

B E Y O N D B O R D E R S



# AgileX Robotics



## Product Catalog V-1



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## AGILEX

# Robotics Platforms for Mobile Robots and Embodied Intelligence

Founded in 2016, AgileX Robotics develops advanced mobile robot platforms that enable robotics research and embodied AI development.

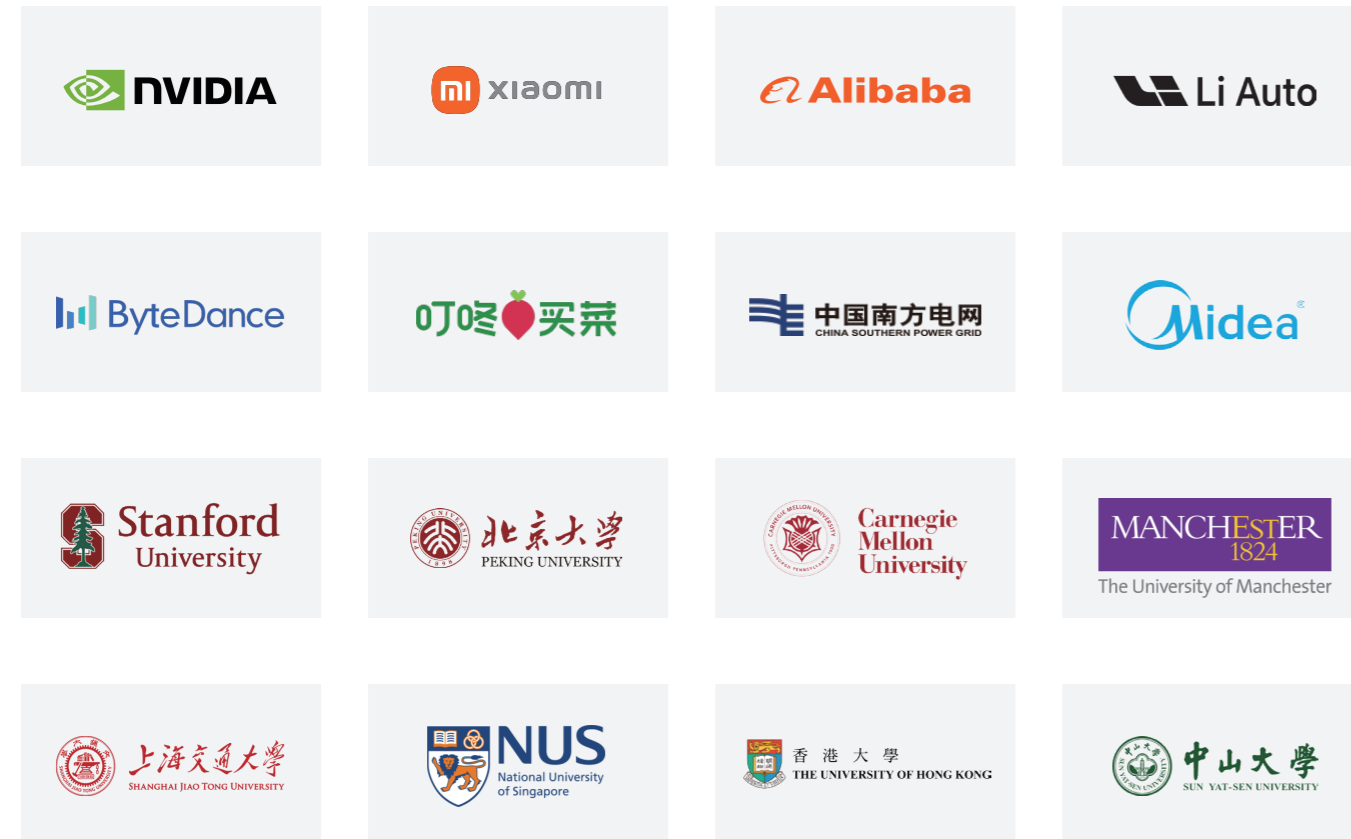
At the core of AgileX technology is a self-developed multi-modal mobile chassis architecture, supporting an expanding portfolio of robotic systems including mobile bases, robotic arms, data collection devices, and collaborative robots.

By working closely with global developers and contributing to open-source ecosystems such as ROS and Hugging Face, AgileX helps to bridge the gap between robotics research and real-world intelligent systems.

# ABOUT US

# Global Ecosystem Partners

AgileX Robotics maintains long-term partnerships with global universities, research institutions, integrators, and developer communities. We co-innovate in mobile robotics, navigation, and embodied intelligence applications to drive solution validation, large-scale deployment, and faster transition from lab experiments to real-world use.



For different customer types, AgileX enables efficient selection and precise deployment:

## Innovation Teams

Flexible, scalable mobile robot platforms supporting multi-sensor fusion and rapid algorithm deployment for prototype validation.

## Academic & Research

Embodied intelligence platforms with mainstream hardware/software interfaces, full ROS support, and autonomous navigation for cutting-edge research.

## End Users

Reliable, rapidly deployable solutions for security patrol, logistics, agriculture, and more, enabling efficient, large-scale adoption.

# Quality & Compliance Assurance

Guided by engineering reliability, AgileX has built a quality system spanning R&D, manufacturing, and delivery. Combined with standardized testing and compliance evaluation, we ensure long-term stable operation of products in complex working conditions, delivering greater reliability to users.

## Rigorous Reliability Testing

All mobile robots undergo temperature cycling, vibration, dust, and water resistance tests to validate long-term stability of key components and systems.

## Safety & Compliance Evaluation

Products adhere to safety and EMC standards, with CE and other certifications to ensure electrical and system safety.

## Lifecycle Quality Control

We maintain an ISO 9001 quality management system covering R&D, sourcing, production, testing, and delivery for consistent, traceable quality.

\*The above is an overview of AgileX systems and processes. Specific test conditions, applicable standards, and compliance scope are subject to the corresponding product models and delivery documents.



# Product Selection Guide

Mobile Robot Chassis Series				
Product Model	Motion Mode	Rated Payload(kg)	Max Speed	Size (L*W*H mm)
SCOUT 2.0	Four-wheel Differential Drive	50	1.67 m/s	930*699*337
SCOUT MINI	Four-wheel Differential Drive	10 (Standard Wheel) 20 (Mecanum Wheel)	1.5 m/s	612*580*245
HUNTER 2.0	Ackermann Steering	150	1.5 m/s	980*745*380
HUNTER SE	Ackermann Steering	50	4.8 m/s	820*640*310
BUNKER PRO 2.0	Tracked Differential Drive	120	1.5 m/s	1080*785*470
BUNKER MINI 2.0	Tracked Differential Drive	25	1.0m/s	690*570*335
RANGER	4WD OMNI	150	2.6 m/s	1228*876*520
RANGER MINI 3.0	4WD OMNI	120	2.0 m/s	720*500*345
RANGER AIR (Standard)	4WD OMNI	80	1.5 m/s	552*500*250
RANGER DELTA (Standard)	3WD OMNI	80	1.5 m/s	552*500*250
UMR	4WD OMNI	80	1.5 m/s	820*520*460
TRACER 2.0	Two-wheel Differential	150	2.0 m/s	702*585*169
TRACER Navigation	Two-wheel Differential	250	2.0 m/s	800*580*264

ROS Education Robot Selection Guide				
Product Model	Motion Mode	Control unit	Max Speed	Open Source
LIMO PRO	4WD/Ackermann/ Tracked/Mecanum	Orin Nano\2D LiDAR\Depth Camera	1.0 m/s	ROS1/ROS2
LIMO COBOT	4WD/Ackermann/ Tracked/Mecanum	Orin Nano\2D LiDAR\Depth Camera	1.0 m/s	ROS1/ROS2

Robot Arm Selection Guide				
Product Model	DoF	Rated Payload(kg)	Repeatability(mm)	Reach(mm)
PIPER	6-DoF	1.5	±0.1	626
PIPER-X	6-DoF	1.5	±0.1	669
PIPER-L	6-DoF	1.5	±0.1	750
PIPER-H	6-DoF	2	±0.1	636
NERO	7-DoF	3	±0.1	580

Embodied AI Platform Selection Guide			
Product Model	Structure	Rated Payload(kg)	Repeatability(mm)
PiKA Data Collection Kit	Handheld Two-Fingered Gripper	2 (force)	±1.5

# Flexible Payload, Unbounded Exploration

Covers differential, tracked, 4WD/4WS and Ackermann platforms for research, logistics and industrial automation. They support rapid integration of sensors and upper-level software systems, enabling efficient secondary development.

## 1 Differential Chassis

SCOUT MINI  
SCOUT 2.0  
TRACER 2.0  
TRACER Navigation

## 2 Tracked Chassis

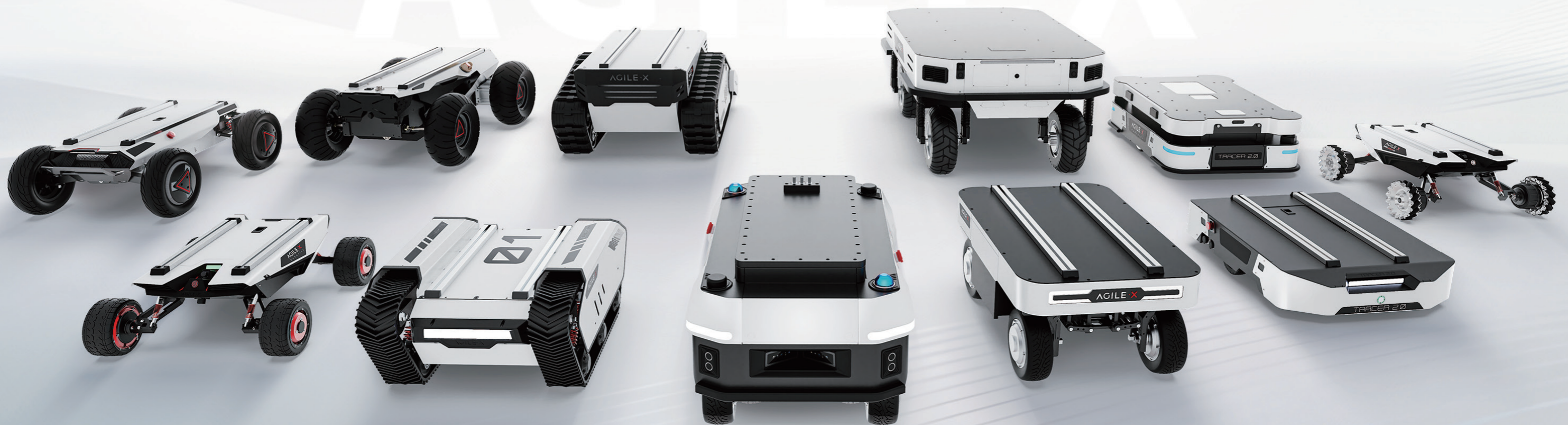
BUNKER MINI 2.0  
BUNKER PRO 2.0

## 3 Omnidirectional Chassis

RANGER MINI 3.0  
RANGER  
RANGER AIR/DELTA  
UMR

## 4 Ackermann Chassis

HUNTER 2.0  
HUNTER SE



## Multiple Drive Options

Differential / Tracked / Omnidirectional / Ackermann steering

## Open Integration

Standard interfaces for quick sensor integration. Fast sensor and software integration for secondary development

## Engineering Reliability

Tested for long-term operation and project delivery.

# SCOUT MINI

Four-Wheel Drive Differential Mobile Robot

ROS

ROS2



**360°** 4WD Mobility  
360° Rotation

**Motor Performance**  
Max 1.5m/s

**Research Ready**  
Multi-Sensor Support

\*The main image shows the off-road SCOUT MINI with selectable tire types for different applications.

# SCOUT 2.0

Four-Wheel Drive Differential Mobile Robot

ROS

ROS2



**Off-Road 4WD**  
Independent Suspension

**50kg** Payload  
Up to 50 kg

**Open Platform**  
Supports Sensor Integration

## SCOUT MINI | SLAM / Navigation Algorithm Validation / Autonomy

A high-speed differential mobile robot with all-terrain capability, featuring independent suspension and four-wheel drive, a compact design that adapts to confined spaces and designed for cutting-edge robotics experiments.

### PARAMETERS

<b>Steering</b>	Four-wheel differential	<b>Battery</b>	24V15Ah
<b>Size</b>	612*580*245mm	<b>Runtime</b>	1h/8km (Full load)
<b>Weight</b>	23kg (± 0.5kg)	<b>Suspension</b>	Trailing Arm Independent Suspension
<b>Payload</b>	10kg (Off-road) 20kg (Mecanum wheel)	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	1.5m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	20° (off-road) 10° (Mecanum)	<b>IP Rating</b>	IP22
<b>Obstacle</b>	40mm (Off-road) 30mm (Mecanum)	<b>Communication</b>	Standard CAN

## SCOUT 2.0 | Inspection / Patrolling / Material Handling

A four-wheel differential chassis built for complex environments. It provides strong off-road capability, stable payload performance, and flexible integration for sensors and custom modules.

### PARAMETERS

<b>Steering</b>	Four-wheel differential	<b>Battery</b>	24V30Ah; 24V60Ah
<b>Size</b>	930*699*337mm	<b>Runtime</b>	2.5h/15km (24V30Ah) 5h/30km (24V60Ah)
<b>Weight</b>	67kg (±1kg)	<b>Suspension</b>	Four-wheel Independent Suspension
<b>Payload</b>	50kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	1.67m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	30° (Full load)	<b>IP Rating</b>	IP22 (IP44/64 Optional)
<b>Obstacle</b>	110mm	<b>Communication</b>	Standard CAN

# TRACER 2.0

Two-Wheeled Differential Mobile Robot

ROS

ROS2



**150kg** High Payload  
Up to 150 kg

**Long Runtime**  
Up to 9h (no load)

**Differential Drive**  
Stable Transport

# TRACER Navigation

Two-Wheeled Differential Mobile Robot

Optional Upper Kit



ROS

ROS2



**Autonomous Navigation**  
SLAM Built-In

**Dynamic Avoidance**  
Lidar & Vision

**250kg** Payload Capacity  
Up to 250 kg

## TRACER 2.0 | Indoor Logistics / Production Line Handling

A high-payload two-wheel differential AGV designed for indoor logistics and research use. It delivers long runtime, efficient deployment, and modular expansion capability.

### PARAMETERS

<b>Steering</b>	Two-wheel differential	<b>Battery</b>	24V30Ah
<b>Size</b>	702*585*169mm	<b>Runtime</b>	3.5h/25km (Full Load)
<b>Weight</b>	54kg-56kg	<b>Suspension</b>	Swing Arm Non-independent Suspension
<b>Payload</b>	150kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	2m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	8°	<b>IP Rating</b>	IP22
<b>Obstacle</b>	10mm	<b>Communication</b>	Standard CAN

## TRACER 2.0 Navigation | R&D Experiments / Heavy-Duty Handling

TRACER 2.0 Navigation version is an intelligent mobile platform integrating autonomous navigation and multi-sensor fusion. The system is ready to use, enabling high-precision mapping, path planning, and obstacle avoidance.

### PARAMETERS

<b>Steering</b>	Two-wheel differential	<b>Battery</b>	48V24Ah
<b>Size</b>	800*580*264mm	<b>Runtime</b>	7h/10km(Full load)
<b>Weight</b>	100kg	<b>Suspension</b>	Rocker-Arm Suspension (Rear)
<b>Payload</b>	250kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	2m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	8°	<b>IP Rating</b>	IP22
<b>Obstacle</b>	10mm (Full load)	<b>Communication</b>	Standard CAN

\* Optional Auto-Charging Dock

# BUNKER MINI

Small Tracked Mobile Robot

ROS

ROS2



**IP67** Tracked Platform  
IP67 Rated

**Compact Mobility**  
Tight-Space Access

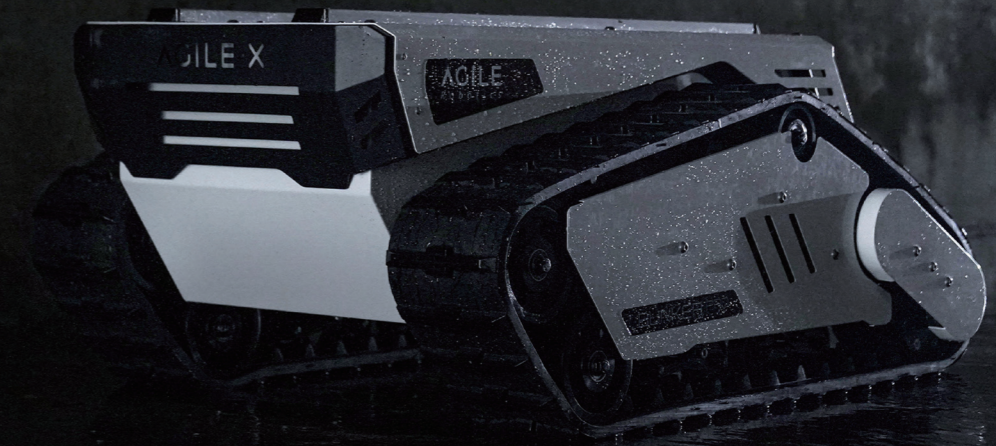
**Climbing Ability**  
Off-Road Ready

# BUNKER PRO

All-Terrain Tracked Mobile Robot

ROS

ROS2



**IP67** Tracked Platform  
IP67 Rated

**Rugged Tracks**  
All-Terrain

**120kg** Payload Capacity  
Up to 120 kg

## BUNKER MINI 2.0 | Pipeline / Indoor Inspection

This compact, small-sized tracked robot features IP67 protection, inheriting the off-road capabilities of the BUNKER series with powerful climbing and off-road capabilities. It can easily carry various detection equipment.

### PARAMETERS

<b>Steering</b>	Tracked differential	<b>Battery</b>	24V30Ah; 24V60Ah
<b>Size</b>	690*570*335mm	<b>Runtime</b>	1.5h/5km
<b>Weight</b>	56kg	<b>Suspension</b>	Christie Suspension
<b>Payload</b>	25kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	1m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	10° (Full Load)	<b>IP Rating</b>	IP67
<b>Obstacle</b>	100mm(Full Load)	<b>Communication</b>	Standard CAN

## BUNKER PRO 2.0 | Inspections / Heavy-Duty Transportation

This high-performance tracked robot features a Christie suspension system combined with a Matilda four-wheel balanced suspension and reinforced shock absorption. It boasts excellent off-road capability, shock resistance, and wading ability.

### PARAMETERS

<b>Steering</b>	Tracked differential	<b>Battery</b>	72V50Ah
<b>Size</b>	1080*785*470mm	<b>Runtime</b>	2.5h/15km (Full Load)
<b>Weight</b>	225kg	<b>Suspension</b>	Christie + Four-Wheel Balanced Suspension
<b>Payload</b>	120kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	1.5m/s	<b>Temperature</b>	-20~60°C
<b>Climb</b>	25°(Full Load)	<b>IP Rating</b>	IP67
<b>Obstacle</b>	150mm (Full Load)	<b>Communication</b>	Standard CAN

\* Optional Auto-Charging Dock

# RANGER MINI 3.0

Small Omnidirectional Mobile Robot

ROS

ROS2



**4WD/4WS System**  
Omnidirectional Drive

**120kg Payload Capacity**  
Up to 120 kg

**Compact Platform**  
Flexible Deployment

# RANGER

Omnidirectional Mobile Robot

ROS

ROS2



**4WD/4WS System**  
Omnidirectional Drive

**150kg Payload Capacity**  
Up to 150 kg

**Battery System**  
Hot-Swappable

## RANGER MINI 3.0 | Smart Delivery / Indoor / Outdoor Research

This omnidirectional chassis features an integrated drive and steering design with independent drive modules, offering multiple motion modes. It adapts to various complex indoor and outdoor road conditions and steering maneuvers.

### PARAMETERS

<b>Steering</b>	Four-wheel drive, four-wheel steering	<b>Battery</b>	48V24Ah
<b>Size</b>	720*500*345mm	<b>Runtime</b>	3h/15km(Full Load)
<b>Weight</b>	73kg	<b>Suspension</b>	Independent Suspension
<b>Payload</b>	120kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	2m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	20°	<b>IP Rating</b>	IP54
<b>Obstacle</b>	75mm	<b>Communication</b>	Standard CAN

\* Optional Auto-Charging Dock; Optional version: Added mechanical remote control brake

## RANGER | Logistics / Delivery / Engineering Surveys

This high-payload omnidirectional chassis features independent drive modules integrating driving, steering, and suspension. It supports hot-swappable batteries and is compatible with common sensors and software platforms.

### PARAMETERS

<b>Steering</b>	Four-wheel drive, four-wheel steering	<b>Battery</b>	48V24Ah (Up to 4 batteries)
<b>Size</b>	1228*876*520mm	<b>Runtime</b>	2h/20km(Full load)
<b>Weight</b>	100kg	<b>Suspension</b>	Independent Suspension
<b>Payload</b>	150kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	2.6m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	20° (Full Load)	<b>IP Rating</b>	IP55
<b>Obstacle</b>	100mm (Full Load)	<b>Communication</b>	Standard CAN

\* Optional Auto-Charging Dock

# RANGER AIR/DELTA

Highly Flexible Steering Mobile Robot



ROS

ROS2

**Independent Drive**  
Omnidirectional Steering

**High Mobility**  
Indoor Precision Control

**Mobile Base**  
Humanoid Robotics

# UMR

Universal Mobile Robot

ROS

ROS2



**4WD/4WS System**  
Omnidirectional Drive

**80kg Payload Capacity**  
Up to 80 kg

**Industrial Platform**  
Multi-Sensor Integration

## RANGER AIR/DELTA | Warehousing / University Research

A high-speed differential mobile robot with all-terrain capability, featuring independent suspension and four-wheel drive, a compact design that adapts to confined spaces and designed specifically for cutting-edge scientific experiments.

### PARAMETERS

<b>Steering</b>	4WD, 4WS(AIR); 3WD, 3WS(DELTA)	<b>Max. Speed</b>	1.5m/s	<b>Runtime</b>	2.5h/25km
<b>Size</b>	552*500*250mm (Standard)	<b>Climb</b>	8°	<b>Temperature</b>	-10~40°C
	552*500*287mm (Navigation)	<b>Obstacle</b>	10mm	<b>IP Rating</b>	IP22
<b>Weight</b>	50-55kg (AIR)/ 45-50kg(DELTA)	<b>Battery</b>	24V30Ah	<b>Communication</b>	Standard CAN
<b>Suspension</b>	Rear Swing Suspension	Navigation Specs:			
<b>Control</b>	Remote Control; Command Control	<b>Positioning Accuracy:</b>	±5 cm / ±2°	<b>Obstacle Height:</b>	1 cm
<b>Payload</b>	80kg	<b>Navigation Accuracy:</b>	±10 cm	<b>Mapping Area:</b>	50k m <sup>2</sup>

\* Optional Auto-Charging Dock

## UMR | Smart Factory / Material Handling / System Integration

An industry-grade omnidirectional mobile chassis with four independent drive modules, designed for confined spaces. It integrates multi-sensor navigation and delivers stable operation with layered safety protection.

### PARAMETERS

<b>Steering</b>	Four-wheel drive, four-wheel steering	<b>Battery</b>	48V24Ah
<b>Size</b>	820*520*460mm	<b>Runtime</b>	4h/11km(Full Load)
<b>Weight</b>	95kg	<b>Suspension</b>	Independent Suspension
<b>Payload</b>	80kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	1.5m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	20°	<b>IP Rating</b>	IP65
<b>Obstacle</b>	50mm	<b>Communication</b>	Standard CAN

\* Optional Auto-Charging Dock

# HUNTER 2.0

Ackermann Steering Mobile Robot

ROS

ROS2



**Ackermann Steering**  
Vehicle-Level Control



**Rocker-Arm Suspension**  
Enhanced Stability

150kg

**Payload Capacity**  
Up to 150 kg

# HUNTER SE

Small Ackermann Steering Mobile Robot

ROS

ROS2



**Ackermann Steering**  
Independent Suspension

4.8m/s

**Top Speed**  
Up to 4.8 m/s



**Drive System**  
High-Speed Stability

## HUNTER 2.0 | Outdoor Inspection / Industrial Park Logistics

A mobile chassis featuring front Ackermann steering and rocker-arm suspension for low- to medium-speed autonomous driving. It provides stable handling and enhanced load capacity for long-duration operations.

### PARAMETERS

<b>Steering</b>	Ackermann	<b>Battery</b>	24V30Ah 24V60Ah
<b>Size</b>	980*745*380mm	<b>Runtime</b>	3h /20km 6h /40km
<b>Weight</b>	65-72kg	<b>Suspension</b>	Front Wheel Non-independent
<b>Payload</b>	150kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	1.5m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	10° (Full load)	<b>IP Rating</b>	IP22 (IP54 Optional)
<b>Obstacle</b>	50mm	<b>Communication</b>	Standard CAN

## HUNTER SE | Autonomous Driving Research / Outdoor Inspection

A compact Ackermann-steered mobile robot designed for high-speed autonomous driving on urban roads. It offers precise steering control and stable performance in dynamic traffic environments.

### PARAMETERS

<b>Steering</b>	Ackermann	<b>Battery</b>	24V 30Ah
<b>Size</b>	820*640*310mm	<b>Runtime</b>	9.5h/45km
<b>Weight</b>	42kg	<b>Suspension</b>	Rear Wheel Independent
<b>Payload</b>	50kg	<b>Control</b>	Remote Control; Command Control
<b>Max. Speed</b>	4.8m/s	<b>Temperature</b>	-10~40°C
<b>Climb</b>	8° (Full load)	<b>IP Rating</b>	IP22
<b>Obstacle</b>	30mm	<b>Communication</b>	Standard CAN

Robotic Arm Series

# Precise Manipulation, Intelligent Collaboration

Lightweight design with high flexibility, payload and precision. Supports ROS ecosystem and multiple control modes. Reliable integration with mobile platforms for research and industry.



### Lightweight With High Payload

Lightweight structure with high payload capacity for easy handling and mobile platform integration.

### Accurate And Agile

±0.1 mm repeatability for confined and complex tasks.

### Open Interfaces

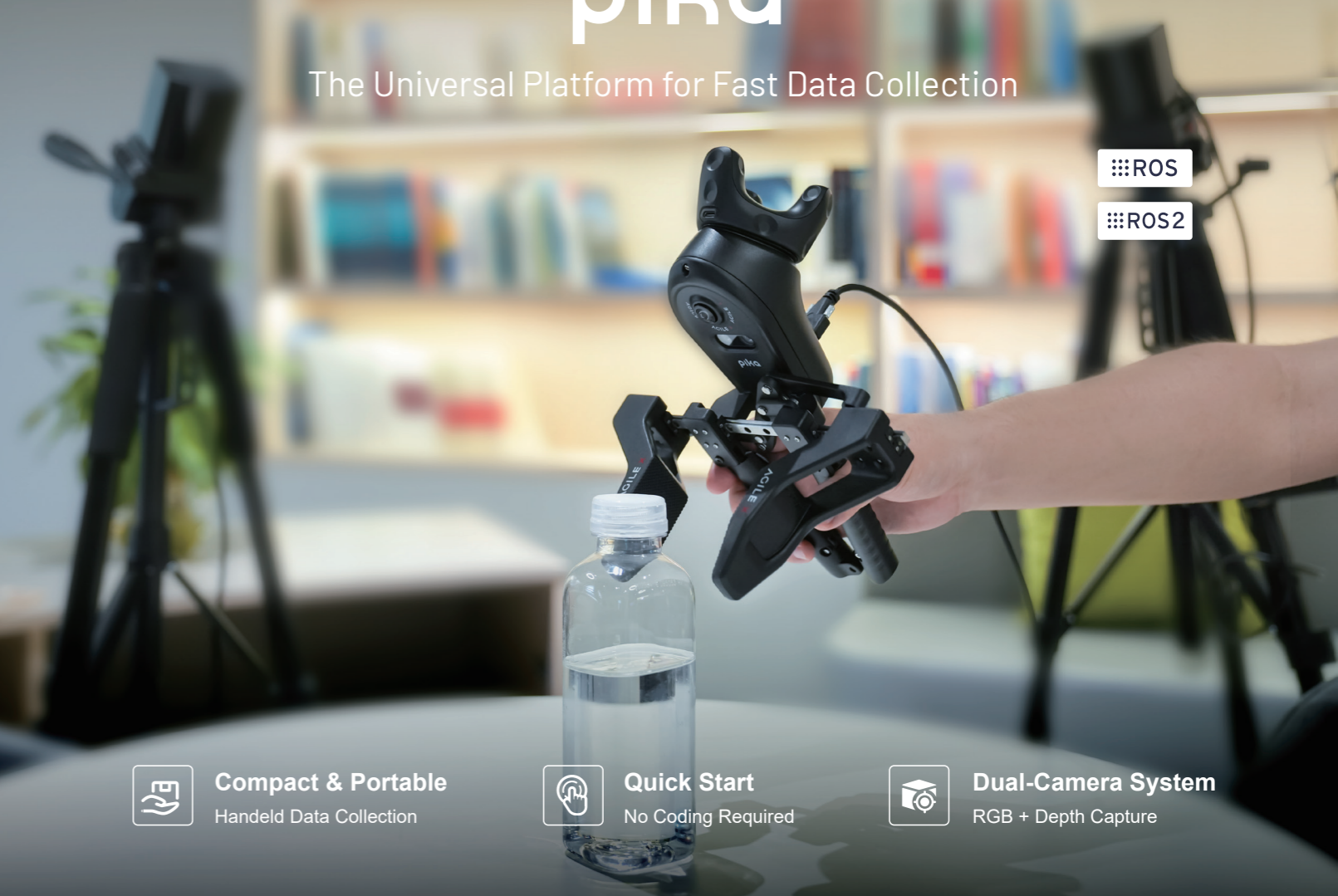
Supports ROS1/ROS2 and Python SDK with multiple control modes for rapid development.



The Universal Platform for Fast Data Collection

ROS

ROS2



**Compact & Portable**  
Handheld Data Collection



**Quick Start**  
No Coding Required






**Dual-Camera System**  
RGB + Depth Capture

## PiKA | Robotics Research Lab / Industrial R&D Departments

PIKA is a portable data collection platform for embodied AI research, integrating data capture, supporting model inference and positioning modules for rapid deployment.

### PARAMETERS

PiKA Sense 		PiKA Gripper 		PiKA Station 	
<b>Size</b>	215*220*257mm	<b>Weight</b>	448g	<b>Size</b>	215*191*143mm
<b>Positioning</b>	±1.5mm	<b>Weight</b>	617g	<b>Gripper</b>	Clamping Range: 0-95 mm; Max Force: 2 kg
<b>Data Interfaces</b>	RGB\ Depth Camera\ IMU\ 6D Pose	<b>Depth Camera</b>	FOV: 87° × 58°; Accuracy: ±2%@50cm; Frame Rate: 90 fps	<b>Station</b>	Horizontal FOV 110° × Vertical FOV 150°
<b>Gripper</b>	Clamping Range: 0-95 mm; Max Force: 2 kg	<b>Wide-Angle Cam</b>	FOV: 200°; Max Frame Rate: 90 fps	<b>Tripod Mount</b>	Max Height 2.1 m, Pitch Adjustment
<b>Depth Camera</b>	FOV: 87° × 58°; Accuracy: ±2%@50cm; Frame Rate: 90 fps	<b>Compatibility</b>	Universal flange interface	<b>Battery</b>	30h
<b>Wide-Angle Cam</b>	FOV: 200°; Max Frame Rate: 90 fps				

# PIPER

Lightweight Robotic Arm



- 6 DoF** 6-DoF Design  
Precise Motion Range
- ROS & Python**  
Open Control Interface
- End-to-End Workflow**  
Embodied AI Validation

\* Emergency stop button is optional.

# PIPER L

Lightweight Robotic Arm



- 750mm** Reinforced Joints  
Extended Pose Range
- Compact Precision**  
Stable Control
- ROS & Python Support**  
Open Research Integration

\* Emergency stop button is optional.

## PIPER | R&D Robotics Labs/ Grasping Teaching

PIPER is a 6-DoF lightweight robotic arm designed for research, education, and robotic application development, offering precise motion control and flexible integration capability.

### PARAMETERS

<b>DoF</b>	6-DoF	<b>Reach</b>	626mm	<b>Joint Range</b>	J1:154°/154°	<b>Max Joint Speed</b>	J1:180°/s
<b>Weight</b>	4.2kg	<b>Voltage</b>	DC 24V		J2:0°/195°		J2:195°/s
<b>Payload</b>	1.5kg	<b>Controller</b>	Integrated		J3:-175°/0°		J3:180°/s
<b>Repeatability</b>	±0.1mm	<b>Interface</b>	CAN		J4:-100°/112°		J4:225°/s
<b>Material</b>	Aluminum & Plastic Housing				J5:-75°/75°		J5:225°/s
<b>Control Mode</b>	Drag Teaching/Offline Trajectory/PC				J6:-170°/170°		J6:225°/s

Software Support: Python API Support; ROS 1 & ROS 2 Compatible; URDF Models for Gazebo & Isaac Sim

## PIPER-L | R&D Robotics Labs/ Grasping Teaching

PIPER-L is a 6-DoF robotic arm featuring an extended reach for larger workspaces. It enables stable operation across wider horizontal and vertical ranges.

### PARAMETERS

<b>DoF</b>	6-DoF	<b>Reach</b>	750mm	<b>Joint Range</b>	J1:-154°/154°	<b>Max Joint Speed</b>	J1:180°/s
<b>Weight</b>	4.5kg	<b>Voltage</b>	DC 24V		J2:0°/195°		J2:195°/s
<b>Payload</b>	1.5kg	<b>Controller</b>	Integrated		J3:-175°/0°		J3:180°/s
<b>Repeatability</b>	±0.1mm	<b>Interface</b>	CAN		J4:-127°/127°		J4:225°/s
<b>Material</b>	Aluminum & Plastic Housing				J5:-89.5°/89.5°		J5:225°/s
<b>Control Mode</b>	Drag Teaching/Offline Trajectory/PC				J6:-170°/170°		J6:225°/s

Software Support: Python API Support; ROS 1 & ROS 2 Compatible; URDF Models for Gazebo & Isaac Sim

# PIPER H

Lightweight Robotic Arm



- 2kg** Higher Payload  
Up to 2 kg Capacity
- 6 DOF** 6-DoF Structure  
Consistent Motion Precision
- ROS & Python Support**  
Open Research Integration

\* Emergency stop button is optional.

# PIPER X

Lightweight Robotic Arm



- Reinforced Joints**  
Extended Workspace
- Compact Precision**  
Stable Control
- ROS & Python Support**  
Open Research Integration

\* Emergency stop button is optional.

## PIPER-H | R&D Robotics Labs / Research & Collaborative Manipulation

PIPER-H is a 6-DoF lightweight robotic arm designed for higher payload applications. It delivers stable motion control and repeatable precision under load.

### PARAMETERS

<b>DoF</b>	6-DoF	<b>Reach</b>	636.65mm	<b>Joint Range</b>	J1:-154°/154°	<b>Max Joint Speed</b>	J1:180°/s
<b>Weight</b>	4.5kg	<b>Voltage</b>	DC 24V		J2:0°/195°		J2:195°/s
<b>Payload</b>	2kg	<b>Controller</b>	Integrated		J3:-175°/0°		J3:180°/s
<b>Repeatability</b>	±0.1mm	<b>Interface</b>	CAN		J4:-127°/127°		J4:225°/s
<b>Material</b>	Aluminum & Plastic Housing				J5:-89.5°/89.5°		J5:225°/s
<b>Control Mode</b>	Drag Teaching/Offline Trajectory/PC				J6:-170°/170°		J6:225°/s

Software Support:Python API Support; ROS 1 & ROS 2 Compatible; URDF Models for Gazebo & Isaac Sim

## PIPER-X | R&D Robotics Labs / Research & Collaborative Manipulation

PIPER-X adopts a reinforced J4/J5 joint structure designed for compact environments and precision operations, improving stability and pose control in constrained spaces.

### PARAMETERS





<b>DoF</b>	6-DoF	<b>Reach</b>	669.59mm	<b>Joint Range</b>	J1:-154°/154°	<b>Max Joint Speed</b>	J1:180°/s
<b>Weight</b>	4.5kg	<b>Voltage</b>	DC 24V		J2:0°/195°		J2:195°/s
<b>Payload</b>	1.5kg	<b>Controller</b>	Integrated		J3:-175°/0°		J3:180°/s
<b>Repeatability</b>	±0.1mm	<b>Interface</b>	CAN		J4:-90°/90°		J4:225°/s
<b>Material</b>	Aluminum & Plastic Housing				J5:-90°/90°		J5:225°/s
<b>Control Mode</b>	Drag Teaching/Offline Trajectory/PC				J6:-165°/165°		J6:225°/s

Software Support:Python API Support; ROS 1 & ROS 2 Compatible; URDF Models for Gazebo & Isaac Sim

# PiPER Series Parameter Comparison

Covering the key specifications of PiPER/PiPER L/PiPER H/PiPER X, facilitating robotics research and integrated selection

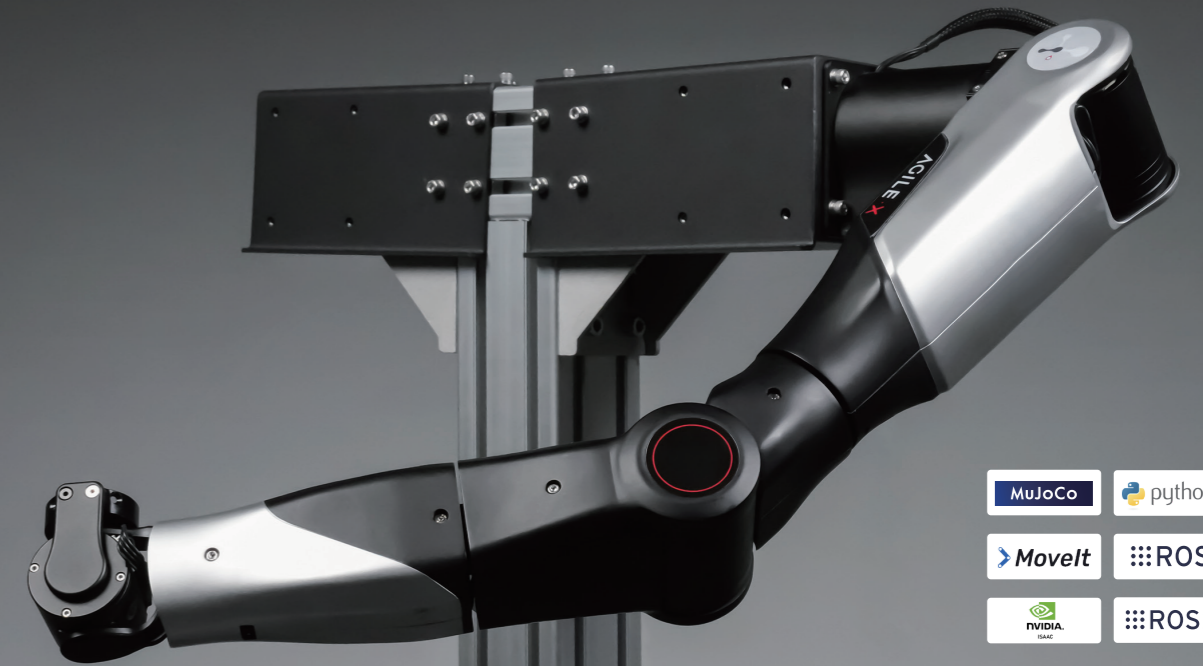


	 <b>PiPER</b>	 <b>PiPER L</b>	 <b>PiPER H</b>	 <b>PiPER X</b>
Weight	4.2kg	4.5kg	4.5kg	4.5kg
Payload	1.5kg	1.5kg	2kg	1.5kg
Reach	626mm	750mm	636mm	669mm
Humidity	25%-85%			
Temp.	-20-50°C			
Voltage	DC24V			
Material	Aluminum & Plastic Housing			
Power	Max Power Consumption ≤120W, Comprehensive Power Consumption ≤40W			
DoF	6			
Repeatability	±0.1mm			
Controller	Integrated			
Interface	CAN			
Control Mode	Drag Teaching/Offline Trajectory /Host Computer			
Noise	<60dB			

① : The humidity range is for non-condensation conditions.  
 ② : The above data are the test results of AgileX robots in a controlled test environment. The results may vary to different degrees under different environments and usage methods. Please refer to your actual application.

# NERO

7-DoF Humanoid Robotic Arm



- 7<sup>DoF</sup>** 7-DoF Design  
Increased Motion Redundancy
- 3kg** Light Payload Tasks  
Flexible Experimental Use
- Open Interface**  
Simulation & ROS

\* Emergency stop button is optional.

## NERO | Embodied AI Research / Humanoid Development

NERO is a 7-DoF lightweight robotic arm for embodied AI and humanoid robotics research, featuring an open architecture for flexible robots lab integration.

### PARAMETERS

<b>DoF</b>	7-DoF	<b>Reach</b>	580mm	<b>Joint Range</b>	J1:-157°/157°	<b>Max Joint Speed</b>	J1:180°/s
<b>Weight</b>	4.8kg	<b>Voltage</b>	DC 24V		J2:-15°/190°		J2:180°/s
<b>Payload</b>	3kg	<b>Controller</b>	Integrated		J3:-160°/160°		J3:180°/s
<b>Repeatability</b>	±0.01mm	<b>Interface</b>	CAN/HTTP/TCP		J4:-60°/125°		J4:225°/s
<b>Material</b>	Aluminum & Plastic Housing				J5:-160°/160°		J5:225°/s
<b>Control Mode</b>	Drag Teaching/Offline Trajectory/PC				J6:-43°/-58°		J6:225°/s
					J7:-90°/90°		J7:225°/s

Software Support: Python API Support; ROS 1 & ROS 2 Compatible; URDF Models for Gazebo & Isaac Sim

# T-REX 2.0

Autonomous Wheeled-Legged Robot

- ROS
- ROS2
- GAZEBO
- NVIDIA



- Wheel-Leg hybrid**  
Terrain Adaptation
- FastLIO2 SLAM**  
Real-Time 3D Mapping
- Vision Perception**  
Tag & Object Tracking

## T-REX 2.0 | Teaching Experiments / Filming / Inspection

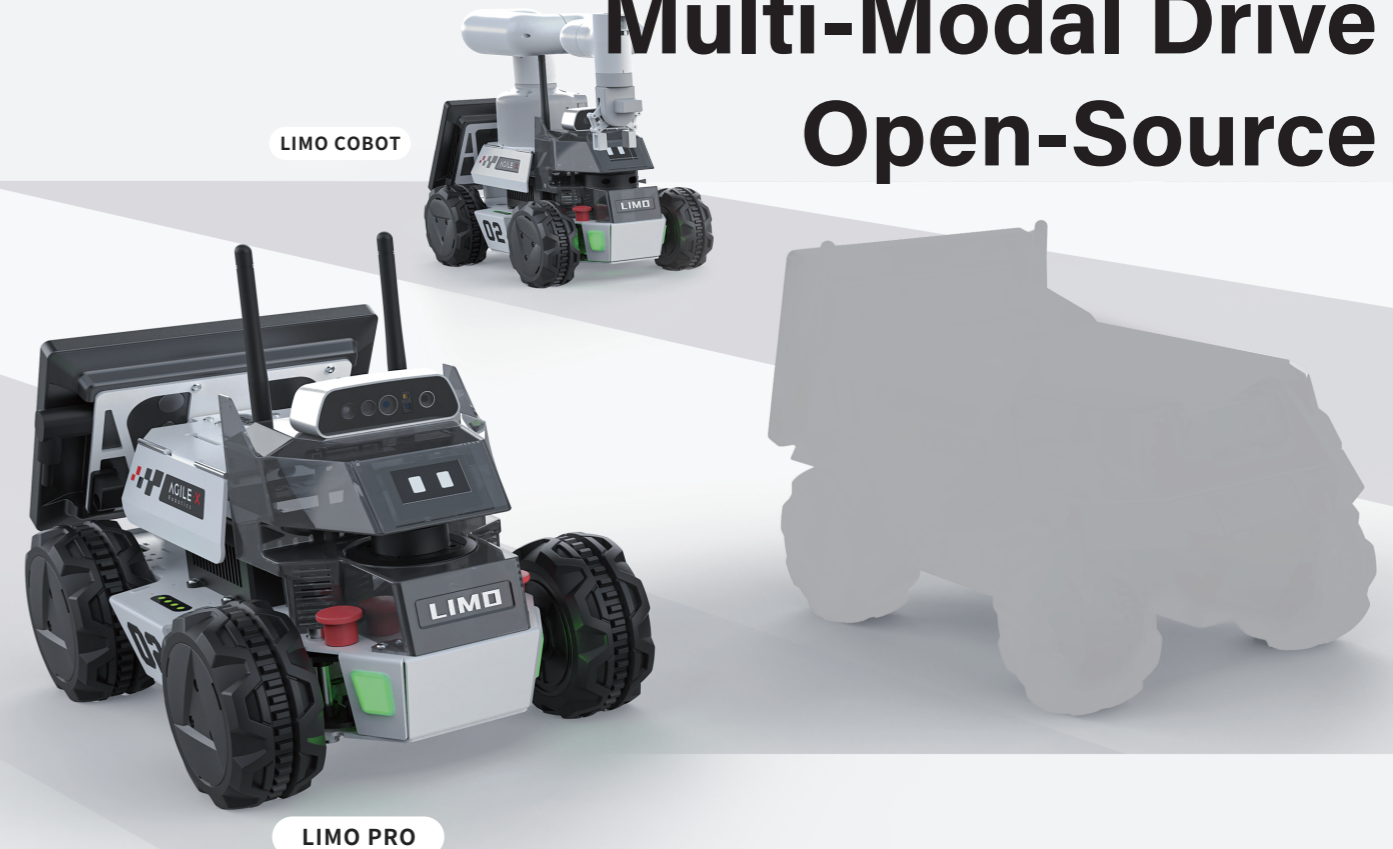
T-REX 2.0 is designed to overcome the limitations of traditional mobile platforms. It delivers flexible and efficient mobility, making it well suited for robotics research and development applications.

### PARAMETERS

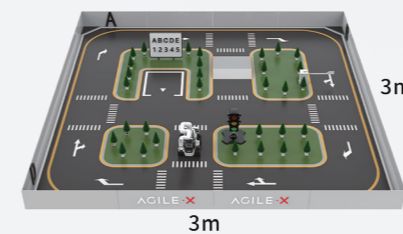
<b>Size</b>	269*341*215mm (Min Configuration)	<b>LiDAR</b>	Mid 360
	242*341*363mm (Max Configuration)	<b>Depth Camera</b>	Orbbec DaBai
<b>Weight</b>	5.8kg	<b>Industrial Computer</b>	Nvidia Orin Nano
<b>Climbing Ability</b>	20°	<b>Control Mode</b>	Remote Control
<b>Battery Type</b>	Ternary Lithium	<b>Charging Form</b>	Wired; Docking (optional)
<b>Battery Life</b>	2h	<b>Obstacle</b>	50mm

LIMO Series

## Multi-Modal Drive Open-Source



LIMO series is a ROS-based robot development platform with four integrated drive modes. Supports fast switching between differential, Ackermann, tracked, and Mecanum drive modes. Flexible for diverse application scenarios. Designed for robotics education, research, and secondary development.



Training Sandbox



Complete Curriculum

### Multi-Mode Mobility

Four motion modes—differential, Ackermann, tracked, and Mecanum—for rapid switching across different environments.

### Rich Sensor Suite

Integrated depth cameras, LiDAR, IMU, and high-performance computing units. Pre-configured ROS environment with plug-and-play support.

### Teaching & Validation

Optional sandbox and simulation tools support multi-scenario teaching and testing, accelerating sim-to-real algorithm validation.

# LIMO PRO

ROS2 Mobile Robot Platform



**Open Source**  
ROS 1 & ROS 2 Compatible

**SLAM & V-SLAM**  
Multi-Sensor Localization

**Four Drive Modes**  
Differential, Omni, Ackermann, Tracked

# LIMO COBOT

ROS2 Mobile Robot Platform



**Mobile Manipulation**  
Coordinated Base & Arm Control

**Open Source**  
ROS & MoveIt Compatible

**SLAM Navigation**  
Real-Time Mapping & Avoidance

## LIMO PRO | Teaching Experiments / Competition Demonstrations

A ROS-based mobile robot for multi-modal modes, designed for autonomous driving education and robotics research. Powered by NVIDIA Orin Nano, it supports four motion modes and multiple perception configurations.

### PARAMETERS

<b>Size</b>	322*220*251mm	<b>Onboard Computer</b>	Nvidia Orin Nano
<b>Weight</b>	4.8kg	<b>Display</b>	7 inches; 1024*600
<b>Climbing Ability</b>	25° (40°In track mode)	<b>Open Source Platform</b>	ROS1/ROS2
<b>Battery Type</b>	Ternary Lithium	<b>Communication Protocol</b>	UART
<b>Battery Life</b>	4h	<b>Motor Mode</b>	Hub Motor
<b>LiDAR</b>	2D LiDAR	<b>Control Mode</b>	App Control
<b>Depth Camera</b>	Orbbec DaBai	<b>Standard Configuration</b>	Off-Road Wheels*4 ;Mecanum Wheels*4; Tracks*2

## LIMO COBOT | Teaching Experiments / Competition Demonstrations

A desktop mobile manipulation ROS educational robot based on the LIMO PRO platform. With a lightweight collaborative robotic arm, it integrates a built-in perception modules, designed for robotics education and research.

### BASE SPECIFICATIONS

<b>Size</b>	322*220*251mm
<b>Weight</b>	5.6kg
<b>Battery Life</b>	2.5h
<b>Sensor</b>	2D LiDAR + Depth Camera
<b>Onboard Computer</b>	Nvidia Orin Nano
<b>Open Source</b>	ROS1/ROS2
<b>Motor Mode</b>	Hub Motor

### ARM SPECIFICATIONS

<b>Robotic Arm</b>	6-DoF Robotic Arm
<b>Main Control</b>	ESP32
<b>Precision</b>	0.5mm
<b>Payload</b>	250g
<b>Working Radius</b>	280mm

\* Based on the LIMO PRO platform, See following pages for full specifications.

Research & Education Kit

# Autonomous Platform Embodied Data Collection

**Research & Education Kit** Ready-to-use robot development platform, integrated mobile base and multi-sensor system, pre-installed ROS environment. Enables rapid autonomous mobility and perception experiments for academia and research.

**Embodied AI Kit** The mobile manipulation system bases on the ALOHA platform, which designed for dual-arm collaboration and teleoperation research. It supports teleoperation and autonomous operation for research and education.

## Mobile Manipulation

Integrates mobile bases, robotic arms, sensors, and computing platforms with ROS and simulation tools for algorithm development and system expansion.

## Hardware-Software Integration

Pre-installed ROS environment with high-performance computing and multi-sensor integration (LiDAR, vision, IMU), ready for education and research out of the box.

## Autonomous Navigation

Supports SLAM mapping, path planning, and dynamic obstacle avoidance for stable autonomous navigation in complex environments.



\* Configurations, appearance, and specifications shown are for reference only and subject to actual product delivery.

# COBOT KIT

Research

Development Experiments

The COBOT KIT is a composite collaborative robot platform that integrates lidar, depth camera and a 6DoF robotic arm. Designed for warehousing and sorting, inspection and assembly and mobile handling scenarios, it features strong adaptability, high flexibility, stable navigation, and high safety.

Mobile Base and Arm Integration

RGB-D Vision for Perception Research

SLAM Navigation with Dynamic Obstacle Avoidance

Replaceable Modules for Algorithm Validation

## PLATFORM CAPABILITIES

### Mobile Manipulation Platform

6-DoF robotic arm with AG-95 gripper and ROS control support for coordinated mobile manipulation experiments.

### Perception & Motion Planning

LiDAR mapping with RealSense D435 vision and MoveIt path planning for perception-to-manipulation research.

## PARAMETERS

Onboard Computing	I7 9700 16G 512G
IMU	CH110
LIDAR	3D LiDAR
Camera	Realsense D435
Display	14-inch 1920*1080P
Mobile Base	RANGER MINI3\SCOUT 2.0
Operating System	Ubuntu 20.04, ROS
Network	Router



# SCOUT MINI COBOT

Research Projects

Prototype Validation

SCOUT MINI COBOT is a mobile manipulation platform integrating a differential base, multi-sensor perception, and a lightweight 6-DoF arm, enabling research in navigation, perception, and collaborative robotics.

6-DoF Lightweight Robotic Arm

Integrated RGB-D Vision Perception

LiDAR SLAM with Real-Time Path Planning

Standard & Mecanum Chassis Compatibility

## PLATFORM CAPABILITIES

### Ready-to-Use ROS Platform

Ubuntu 20.04 with ROS Noetic pre-installed, supporting SLAM mapping, localization, navigation, and dynamic obstacle avoidance.

### Modular Robotics Platform

6-DoF robotic arm with standard interfaces for sensors, end-effectors, and task modules for flexible robotics development and experiments.

## PARAMETERS

Onboard Computing	Nvidia Orin Nano
IMU	CH110
LIDAR	3D LiDAR
Camera	Realsense D435
Display	11.6-inch 1920*1080P
Mobile Base	SCOUT MINI\BUNKER MINI 2.0 TRACER 2.0
Operating System	Ubuntu 20.04, ROS
Network	Router



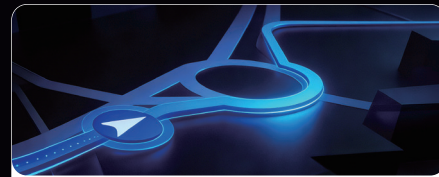
# SCOUT MINI R&D KIT

SCOUT MINI R&D KIT (LITE/PRO) is a mobile robotics development kit based on SCOUT MINI. It integrates an onboard computer, LiDAR, and sensors for robot control, SLAM mapping, and autonomous navigation. Example projects and documentation enable rapid setup for robotics education, research, and development.

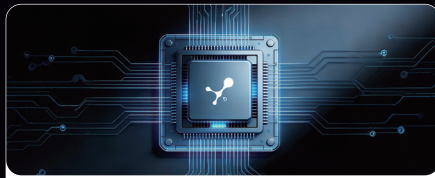
## Advantages ▾



Pre-installed ROS Environment



Dynamic Obstacle Avoidance



Onboard Computing for Development



Documentation & Demo Projects



LiDAR SLAM Mapping & Localization



Modular Multi-Sensor Platform

## Functionality Overview ▾

- ROS Robot Platform
- SLAM Mapping Experiments
- Autonomous Navigation Testing
- Robotics Algorithm Development

## Applications ▾

- Robotics Education
- SLAM Research
- AI Development

## PARAMETERS

Model	SCOUT MINI R&D KIT LITE	SCOUT MINI R&D KIT PRO
Onboard Computing	Nvidia Orin Nano	Nvidia Orin Nano
LiDAR	2D LiDAR	3D LiDAR
Camera	Realsense D435	
Display	11.6-inch, 1920*1080P	
Mobile Base	SCOUT MINI	
Operating System	Ubuntu 20.04, ROS	
Network	Router	

\*This is a standard kit, all top-mounted accessories are customizable.



SCOUT MINI R&D KIT PRO

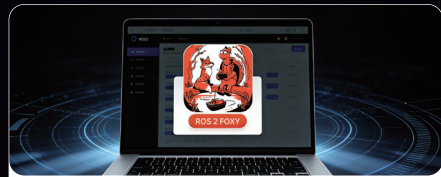


SCOUT MINI R&D KIT LITE

# SCOUT MINI ROS2 EDU KIT

SCOUT MINI ROS2 EDU KIT (LITE/PRO) is a comprehensive educational and experimental platform for universities and research institutions, based on the ROS2 Foxy version, providing an integrated solution for lidar, vision sensing, and motion control.

## Advantages ▾



Pre-Integrated ROS 2 & Nav2



OpenVINO Vision Perception



All-Terrain Mobility



Docs & Demo Projects



Dynamic Obstacle Avoidance



Modular Multi-Sensor Platform

## Functionality Overview ▾

- ROS 2 Navigation Platform
- LiDAR Mapping Experiments
- AI Vision Development
- Simulation-to-Real Deployment

## Applications ▾

- Robotics Education
- SLAM Research
- AI Development

## PARAMETERS

Model	SCOUT MINI ROS2 EDU KIT LITE	SCOUT MINI ROS2 EDU KIT PRO
Onboard Computing	i5 16G 256G	i7 16G 512G
LiDAR	2D LiDAR	3D LiDAR
Depth Camera	Realsense D435	
Display	14-inch 1920*1080P	
Mobile Base	SCOUT MINI\ BUNKER PRO\ BUNKER MINI\ TRACER 2.0	
Operating System	Ubuntu 20.04, ROS	
Network	Router	

\*This is a standard kit, all top-mounted accessories are customizable.







SCOUT MINI ROS2 EDU KIT PRO



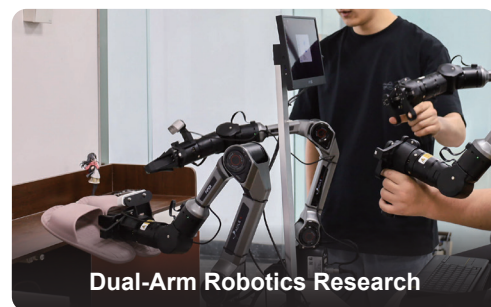
SCOUT MINI ROS2 EDU KIT LITE

# COBOT MAGIC

COBOT MAGIC is a mobile dual-arm teleoperation platform based on the Mobile ALOHA architecture. It integrates a high-mobility chassis with lightweight robotic arms, supporting data collection, and algorithm validation for embodied AI research and education.

-  **Dual-Arm Teleoperation Platform**  
Supports bimanual teleoperation and teaching, covering pick-place-organize operations.
-  **Multimodal Data Collection**  
Captures vision, depth, status and motion data synchronously to ensure data consistency.
-  **Integrated Perception, Computation, and Control**  
Integrated system ensures stable operation and long-duration task data collection.
-  **Sim-to-Real Validation**  
Accelerates closed-loop iteration from policy validation to real-robot evaluation.

## APPLICATIONS ▾



## SOFTWARE SPECS

<b>Model</b>	COBOT MAGIC
<b>OS</b>	Ubuntu 20.04
<b>ROS version</b>	ROS1 Noetic/Optional ROS2 Humble
<b>Simulation</b>	Gazebo/Isaac Sim/MuJoCo
<b>Algorithms &amp; SDK</b>	Provides Sample Algorithms and SDK
<b>Model Support</b>	Upgradable to PI0/PI0.5/LeRobot/RDT

## HARDWARE SPECS

**Mobile Chassis**  
TRACER 2.0 Differential Chassis



**End Effector**  
Gripper\*2



**Sensor**  
Depth Camera\*3



**Interactive control**  
11.6-inch Screen + Keyboard



**Robotic Arm**  
PiPER 6DoF lightweight robotic arm \* 4



**End Effector**  
Teacher Pendant\*2



**Computing Unit**  
4060 Graphics Card Industrial PC



\*All specifications are for reference only. Actual configuration shall be as delivered.

# Modular ALOHA

Built on the RANGER MINI 3.0 platform, this dual-arm teleoperation system adopts a leader-follower split architecture. By separating control and execution units, it enables flexible deployment and scalable system expansion for bimanual manipulation research, teleoperation, and embodied AI data collection.

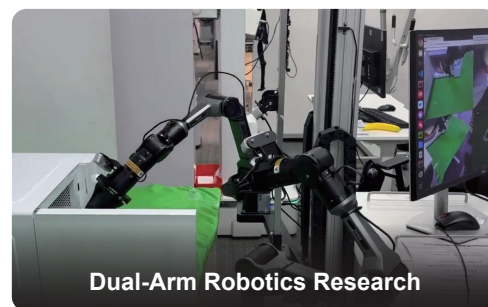
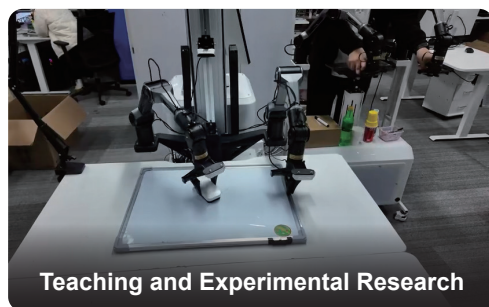
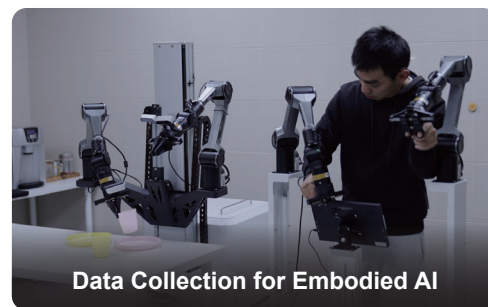
**Leader-follower Split Architecture**  
Supports cross-space teleoperation and multi-scenario experimental framework.

**Large-Scale Real-World Data Acquisition**  
Supports stable data collection and batch task execution.

**Modular Task Expansion**  
Supports end-effector, sensor and module replacement per task.

**Mobile Platform Adaptation**  
Works with mobile base for mobile manipulation tasks.

## APPLICATIONS ▾



## SOFTWARE SPECS

<b>Model</b>	Modular ALOHA
<b>OS</b>	Ubuntu 20.04
<b>ROS version</b>	ROS1 Noetic/Optional ROS2 Humble
<b>Simulation</b>	Gazebo/Isaac Sim/MuJoCo
<b>Algorithms &amp; SDK</b>	Provides Sample Algorithms and SDK
<b>Model Support</b>	Upgradable to PI0/PI0.5/LeRobot/RDT

## HARDWARE SPECS

**Mobile Chassis**  
RANGER MINI 3.0



**Robotic Arm**  
PIPER\* 4



**End Effector**  
Gripper\*2



**End Effector**  
Teacher Pendant\*2



**Sensor**  
Depth Camera\*3+Lidar\*1



**Computing Unit**  
4060 Graphics Card Industrial PC



**Interactive control**  
11.6-inch Screen + Keyboard



\*All specifications are for reference only. Actual configuration shall be as delivered.

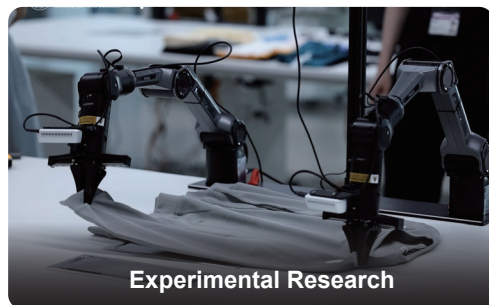
\*For stable teleoperation and reliable communication, front-end and rear-end devices are connected via CAN cable by default.

# Desktop ALOHA

A lightweight and standardized dual-arm teleoperation platform featuring two integrated 6-DOF Piper robotic arms, delivering high integration and stable performance. Designed for easy deployment and excellent scalability, it is ideally suited for desktop-level teleoperation research and application validation scenarios.

- 
**Quick Assembly And Deployment**  
 Modular design and standard components enable fast prototyping.
- 
**Faster Development and Easier Getting Started**  
 Provides development interfaces and sample programs.
- 
**Modular Expansion And Adaptation**  
 Facilitates iterative validation of embodied task scenarios.

## APPLICATIONS ▾



## HARDWARE SPECS

### Robotic Arm

PIPER \* 4



### End Effector

Teacher Pendant\*2



### Accessories

Clamp\*8



### Sensor

Depth Camera\*3



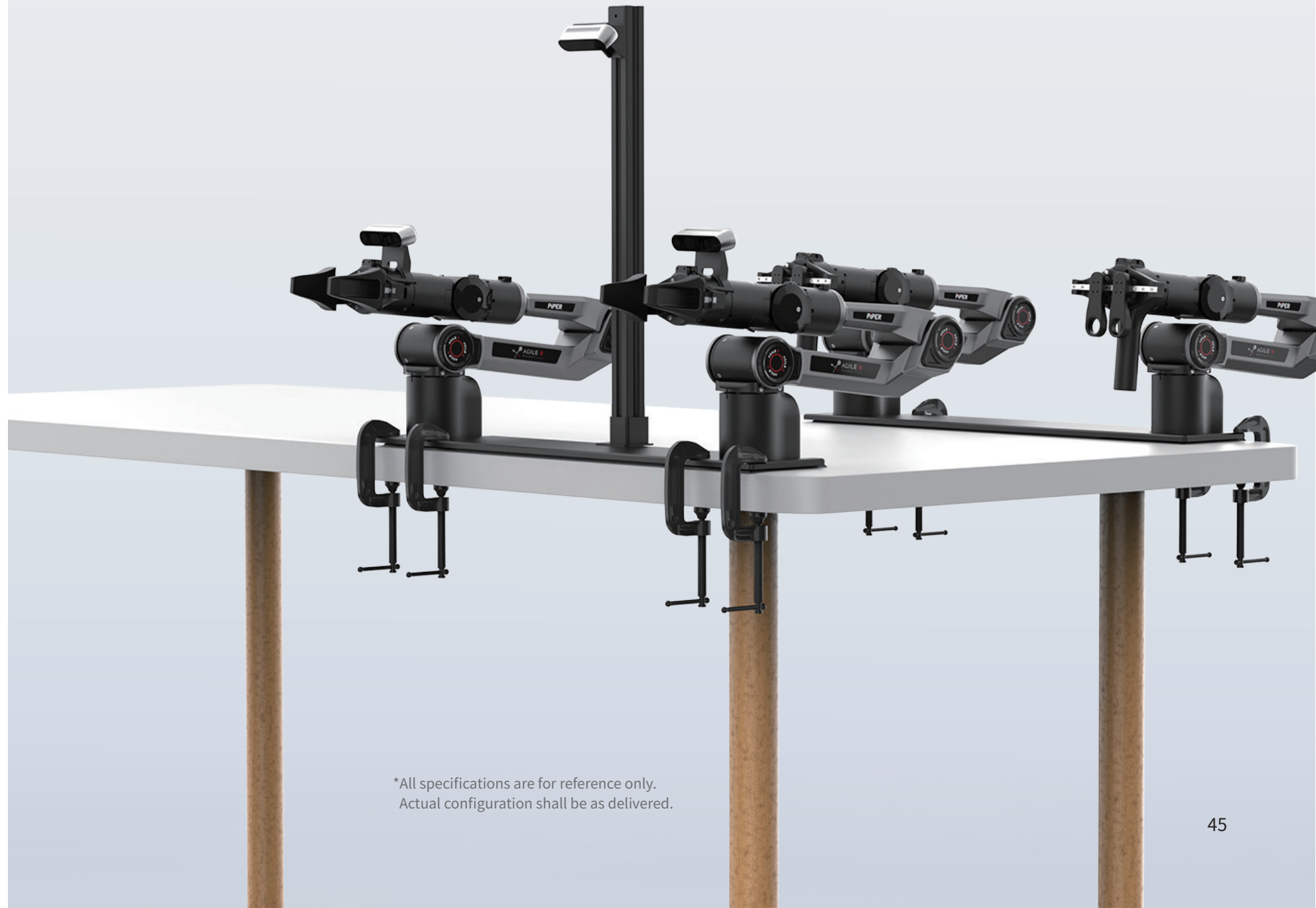
### End Effector

Gripper\*2



### Console

Desktop Stand \*1



\*All specifications are for reference only.  
Actual configuration shall be as delivered.



# NAVIS 3D Navigation Platform

## Industrial-grade Mobile Robot Autonomous Navigation System

Navigation system independently developed by AgileX Robotics for semi/fully enclosed environments. Composed of three core modules — NAVIS Brain, NAVIS Bridge, and NAVIS Board — it handles perception, mapping and task scheduling. Compatible with all AgileX robot platforms, it enables autonomous positioning, navigation, path planning, and real-time obstacle detection & avoidance. It streamlines deployment targeting industrial and commercial scenarios.



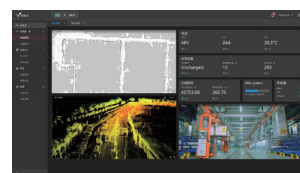
### NAVIS BRAIN

Performs multi-sensor fusion (LiDAR, depth camera, IMU, optional RTK) for mapping, localization, navigation, and obstacle avoidance.



### NAVIS BRIDGE

Acts as middleware for sensor integration, enabling data collection, time synchronization, protocol conversion, and stable communication.



### NAVIS BOARD

Human-machine interface for task management and monitoring. Supports map control, route configuration, and multi-device access.

<b>±5cm</b> Static Repeatability Accuracy	<b>1.5 m/s</b> Max Speed	<b>±10cm</b> Dynamic Positioning Error	<b>≈2,000,000m<sup>2</sup></b> Max Mapping Area
--	-----------------------------	---	--

\*The maximum mapping coverage is a test result under enclosed environments.  
\*Actual performance may vary due to environmental structure, lighting/texture, dynamic obstacles, and sensor configuration.

## Core Functions



### Path Navigation

Supports waypoint navigation and path tracking



### Obstacle Avoidance

Enables automatic stop and blind-spot obstacle avoidance



### Map Management

Allows maps building, virtual wall/ forbidden zone configuration, and editing



### Task Management

Facilitates task planning, execution, and real-time monitoring

## Customer Value

Boost efficiency / automate repetitive tasks / stable & reliable / fast deployment / high compatibility

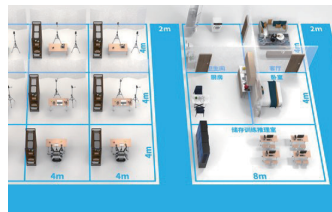
## Application Scenarios

Logistics, inspection, warehouse management, and park delivery



# Embodied AI Data Collection

A visualized data collection and management platform for universities, research institutes, and enterprises. By unified data acquisition devices, it enables long-term, large-scale, and multimodal data collection across real-world and simulation to support rapid improvement in robotic perception, manipulation, control, and generalization, while reducing costs, improving efficiency, and accelerating real-world deployment.



## Data Training Ecosystem

- Device Collaboration** Coordinated devices such as COBOT MAGIC and PiKA
- Multi-Platform** RGB, depth, and point clouds data with hardware platforms
- Scenario Coverage** Home, retail, hospitality and industries scenarios
- Reference Tasks** Garment folding, tableware placement and retail sorting



## Large-Scale Data Accumulation

- Data Scale Target:** Accumulate 200,000+ data entries
- Open Data & Task Sets:** 25 datasets with 5,000+ samples for model training
- Purpose:** Serve as a data foundation for general robotic models



## Service Workflow

- 1 Planning & Setup**  
Define task types, scenarios, device quantity, layout, annotation standards, and data volume targets.
- 2 Data Filtering & Processing**  
Remove invalid frames, reduce noise, perform synchronization and format normalization.
- 3 Data Cleaning & Processing**  
Assign tasks to devices, monitor progress through platform; enable data capture and annotation.
- 4 Management & Storage**  
Upload and archive metadata management, version control, and access permission.

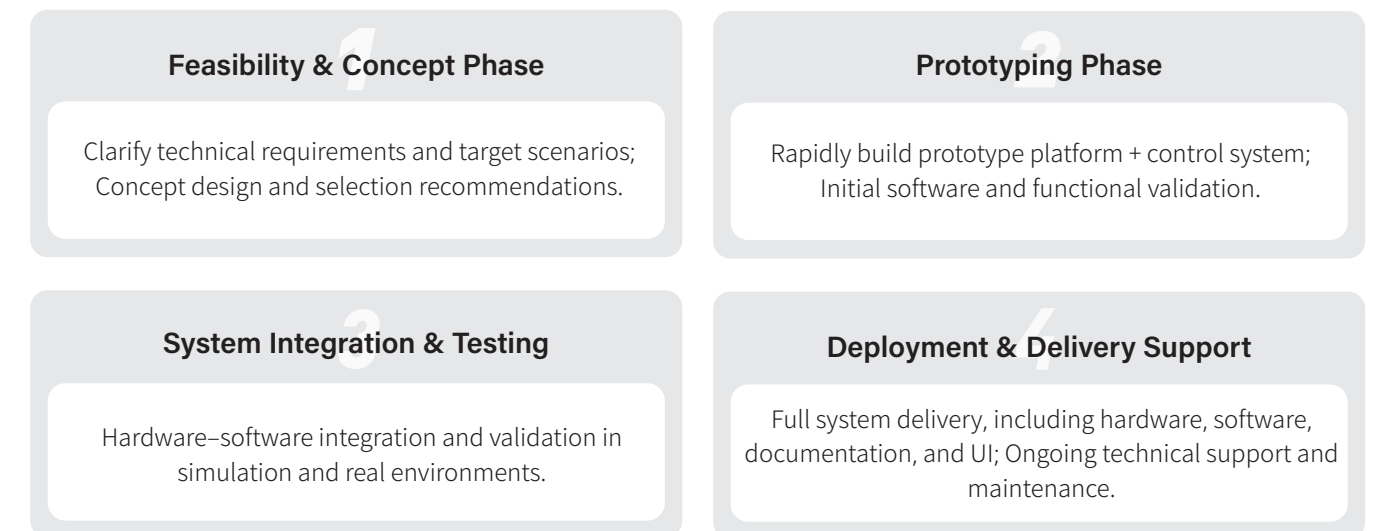
# Robot Customization Service

AgileX Robotics offers custom hardware configuration and design. Powered by robust mechanical engineering, we've completed 1,500+ custom robotic solutions for varied robotics research needs.

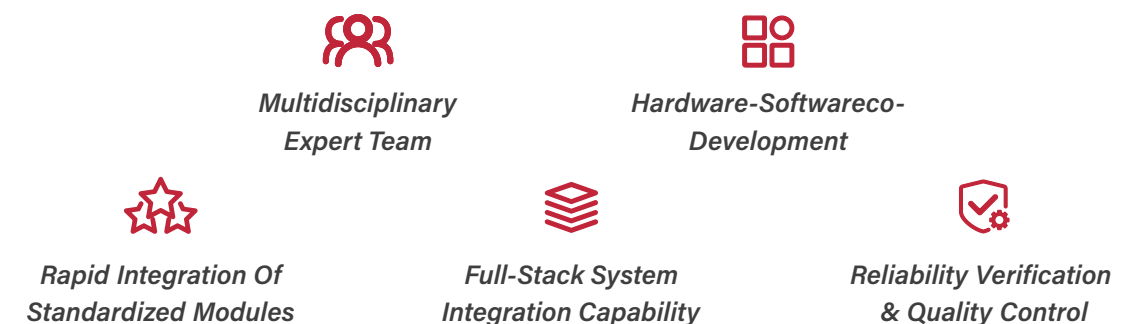
## What We Offer

We provide professional custom robot development, covering the full lifecycle from feasibility study, design, prototyping to commercial deployment. We work closely with you, offering ongoing technical support and risk control to turn your robot vision into reality.

## Service Process



## Our Advantages



# Customer Applications

## Delivery Application Case

### Logistics Delivery Robot

Scenario: Maintenance warehouse logistics & distribution  
Equipment: RANGER 4WD OMNI Chassis + NAVIS Navigation System



#### Project Requirements

The delivery system that efficiently transports materials to maintenance stations, reduces manual errors, and ensures production stability.

#### Challenges

- Complex routes/low efficiency/high error rate
- Dynamic obstacles and narrow passages
- Difficult manual coordination
- High cost for cross-floor delivery

#### Solutions

- Deploy RANGER for in-place rotation and navigation
- Equip LiDAR + depth cameras for autonomous navigation
- NAVIS: auto-assign tasks and plan paths
- Support elevator linkage & multi-floor operations
- Add voice prompts & light interaction

## Inspection Application Case

### Mining Inspection Robot

Scenario: Safety inspection of belt conveyor systems  
Equipment: BUNKER PRO Tracked Chassis + Thermal Imaging/  
Vision Module + NAVIS Navigation System



#### Project Requirements

Mining companies require daily inspection of conveyor belt systems to identify potential equipment failures and improve operational safety.

#### Challenges

- Complex terrain/high dust/Temperature difference
- Long inspection routes and dense checkpoints
- Low manual inspection efficiency
- Safety hazards in high-risk work zones

#### Solutions

- Use BUNKER PRO for obstacle crossing and high protection
- Equip HD cameras + infrared thermal imaging to collect data
- NAVIS: autonomous path planning and checkpoint verification
- Cloud platform: anomaly alerts and remote decision support

