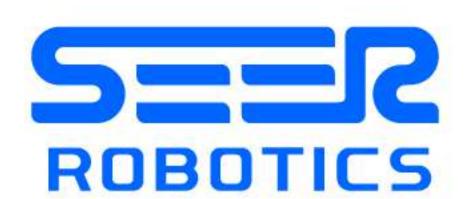
SER Robotics Product Booklet



SRC | Components | AMR | Software



Address: Building 11, 2777 East Jinxiu Road, Pudong New District, Shanghai, China

Postcode: 201206

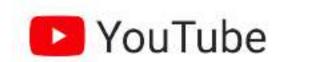
WhatsApp: +86-18321029192

Email: contact@seer-group.com

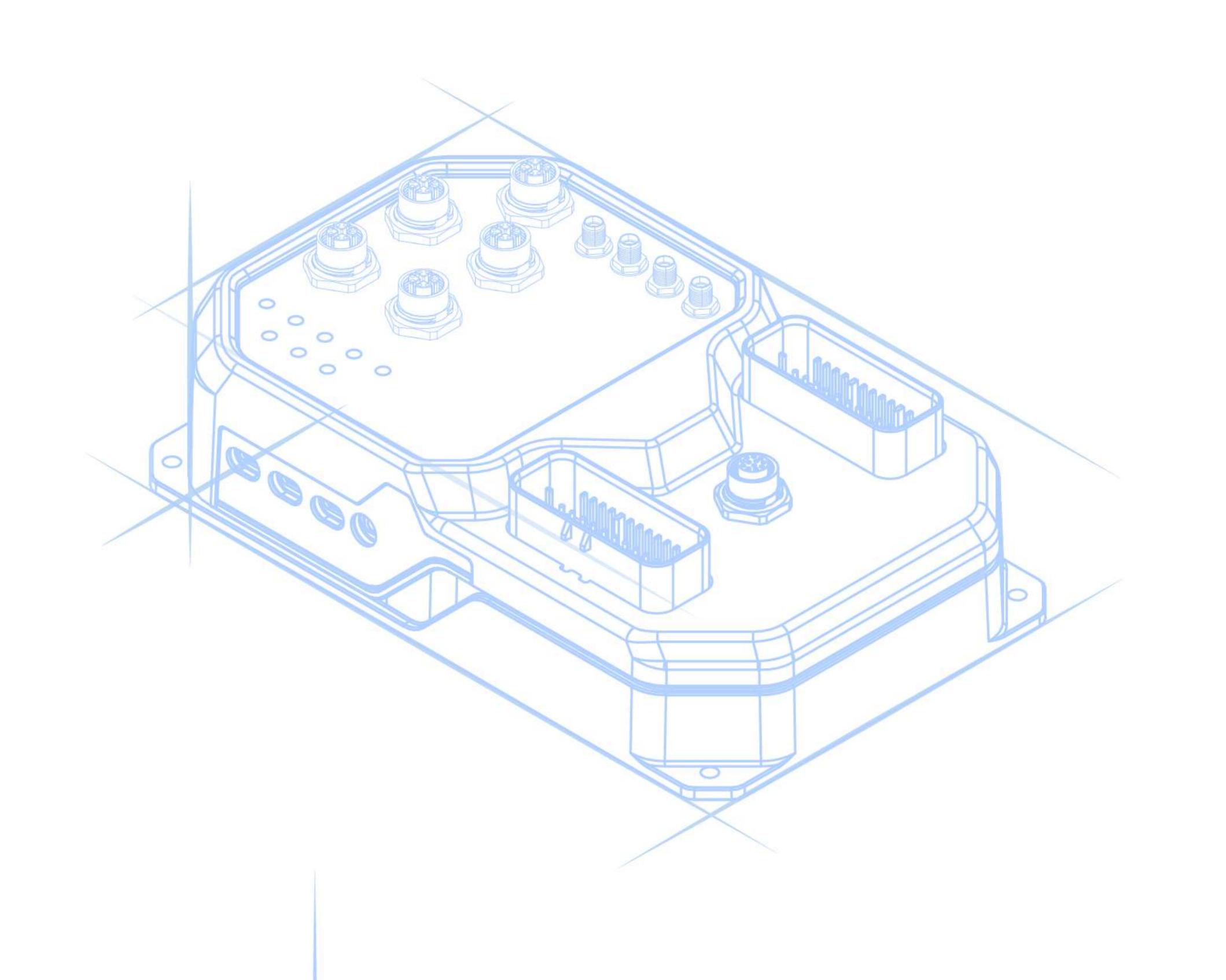
Website: https://www.seer-group.com











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· QuickGo 2.0

RDS | Fleet Management System

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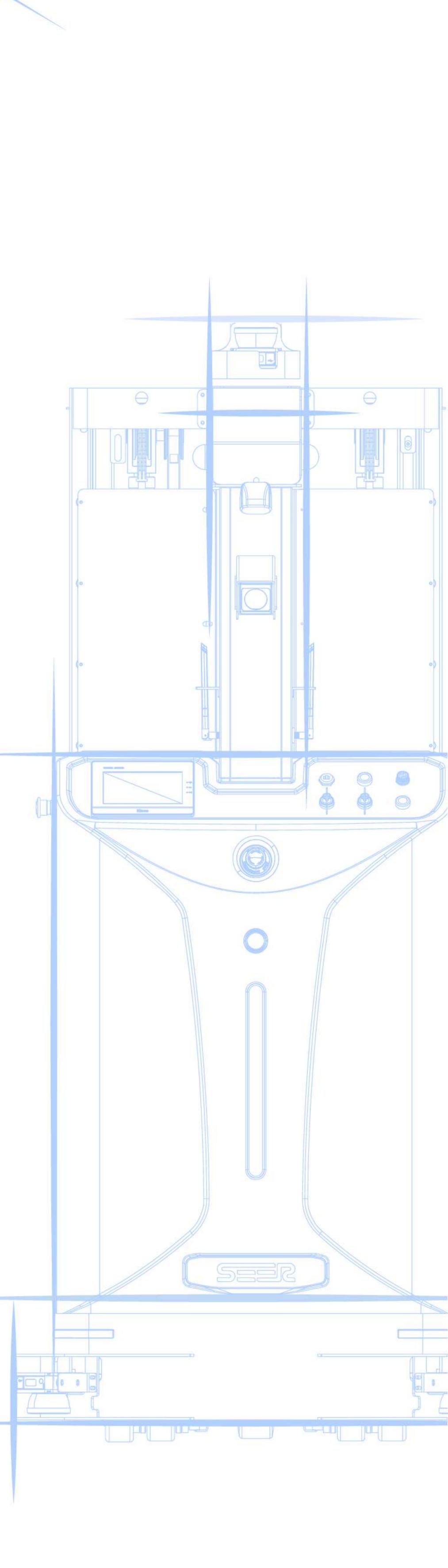
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SEER Robotics
SEER Robotics 12

SER Robotics

SEER Robotics leads in proprietary R&D, boasting 400+ intellectual properties and certifications. Our core strength lies in world-leading SLAM technology, offering precise localization and navigation accuracy of up to ±2 mm consistently. As close partners to intralogistic and industrial automation integrators, we provide a one-stop intelligent logistics solution from AMR controllers, mobile robots and system softwares.

With a global reach spanning 50+ countries and regions, we collaborate with 800+ integrators and AMR manufacturers, delivering proven intelligent logistics solutions across diverse industries like semiconductor, 3C, lithium battery, photovoltaic, auto parts, PCB, textile, and medical. SEER Robotics has built a robust ecosystem with over 1,000 industry chain partners, solidifying our position at the forefront of AMR technology.



Value

Achieve own value through bringing benefits to others, integrity and breakthrough thinking, entrepreneurship and pursuit of excellence.

Service Areas













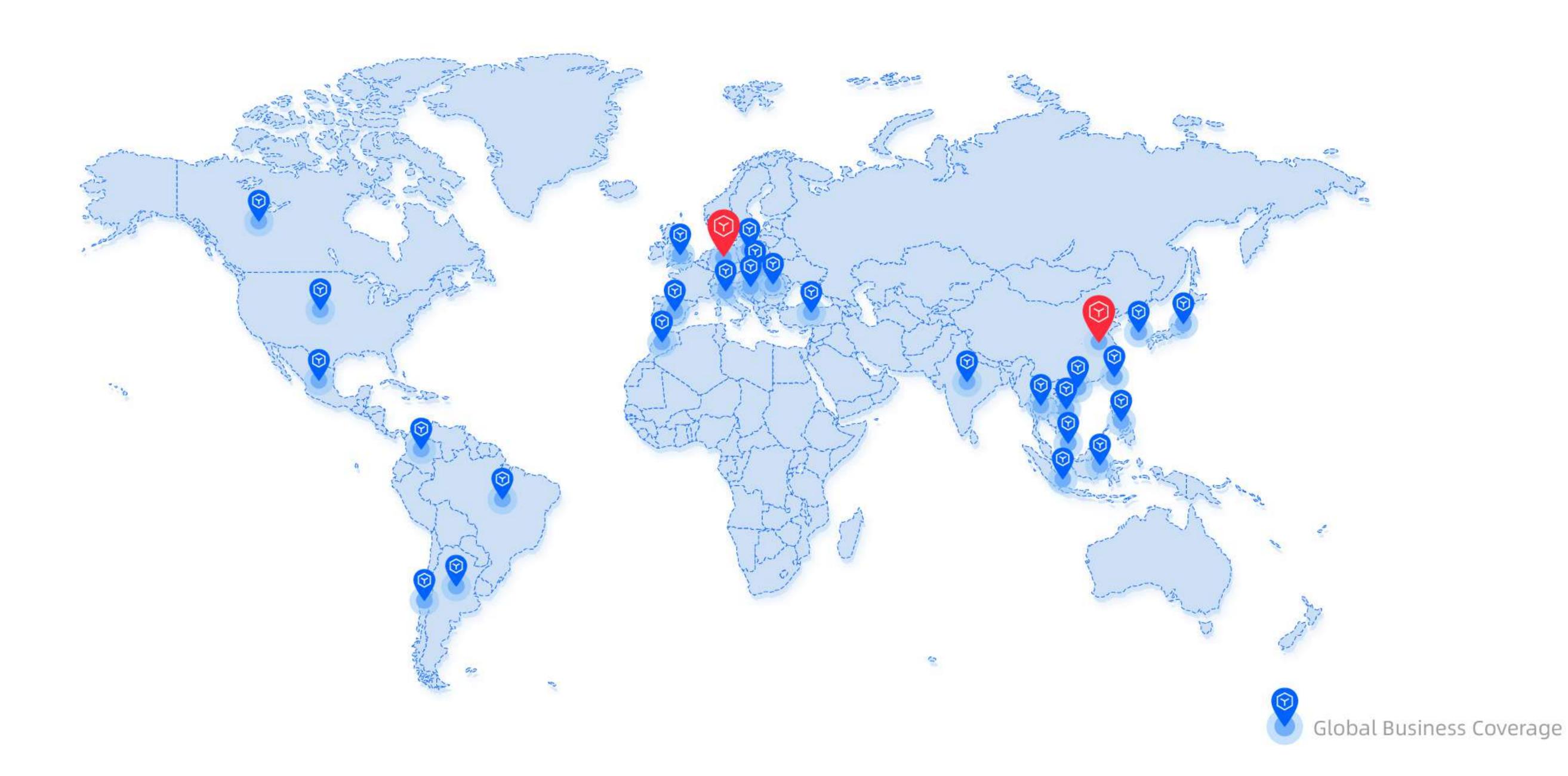








ctile Me



China / Germany / Indonesia / HKG / USA / Philippines / South Korea / Japan / Thailand / Malaysia / India / Vietnam / Brazil / Canada / Turkey / Romania / Italy / Mexico / Spain / Taiwan / Argentina / Singapore / Slovakia / Columbia

Product Matrix of SEER Robotics



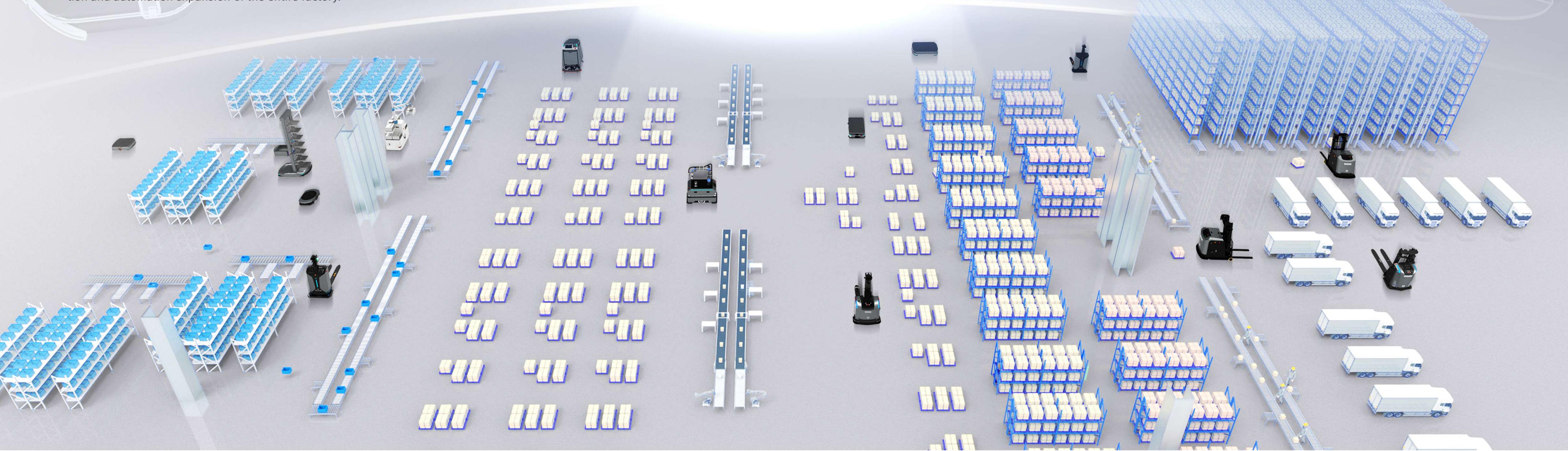
One-Stop Robot Building Solution Based on the SRC Controller

Most Powerful Brain of Mobile Robots SRC Series Core Controllers

SEER Robotics offers One-stop Robot Building Solution based on the core SRC controller, aimed at empowering robot manufacturers with a 「Controller+Software+Components」 ecosystem. Our diversified products can greatly improve the building efficiency and competitiveness of customers, driving towards a future where you build your own robot fleet within days.

The SRC controller is a general-purpose controller designed for mobile robots, providing core functions such as map construction, positioning and navigation, and model editing. This product integrates the core components of a mobile robot, and together with the powerful client software Roboshop, it helps users quickly configure robots.

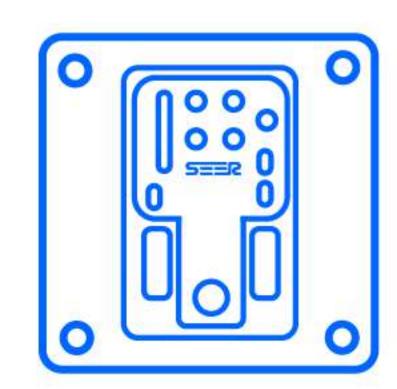
In addition, the SRC controller will also serve as a controller for smart factory infrastructure, which can control automatic charging stations, automatic doors, elevators, traffic lights, RGVs, hoists, stackers, etc. Under a unified scheduling interface framework, promote the completion of intelligent transformation and automation expansion of the entire factory.



SRC Controller: Make Robot Building Easier

1.Fast • Systematic Robot Building Support

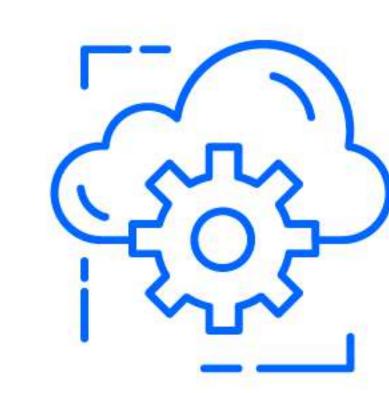
Our One-stop Solution not only provides the core AMR controller, but also a complete set of components. Equipped with our implementation tool, Roboshop, both beginners and professional engineers can master the process, making robot building more convenient and faster.



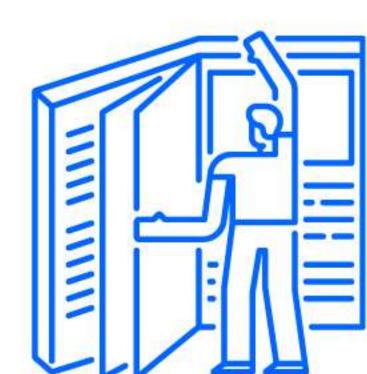
Controller Hardware



One-stop implementation tool Roboshop



Software and hardware kit



Model Selection Guide and Commissioning Manual



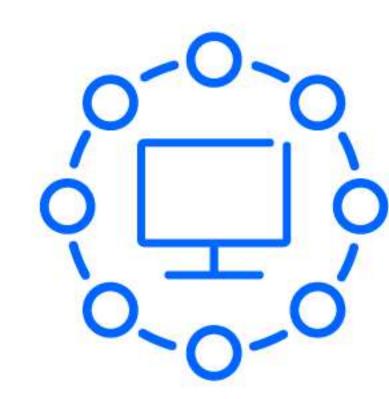
Training Courses and After-Sales Services



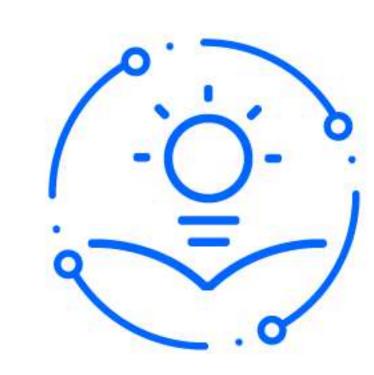
Iterative Software **Update Service**

2. Professional • All-encompassing Repository

We provide global customers with comprehensive multilingual documentation. The all-encompassing repository provides technical support to customers throughout their robot building journey, ensuring smoother building processes and the professionalism of every solution.



All-encompassing Repository



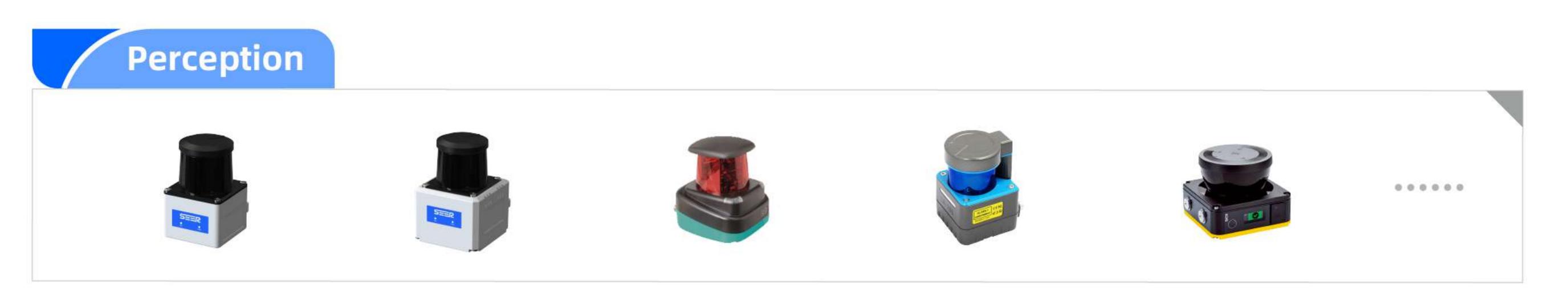
Comprehensive **FAQ Documentation**

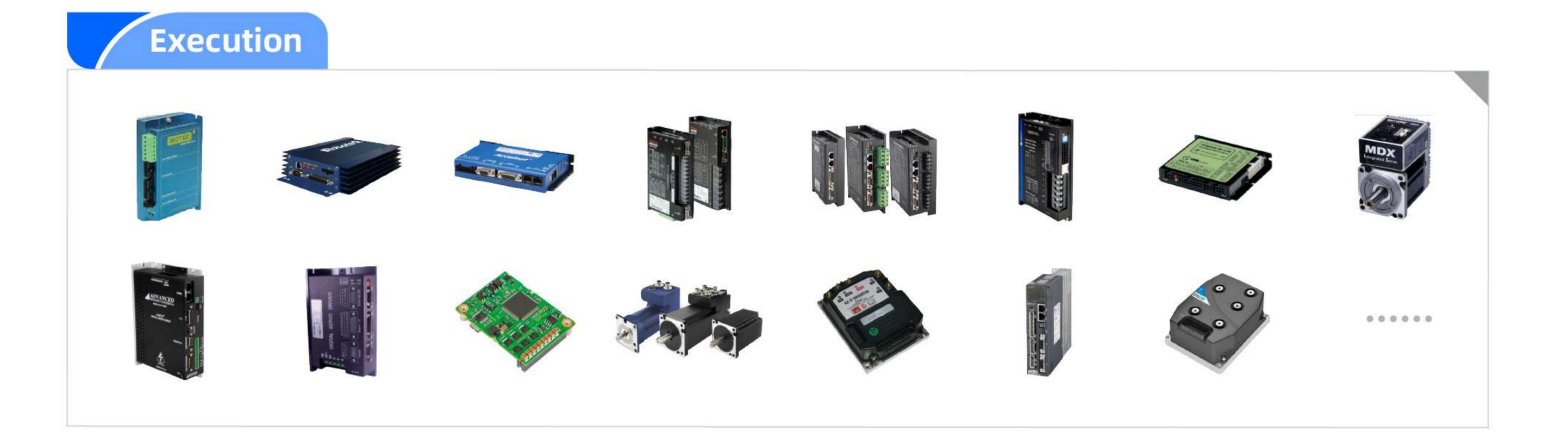


Multilingual Documentation

3.Effortless • Diverse Component Library

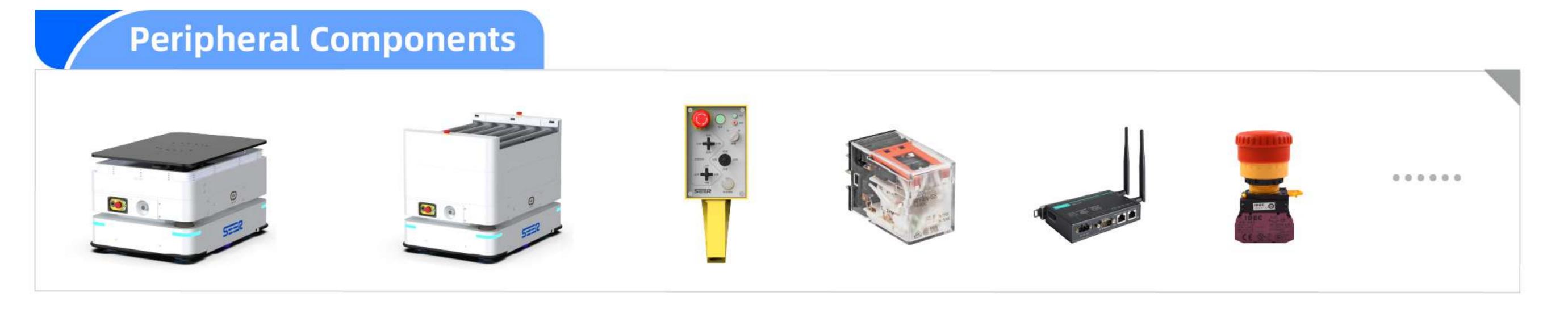
Committed to bridging gaps in the mobile robotics industry chain, we've achieved compatibility with over 90% of mainstream component manufacturers. By simultaneously developing high-performance self-branded components, we're pioneering the release of robot building platform, simplifying the process and making it even more effortless.







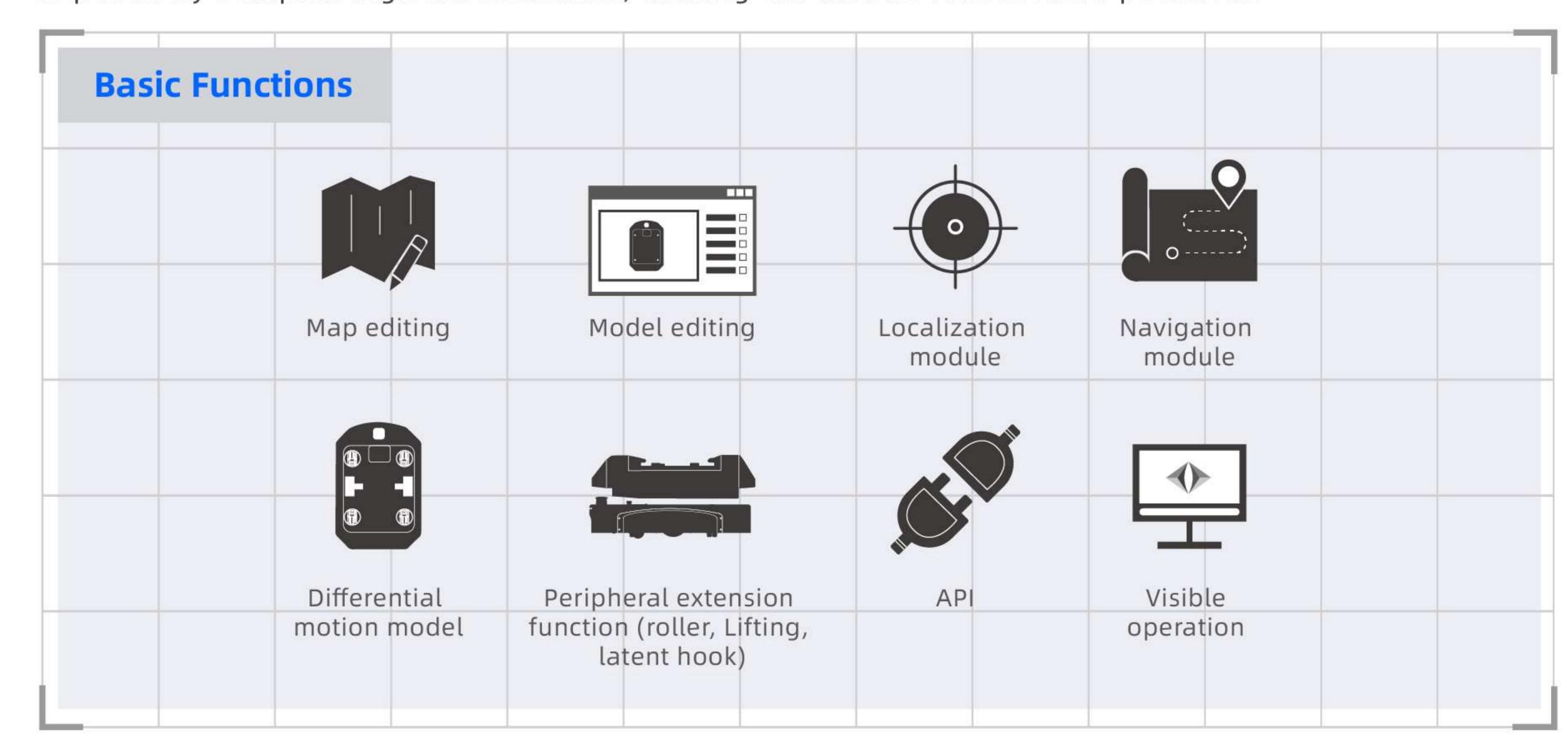


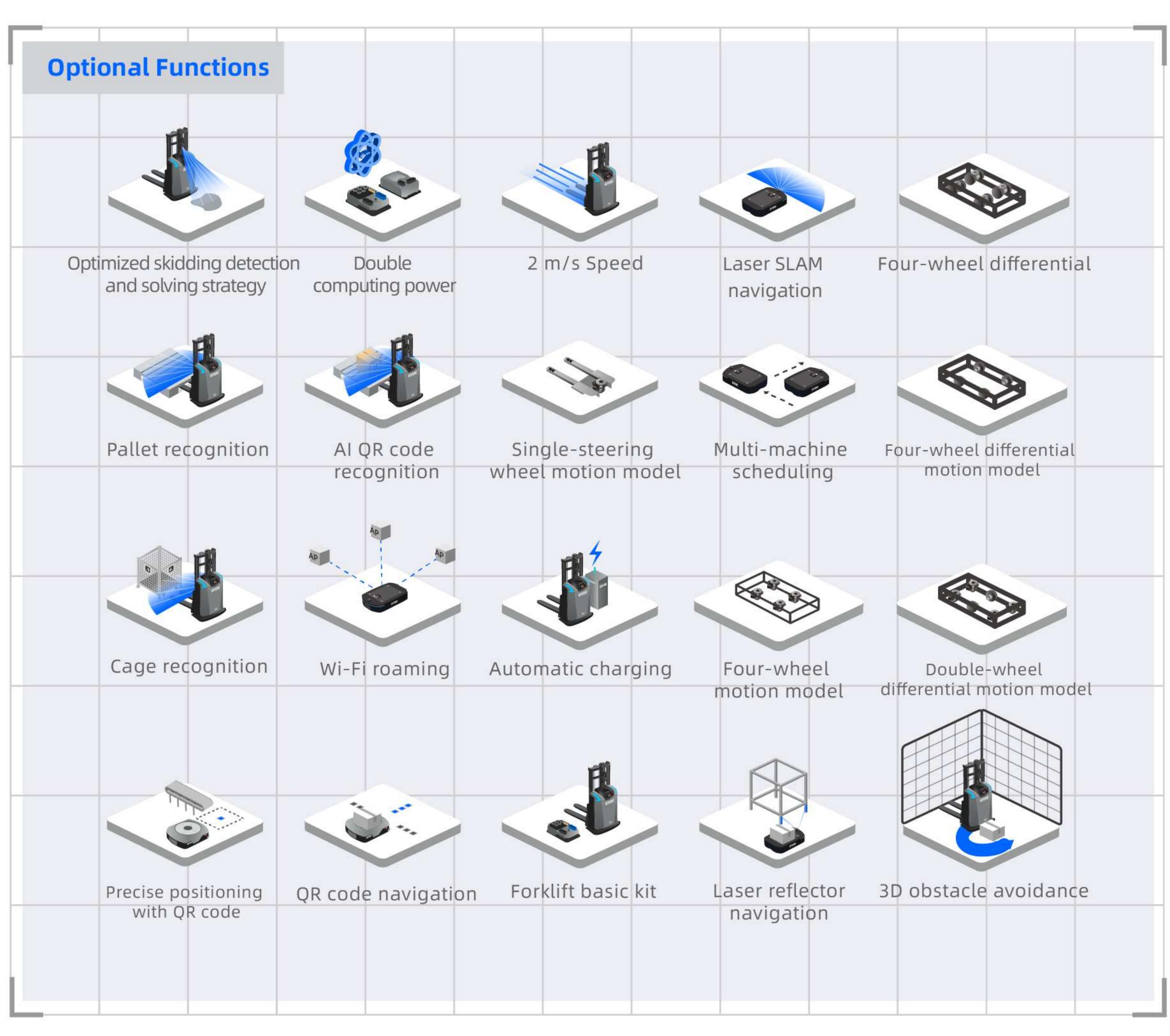


One-Stop Robot Building Solution Based on the SRC Controller 8

4.Powerful • Comprehensive Function Library

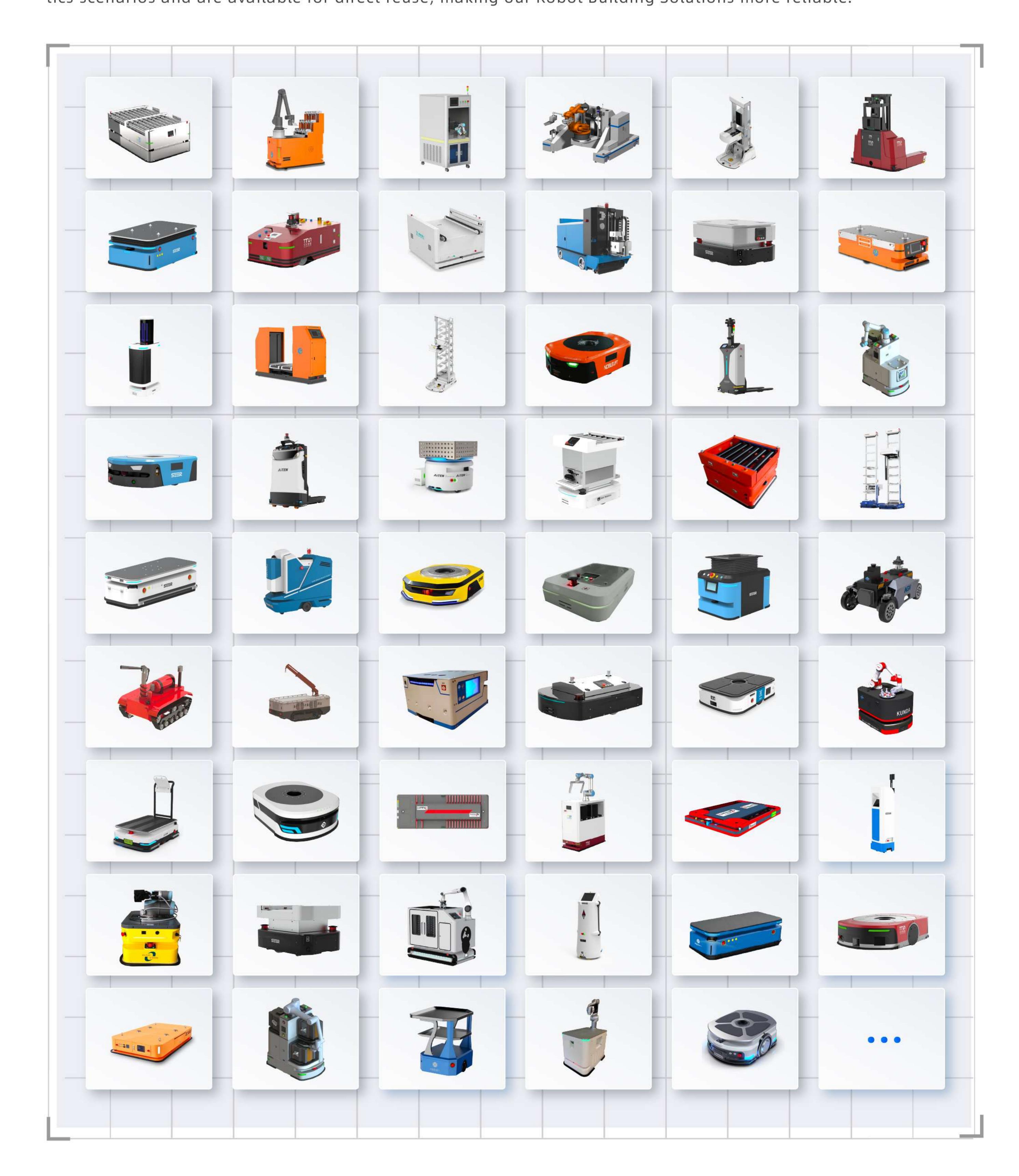
SRC controller offers excellent and stable basic functions. Complemented by our Robokit mobile robot operating system which offers a wealth of advanced features, they can effortlessly address the challenges posed by complex logistics scenarios, making our mobile robots more powerful.



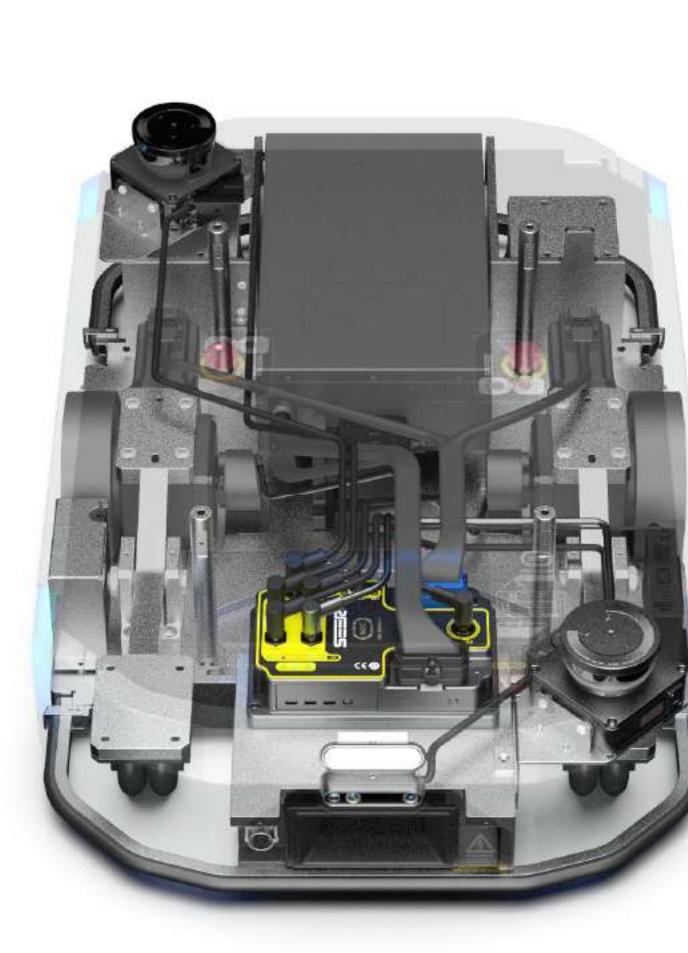


5.Reliable • Rich Robot Building Solutions

SEER Robotics leverages the experience gained from serving over a thousand customers to successfully distill hundreds of mature, mass-producible Robot Building Solutions. These are closely aligned with industrial logistics scenarios and are available for direct reuse, making our Robot Building Solutions more reliable.









Entry-level AMR Controller SRC-880

- Redefine the concept of value for money, the ultimate choice for differential drive vehicles.
- Dual-band high-power Wi-Fi, upgraded to Wi-Fi 6.
- Experience the perfect 2+1 combination: dual Laser and single obstacle avoidance camera.



General-purpose AMR Controller SRC-2000-I(S)

- Overall basic functions and rich optional functions.
- Single steering wheel motion model is supported.
- Rich external interfaces and communication buses are provided.



Specified Controller for Autonomous Forklift SRC-2000-F(S)

- It integrates all kinds of special functions of forklift, enabling rapidly building AMR and fast delivery.
- It can meet the needs of carry forklifts, stacker forklifts, counterbalanced forklifts and three-way forklifts.
- ±2 mm high accuracy, accurate and stable.



World's First Safety AMR Controller SRC-3000FS

- Highly integrated construction, more compact.
- Simpler electrical connection and smaller size.
- Functional safety design.
- High-performance 8-core ARM processor, optimal memory configuration.



Safety Controller for Autonomous Forklift SRC-3000FS

- Forklift-specific, stable performance.
- Automatic route optimization, accurate and stable.
- Functional safety design, integrated safety PLC.
- CE and UL certified, matches the needs of customers in Europe and America.



One-Stop Robot Building Solution Based on the SRC Controller 12

SRC Series Core Controllers Parameters

● Standard ○ Optional - None

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F	roduct model	SRC-880-Q / SRC-880-T	SRC-2000-I(S)	SRC-2000-F(S) (Forklift)	SRC-3000FS	SRC-3000FS (Forklift)
Basci	Weight	0.75 kg	1.41 kg	1.73 kg	1.5 kg	1.8 kg
rameters	LxWxH	171 x 118.5 x 38 mm	225 x 128 x 84 mm	225.2 x 128 x 83.8 mm	218 x 140 x 64.8 mm	225 x 136 x 65.6 mm
nctional	Safety integrity level	<u>-</u>	12 -4		IEC 61508 SIL2 / IEC 62601 SIL2	IEC 61508 SIL2 / IEC 62601 SIL2
afety	Safety performance level				ISO 13849-1 Cat.3 PLd	ISO 13849-1 Cat.3 PLd
+:1	Power DO	2-Way (24 V / 1 A)	8-Way (single-loaded 24 V / 2 A; 8-Way total load capacity ≤5 A)	8-Way (single-loaded 24 V / 2 A; 8-Way total load capacity ≤5 A)	4-Way (single-loaded 24 V / 1 A; 4-Way total load capacity ≤4 A)	4-Way (single-loaded 24 V / 1 A; 4-Way total load capacity ≤4 A)
nctional safety	DO	8-Way	2-Way (400 mA)	2-Way (400 mA)	12-Way (400 mA)	12-Way (400 mA)
	DI	10-Way	11-Way (NPN)	11-Way (NPN)	24-Way (16-Way PNP+8-Way NPN / PNP optional, 7 available for detecting ossd)	24-Way (16-Way PNP+8-Way NPN / PNP optional)
	CAN	2-Way	2-Way	2-Way	2-Way	2-Way
s interface	RS485	4-Way	3-Way	3-Way	3-Way	3-Way
	Battery communication interfaces	1-Way (RS485-0)	1-Way (RS485 / RS232 optional interface)	1-Way (RS485)	1-Way (CAN / RS485 optional interface)	1-Way (CAN / RS485 optional interface)
	Sin / Cos encoder interfaces		72 4		2-Way	2-Way
Internet	Ethernet	2-Way Gbps+1-Way 100 Mbps	6+1 Way Gbps (1 is for extended Wi-Fi client)	6+1 Way Gbps (1 is for extended Wi-Fi client)	5-Way Gbps (TSN)	5-Way Gbps (TSN)
nterface	Wi-Fi	Wi-Fi 6: Dual-band 2.4G / 5G 802.11ax 2T2R	Wi-Fi 6: Dual-band 2.4G / 5G 802.11ax 2T2R	Wi-Fi 6: Dual-band 2.4G / 5G 802.11ax 2T2R	Wi-Fi 5: Dual-band 2.4G / 5G 802.11ac 2T2R	Wi-Fi 5: Dual-band 2.4G / 5G 802.11ac 2T2R
	USB2.0	2-Way			1-Way	1-Way
Other terfaces	USB3.0	-	4-Way	4-Way	2-Way	2-Way
	Audio input / output	1-Way output	1-Way / 1-Way	1-Way / 1-Way	1-Way / 1-Way	1-Way / 1-Way
	One-button power ON / OFF	1-Way	1-Way	1-Way	1-Way	1-Way
ot-specific	Battery switch	1-Way	2-Way	2-Way	1-Way	1-Way
nctions	Emergency stop input	1-Way	1-Way	1-Way	1-Way	1-Way
	Emergency stop output	1-Way	2-Way	2-Way	2-Way	2-Way
orm anco	Navigation accuracy	±5 mm, ±1°	±5 mm, ±1°	±2 mm, ±1° (Reflector)	±5 mm, ±1°	±2 mm, ±1° (Reflector)
formance rameters	Driving speed	≤2 m/s	≤2 m/s	≤2 m/s	≤2 m/s	≤2 m/s
	Map area (single frame)	- (SRC-880-Q) /≤400000 m² (SRC-880-T)	≤400000 m²	≤400000 m²	≤400000 m²	≤400000 m²
	Basic functions					
unction	Advanced motion model	-	0		0	-
igurations	Advanced recognition function	0	0	0	0	0
	Advanced location function	-	0	0	0	0
Vorking	Ambient temperature and humidity range	TEMP: -30℃ to 55℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0°C to 50°C / RH: 10% to 90%, no compression, no condensation	TEMP: −30℃ to 55℃ / RH: 10% to 90%, no compression, no condensation	TEMP: -30℃ to 55℃ / RH: 10% to 90%, no compression, no condensation
ironment	Working voltage	24 V	24 V	24 V	24 V / 50 V	24 V / 50 V
ameters	Power consumption	< 12 W (excluding DO output current)	48 W (excluding DO output current)	48 W (excluding DO output current)	18 W (excluding DO output current)	18 W (excluding DO output current)
	IP rating	IP20	IP42	IP42	IP52 (IP65 need to customize shell)	IP52 (IP65 need to customize shell)
	CE	Conform to EN 61010-1:2010, CE-EMC (IEC 61326-1), CE-LVD Standards	Conform to EN 61010-1:2010, CE-EMC (IEC 61326-1) Standards	Conform to EN 61010-1:2010, CE-EMC (IEC 61326-1) Standards	Conform to EN 61010-1:2010, CE-EMC (IEC 61326-1),CE-RED Standards	Conform to EN 61010-1:2010, CE-EMC (IEC 61326-1), CE-RED Standards
tifications	ETL	<u>-</u>			UL 61010-1 UL 61010-2-201 CSA C22.2#61010-1-12 CSA C22.2#61010-2-201	UL 61010-1 UL 61010-2-201 CSA C22.2#61010-1-12 CSA C22.2#61010-2-201
	FCC				47CFR Part 15(2020) ANSI C63.4(2014)	47CFR Part 15(2020) ANSI C63.4(2014)

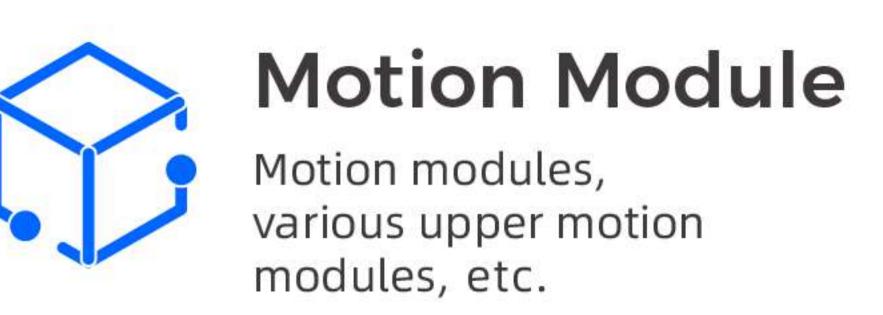
Note: Please refer to the official website of SEER Robotics for the latest parameter information.

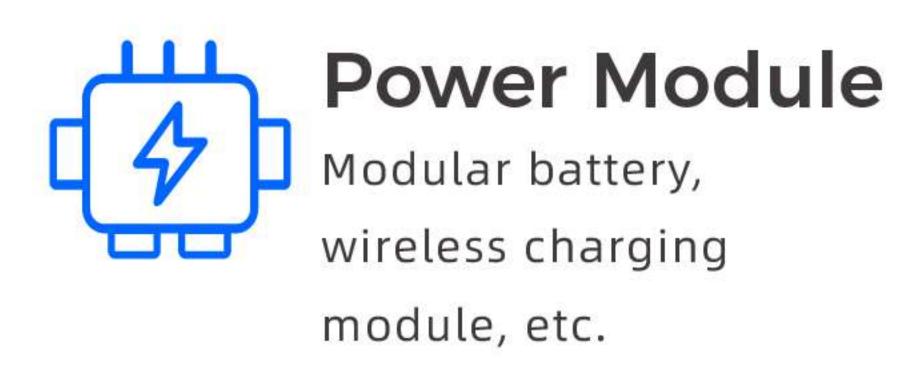
^{*}Navigation accuracy usually refers to the repeatability accuracy that a robot navigates to the station.

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Mobile Robot Components

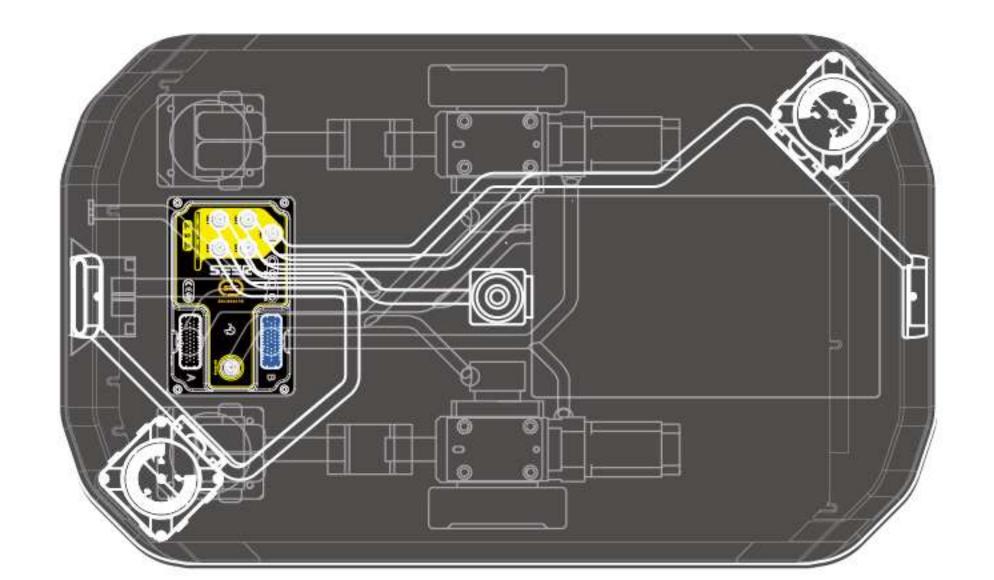








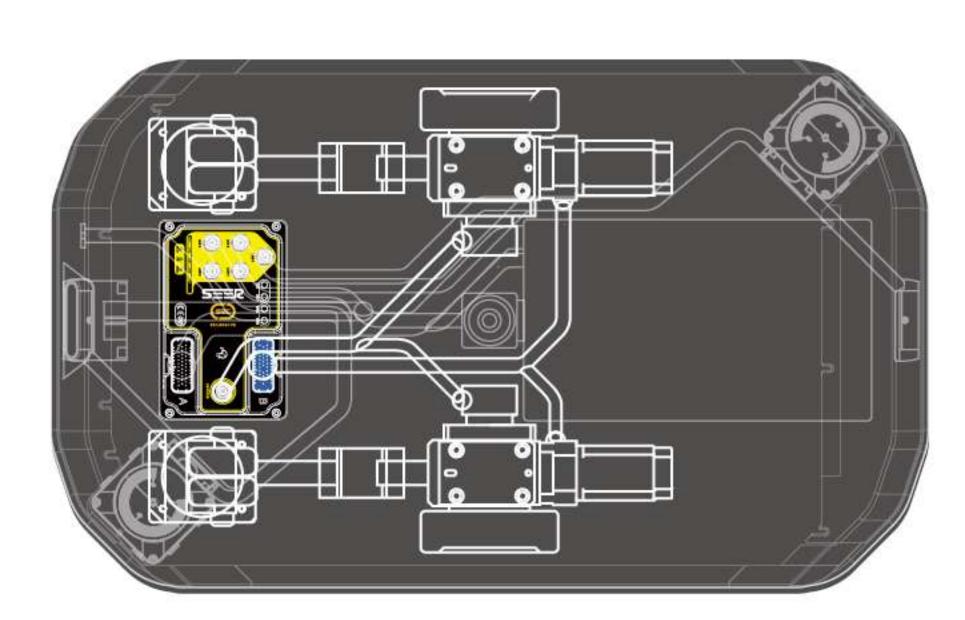




Perception Module

Including navigation laser, 3D obstacle avoidance camera, QR code camera, etc.

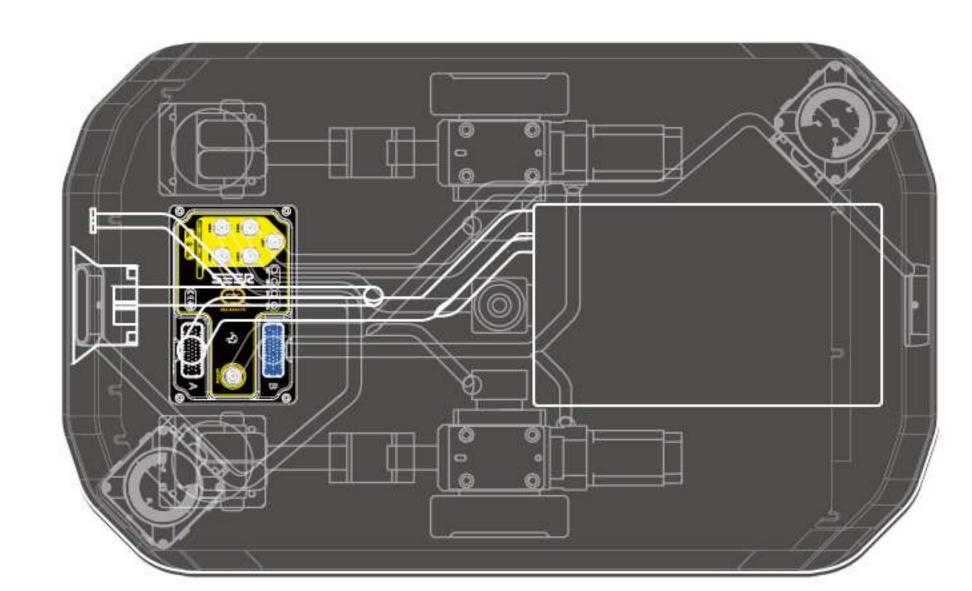
Achieve input of high-precision positioning information (accuracy up to ±2mm).



Motion Module

Including motion modules, various motion-mounted modules, etc.

Complete the chassis motion and the motion of various upper-mounted mechanisms in multiple scenarios.



Power Module

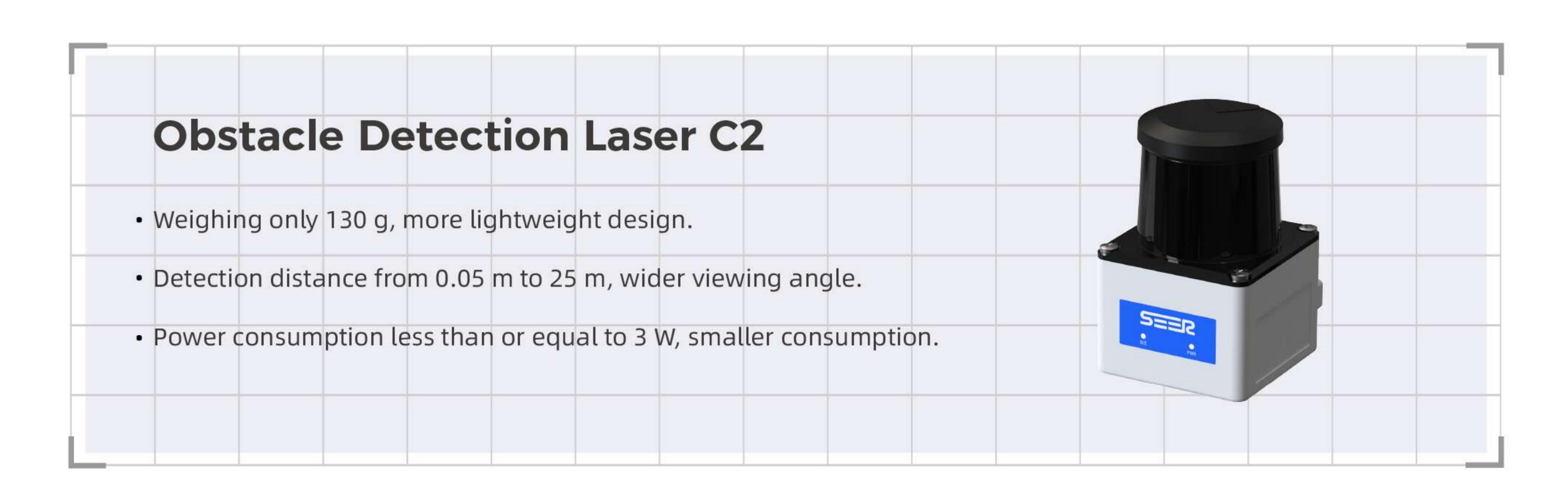
Including modular batteries, automatic charging ports, etc.

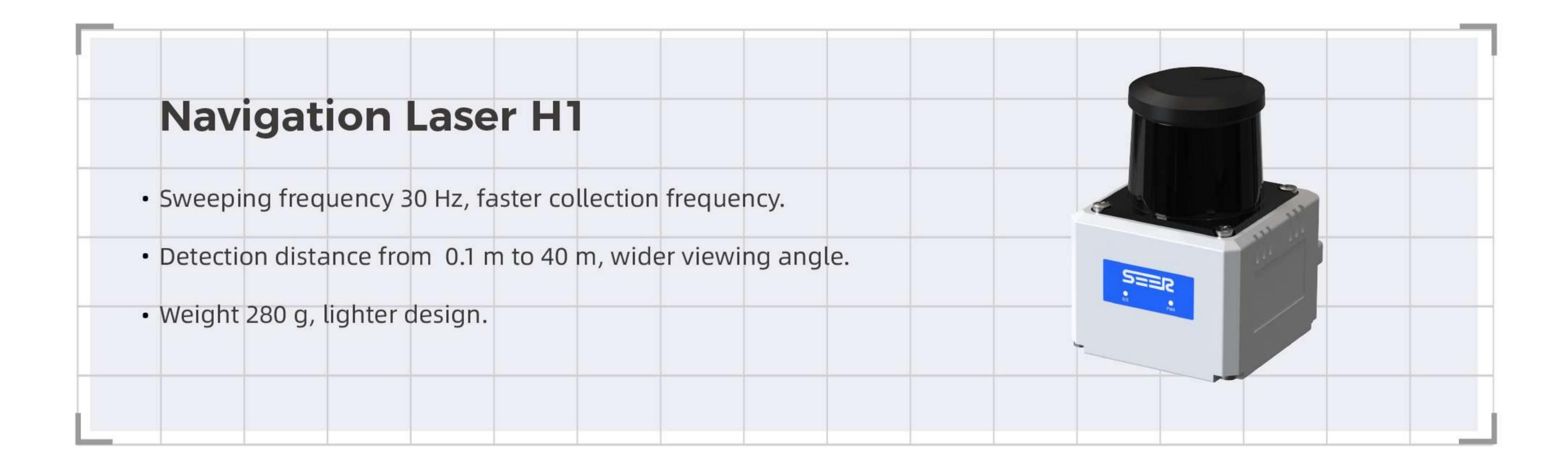
Complete information management

and distribution of energy.

SEER Robotics Components

Modular	Battery SBP-48	8V23AHLS	
	ug-and-play method, 1~5 b onnected in parallel.	attery packs can be	0
• Each battery ha	s a quality insurance of 6 m	illion US dollars.	



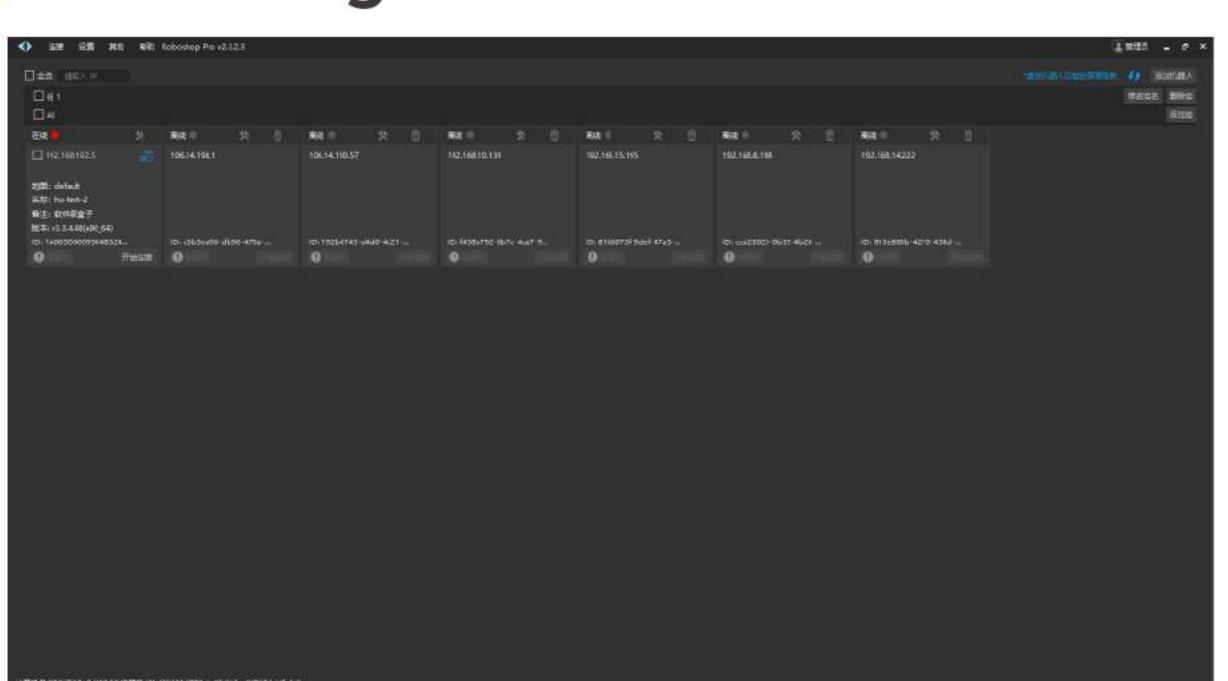


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One-Stop Implementation Tool: Roboshop

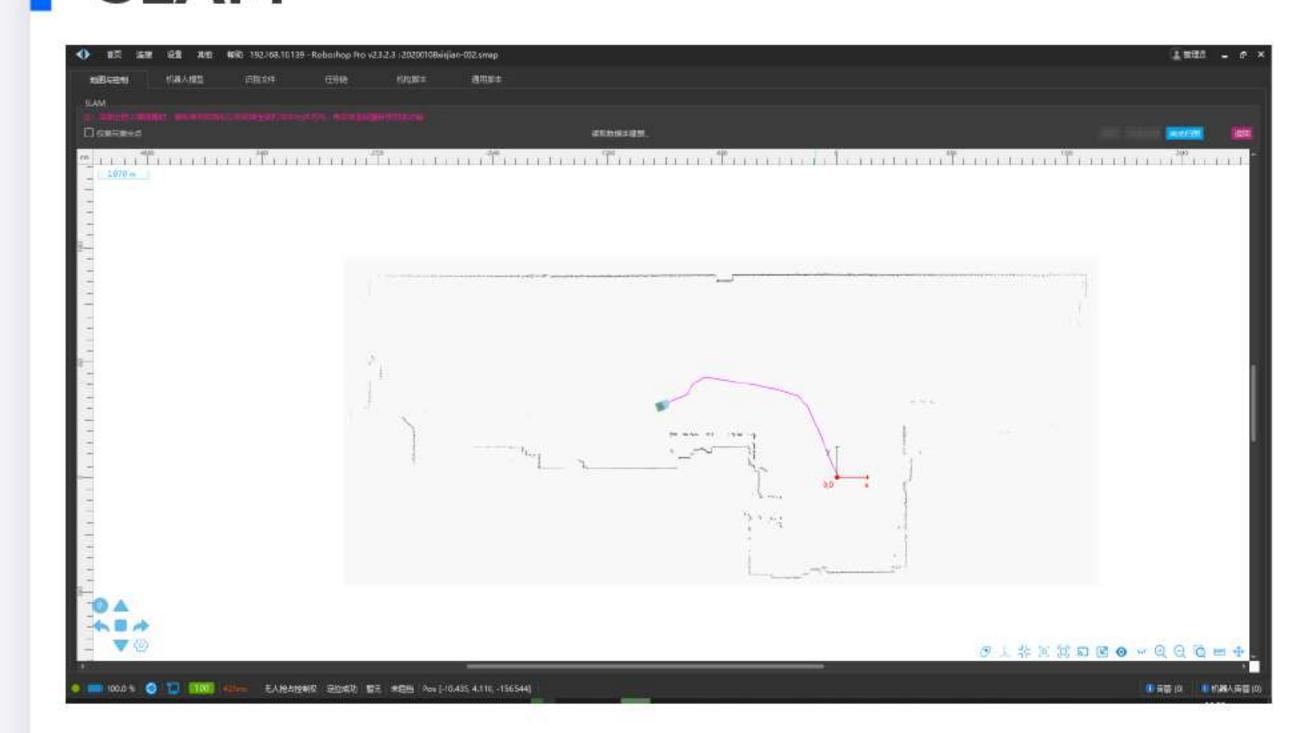
Roboshop is a one-stop implementation tool provided by SEER Robotics, which can uniformly manage and configure all intelligent devices with built-in SRC series core controller. Roboshop, a simple but strong software, provides an efficient solution for the implementation of smart logistics.

Home Page



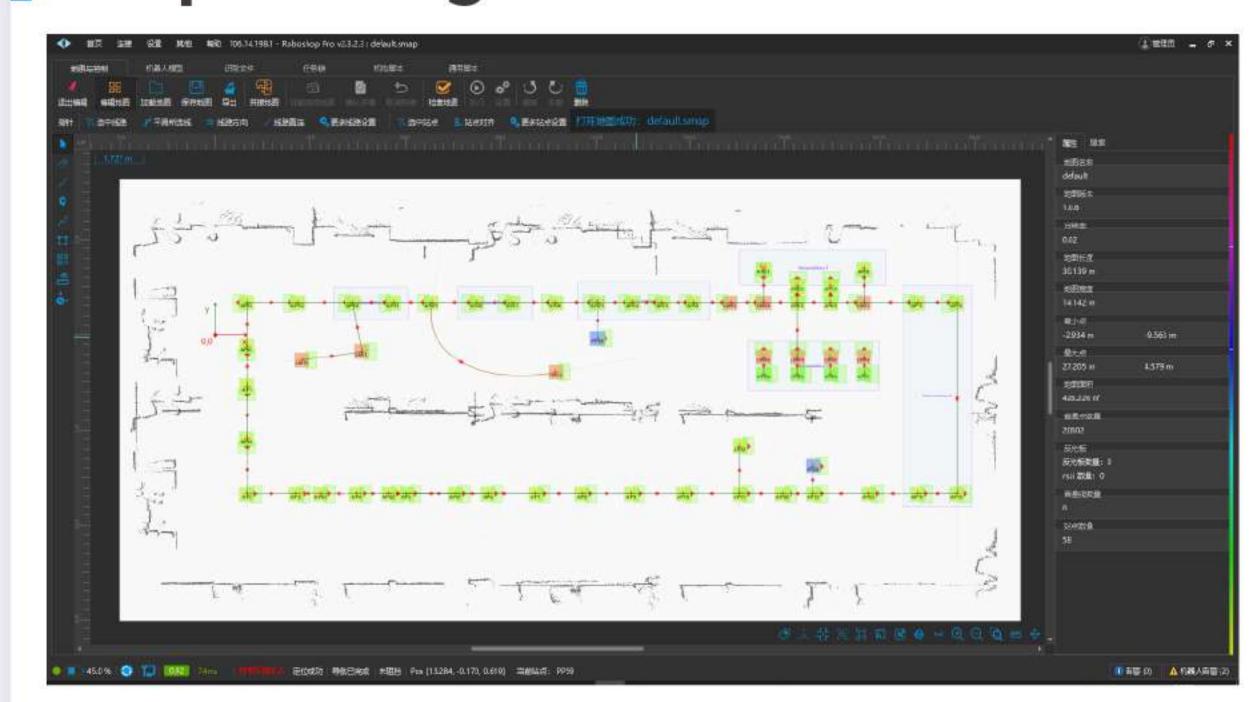
Manages and configures all intelligent equipment in the LAN uniformly, including robots, intelligent equipment and various automation devices based on the SRC series core controller.

SLAM



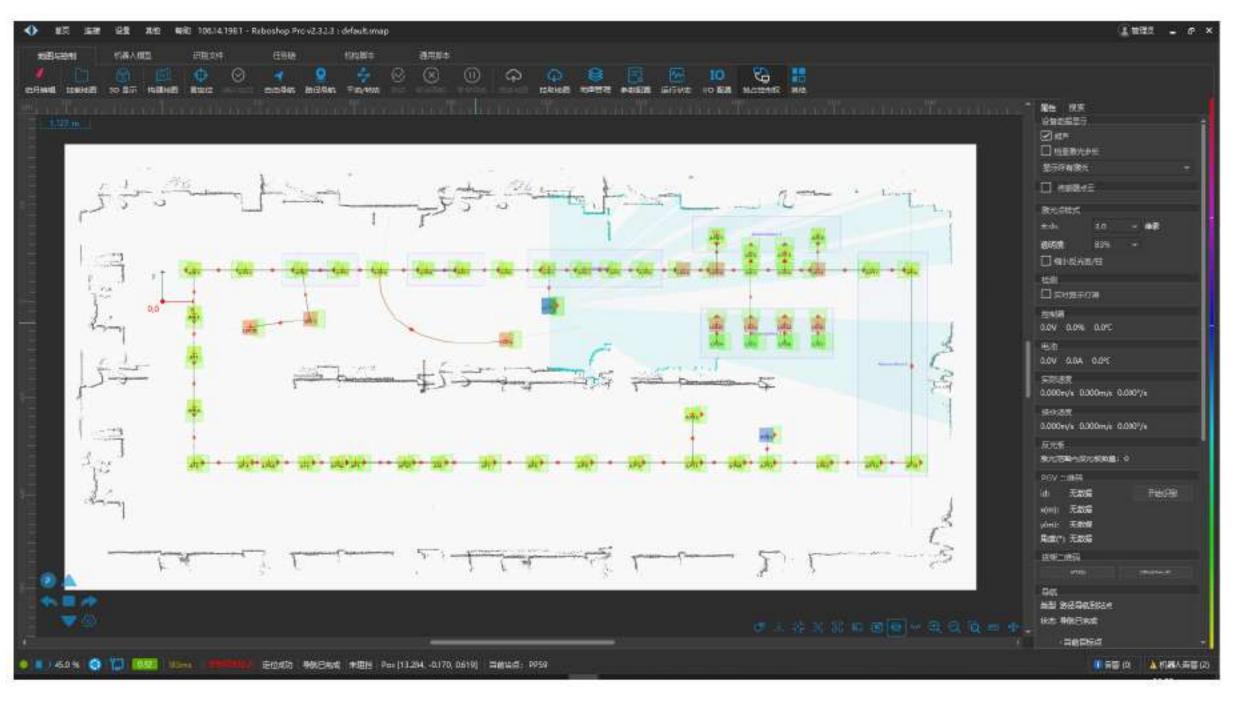
Simultaneous localization and mapping enables 2D or 3D maps to build accurately and efficiently.

Map Editing



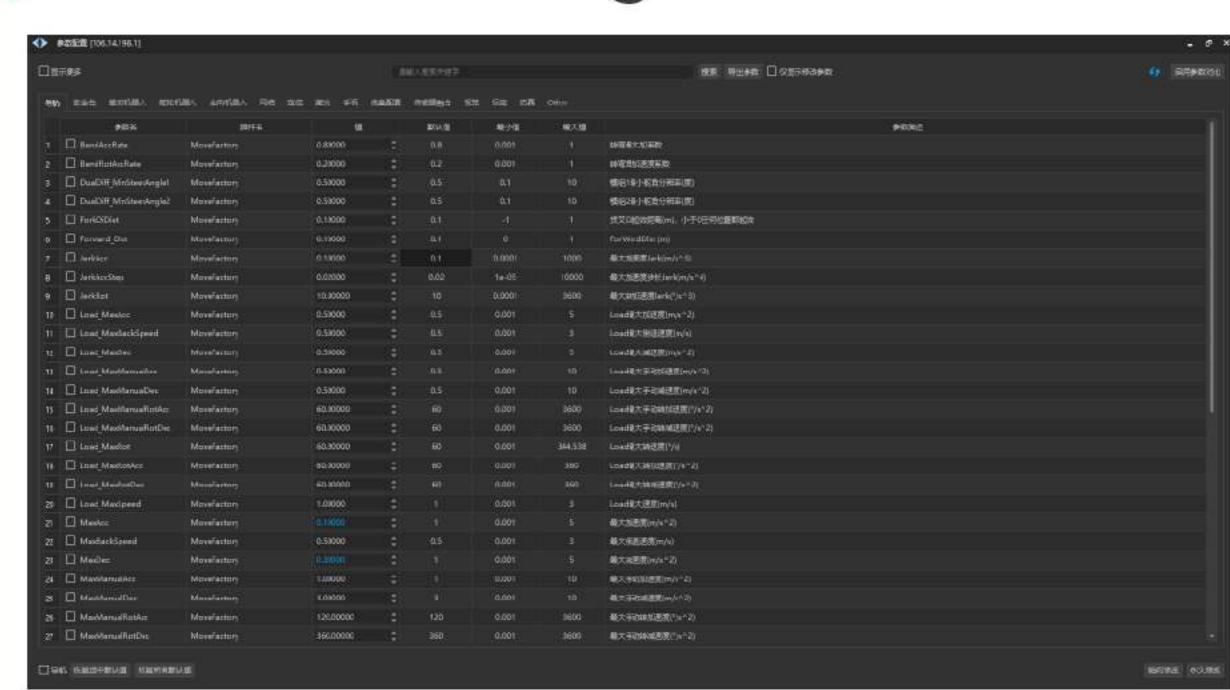
With easy-to-use map editing tools and high detail control, it can be smoothly edit even for large maps and what you see is what you get.

Robot Controlling



The robot is controlled in real time. The manual and automatic modes are freely switched, and the API commands are fully covered.

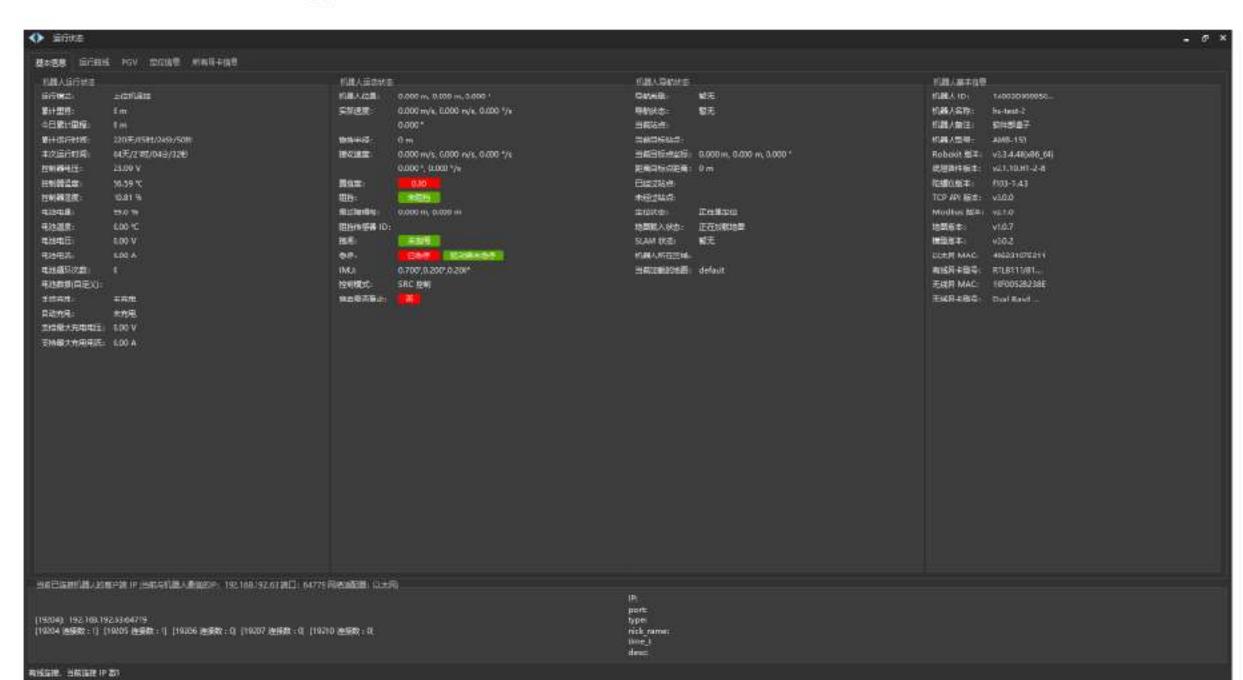
Parameter Configuration



Rich configurable parameters to grasp details at your fingertips.

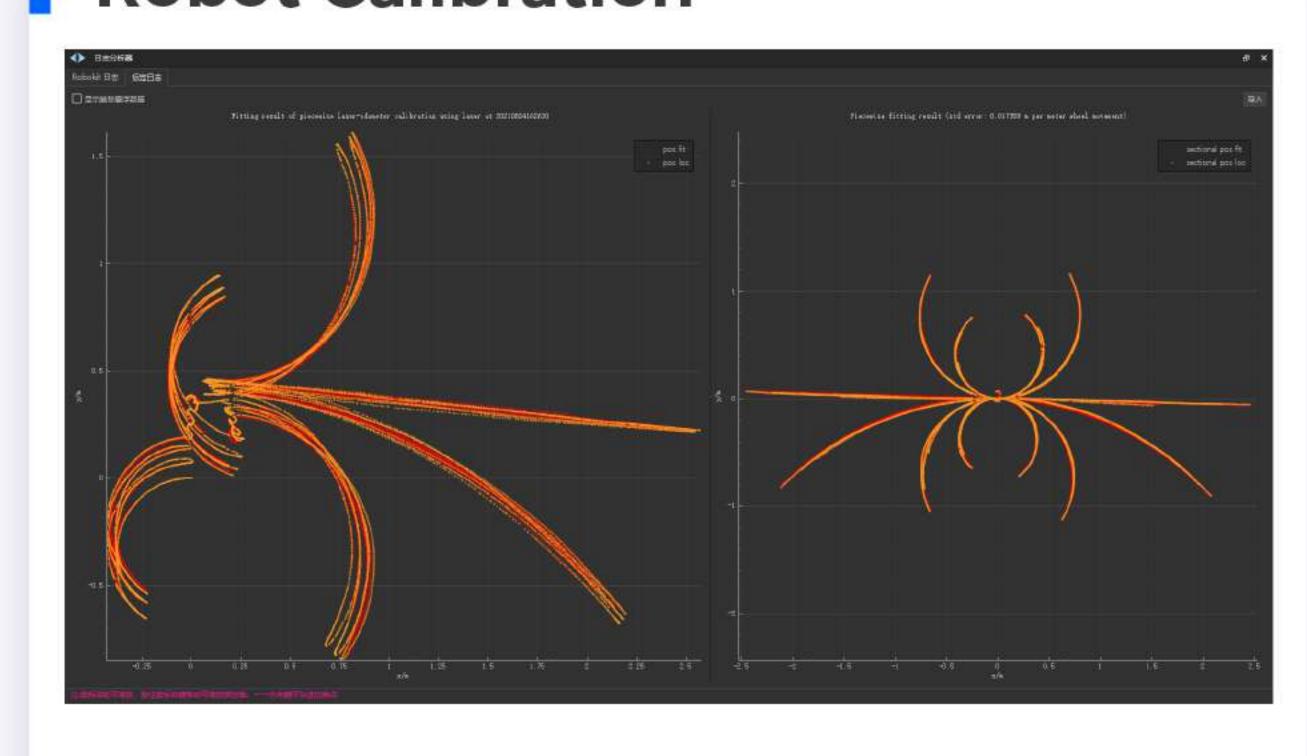
Running Status Detailed status monitoring to get robot data at a glance.

Running Status



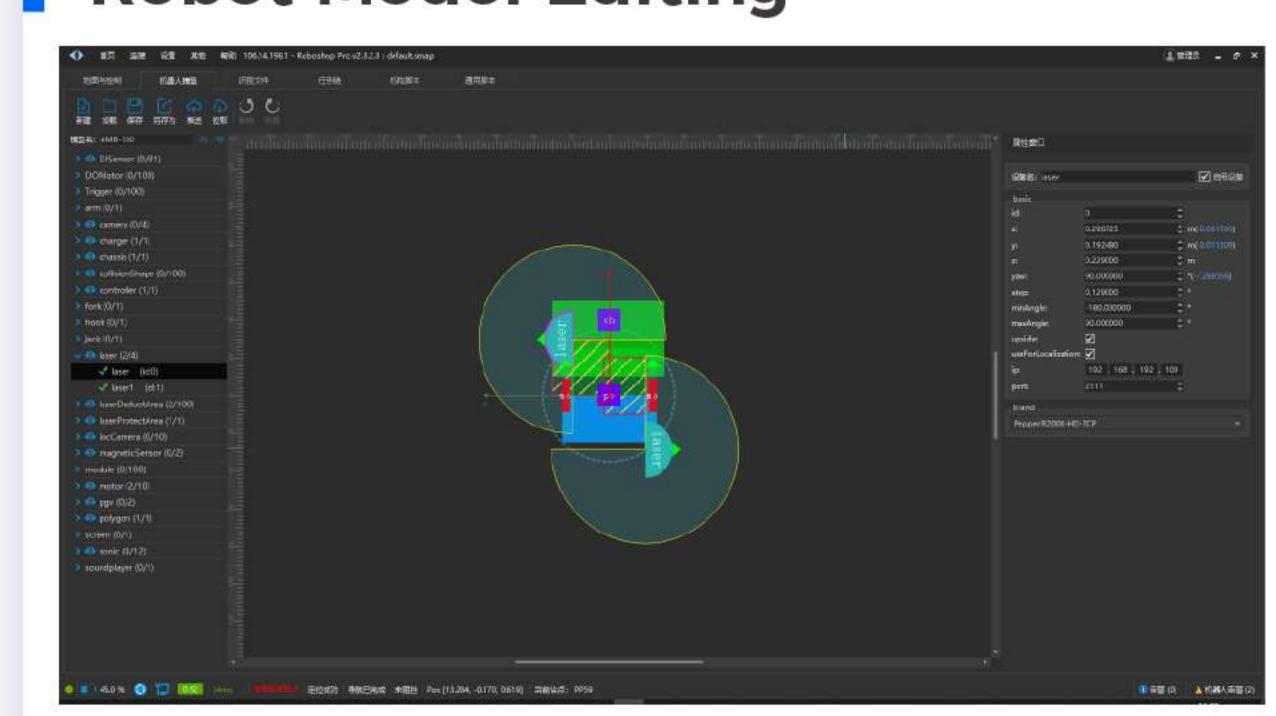
Detailed status monitoring to get robot data at a glance.

Robot Calibration



Automatic calibration process eliminates mechanical and assembly errors to ensure the consistency of multiple robots.

Robot Model Editing



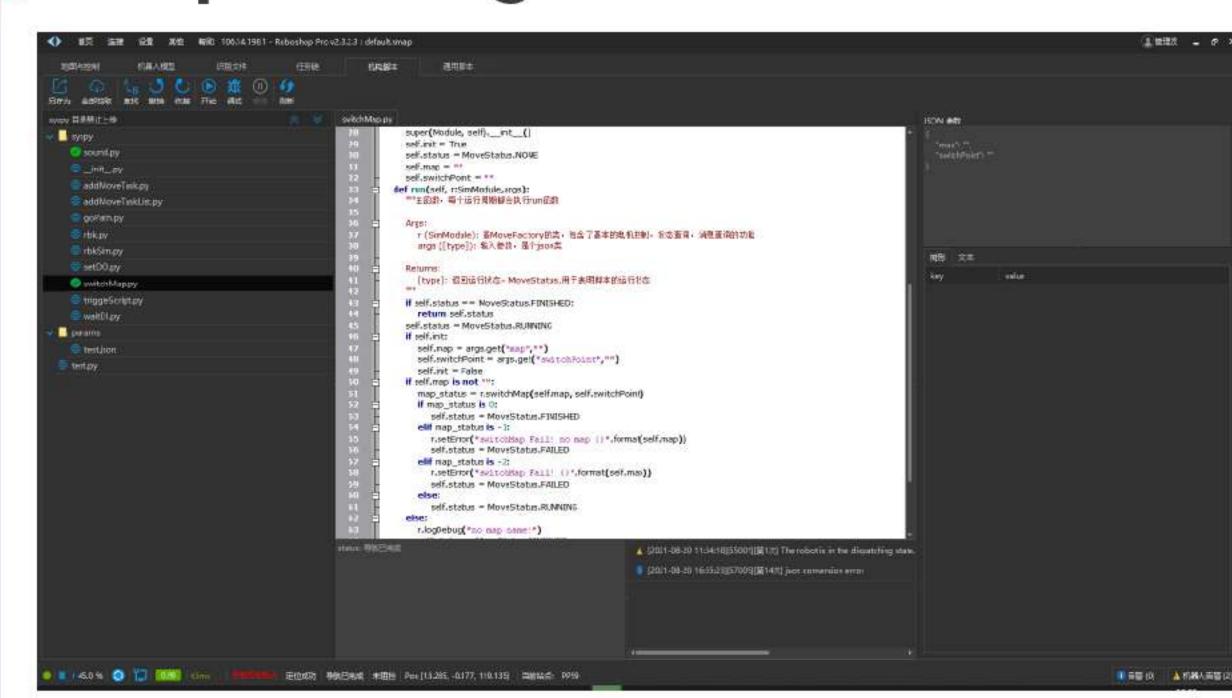
Visual robot model editing covers size, motion model, drive model, lidar model, motor position, sensor position, peripheral mechanism and more, thus robot making is as simple as building blocks.

Log Analysis



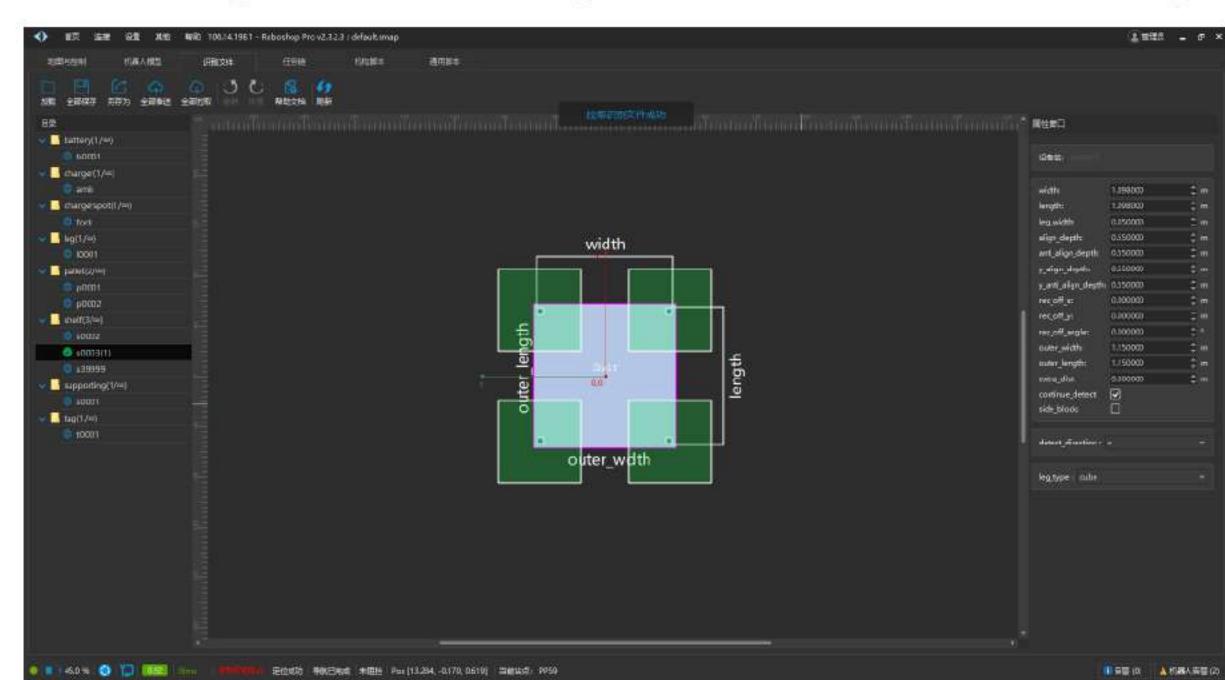
Integrated log analysis tool analyzes robot running logs automatically, easy to check errors.

Script Editing



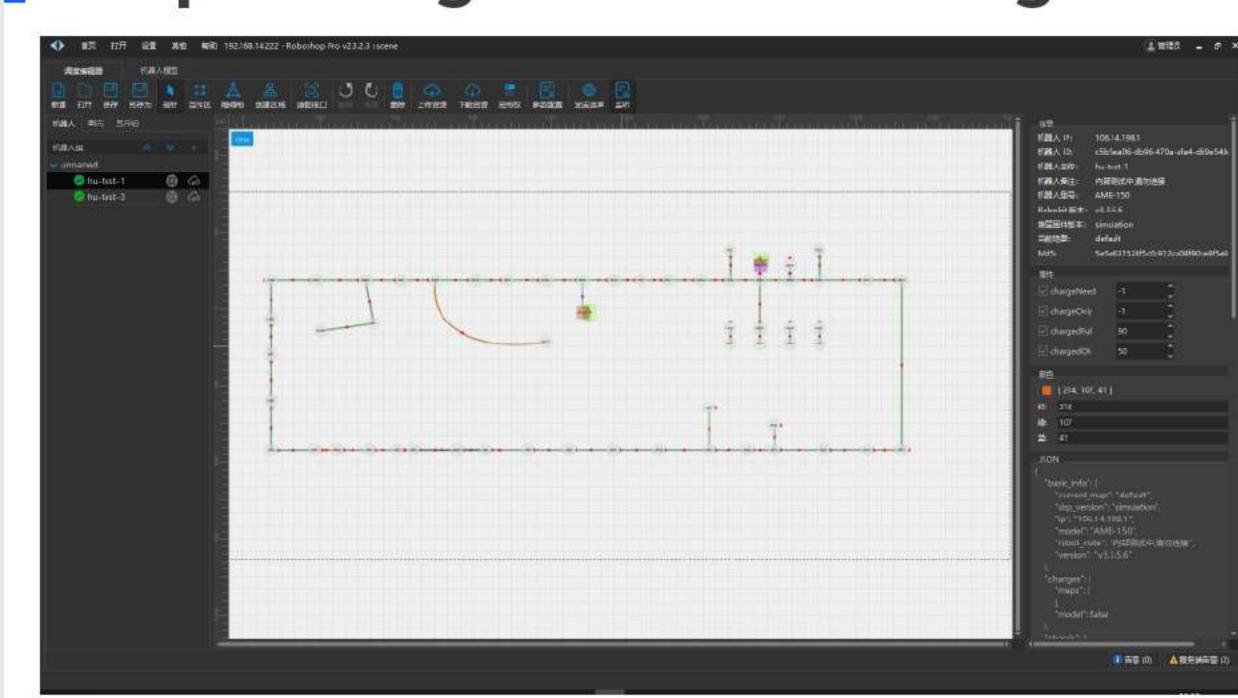
With Python script programming, even the most complex peripheral mechanisms and control logics can be easily mastered.

Recognition Object Model Editing



Visual recognition object model editing allows all kinds of shelves, racks, pallets and cages to recognize online.

Dispatching Scenario Editing



Integrated with RDS fleet management system, scenario editing adds such scenes as multi-type and multi-floor robot maps, charging Stations, mutually exclusive areas, lifts, traffic lights, control cabinets, and automation devices for unified dispatching management.

AMR Model Library Based on the SRC Controller

SEER Robotics based on highly integrated SRC controller, has built rich AMRs, including Lifting robots, autonomous forklifts, carton transfer autonomous robots, composite robots, cleaning robots and so on.

SEER Robotics is committed to providing proven intelligent logistics solutions, providing AMRs that can be adapted to more standard carriers and more application scenarios. Through the unified interface, together with the digitalization software of SEER Robotics, suitable for all aspects of intralogistics, including loading and unloading, sorting, moving, bin stacking, material cage stacking, pallet stacking, warehouse inbound/outbound, and line-side deposit/access, truly realizing the intelligentization of in-plant logistics.



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SEER Robotics AMR Chassis

Universal AMR Chassis, Flexible Expansion

Flagship Universal Platform, Flexible Extension Capabilities

The flagship series AMR chassis boasts leading positioning and navigation technology, as well as motion control performance. Equipped with mainstream interfaces such as RS485 and I/O, satisfying the development of upper mechanisms like lifting assembly, roller assembly, manipulator, traction, and pan-tilt unit, offering unlimited potential.

Hybrid Navigation, Positioning Accuracy up to ±5 mm

The positioning accuracy can reach up to ±2 mm~±5 mm, supporting SLAM, QR code, and reflector navigation, and the corresponding navigation solutions can be matched according to the scenario needs.

Dual Lasers+3D camera, Higher Safety Factor

The dual-laser configuration at the front and rear enables 360° protection of the entire vehicle. It supports the optional 3D camera for detecting pits and obstacles to ensure safe movement. Contact bumper strips are equipped at the front and rear for immediate halt upon impact.

Multiple Load Capacity Levels and High Cost-effectiveness, Premier Choice for AMR-building

The chassis series covers the load capacity range of 150 kg to 400 kg, features a universal AMR-building platform with ultra-high cost performance and is the perfect partner for customers to build various mobile robots.

SEER Base AMR Series Parameters

● Standard ○ Optional - None

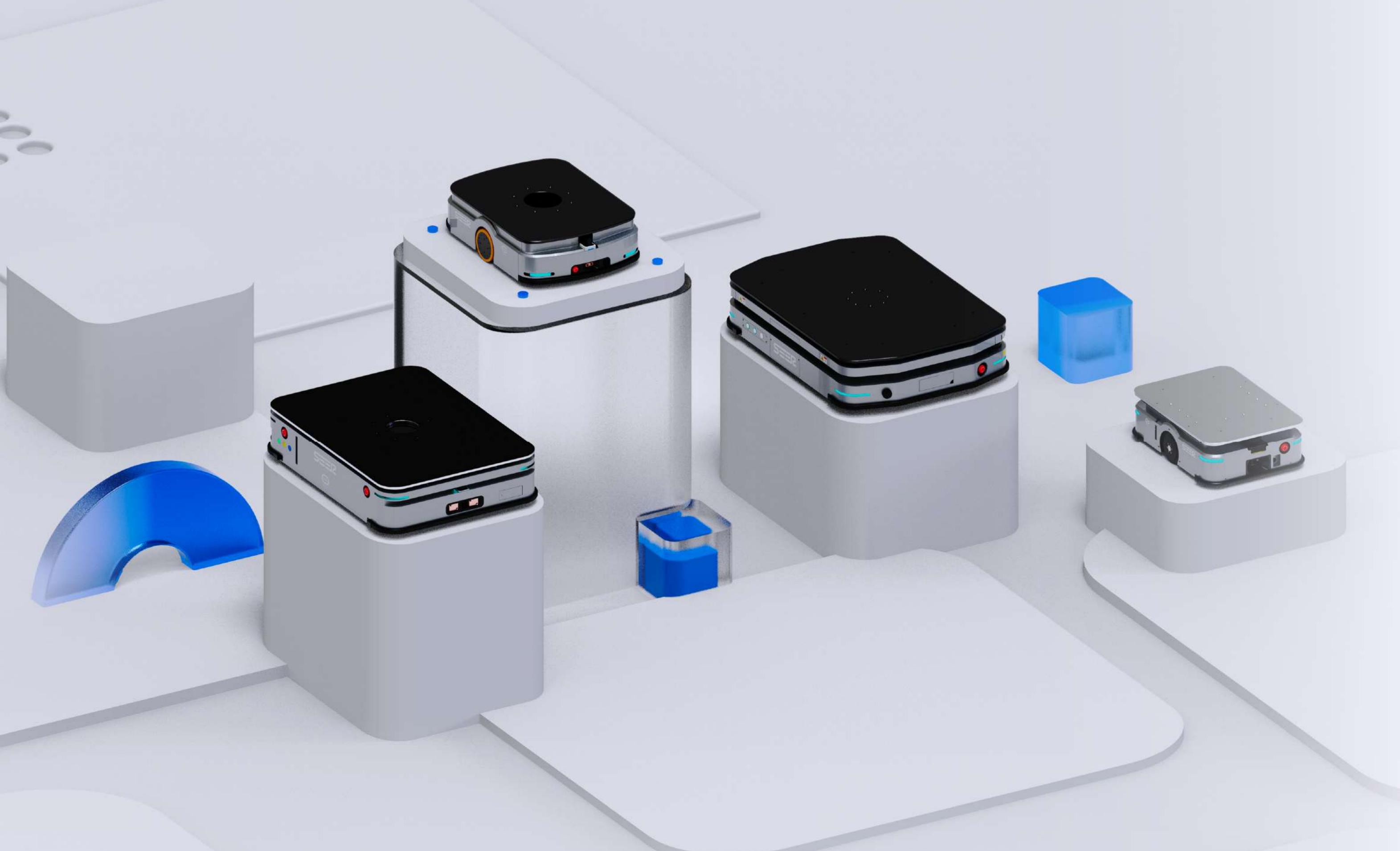






	Product model	AMB-150 (2023) / AMB-300 (2023)	AMB-300XS	SBA-400EU
	Navigation type	Laser SLAM	Laser SLAM	Laser SLAM
	LxWxH	800 x 560 x 200 mm 、 1000 x 700 x 200 mm	842 x 582 x 302.5 mm	958.20 x 588 x 182 mm
	Rotation diameter	840 mm / 1040 mm	972.6 mm	1004 mm
Basic	Weight (with battery)	66 kg / 144 kg	120 kg	100 kg
parameters	Maximum load capacity	150 kg / 300 kg	300 kg	400 kg
	Chassis ground clearance	25 mm	27 mm	20 mm
	Navigation laser scanning height	228 mm (P+F) 215 mm (H1)	185.43 mm	196.5 mm
	Ambient temperature and humidity range	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0℃ to 50℃ / RH: 10% to 90%, i compression, no condensation
	Passability (slope / step / gap)	≤5% / 5 mm / 10 mm 、 ≤5% / 5 mm / 30 mm	≤5% / 5 mm / 30 mm	≤5% / 5 mm / 30 mm
Performance parameters	Minimum aisle width	700 mm / 840 mm	722 mm	728 mm
	Navigation position accuracy	±5 mm	±5 mm	±5 mm
	Navigation angle accuracy	±0.5°	±0.5°	±0.5°
	Driving speed	≤1.4 m/s	≤1.5 m/s	≤1.5 m/s
	Battery specifications	48 V / 25 Ah (lithium iron phosphate) 、 48 V / 40 Ah (lithium iron phosphate)	48 V / 40 Ah (ternary lithium)	48 V / 23 Ah (lithium iron phosphate
Battery	Comprehensive battery life	12 h	12 h	8 h
parameters	Charging time (10% to 80%)	≤1 h / ≤1.5 h	≤2.5 h	≤1 h
	Charging method	Manual / Automatic / Fast battery swap	Manual / Automatic / Fast battery swap	Manual / Automatic
	Lidar number	1 (P+F / H1) or 2 (P+F / H1)	2 (SICK nanoScan3)	2 (SICK HV)
- · · · · · · · · · · · · · · · · · · ·	E-stop button			•
Configurations	Speaker			•
	Ambient lamp	•		•
	Basic functions			
	Wi-Fi roaming			
	Automatic charging			
Function	Shelf recognition			
configurations	Laser reflector navigation	0	0	0
	3D obstacle avoidance	0	0	•
	Precise positioning with QR code	-/0	0	0
	ISO 3691-4	-		
Cortifications	EMC			
Certifications	UN38.3			
	Cleanliness	- / ISO Class 4	ISO Class 4	
	Global series	Yes	Yes	Yes
	Product series	SEER Base AMR	SEER Base AMR	SEER Base AMR

Note: Please refer to the official website of SEER Robotics for the latest parameter information.



SEER Robotics Lifting Robot Series 01

Rich AMR Vehicle Models for More Scenarios



AMB-JS

Laser SLAM Safety Lifting Robot

CE certified, ensuring safety and security.

Charge for 1 hour and enjoy a 7-hour battery life under full load.

Support wide- area rack recognition, even if the single-side distance is ≥7 cm.



AMB-300JZ Laser SLAM Lifting Robot

Charge for 10 minutes and run for 1 hour.

The vehicle width is only 580 mm, and the minimum aisle width is only 640 mm, ensuring smooth passage in narrow aisles.

Equipped with versatile material rack recognition function, suitable for multiple industries applications.



SJV-SW600

Laser SLAM Rotary Lifting Robot

Equipped with front and rear dual lasers, the compact vehicle model can adapt to various scenarios.

360° rotation, enabling flexible picking-up, dropping-off and handling.

The maximum speed with full load is 1.5 m/s, and the



SJV-SW1500 Laser SLAM Rotary Lifting Robot

1.5 T large load capacity, meeting the handling requirements of multiple scenarios.

Hybrid navigation, with a positioning accuracy of ± 5 mm. 6-hour battery life for longer-lasting handling.

Lifting Robot Solutions

Application Scenarios and Solutions

> Application Scenario

Ultra-high precision docking

Solution

Optional Camera Vision | QR Code Precision Alignment



Application Scenarios and Solutions

Application Scenario

The materials rack has no load limit and no fixed posture

Solution

Optional 3D camera | Automatic recognition and adjust-



23 SEER Robotics AMR Model Library Based on the SRC Controller 24

Lifting Robot 01 / Product Parameters

Standard O Optional - None









	Product model	SJV-SW600	AMB-300JZ	SJV-SW1500	AMB-JS
	Navigation type	Laser SLAM	Laser SLAM	Laser SLAM	Laser SLAM
	LxWxH	950 x 650 x 250 mm	792 x 580 x 250 mm	1210 x 892 x 280 mm	1330 x 952 x 290 mm
	Rotation diameter	1015 mm	910 mm	1412 mm	1460 mm
	Weight (with battery)	170 kg	150 kg	250 kg	265 kg
Basic	Maximum load capacity	600 kg	300 kg	1500 kg	500 kg / 1000 kg
arameters	Chassis ground clearance	25 mm	25 mm	30 mm	30 mm
	Lifting platform dimensions	850 x 650 mm	760 x 545 mm	1180 x 860 mm	1300 x 920 mm
	Maximum lifting height	60±2 mm	60±2 mm	60±1 mm	60±1 mm
	Navigation laser scanning height	194 mm (H1)	200 mm (H1)	123 mm (H1)	175 mm
	Ambient temperature and humidity range	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, r condensation
	Passability (slope / step / gap)	≤5% / 5 mm / 30 mm	≤5% / 5 mm / 30 mm	≤5% / 5 mm / 30 mm	≤5% / 5 mm / 10 mm
•	Minimum aisle width	790 mm	640 mm	1000 mm	1050 mm
erformance arameters	Navigation position accuracy	±5 mm	±5 mm	±5 mm	±5 mm
	Navigation angle accuracy	±0.5°	±0.5°	±1°	±1°
	Driving speed	≤1.5 m/s	≤1.5 m/s	≤1.67 m/s	≤1.5 m/s
	Battery specifications	48 V / 24 Ah (lithium iron phosphate)	48 V / 20 Ah (lithium iron phosphate)	48 V / 40 Ah (lithium iron phosphate)	48 V / 40 Ah (lithium iron phosphate)
Battery	Comprehensive battery life	8 h	8 h	6 h	7 h
arameters	Charging time (10% to 80%)	≤2 h	≤1 h	≤2 h	≤2 h
	Charging method	Manual / Automatic	Manual / Automatic / Fast battery swap	Manual / Automatic	Manual / Automatic
	Lidar number	1 (H1)+1 (C2)	1 (H1)+1 (C2)	1 (H1)+1 (C2)	2 (SICK nanoScan3)
	E-stop button				
nfigurations	Speaker				
	Ambient lamp				
	Bumper strip				
	Basic functions				
	Wi-Fi roaming				
	Automatic charging				
Function	Shelf recognition				
nfigurations	Spin function		S. 32		
	Precise positioning with QR code	0	0	0	
	QR code navigation	0	0	0	
	Laser reflector navigation	0	0	0	0
	EMC		39-63		
ortifications	UN38.3		X → 2%		
ertifications	MD	83 -8			
	RED	-			
	Global series	Yes	Yes	Yes	Yes
	Product series	SEER Lifting AMR	SEER Lifting AMR	SEER Lifting AMR	SEER Lifting AMR

Note: Please refer to the official website of SEER Robotics for the latest parameter information.

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SEER Robotics Pallet Truck Series

Multiple Load Capacity Levels for Worry-free Handling

Efficient Handling Expert, Fully Adaptable to Various

This series of pallet trucks can cover handling demands ranging from 300 kg to 3 T, fully satisfying the handling requirements in various scenarios.

Multiple Navigation Options, Positioning Accuracy up to ±10 mm

It supports navigation methods like SLAM, reflectors, and NFL, covering navigation needs in various business scenarios, such as secondary positioning, highly dynamic environments, and unmodified environments, etc.; the positioning accuracy can reach ±10 mm.

Al Deep Learning, Improved Recognition Ability

It boasts the capability to recognize pallets, racks, and cages in different colors and sizes with unparalleled precision and adaptability from multiple angles, achieving seamless and stable picking-up and dropping-off of goods.

360° Safety Protection, Ultimate Cost-effectiveness

The entire series of pallet trucks has high costeffectiveness. Equipped with various safety devices such as navigation lasers, obstacle avoidance lasers, 3D cameras, and bumper strips, providing 360° safety protection.

Pallet Truck Solutions

Application Scenarios and Solutions

Application Scenario The pallet or tray has no load

The pallet or tray has no load limit and no fixed posture.

Solution

Optional 3D camera | Automatic recognition and adjustment



Application Scenarios and Solutions

Application Scenario

The material cage has no load limit and no fixed posture.

Solution

Rack laser recognition or Optional 3D camera | Automatic recognition and adjustment



Pallet Truck / Product Parameters

Standard O Optional -None







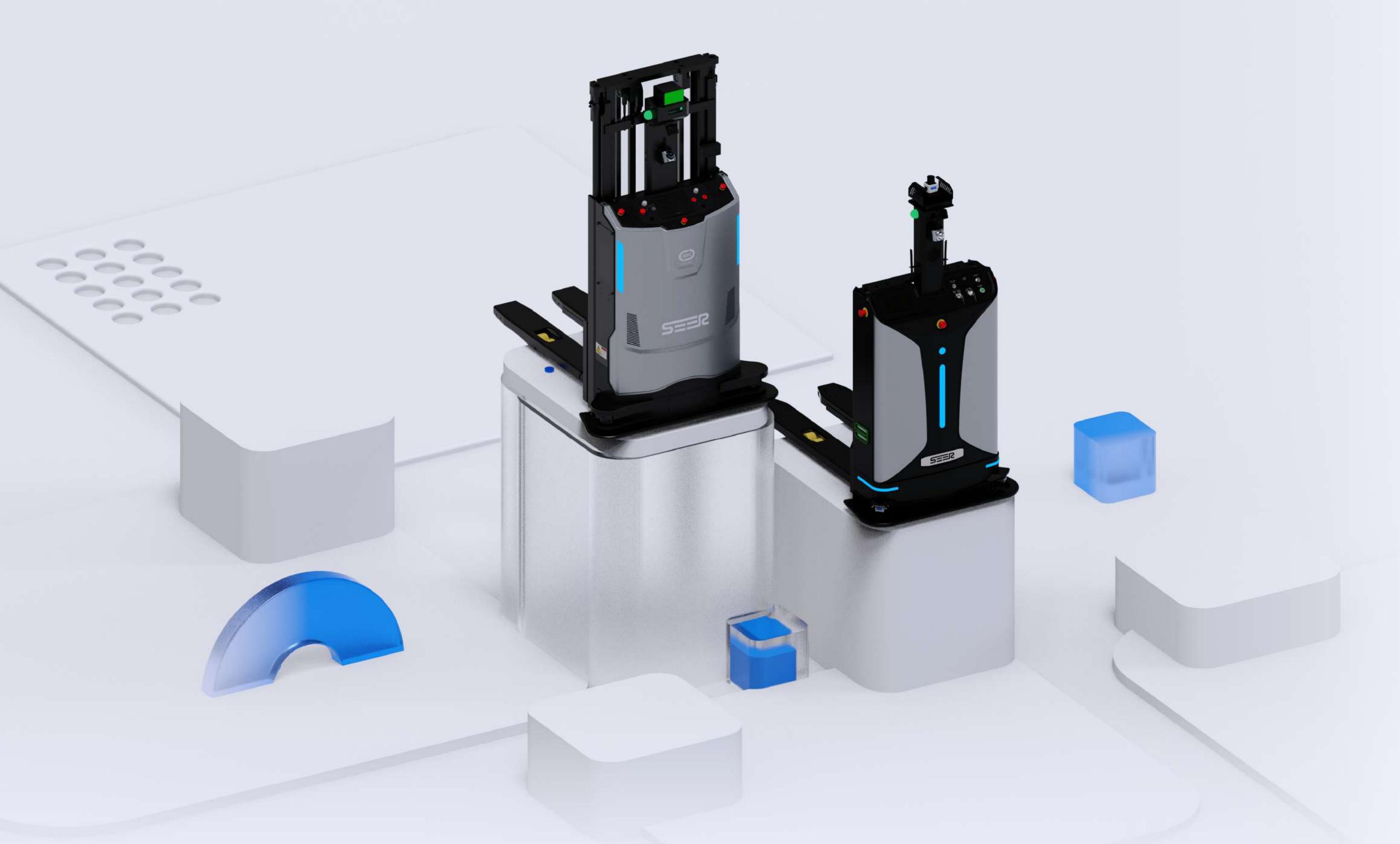








		PACIFIC PARTICIPATION OF SELECT	Alter all lowers in case	Reservation (Control of Control o				
	Product model	SFL-CBD15	SFL-CBD15-CE	SFL-CBD20	SFL-CBD30	SFL-300L	SOF-300EU	SPT-1000
	Operation type	Automatic navigation, by manual control device	Automatic navigation, by manual control device	Automatic navigation, by manual control device	Automatic navigation, by manual control device	Automatic navigation	Automatic navigation	Automatic navigation
	Navigation type	Laser SLAM	Laser SLAM	Laser SLAM	Laser SLAM	Laser SLAM	Laser SLAM	Laser SLAM
	Pallet type	Open pallet	Open pallet	Open pallet	Open pallet	Tote dolly / shelf	Tote dolly / shelf	Open / closed pallet
	Rated load capacity	1500 kg	1500 kg	2000 kg	3000 kg	300 kg	300 kg	1000 kg
	Load center distance	600 mm	600 mm	600 mm	600 mm	345 mm	465 mm	
	Weight (with battery)	388 kg	403 kg	600 kg	600 kg	210 kg	230 kg	450 kg
	Standard lifting height	205 mm	205 mm	205±5 mm	205±5 mm	70±5 mm~90±5 mm	70±5 mm~90±5 mm (default 70 mm)	180 mm
	Forklift dimensions: L x W x H	The state of the s	1685 x 980 x 1906 mm	1720 x 960 x 2100 mm	1720 x 960 x 2100 mm	914 x 400 x 1502.5 mm	1094 x 500 x 1743 mm	1450 x 1200 x 556 mm
		1220 x (170+7) x 75 mm	1220 x (170+7) x 75 mm					
	Fork dimensions: L x W x H	(7 mm wiring panel)	(7 mm wiring panel)	1220 x 173 x 60 mm	1220 x 173 x 60 mm	480 x 300 mm	600 x 300 mm	1220 x 169 x 60 mm
	Fork outer width	550 / 600 / 680 mm	550 / 600 / 680 mm	600 / 680 mm	600 / 680 mm	300 mm		610 mm
	Delicate and poor emissions of the established actions of the control of the cont	330 / 000 / 080 IIIII	330 7 000 7 000 11111	000 / 000 11111	000 / 000 11111	300 IIIII		O I O IIIII I
Basic parameters	Right-angle stacking aisle width, pallet 1000×1200 (1200 placed along the fork)	2252+200 mm	2260+200 mm	2155 mm	2155 mm			2100 mm
	Right-angle stacking aisle width, pallet 800×1200 (1200 placed along the fork)	2190+200 mm	2220+200 mm	2080 mm	2080 mm		\—	2100 mm
	Right-angle stacking aisle width, pallet 1000×1000 (1000 placed along the fork)	2224+200 mm	2230+200 mm	2080 mm	2080 mm			2100 mm
	Minimum turning radius	1524 mm	1532 mm	1360 mm	1360 mm	600 mm	804 mm	870 mm
		\$12 F 475 A (- 4,75)	10 Stownstern Association (1990)	TEMP: 0°C to 50°C / RH: 10% to				
	Ambient temperature and humidity range	90%, no compression, no condensation	90%, no compression, no condensation	90%, no compression, no condensation	TEMP: 0°C to 50°C / RH: 10% to 90%, no Ti compression, no condensation	EMP: 0℃ to 50℃ / RH: 10% to 90%, r compression, no condensation	no TEMP: 0°C to 50°C / RH: 10% to 90%, no TE compression, no condensation	EMP: 0°C to 50°C / RH: 10% to 90% compression, no condensation
	Driving speed: full load / no load	2 / 2 m/s	1.4 / 1.4 m/s	1.5 / 1.66 m/s	1.5 / 1.66 m/s	0.8 / 1.4 m/s	0.8 / 1.4 m/s	0.7 / 1.1 m/s
erformance parameters	Passability (slope / step / gap)	< 5% / 10 mm / 30 mm	< 5% / 10 mm / 30 mm	<5% / 10 mm / 30 mm	<5% / 10 mm / 30 mm	< 3% / 2 mm / 5 mm	< 3% / 2 mm / 5 mm	< 3% / 5 mm / 10 mm
	Navigation position accuracy	±10 mm	±10 mm	±10 mm	±10 mm	±10 mm	±10 mm	±10 mm
	Navigation angle accuracy	±1°	±1°	±1°	±1°	±1°	±1°	±0.5°
	ivavigation angle accuracy				<u> 1</u>		<u></u> 1	
Battery	Battery specifications	48 V / 23 Ah (lithium iron phosphate)	48 V / 46 Ah (lithium iron phosphate)	51.2 V / 106 Ah	51.2 V / 106 Ah	48 V / 35 Ah (ternary lithium)	48 V / 23 Ah (lithium iron phosphate)	48 V / 36 Ah (lithium iron phosphate)
oarameters	Comprehensive battery life	4 to 6 h	8 to 10 h	10 h	8 h	8 h	6 h	6 h
	Charging time (10% to 80%)	1 h	1 h	2 to 3 h	2 to 3 h	≤1.5 h	1 h	2 h
	Charging method	Manual / Automatic	Manual / Automatic	Manual / Automatic	Manual / Automatic	Manual / Automatic	Manual / Automatic	Manual / Automatic
	Lidar number	1 (H1) +2 (C2)	1 (P+F OMD30M-R2000-B23- V1V1D-HD-1L) +2 (SICK	1 (H1) +2 (C2) or 1 (P+F R2000) +2 (C2)	1 (H1) +2 (C2) or 1 (P+F R2000) +2 (C2)	1 (H1) +2 (C2)	1 (P+F R2000)+2 (SICK / nanoScan3 Hv)	1 (Mid-360)+4 (C213)
	Wi-Fi roaming							
Function	3D obstacle avoidance	0		0	0	0	0	0
nfigurations	Pallet recognition	0		0	0	0	0	0
	Cage stack		=	0	0		10 - 0	3
	High shelf pallet recognition		-	0	0	-		
	Pallet stack			0	0			
	HMI display							
	E-stop button							
	Sound and light indicator							
937	Braking distance: 1 m/s / 1.5	≤30 cm / ≤50 cm	1 m / 2 m	≤30 cm / ≤50 cm	≤30 cm / ≤50 cm	≤30 cm / ≤50 cm	≤30 cm / ≤50 cm	≤30 cm / ≤50 cm
nfigurations	m/s							
	Bumper strip		i					
	Fork height protection							
	ISO 3691-4							N exts
ertifications	EMC							Samo
cacioii3	UN38.3							\$ 7
	RED	(- 5)						<u>~</u>
		185 - 185	200 Carlo	92 AC		## 120		90 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	Global series Product series	Yes SEER Pallet Truck	Yes SEER Pallet Truck	Yes SEER Pallet Truck	Yes SEER Pallet Truck	Yes SEER Pallet Truck	Yes SEER One Fork Truck	Yes SEER Pallet Truck



SEER Robotics Stack Truck Series

One Series for All, Worry-free in Your Scenarios

Flagship Stacking Series, One-stop Solution for Multiple Scenarios

SEER Robotics

This series includes stack trucks with different specifications and different load capacities. It can meet the demands of stacking and destacking in both common scenarios and special ones such as narrow aisles, offering wider applicability.

Multiple Navigation Options, Positioning Accuracy up to ±10 mm

It supports navigation methods like SLAM, reflectors, and NFL, covering navigation needs in various business scenarios, such as secondary positioning, highly dynamic environments, and unmodified environments, etc.; the positioning accuracy can reach ±10 mm.

Al Deep Learning, More Intelligent Recognition

Support AI recognition of multi-specification and multi-color pallets, as well as material racks, cages, etc. It can adaptively recognize from multiple angles and with high precision, achieve stable picking-up and dropping-off of goods, and make the recognition more intelligent.

Multiple Customizations, Tailored to Your Needs

A diverse array of sensor solutions such as 3D cameras and distance sensors are optionally available, and customization of fork width, color, logo, etc. is supported, perfectly catering to the demands of various scenarios.

Stack Truck Solutions

Application Scenarios and Solutions

Application Scenario Recognize multi-color pallets

and film-wrapped pallets.

Solution

Optional 3D camera | Automatic recognition and adjustment



Application Scenarios and Solutions

Application Scenario

Forklift outdoor scene

Solution

Optional 3D LIDAR | 3D Laser SLAM navigation



Standard Optional - None







	Product model	SFL-CDD14	SFL-CDD14-CE	SSS-1500EU
		Automatic navigation,	Automatic navigation,	Automatic navigation,
	Operation type	by manual control device	by manual control device	by manual control device
	Navigation type	Laser SLAM	Laser SLAM	Laser SLAM
	Pallet type	Open pallet	Open pallet	Open pallet
	Rated load capacity	1400 kg	1400 kg	1500 kg
	Load center distance	600 mm	600 mm	600 mm
	Weight (with battery)	680 / 740 kg	680 / 740 kg	835 kg
	Standard lifting height	1600 / 3000 mm	1600 / 3000 mm	3030 mm
	Forklift dimensions: L x W x H	FREE / P+F: 1710 x 989 x 1998 / 1710 x 989 x 2247 mm	P+F: 1722 x 951 x 2064 / 1722 x 951 x 2234 mm SICK: 1722 x 951 x 2042 / 1722 x 951 x 2234 mm	1681 x 1104 x 1997.5 mm
	Fork dimensions: L x W x H	1220 x 180 x 70 mm	1220 x 180 x 70 mm	1200 x 185 x 55 mm
Basic	Fork outer width	570 / 680 mm	555 / 570 / 680 mm	555 / 600 mm
arameters	Right-angle stacking aisle width, pallet 1000×1200 (1200 placed along the fork)	1951+200 mm	1966+200 mm	2025+200 mm
	Right-angle stacking aisle width, pallet 800×1200 (1200 placed along the fork)	1885+200 mm	1911+200 / 1914+200 / 1936+200 mm	1960+200 mm
	Right-angle stacking aisle width, pallet 1000×1000 (1000 placed along the fork)	1822+200 mm	1911+200 / 1914+200 / 1936+200 mm	1822+200 mm
	Minimum turning radius	1227+200 mm	1206+200 mm	1292.6 mm
	Ambient temperature and humidity range	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation
	Driving speed: full load / no load	1.2 / 1.5 m/s	1.2 / 1.5 m/s	1.5 / 1.8 m/s
rrormance	Passability (slope / step / gap)	< 5% / 5 mm / 15 mm	< 5% / 5 mm / 15 mm	< 5% / 20 mm / 30 mm
rameters	Navigation position accuracy	±10 mm	±10 mm	±10 mm
	Navigation angle accuracy	±0.5°	±0.5°	±0.5°
	Battery specifications	24 V / 210 Ah	24 V / 180 Ah	24 V / 212 Ah (lithium iron phosphate)
Battery	Comprehensive battery life	(lithium iron phosphate) 10 h	(lithium iron phosphate) 10 h	10 h
rameters	Charging time (10% to 80%)	2 h	2 h	2 h
	Charging method	Manual / Automatic	Manual / Automatic	Manual / Automatic
	Lidar number	1 (FREE H1 / P+F R2000-25M) +3 (FREE C2)	1 (SICK nanoScan3 Core / P+F OMD30M-R2000-B23-V1V1D-HD-1L) +3 (2 (SICK nanoScan3 Core) +1 (OLEI LR-1BS2H))	1 (P+F R2000)+3 (SICK HV)
	Wi-Fi roaming			
unction	3D obstacle avoidance	0	0	0
igurations	Pallet recognition	0	0	0
	Cage stack	0	0	0
	High shelf pallet recognition	0	0	0
	Pallet stack	O	0	O
	HMI display			
	E-stop button			
	Sound and light indicator			
	Braking distance: 1 m/s / 1.5 m/s	≤30 cm / ≤50 cm	≤30 cm / ≤50 cm	≤30 cm / ≤50 cm
. 5 4. 4.10113	360° laser protection			
	Bumper strip		70 02	
	Fork height protection			
	ISO 3691-4			
rtifications	EMC			
	UN38.3			
	RED Clobal corios	Vac		
	Global series Product series	Yes SEED Stack Truck	Yes SEED Stack Truck	Yes SEED Stack Truck
	Product series	SEER Stack Truck	SEER Stack Truck	SEER Stack Truck

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SEER Robotics Counterbalance Truck and Reach Truck

Rich Models, Highly Efficient, Easy to Use



SFL-CPD15-T Laser SLAM Counterbalanced Autonomous Forklift

The vehicle width is only 1187 mm, the minimum turning radius is 1511 mm, and the maximum load is 1.5 T.

Guarded by multiple sensors for 360° stereoscopic protection.

Positioning accuracy ±10 mm, precise and efficient.

10-hour long battery life for uninterrupted operation.



SFL-CPD20-Y Laser SLAM Counterb

Laser SLAM Counterbalanced Autonomous Forklift

The vehicle width is only 1180 mm, the minimum turning radius is 1577 mm, and the maximum load is 2 T.

2-minute quick battery replacement, 2-hour fast charging, and an impressive 6-hour battery life.

Manually adjustable fork width ranges from 400 mm to 700 mm, making it suitable for multiple types of carriers.

Ultrasonic technology detects the separation status between goods and forks in real time, ensuring safe and secure stacking.



SFL-CPD30-Y Laser SLAM Counterbalanced Autonomous Forklift

3 T intelligent high load capacity and 7 flexible customizations.
Al deep learning to recognize more types of carriers.
10-hour battery life and 3-minute quick battery replacement.
40 m detection range and 4-layer safety protection.



SEER SlimReach 1400 SSR-1400

The vehicle has a maximum load capacity of 1.4 tons and a longest endurance of up to 10 hours for longer uninterrupted operation.

Supports multiple navigation methods such as SLAM, reflector, and NFL. The repeat positioning accuracy can reach +10 mm. The vehicle width is only 1184 mm and the minimum aisle width is 1384 mm, suitable for narrow aisle scenarios.

SEER Robotics Counterbalance Truck and Reach Truck / Product Parameters

● Standard ○ Optional - None





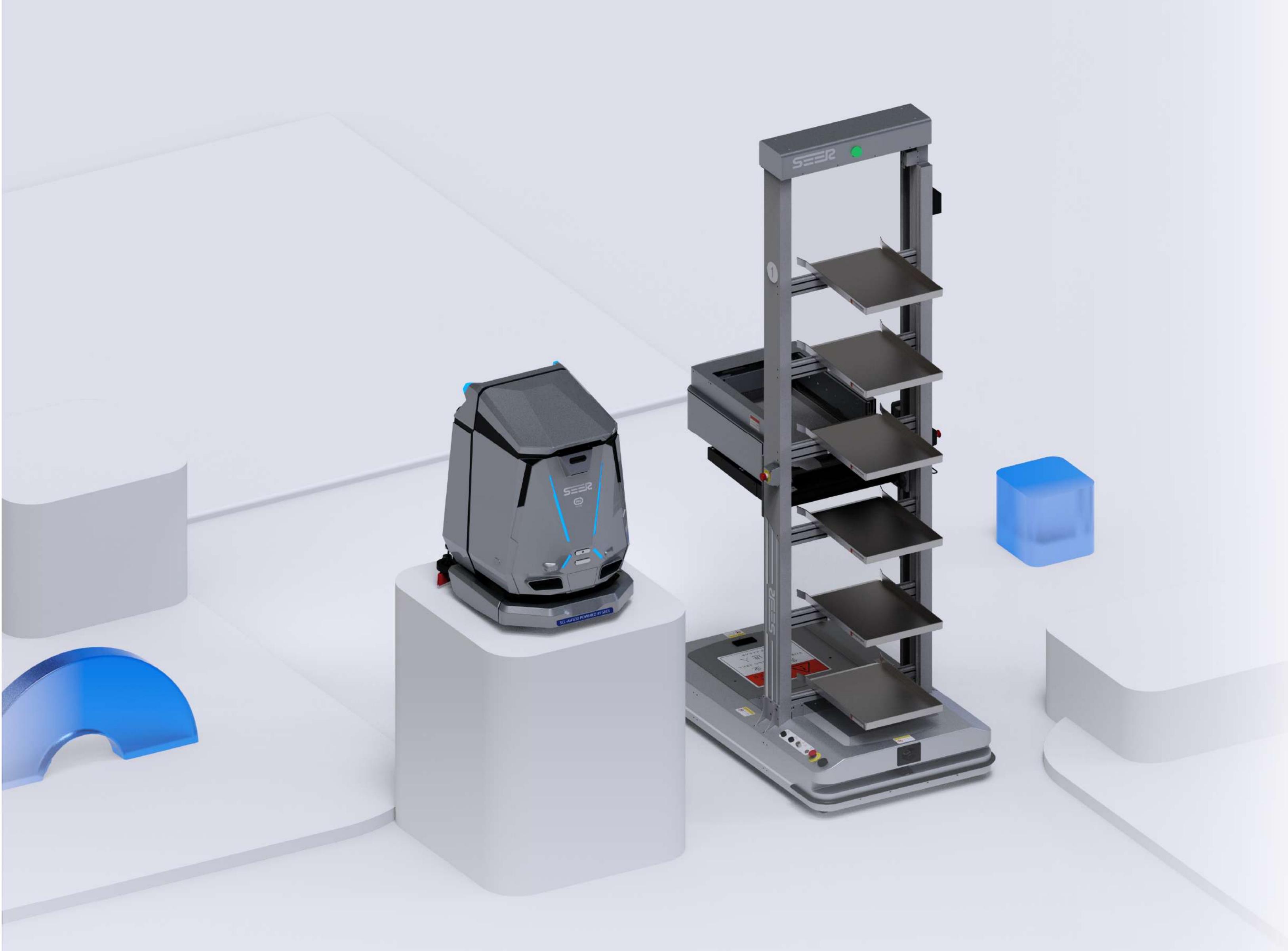




	Product model	SFL-CPD15-T	SFL-CPD20-Y	SFL-CPD30-Y	SSR-1400
	Operation type	Automatic navigation, seated driving	Automatic navigation, by manual control device	Automatic navigation, by manual control device	Automatic navigation, by manual conti device
	Navigation type	Laser SLAM	Laser SLAM	Laser SLAM	Laser SLAM
	Pallet type	Open pallet / closed pallet	Open pallet / closed pallet	Open pallet / closed pallet	Open pallet / closed pallet
	Rated load capacity	1500 kg	2000 kg	3000 kg	1400 kg
	Load center distance	500 mm	500 mm	500 mm	500 mm
	Weight (with battery)	2325 kg	3090 kg	4700 kg	1890 kg
	Standard lifting height	3300 mm	3000 mm	3000 mm	3000 mm
Basic parameters	Forklift dimensions: L x W x H	P+F / FREE: 2520 x 1187 x 2346 / 2520 x 1187 x 2326 mm	2767 x 1180 x 2235 mm	3295 x 1420 x 2468 mm	2264 x 1184 x 2172 mm
귀하이다는 그가 그래요 얼마 하는 때	Fork dimensions: LxWxH	950 x 100 x 40 mm	1070 x 122 x 40 mm	1070 x 125 x 45 mm	1220 x 120 x 40 mm
	Fork outer width	215 mm to 750 mm	400 mm to 700 mm	450 mm to 750 mm	650 mm
	Right-angle stacking aisle width, pallet 1000×1200 (1200 placed	2943+200 mm	2850+200 mm	3372 mm	2195 / 2255 mm
	Right-angle stacking aisle width, pallet 800×1200 (1200 placed	2911+200 mm	2957+300 mm	3341 mm	2125 / 2185 mm
	Right-angle stacking aisle width, pallet 1000×1000 (1000 placed	2477+200 mm	2805+300 mm	3185 mm	÷
	Minimum turning radius	1511+200 mm	1577 mm	1883 mm	1480 mm
	Ambient temperature and humidity range	TEMP: 0℃ to 50℃ / RH: 10% to 90%, no compression, no condensation	TEMP: 0°C to 50°C / RH: 10% to 90%, no compression, no condensation	TEMP: 0°C to 50°C / RH: 10% to 90%, no compression, no condensation	TEMP: 0°C to 50°C / RH: 10% to 90%, no compression, no condensation
	Driving speed: full load / no load	1.38 / 1.38 m/s	1.5 m/s	1.3 / 1.5 m/s	1.2 / 1.5 m/s
	2 31 19 9 200	< 5% / 10 mm / 30 mm	< 5% / 10 mm / 30 mm	<5% / 10 mm / 30 mm	< 5% / 20 mm / 30 mm
oarameters	Navigation position accuracy	±10 mm	±10 mm	±10 mm	±10 mm
	Navigation angle accuracy	±0.5°	±1°	±1°	±0.5°
	Battery specifications	24 V / 250 Ah (lithium iron phosphate)	24 V / 200 Ah (lithium iron phosphate)	48 V / 300 Ah	24 V / 180 Ah (lithium iron phosphate
Battery	Comprehensive battery life	10 h	6 h	8 to 10 h	10 h
parameters	Charging time (10% to 80%)	2.5 h	2 h	3 to 4 h	2 h
	Charging method	Manual / Automatic	Manual / Automatic	Manual / Automatic	Manual / Automatic
	Lidar number	1 (P+F R2000 / FREE H1) +3 (FREE C2)	1 (FREE H1 / P+F R2000) +3 (FREE C2)	1 (H1) +3 (C2) or 1 (P+F R2000) +3 (C2)	1 (P+F R2000) +3 (OLEI LR-1BS2H)
	Wi-Fi roaming	•			•
	3D obstacle avoidance	0	0	0	0
	Pallet recognition				
onfiguration s				0	0
	Cage stack		• O	O O	0
			• O	A000 N	0
	Cage stack		• • • •	0	O O O
	Cage stack High shelf pallet recognition	0		0	O O O O O O O O
	Cage stack High shelf pallet recognition Pallet stack	0		0	
	Cage stack High shelf pallet recognition Pallet stack HMI display	0		0	
Safety	Cage stack High shelf pallet recognition Pallet stack HMI display E-stop button Sound and light indicator Braking distance: 1 m/s / 1.5	0	• O O O S S S S S S S S S S	0	O O O O O O O O O O O O O O O O O O O
Safety	Cage stack High shelf pallet recognition Pallet stack HMI display E-stop button Sound and light indicator Braking distance: 1 m/s / 1.5				
Safety onfiguration s	Cage stack High shelf pallet recognition Pallet stack HMI display E-stop button Sound and light indicator Braking distance: 1 m/s / 1.5 m/s				
Safety onfiguration s	Cage stack High shelf pallet recognition Pallet stack HMI display E-stop button Sound and light indicator Braking distance: 1 m/s / 1.5 m/s 360° laser protection				
Safety onfiguration s	Cage stack High shelf pallet recognition Pallet stack HMI display E-stop button Sound and light indicator Braking distance: 1 m/s / 1.5 m/s 360° laser protection Bumper strip				
Safety onfiguration s	Cage stack High shelf pallet recognition Pallet stack HMI display E-stop button Sound and light indicator Braking distance: 1 m/s / 1.5 m/s 360° laser protection Bumper strip Fork height protection ISO 3691-4 EMC			O O O O • • • • • • • • • • • • •	
Safety onfiguration s	Cage stack High shelf pallet recognition Pallet stack HMI display E-stop button Sound and light indicator Braking distance: 1 m/s / 1.5 m/s 360° laser protection Bumper strip Fork height protection ISO 3691-4 EMC			O O O O • • • • • • • • • • • • •	
Safety onfiguration s ertifications	Cage stack High shelf pallet recognition Pallet stack HMI display E-stop button Sound and light indicator Braking distance: 1 m/s / 1.5 m/s 360° laser protection Bumper strip Fork height protection ISO 3691-4 EMC		• • • • • • • • • • • • • • • • • • •	O O O O S S S S S S S S S S S S S S S S	

Note: Please refer to the official website of SEER Robotics for the latest parameter information.

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SEER Robotics Other AMR Series

Rich Models, Highly Efficient, Easy to Use



SPK-M50J-F Series Laser SLAM Multi-layer Carton Transfer Autonomous Robot

Integrated control of walking, picking up, and dropping off goods, offering super ease of use.

The vehicle body width is only 1000 mm, and the minimum aisle width is 1110 mm, suitable for narrow aisles.

Support optical communication for full privacy protection. Support flexible customization of fork gripper, the number of layers of the back tray (3-6 layers), and colors, with a load capacity of 50 kg per layer.



SCL-AWG50 Laser SLAM Cleaning Robot

Focus on industrial scenarios with strong cleaning capabilities.

With a minimum aisle width of 900 mm, mopping width of 500 mm, and dust-pushing width of 670 mm.

Designed to autonomously complete recharging, fresh water refill, and wastewater discharge tasks.

Equipped with a high-powered motor, it can effortlessly conquer 8° slopes.



● Standard ○ Optional - None



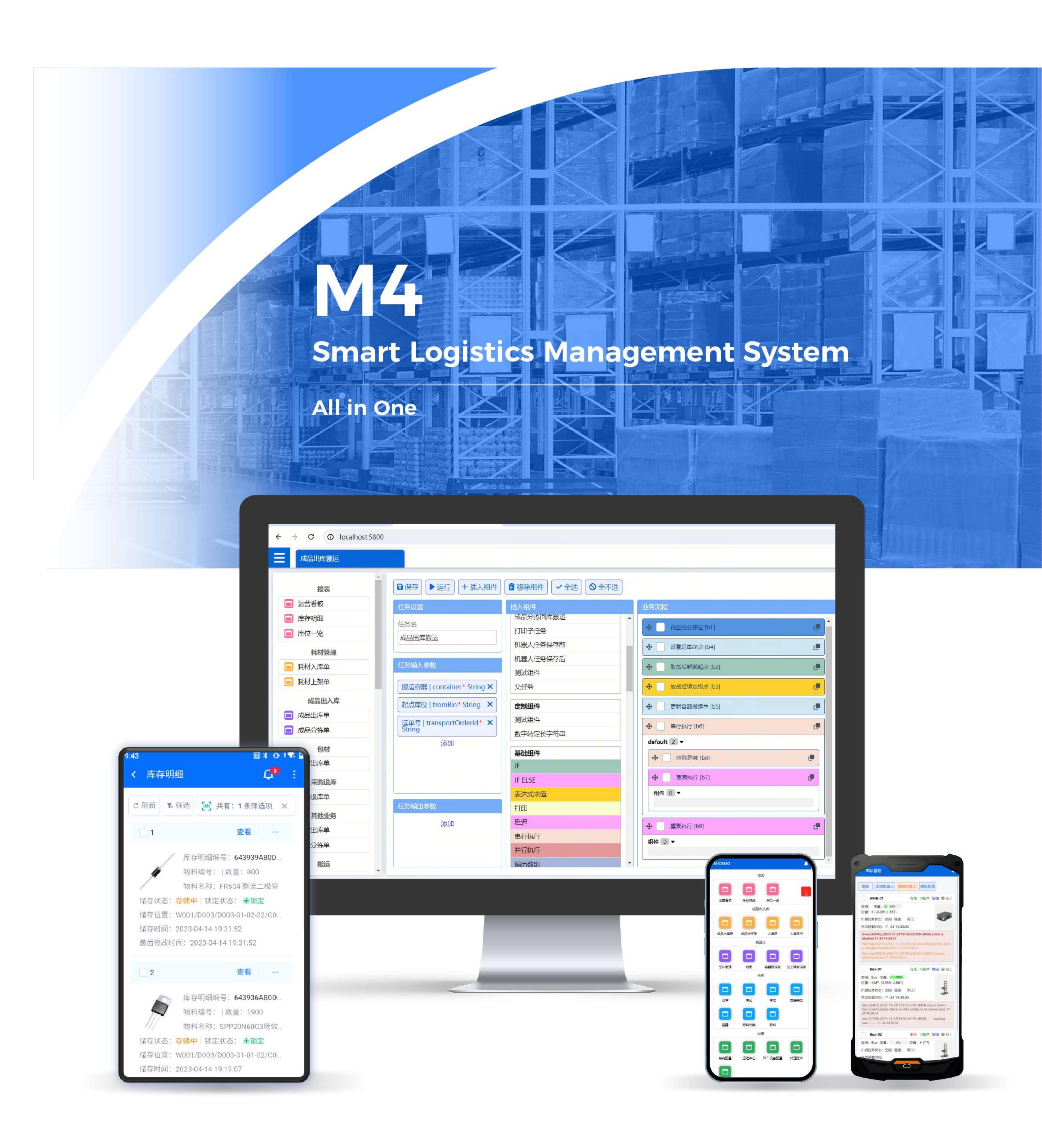


	Product model	SPK-M50J-F Series		Product model	SCL-AWG50
	Navigation type	Laser SLAM+QR code navigation			
	Pickimg method	Grab with a gripper+2D vision correction		Navigation type	Laser SLAM
	LxWxH	1700 x 1000 mm; 2000 x 1200 mm			
	Rotation diameter	1900 mm; 2200 mm		LxWxH	900 x 676 x 1080 mm
	Weight (with battery)	500 kg			
	Max. load of material bin	50 kg		Weight	140±10 kg
	Max. load of robot	300 kg			
	Backtray number	3 to 6 layers		Clean water tank capacity	34 L
Basic parameters	Suitable material bin dimensions	400 x 300 x 280 / 600 x 400 x 280 mm; 800 x 600 x 280 mm	Basic parameters	Dirty water tank capacity	34 L
	Minimum picking height	400 mm			
	Maximum picking height	4000 mm			
	Chassis ground clearance	30 mm		Network	Ethernet / Wi-Fi
	Navigation laser scanning height	249 mm			
	Ambient temperature and humidity range	TEMP: 0°C to 45°C / RH: 10% to 90%, no compression, no condensation		Noise Suitable scenarios and	< 70 dB(A) Tile floor, cement floor, stone floor
	Passability (slope / step / gap)	≤5% / 5 mm / 8 mm		ground	terrazzo floor, epoxy floor
	Minimum aisle width	1110 mm; 1310 mm			
Performance parameters	Navigation position accuracy	±5 mm		Minimum aisle width	900 mm
		Et.			
	Navigation angle accuracy	±0.5°	Performance parameters	Cleaning width	500 mm
	Driving speed	≤1.5 m/s			
	Maximum lifting speed	0.6 m/s		Cleaning efficiency	Up to 1800 m²/h
	Battery specifications	48 V / 46 Ah (lithium iron phosphate)		Driving speed	3.6 km/h
Battery	Comprehensive battery life	≥8 h		Cleaning distance along the edge	10 cm to 20 cm
parameters	Charging time (10% to 80%)	≤1.5 h		Maximum braking distance	< 20 cm (related to the groun material)
	Charging method	Automatic			
	Lidar number	1 (H1) +1 (C2)		Passibility of slope	< 8°
Configurations	E-stop button				
	Bumper strip				
	Basic functions			Battery specifications	24 V / 50 Ah (lithium iron phosph
	Wi-Fi roaming				
	Automatic charging				
Function	2D recognition for picking / placing material bin		Battery parameters	Charging time	1 h
configurations	Bar code recognition of material		parameters		
	bin Material bin detection on back tray	0			Dust push: 8 h to 10 h / Mopping:
	Material bin detection on fork	0		Comprehensive battery life	4 h
	QR code navigation	0			
	Global series	Yes		Global series	Yes
	Product series	SEER Bin Truck		Product series	SEER Cleaning Robot

Customized Ro	bots Parameter*			
StandardOptionalNone		SEER SEER	SEER	
Product name	Dual belt robot	Dual roller robot	Lifting dual belt robot	
LxWxH	800 x 560 x 835 mm	1000 x 700 x 850 mm	720 x 560 x 1150 mm	
Suitable material dimensions	/	420 x 330 mm	420 x 160 mm	
Total load	50 x 2 kg	40 x 2 kg	30 x 2 kg	
Transfer method	Single layer duel belt	Single layer duel roller	Single layer duel belt	
Docking height	750±3 mm	340±3 mm	1065±3 mm	
Lifting height	1	1	60 mm	
Lifting speed	1	/	12 mm/s	
Transfer speed	1.2 to 6 m/min (manually adjustable)	3.4 to 33.8 m/min (manually adjustable)	5 to15 m/min (manually adjustable)	
Shell color	RAL7035	RAL7035	RAL7035	
Material in-position detection	Three groups of optoelectronics for each belt	Three groups of optoelectronics for each roller	Three groups of optoelectronics for each belt	
Chassis	Based on AMB-150 series	Based on AMB-300 series	Based on AMB-150 series	

Customi	zed Robots Parame	ter*		
StandardOptionalNone		SEER	5 = EP	
Product name	Lifting roller robot	High position roller robot	Large roller robot	Composite robot
LxWxH	831 x 560 x 592.5 mm	800 x 560 x 999 mm	1000 x 1170 x 160 mm	1000 x 600 x 800 mm
Suitable material dimensions	600 x 500 mm	300 x 400 mm	900 x (650±5) mm	/
Total load	60 x 1 kg	60 x 1 kg	300 x 1 kg	/
Transfer method	Single layer single roller	Single layer single roller	Single layer single roller	Collaborative arm movements
Docking height	551±3 mm	960±3 mm	680±2 mm	/
Lifting height	60 mm	/	/	/
Lifting speed	12 mm/s	/	/	/
Transfer speed	6 to 60.8 m/min (manually adjustable)	4 to 49.9 m/min (manually adjustable)	3.1 to 22.4 m/min (manually adjustable)	/
Shell color	RAL7035	RAL7035	RAL7035	RAL7035
Material in-position detection	Three groups of optoelectronics for each roller	Three groups of optoelectronics for each roller	Three groups of optoelectronics for each roller	/
Chassis	Based on AMB-150 series	Based on AMB-150 series	Based on AMB-300 series	Based on AMB-300 series

Note: Please refer to the official website of SEER Robotics for the latest parameter information.



^{*}Navigation accuracy usually refers to the repeatability accuracy that a robot navigates to the station.

SEER Robotics QuickStore 40

Smart Logistics Management System

M4 integrates FMS, WMS, and WCS, providing a one-stop service for robot-centered automated warehousing and logistics. It meets the needs of multiple scenarios and realizes the optimal solution of task distribution, path igation, traffic control, and inventory allocation to improve the efficiency of automated logistics.

More Flexible and Easy-to-Handle



Rich Process Templates to Choose

More easier, more efficient, and out-of-the-box.



Efficient Business Flow Configurations

Through simple drag-and-drop operations to realize complex business flow configurations.



More Flexible **Customization Capability**

Open to customized development based on standard products.

Customized Interface

90% of the fields and function buttons

Configuration

can be configured as needed.



Support multiple terminals, like mobile phones, tablets, industrial control computers, etc.

More Terminals can be Used

Automated Logistics in One-step with M4



Deployment



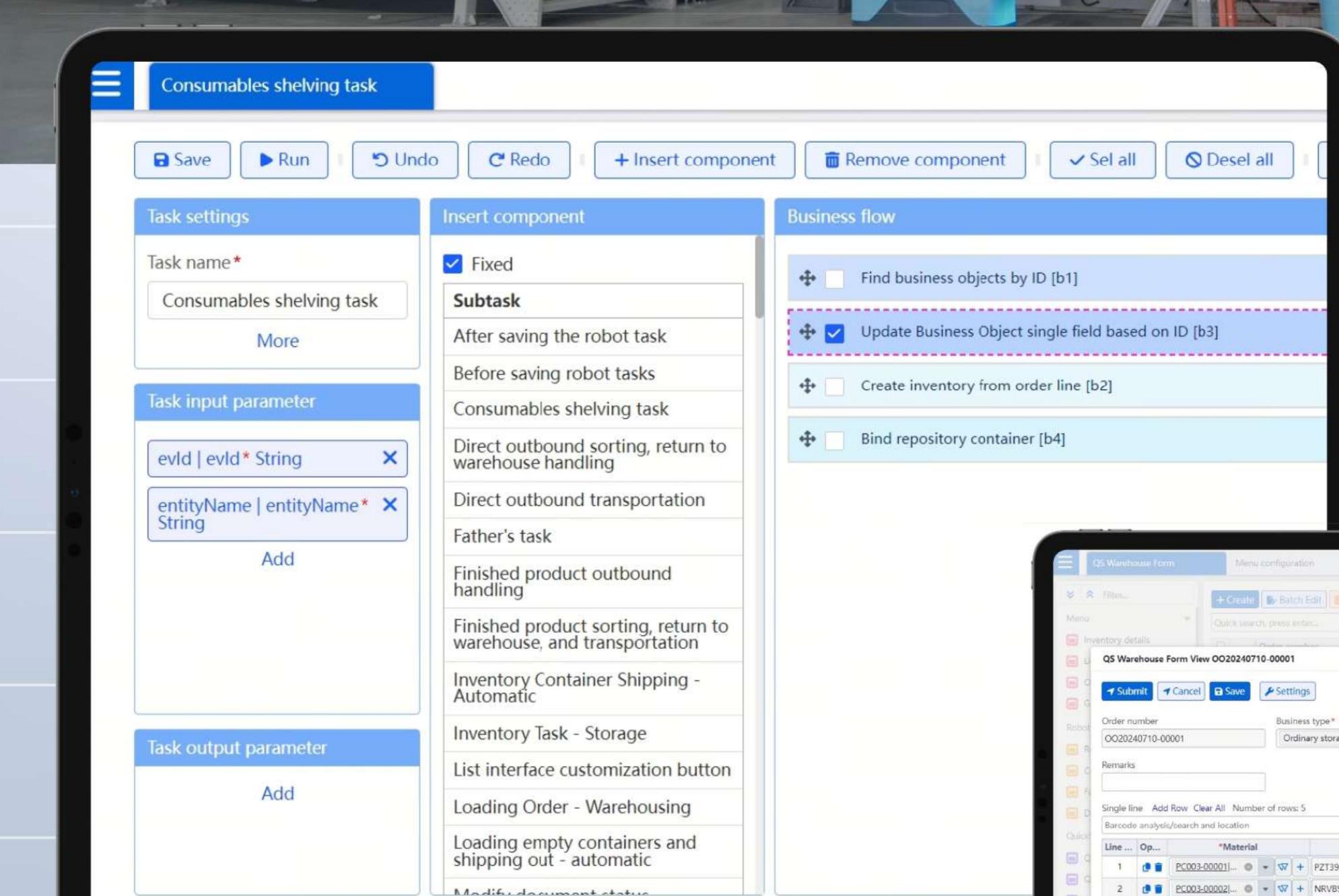
Increase Efficiency





QuickStore

QuickStore is a warehouse management system designed for automated warehouses involving mobile robots. It perfectly matches the characteristics of robots to realize "goods to people" and "goods to warehouse", thus mproving the efficiency of warehousing and distribution.



It realizes one-stop management from the inbound and outbound of raw materials and finished products to the distribution and circulation of raw materials, work-in-progress, and tools.

Bin Management

Integrated Warehouse and Distribution

The warehouse situation can be displayed in the bin overview. You can quickly view the inventory of locations, and do operations such as outbound and putaway from bin overview.

Designed for Mobile Robots

It is deeply integrated with dispatching module to optimize the overall sequence and route of putaway, avoiding congestion, empty racks, and excessive tailboxes.

Meet More Business Needs

Industrial logistics needs such as line-side warehouses, temporary storage, and material requests. It realizes battery resting, batch outbound with complete sets, and other warehouse management with business logic.

Fleet Management

Supports other brand FMS and multi-brand robot management in different areas. And support mixed-site management.

Automatic Devices Management

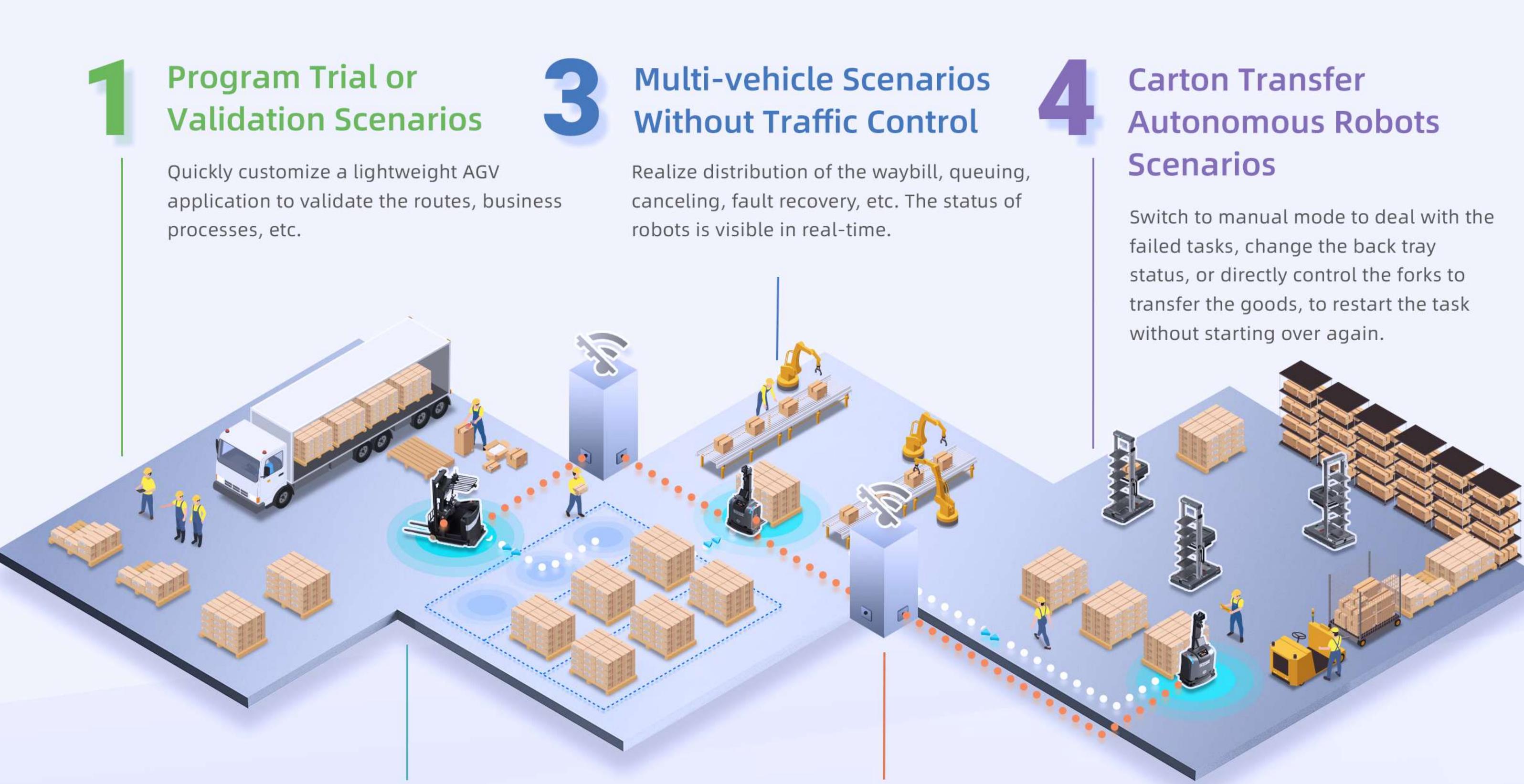
Supports integrated management of various logistics automation equipment such as stacker cranes, complex roller lines, robotic arms, packaging machines, and palletizer.

41 SEER Robotics QuickGo 2.0 42

QuickGo 2.0

Manage the robot by a cellphone to embrace intelligent robot dispatching.

QuickGo 2.0 is a smart single-vehicle dispatching solution for nulti-model robots without traffic management. No need to invest in server resources or download an application, you can quickly verify the feasibility of a fleet solution, control the movement of robots, send waybills, and handle daily troubleshooting anytime, anywhere, on cell phones, tablets, computers, and other devices.



2 Complex Scenarios of Loading, Unloading and Transport

automatically by robots.

And Transport

Network

Free switch modes to complete pick-up and

Connect the rob

Connect the robot via a data cable to check the robot's status, and faults, and control the robot's movement directly.

Single-vehicle

Scenarios Without

No need to go back and forth between on-site to the office, I can control robots just by my cellphone.

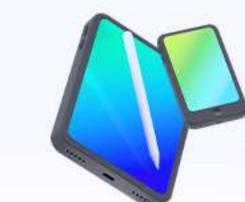
drop-off in manual mode and transport cargo



Directly installed in controller, without additional servers, or industrial controllers, with excellent value for money.



QuickGo has a virtual rocker to provide a smooth game-like vehicle control experience.



Phones, tablets, and other devices can access QuickGo by scanning the QR code or a data cable.

QuickGo 2.0







Control Vehicle Directly

Control the open-loop movement of vehicles (forklifts, lifting robot, etc.) and the assembly of robots (forklift fork, lifting, etc.).



Single-vehicle Falcon Task

Extend more scenarios with a low-code process engine to respond to business process rigidity and change risks.



Waybill of Single-vehicle

Specify multiple steps in a waybill, and specify a target point and action in each step.



Map and Path Navigation

Navigate the robots to a specific point with one-click and real-time updates on navigation progress.



Unified Interface Management

Provides a friendly interface to check real-time status about robots, waybills, navigation, etc., and manage them uniformly.



System/Equipment Integration

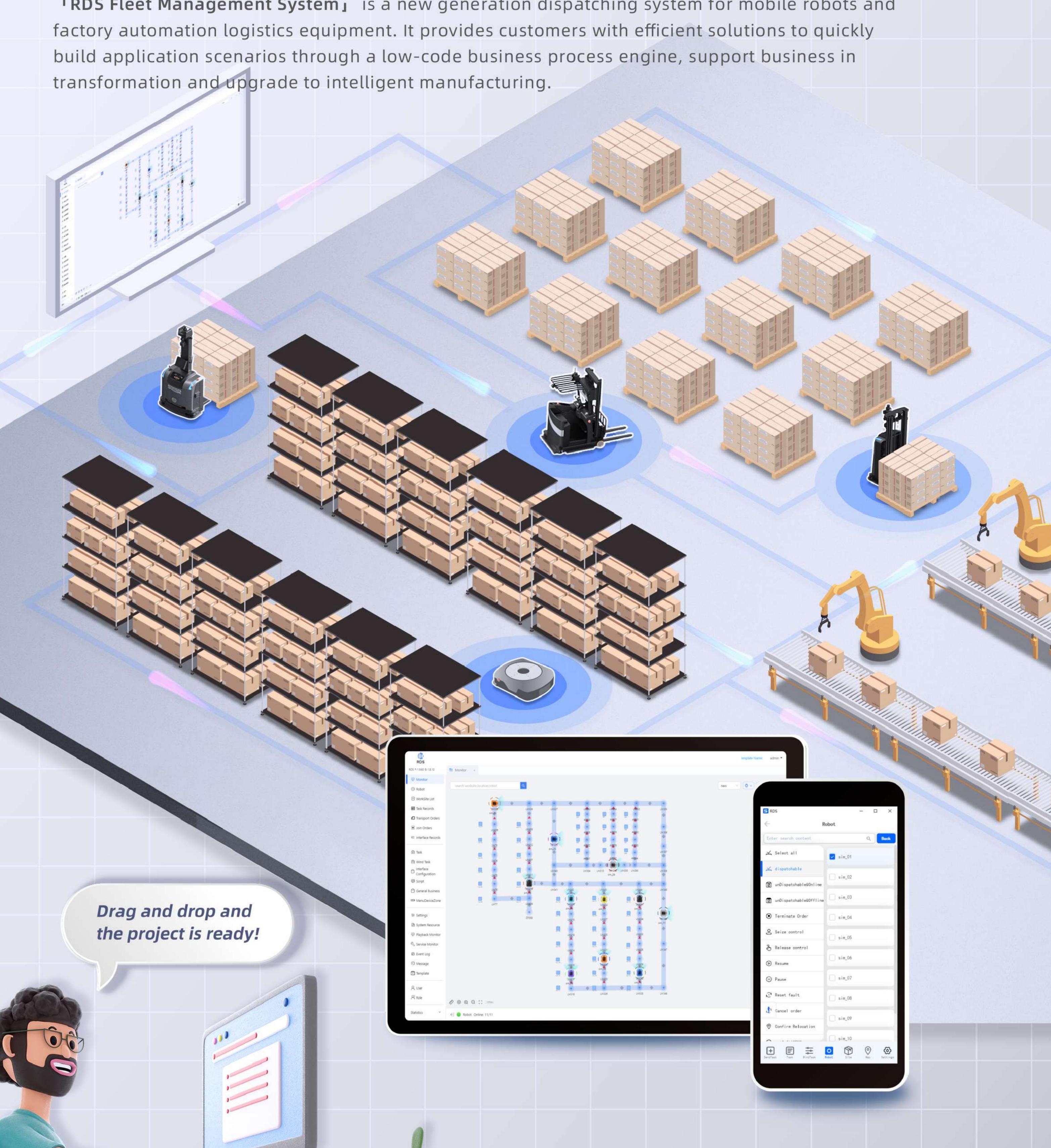
Interface with upper-level systems, like MES, WMS, WCS, etc., and interact with PLC equipment, such as roller lines, elevators, etc.

RDS 44

RDS = RCS + Indoor TMS

Fleet Management System

「RDS Fleet Management System」 is a new generation dispatching system for mobile robots and



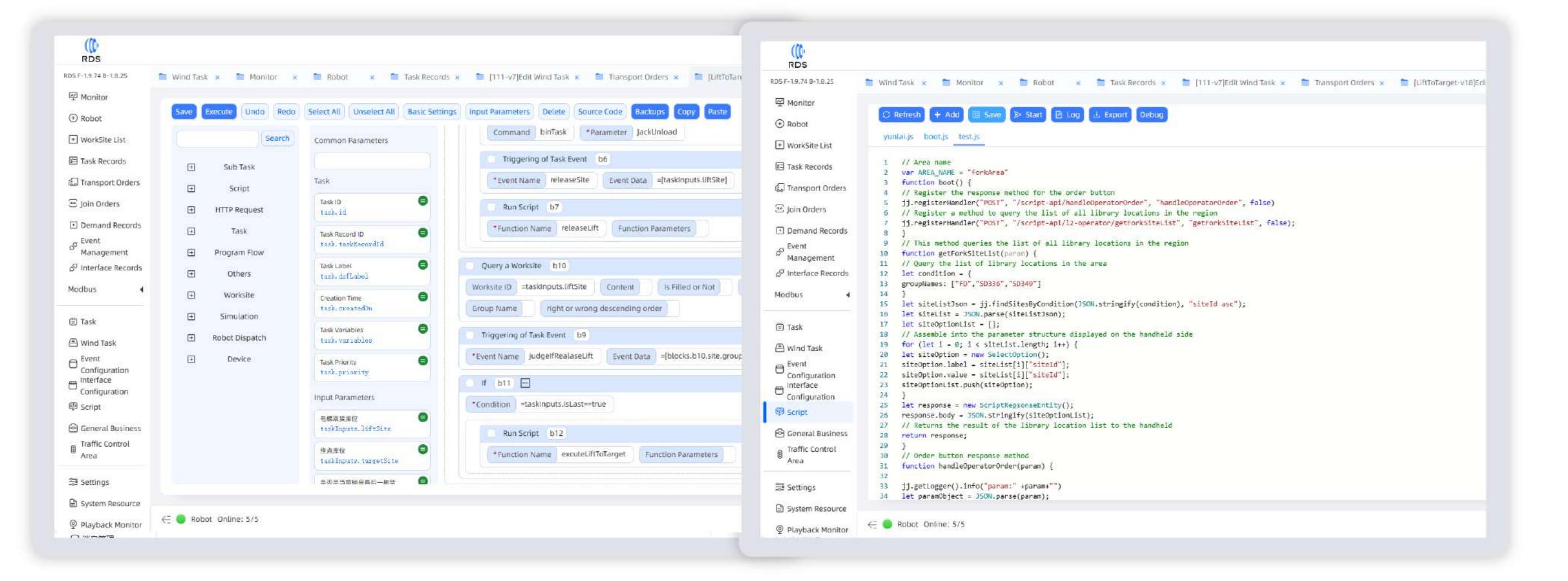
Lower Threshold of Use Driven By Low Code

Wind Task

Low-code Engine

Online Script Customisation

Sopport Secondary Development

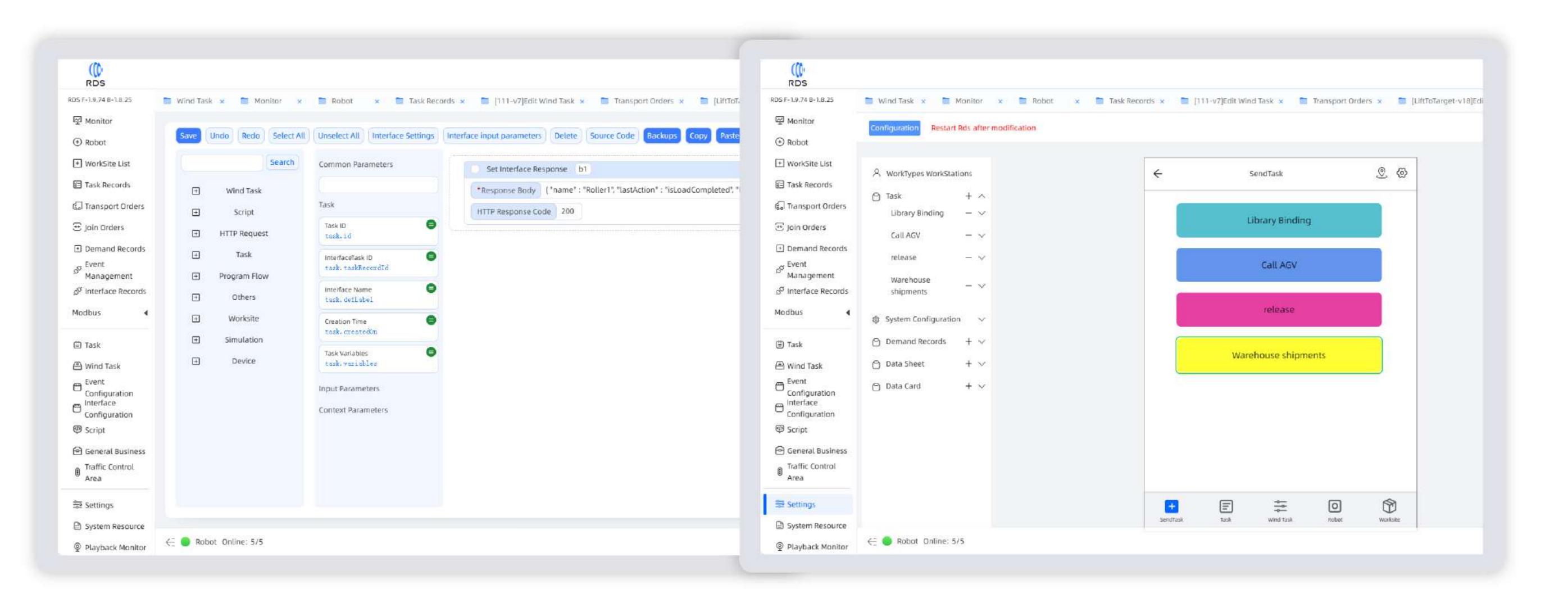


Interface Configuration

Drag-and-drop Customization of Interface Logic

Configuration Stitching

APP Interface Configuration in the Form of Component Stitching



45 SEER Robotics RDS | Fleet Management System 46

Robot Dispatch

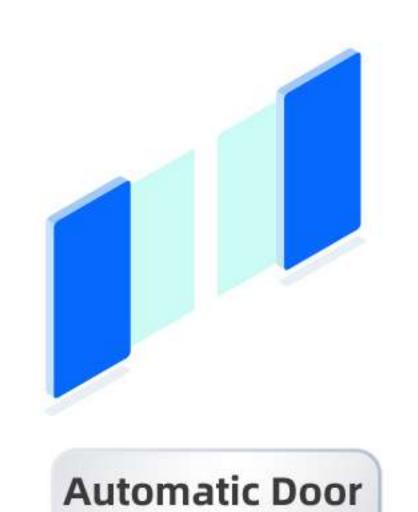
- Route Planning: Considering the physical coordinate system and shape of the robot, a directed graph-based, multi-intelligent body collaborative planning algorithm (MAPF) for path searching can prevent and unlock deadlocks.
- Transport Order-Robot Assignment: Based on an integrated evaluation function with configurable evaluation factors. Consider prioritization, directed topological distance. Consider hitch ride, pre-ordering mechanism.
 For multi-storage robots, support for merging transport orders.

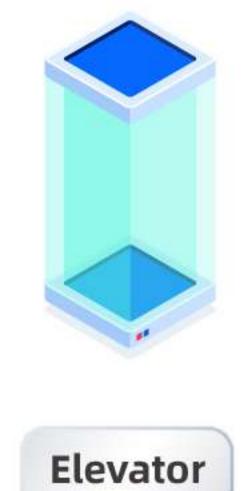
Worksite Management

- A lightweight worksite management system that is refined to the row, column, layer, and depth dimensions of the worksite.
- Configurable worksite photoelectricity, real-time synchronization of worksite status.
- Access to vision, synchronized to a large high-fidelity visualization display.
- Setting the worksite content, filling, and locking status, it is easy to realize worksite management.

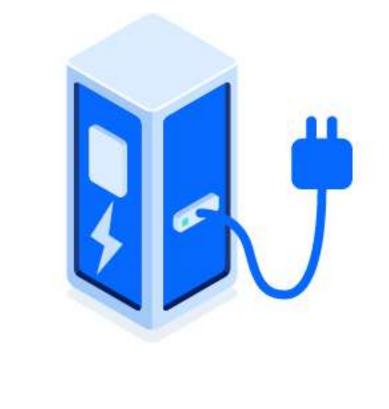
Device Management

Eliminate complex device configuration, support automatic door, pager, charger, worksite photoelectricity, electric control cabinet, elevator and other devices, user-friendly, and realize intelligent linkage with multiple devices.

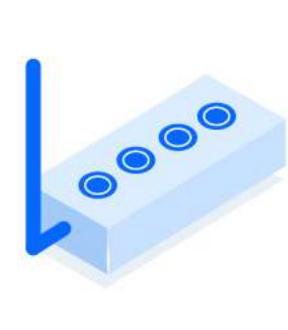








Charger



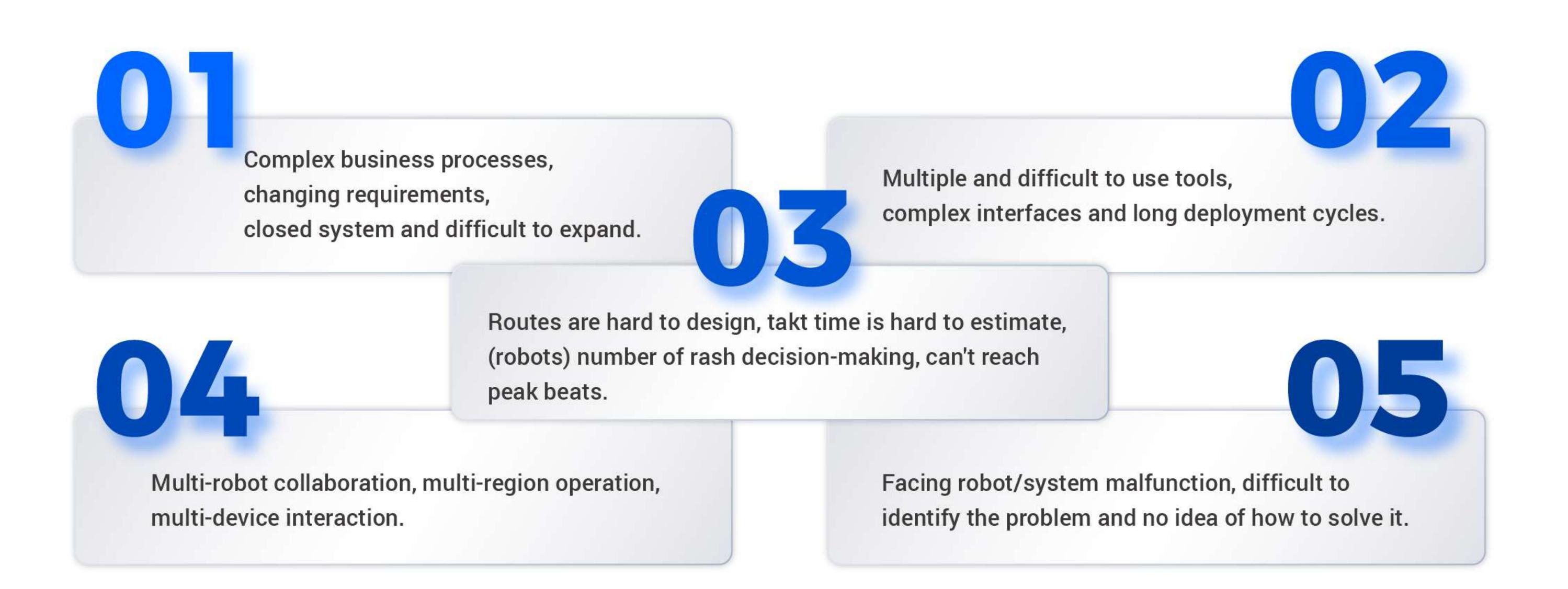
Electric Control Cabinet

Pager

Just Six Steps! RDS Helps Projects Launch Quickly



Solve the Following Pain Points for Users



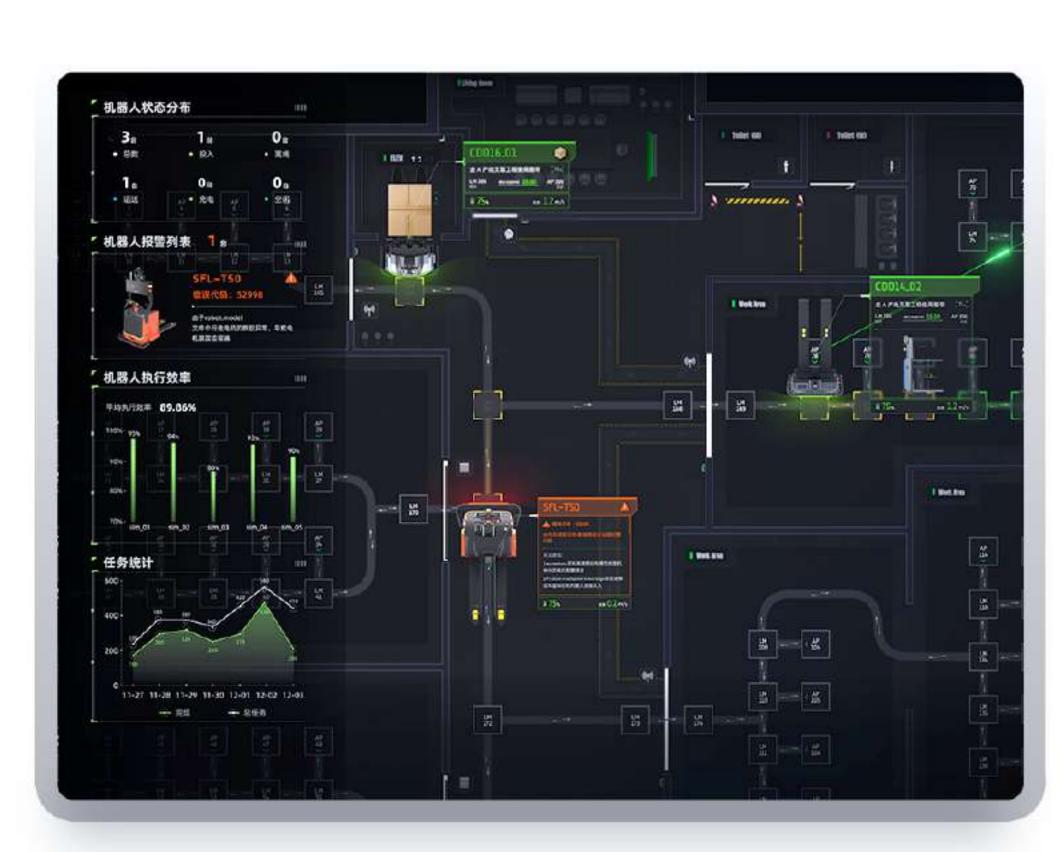
RDS - Fleet Management System Proven Over Thousands of Projects



Visualization Product Series

Visualization Product Series are designed with data visualization technology at its core, specifically tailored for the intelligent digitalization of factories. By faithfully replicating factory scenes, these products achieve real-time monitoring of robot status and task sequences, accurately display bins and cargo information, and present task data from multiple dimensions. Additionally, they provide alert and anomaly notification functions, with millisecond-level real-time data response, allowing users to instantly grasp the overall situation.

Based on the functionalities of the aforementioned visualization products, they meet various scenarios such as enterprise presentations, brand promotion, factory monitoring, process supervising, task focus, on-site management, anomaly alerts, and maintenance management. They also offer high-quality solutions for visualization map and digital twin, aiming to assist enterprises in building efficient visual information platforms.



Meta-Map

Robot Visualization Map



Meta-Map Pro

3D Robot Visualization Map



Meta-World

3D Digital Twin



Digital Twin

Precision Replication at 1:1 Scale

Cinematic Style

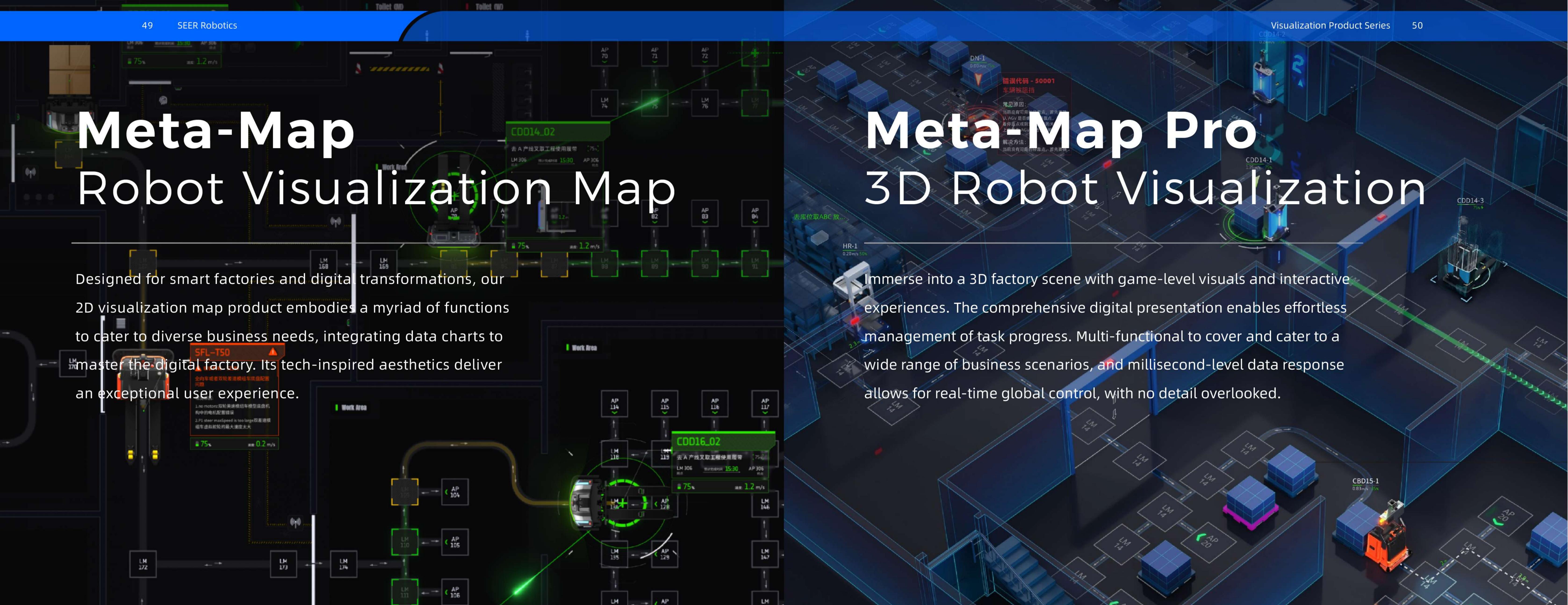
Cutting-Edge Visual Effects

Intelligent Monitor

Real-Time Data Response

Digital Immersion

A Gamified Interactive Twin Factory



Full dynamic monitoring

Rapid response to on-site management and AMR maintenance

Global scene avisibility

2D map presentation form, intuitively displaying the overall environment

Comprehensive digital logistics

Creating 3D scenes to meet multi-dimensional needs such as brand promotion and business monitoring

Interactive 3D simulation

Provides a brand-new immersive gaming visual and interaction experience

Real-time data feedback

Robot status is displayed in real-time through legend information

Target precise locking

Focus on the robot itself, with clear visibility of its status throughout the process

Fine-grained business flow restoration

360° restoration of robot movement details during operation, including cargo handling

Full linkage visualization monitoring

Real-time display of robot task chains, intuitively reflecting real-time progress of tasks

Case Studies 52

Case Studies





Painpoints & Requirments

FAW Volkswagen & FAW Logistics is engaged in the r&d and manufacturing of automotive electronic and components. Under the development of intelligent logistics, it is urgent to solve the problem of material transportation in warehouses and workshops.



Implementation Result

Robots replace manual handling, freeing up manpower and greatly reducing the labor cost of the enterprise. It is effectively connected with the MES system to promote the automation and intelligence of the workshop.



Solution Components

- Laser SLAM smart handling forklift
- Roboshop one-stop implementation tool
- Automatic Charging Station
- RDS Unified Resource Dispatching System



Challenge & Solution

Challenge: The laser sensor used for navigation is installed at a high position, and it is difficult to detect an obstacle in a low position.

Solution: Add additional laser scanners at low positions for safety protection through multi-sensors.







Painpoints & Requirments

With the increasing number of orders and the growth of freight volume, the Meishan Free Trade Port Zone Warehouse Center has increased the workload of personnel based on the traditional management mode, and is in urgent need of reducing labor costs and improving work efficiency and accuracy.



Implementation Result

SFL-CDD14 completes goods turnover transportation and connects with the vertical storage; RDS serves as the nerve center for facilitating robotic traffic control and task allocation. Engage with our intuitive task management interface, allowing users to monitor mission status or exceptions, ensuring complete control over business progress.



Solution Components

Roboshop one-stop implementation tool

- Laser SLAM Small Stacker
- Autonomous Forklift SFL-CDD14
- Automatic Charging Station
- ▶ RDS Fleet Management System



Highlight

The overall operation of AMR and the dispatching system not only reduces the burden of manual work, but also significantly improves the accuracy and efficiency of order execution in the Meishan Free Trade Port Warehouse Center of Sinotrans Logistics Ningbo Co., Ltd. and receives a high score of satisfaction from customers.



SEER Robotics Case Studies 54







Painpoints & Requirments Solution Components

A leading 3C electronics company, addressing challenges such as low transport efficiency and high labor expenses, sought to increase its shipping speed and reduce labor costs, adopting a smarter and more flexible production line circulation.

Implementation Result (Challenge & Solution

Our solutions have successfully tackled the challenge of stacking multiple types of products, greatly enhancing shipping efficiency and optimal use of truck space, leading to significant cost savings and heightened factory benefits, facilitating the smart and automated factory upgrade.

- Laser SLAM AMR Chassis
- Laser SLAM Autonomous Pallet Truck
- RDS Fleet Management System
- Machine Vision Bin Management

Stacking the finished goods pallets of specified models. There are 4 types of finished goods on-site that need to be stacked in 2 patterns (2+2+1 and 1+1) without mixing different goods. Pallet unloading ends and connecting ends are differentiated by type to prevent mixing; During stacking, our machine vision bin management. system nizes goods to ensure stacking accuracy.

Painpoints & Requirments Solution Components

Hilti, a giant in the power tool industry, faces limited space on the production floor and a variety of complex materials, so it urgently needs to replace manual handling with intelligent logistics to improve production efficiency.

Implementation Result (Challenge & Solution

It allows the transportation between the production line storage area and the warehouse, the transportation between the warehouse and the shipping port, and the automatic warehouse management at night. Reduce labor costs and greatly improve handling efficiency.

- Laser SLAM Autonomous Pallet Truck SFL-MP10S
- Automatic charging Station
- RDS Fleet Management System
- Dispatching server
- Visualization Product Series data visualization system
- Roboshop one-stop implementation tool

Challenge: Small space between stations, single executable track, diverse materials, complex call task logic.

Solution: Plan the optimal station layout and AMR travelling routes systematically and in detail to maximize efficiency; use RDS system to customize a call system for scenarios to achieve complex call tasks.

Painpoints & Requirments Solution Components

The composite robot is needed for building the exhibition hall of Siemens Industrial Innovation Center, where a variety of products such as Siemens smart speaker and driving recorder are displayed.

- Laser SLAM AMR Chassis
- Roboshop one-stop implementation
- Automatic Charging Station
- RDS Fleet Management System

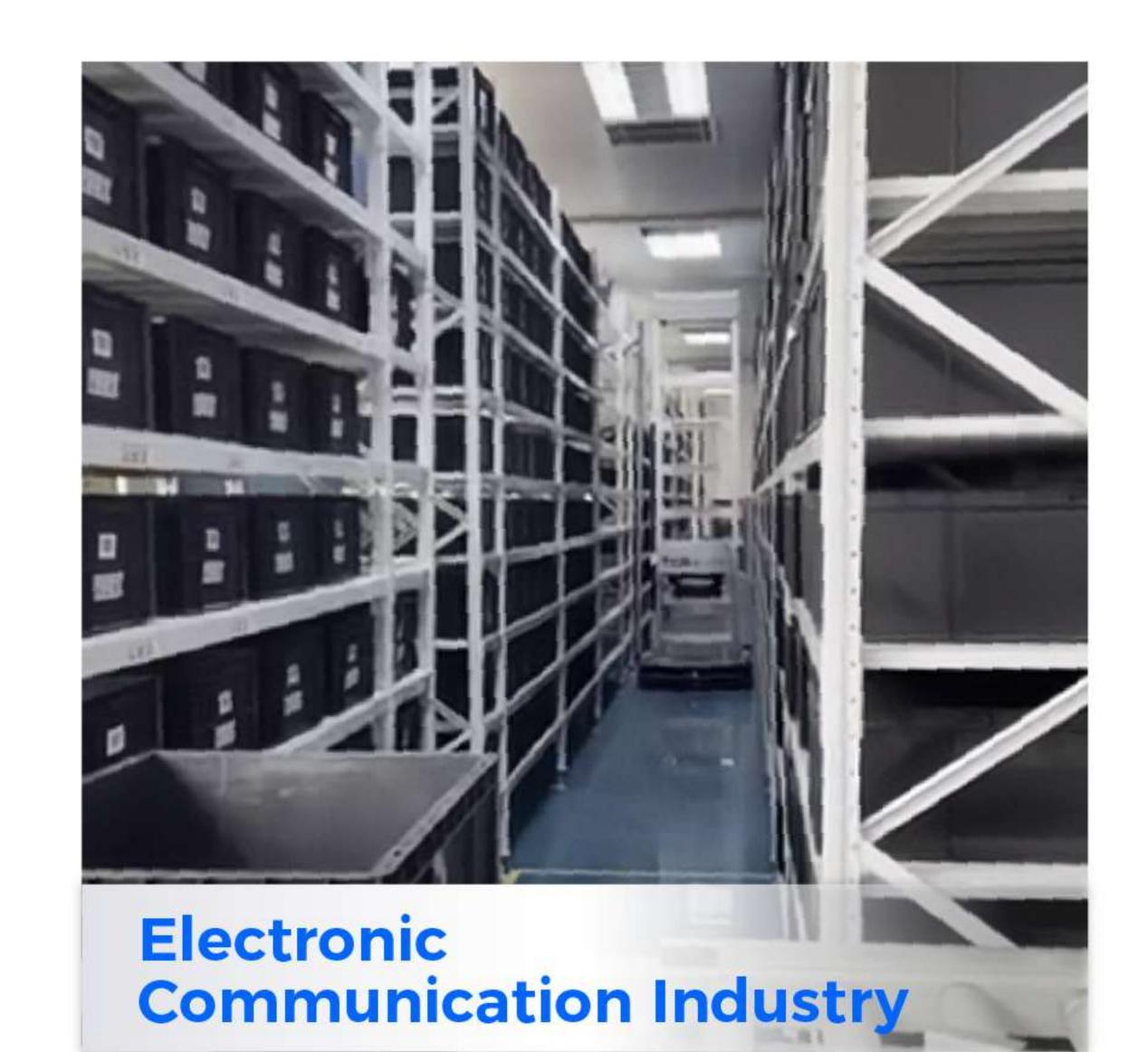
Implementation Result

The arm and base work together flexibly and precisely with each station to automate the whole process, which avoids the risk of manual misoperation and demonstrates Siemens' efficient and intelligent technology.

Highlight

SEER Robotics' AMB + RDS work with intelligent arm + MES system, providing an intelligent, integrated solution for the exhibition hall of Innovation Center, building a digital showcase platform that is easy to deploy and fast to implement.







Painpoints & Requirments Solution Components

Luyuan Zhejiang complete-vehicle manufacturing base, with an area of 53,000 square meters, faces scattered parts distribution, and needs intelligent logistics to help this nation's largest electric vehicle assembly workshop reach its daily production target of 10,000 units!

- ► Laser SLAM Autonomous Pallet Truck SFL-MP10S
- Automatic charging Station
- RDS Fleet Management System
- Roboshop one-stop implementation tool

Quickly handle corresponding materials to ensure accurate, on-time, and safe delivery to the corresponding stations, significantly reducing costs and improving handling efficiency. Help Zhejiang complete-vehicle manufacturing base achieve the annual output target of 2 million units!

Luyuan, which has development capabilities, uses the independent development and implementation mode to have its engineers complete the entire secondary development of the upper system, the entire deployment, debugging and implementation of the project, with remote assistance by SEER Robotics' engineers.

Painpoints & Requirments Solution Components

Complex and dense stereoscopic warehouse is a great burden for operators, resulting in low efficiency and error-prone. Customers are in urgent need of intelligent stereoscopic warehouse transformation to achieve an intelligent and information-based warehouse, thereby enhancing operational efficiency.

Implementation Result (Challenge & Solution

It records warehouse material information in real time, allows for instant, flexible outbound and inbound, has access to the warehouse, line-side, and automates the entire process, avoiding the risk of manual misoperation.

- > SPK-HAI-A42-7 laser SLAM multi-layer picking robot M4 QuickStore
- Automatic charging Station
- Roboshop one-stop implementation

Challenge: Basically no network coverage on site; densely arranged storage locations; high accuracy requirements for delivery in place. Solution: Connect Picking Robot to M4 QuickStore through DMS optical communication. It reduces the size error of the stereoscopic warehouse. AMR will be upgraded to pick and place containers more

Painpoints & Requirments Solution Components

A multinational company engaged in the production and processing of pneumatic components wants to free up manual labor with robots to address the challenge of having to frequently transfer semi-finished products from one processing site to

another.

Implementation Result (Challenge & Solution

It frees up manpower, gives technicians more time and energy to invest in product development and testing, improves workshop productivity, reduces error rate, and enhances workshop automation.

- Lifting robot
- Lifting roller robot Automatic charging Station
- Ground roller line
- RDS Fleet Management System
- Roboshop one-stop implementation

Challenge: Different roller line heights in the workshop; high turnover rate of personnel in the workshop; prone to collisions.

Solution: Use AMB-based Lifting roller robot to adjust roller height and complete connection between production lines; use dual laser mobile robots for 360° inspection to prevent collisions.

