mode (tracked driving).

※2/3. It may vary depending on the loading direction, center of gravity position, and type of cart.

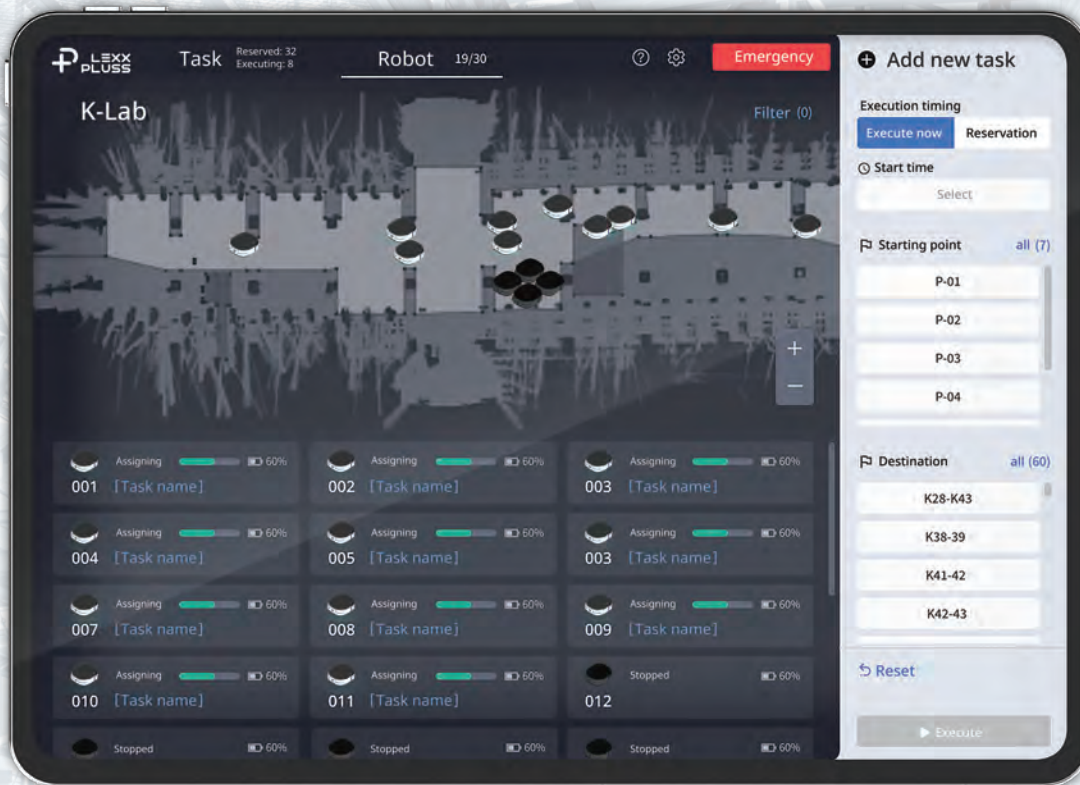
※4. Maximum speed is affected by the environment, floor material and condition, and load carried.

※5. Approximately 11 hours of operation on average with a towing load of about 200 kg (actual performance)

※6. Contact our Sales team for consultation

All-In-One AMR Facility Management Software

LexxFleet



Key benefits

ADVANCED MANAGEMENT SYSTEM SOFTWARE

Managing your Lexx500 convoy is easy with LexxFleet. From adjusting the robots' setting to aligning with existing conveyor belts, our robot management solution has the capabilities to simplify complex logistical processes.

ONE CENTRALIZED SYSTEM

LexxFleet is our centralized factory and warehouse management system software capable of controlling up to 50 Hybrid-AMRs. In doing so, it places the power to shift 25 tons of goods in the palm of your hand.

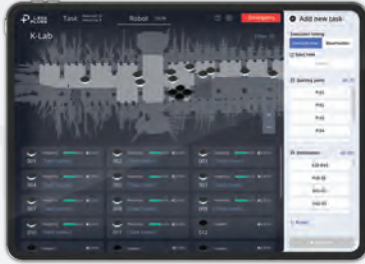
TRANSPORT WHEREVER YOU WANT

With LexxFleet, you can transport your goods anywhere effortlessly. It's a simple three-step process from A to B, and its user-friendly interface requires minimal training.

LINK SYSTEMS VIA API

LexxFleet seamlessly links with warehouse management systems, enabling it to operate in conjunction with existing conveyor belts and elevators.

Technical Specifications



LexxFleet

LexxFleet is a centralized management system capable of task management, system linkage, and controlling up to 50 AMRs.

Spec	Status Management	Lexx500 transport status & battery management, etc.
	Map Display	Display of entire area map of Lexx500's traveling range
	Multi task execution	Ability to accept multiple tasks simultaneously
	Multi task booking	Ability to accept multiple tasks simultaneously
	System integration	Capability via API (WMS/WCS/SCADA/MES, etc.)
	Emergency system	Capability to emergency stop automatic transportation robots remotely
	Error Notification	System error notification capability of automatic transportation robots
Other	Simultaneous connections	50 units ※Varies depending on selected server and communication environment
	KPI	Optionally designable
	Redundant system, power supply	Optional
	OS	Linux
	API	RESTful API
	Communication	WiFi 2.4/5GHz (IEEE 802.11a/b/g/n) Wired Ethernet (100BASE-TX IEEE 802.3 or better)
	Tablet and Browser	Xiaomi Pad 5,6 (11inch)、Google Chrome

The Next Step in Automated Solutions

LexxTug

Key benefits

TRANSPORT EXISTING ROLL BOXES AND CAGE TROLLEYS

The LexxTug automatically transports general-purpose carts used in logistics without modification. It's also compatible with all major cage trolleys and six-wheeled carts in Japan.

AUTOMATIC TOWING OF HEAVY OBJECTS

With a maximum towing capacity of 500 kg (1,102 lbs.) and an intelligent anti-sway function, the LexxTug relieves the burden of having to manually transport dangerous and heavy objects.

AUTOMATIC ATTACHEMENT AND TRANSFER

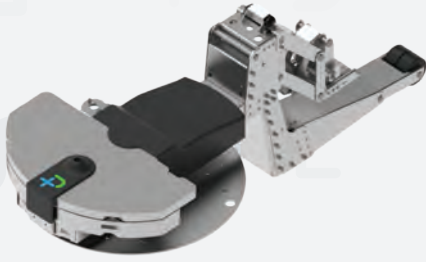
Automatically attach and detach the LexxTug to and from your carts with ease. This allows for automatic transport without the need for manual labour, ensuring highly efficient automation.

ZERO CHANGES TO CURRENT SITE

By adapting to the existing facilities and operations at the site, LexxPlus provides a user-friendly transportation solution that is simple to implement.



Technical Specifications



LexxTug

Compatible with our Lexx500, the LexxTug is an attachment equipped with an automatic disconnect function. Allowing it to tow general purpose trolleys up to 500 kg without modification, resulting in minimal change to the current operation.

Spec	Max Towing Capability	500kg (1100 lbs)
	Cart Modification	Not Required
	Typical Cart	Rollbox : W800 x D600 x H 1700 mm Rollbox : W1100 x D800 x H 1700 mm 6 Wheel : 1260 x D425 x H 1520 mm
	Auto Linkage	Ability to automatically tow a cart in place
	Auto unlink	Function to stop the cart at the specified transfer destination and automatically disengage the cart
	Safety	Emergency stop button (additionally equipped) Cart detection function (additionally equipped)
Condition	Cart end height	175mm - 250mm
	Cart end dimensions	L-shaped frame L50 - H 40mm

The Power of Connectivity

LexxHub



Key benefits

COOPERATION WITH EXISTING EQUIPMENT

Enables seamless integration of existing equipment with the Lexx500, facilitating collaborative tasks like elevator calls and synchronized operations, including fire prevention features such as shutters.

ADVANCED INTERLOCKING TO INCREASE PRODUCTIVITY

Installation is effortless—simply connect it via a wired connection to your existing equipment's PLC. This ensures uninterrupted production even after the Lexx500 is deployed.

EASY AND SAFE INSTALLATION

When a worker presses the elevator button, the same mechanism signals LexxHub, ensuring a secure design with reduced risk of malfunctions.

MANAGEABLE WITH LEXXFLEET

By linking LexxHub to LexxFleet, all AMRs can be managed together with any equipment. The status of the site can be monitored in real time on a tablet, making site management more efficient, providing peace of mind through site visualization.

Technical Specifications



LexxHub

LexxHub, an IoT solution with wired connection to PLCs, allows existing equipment to connect to the network and work with Lexx500. This enables collaborative tasks such as calling an elevator or opening and closing shutters.

Spec	Dimensions	324 x 410 x 184 mm
	Power Requirement	Single-phase AC100V
	Protection Circuits	Built-in breaker (5V)
	Installation Method	Indoor wall mounting
	I/O Spec	Input (PNP) x 10 24V Fire Alarm x 2 Output x 12
	Communication	WiFi 2.4 / 5 GHz (IEEE 802.11 a/g/n)
	Operational Temperature	-25 ~ 40 degree
Function ※	Elevator Linkage ※	Elevator linkage function for multi-level transport
	Sheet Shutter Linkage	Sheet shutter linkage function for loading/unloading
	PLC Linkage	Direct system coordination with PLC for fresh facility control
Safety ※	Fire Shutter Interlock	Receives signals from fire shutters and stops the automatic conveying system
	Fire alarm interlock	Function to receive signals from fire alarms and stop the automatic transfer system

※If the contacts on the elevator side are 4 inputs/4 outputs, it is possible to increase the number of contact modules (14 additional contacts) to control 7 elevators per LexxHub. (The number may be increased or decreased depending on the elevator's specifications.)

Open Industrial Robotics

We encourage thorough open partnership collaboration by disclosing most of our information ranging from technical design, APIs, and operational information.



Pushing towards an industrial transformation, with an ecosystem of partners!

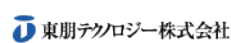
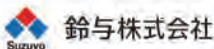
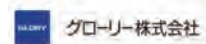
Development
15 companies

Manufacture
6 companies

Introduction
8 companies

Sales
10 companies

Maintenance
4 companies



+ and more

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