AUTOXING

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“Empowering Mobility Connecting the World”

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WHO ARE WE?

Founder + core team working together for many years, with rich accumulation of technology and commercialization capabilities

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Founder has three times entrepreneurial experience, with keen business sense and rich technical accumulationThe core team has 10+ years of cooperation, with backgrounds covering a wide range of fields such as Internet, Telematics, Artificial Intelligence, Autonomous Driving and Vision Algorithms, etc.

Muhan Jing
Founder，CEO

- Former SVP of NavInfo, serial entrepreneur, industry expert in the industry of Internet and Internet of Vehicles.
- Former CEO of AutoAI Technology, the leading Tier1 and HW&SW supplier of top vehicle OEMs with an annual service of 500 million cars. 1400+ employees, and 1 billion RMB investment received from Tencent, DiDi, Toyota, etc.
- Co-founder of Sixents Technology, the only competitor of QianXun in centimeter-level high precision positioning service in China. Received 200 million RMB investment from Tencent, China Telecom, etc.
- Co-founder & CEO of Mapbar, leading LBS supplier in China, received 50 million USD investment, and buyout by NavInfo in 2015.

Santa Clara University	Master of Computer Science
University of San Francisco	Master of Finance

Donghai Dai
Founder，CTO

- Former SVP of NavInfo, leading technical expert in AI & autonomous driving.
- President of NavInfo Foundation Research Institute & Autonomous Driving Research Institute, top technology designer. Incubated a series of strategic and pillar products including image recognition, high-precision fusion positioning, autonomous driving cloud, L4 autonomous driving solution, etc.
- Founder of Sixents Technology, accomplished construction of 2000+ RTK base station in China, and chip & hardware design in high-precision positioning. The only business competitor of QianXun in centimeter-level high precision positioning service in China.
- Co-founder & CTO of Mapbar.

Tsinghua University	Department of Automation
Stanford University	PhD in EE

Years Dedication to Autonomous Driving Forward-Looking Full-Stack Technical Capabilities

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Robotic Skill Set

Team Capabilities	Maps and Navigation Path Planning	Data and Mapping Full-Stack Solutions for Autonomous Driving	Indoor Outdoor Positioning	Connected Vehicle SaaS Platform & Intelligent Infotainment Systems	Internet Operations
Relevant Experience	15 years	5 years	3 years	5 years	15 years
Company Background	图吧 www.mapbar.com	NAVINFO 四维图新	六分科技 SIXENTS TECHNOLOGY	autoai 四维智联	图吧 www.mapbar.com autoai 四维智联
Company Overview	**Formerly a leading internet mapping and navigation company** Exclusive supplier to Baidu Maps	**Leading enterprise in high-precision mapping and in-vehicle chip development** Holding Beijing Autonomous Driving T3 License, with autonomous driving modification partnerships with Great Wall, Wuling and Audi; cloud service for Daimler and BMW	**Leading enterprise in cm high-precision positioning** 2,500+ nationwide telecommunications-grade CORS positioning stations	**Leading connected vehicle enterprise** Connected Vehicle SaaS Platform, Fleet Management, OTA OS for Infotainment Systems, Complete Cabin Solutions Provider of connected vehicle solutions for Great Wall, Toyota, Mercedes-Benz, BMW Production of 500,000 in-vehicle units annually	**Leading internet services enterprise** Connected vehicle big data analysis and value-added services Distribution through 200+ channels High technology reuse and development efficiency

High Technical Reusability

"Top-level architecture determines technology direction."

"Our core team stays at the forefront of new technology, leading the way consistently."

High Development Efficiency

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WHAT DO WE DO?

2nd-Gen High-Intelligence Robot Mobility Platform Based on Autopilot Core Technology

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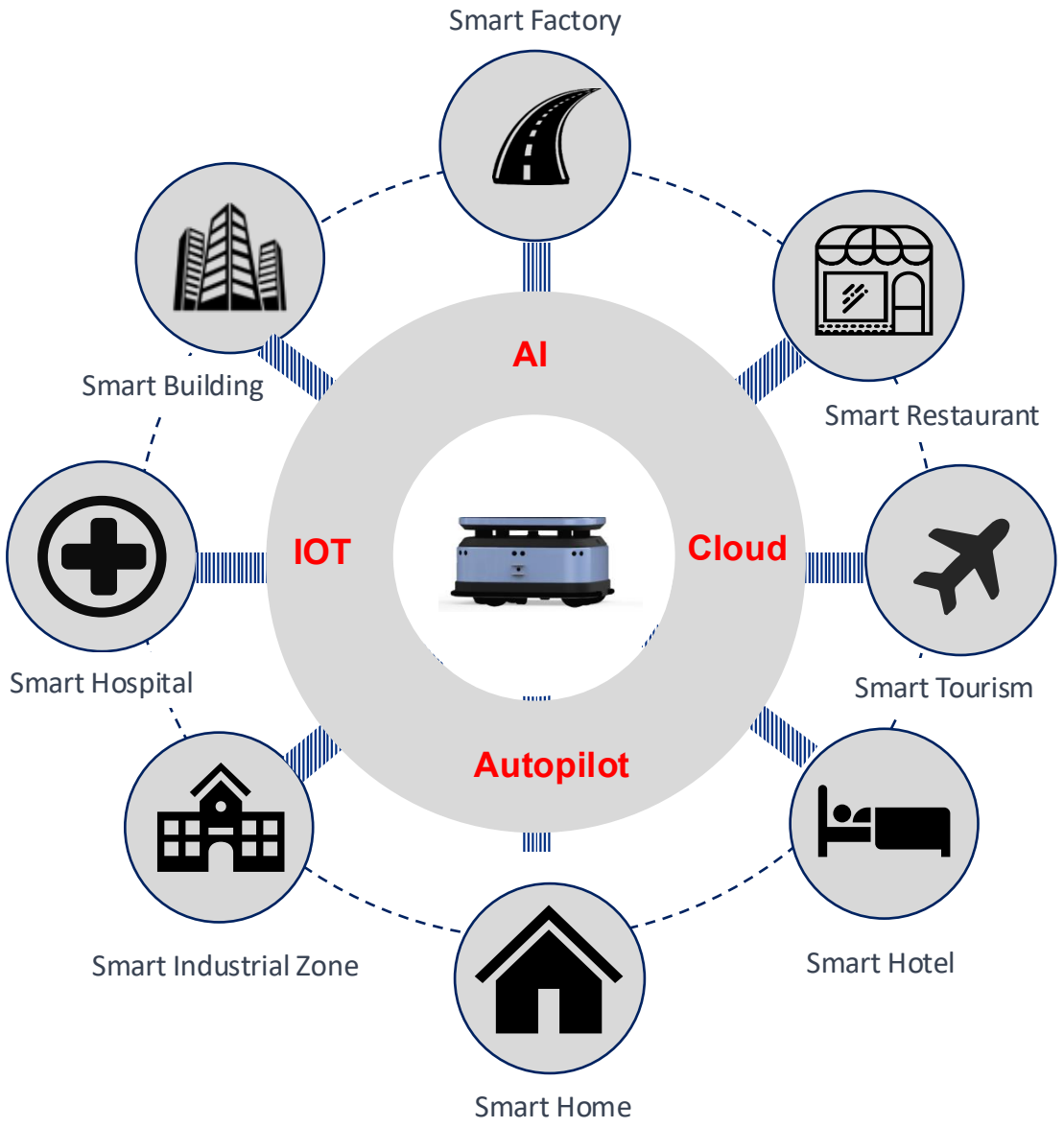

AMR	Hospitality Robot
Collaborative Robot	Inspection Robot
Restaurant Robot	Disinfection Robot
Hotel Robot	Cleaning Robot
Industry Delivery Robot	Home Service Robot
Low-Speed Outdoor Delivery Vehicle	Home Vacuum Robot

Robot Mobility Chassis = 'Feet' + 'Brain'

Standard product powered by AX RAP

Multi-Functional Delivery Robots
(for restaurants, factories, buildings, hospitals, etc.)

Disinfection Robots
(for large and small areas)

Robotics Autopilot Platform

Partnered Product Line Based on AX RAP

disinfection robot

Singapore BIOCAIR air cleaning robot

Customized pulsed light disinfection robot

Cleaning robot

Customized industrial delivery robot

Warehouse RFID statistical robot

Pick-up robot

Customized medical delivery robot

Customized medical delivery robot

Mobile charging of electric vehicles

Hospital Service Robot

Mobile Platform ＋Waste Recycle Bin

Instrument inspection robot

Robotics Autopilot Platform

Highly Recognized by Top Domestic and International Customers with Enormous Potential in the Global Market

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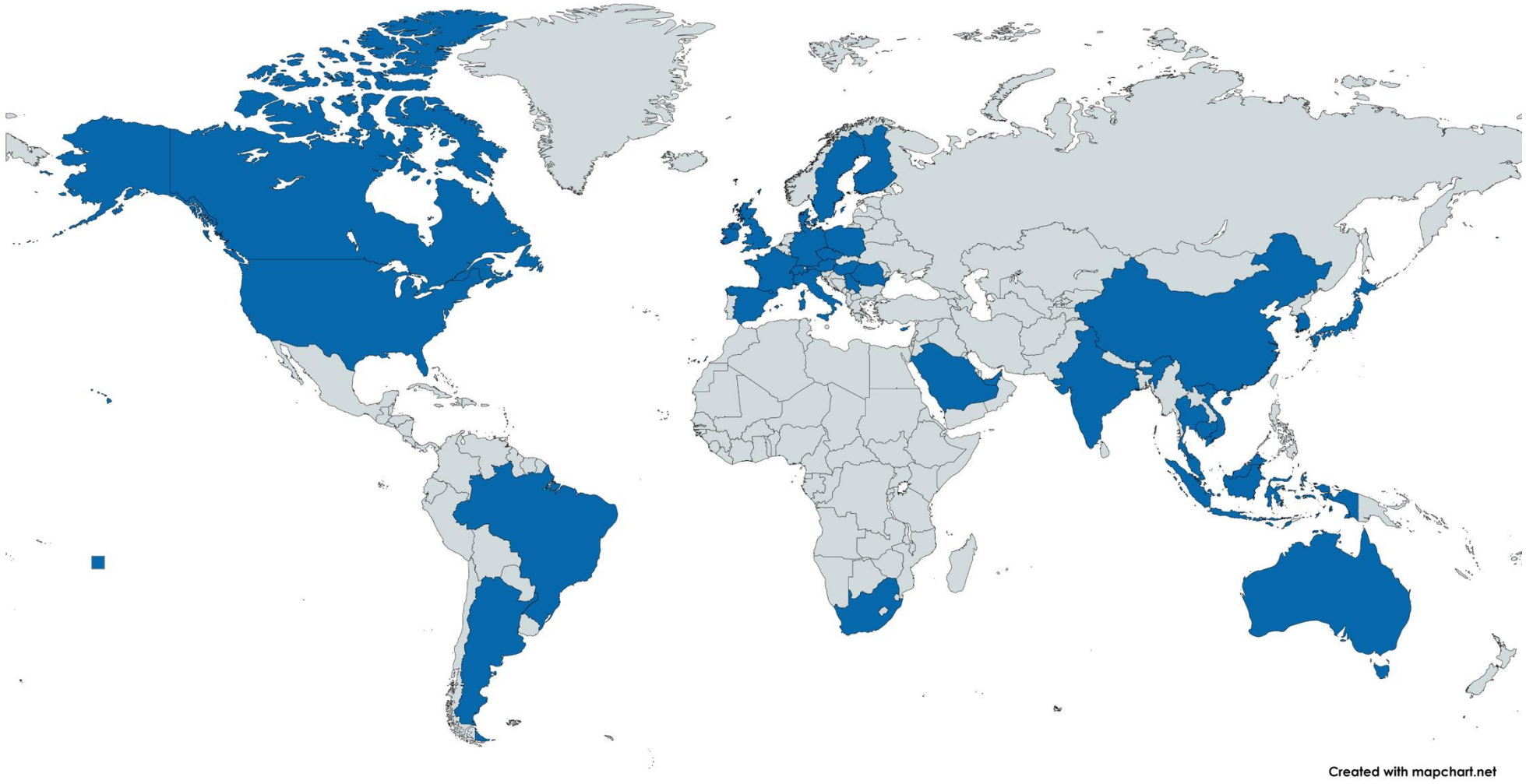

Fast growing in industry, Shipping 1000+ worldwide since the start of production within 2 years

Advanced Supply Chain Management with “Cost Effective + High Quality” Tool-Based Practice

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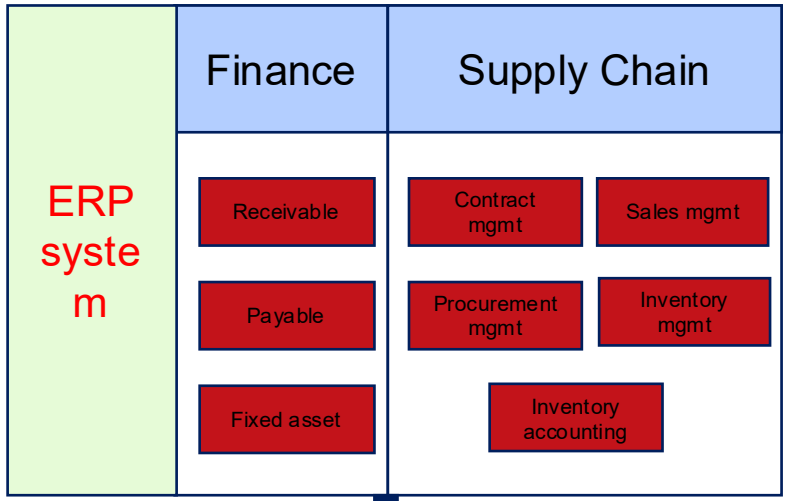
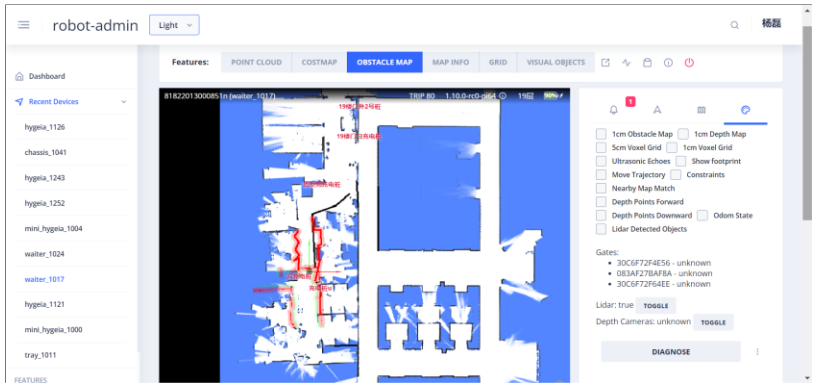
- Access to and optimized factory production, procurement and management systems to realize effective resources integration
- Full-process automation tool management + fine operation to reduce management cost

ERP system



Test report

Robot management platform



Automated testing tool

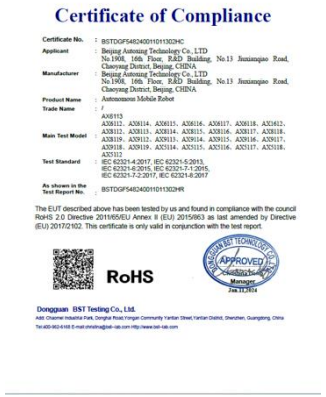
Passed Tests and Authoritative Certifications

Authoritative Certifications

CE

FCC

ISO13849



RoHS REACH Compliance

KC

ISO9001

MSDS

UN38.3

IOT Certificate

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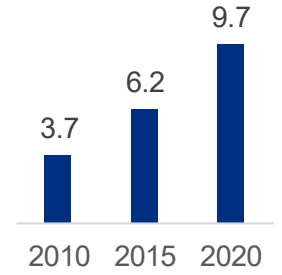
WHAT MAKES US UNIQUE & OUTSTANDING?

Strong Demand for Robots Drives the Boom of the Mobile Platform Market

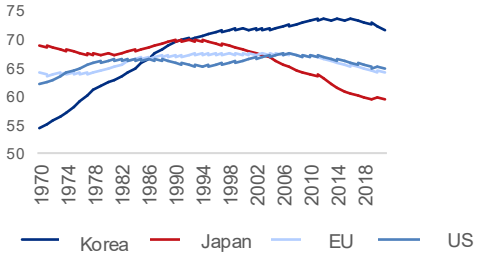
Acceleration of Automation Demand

- Decline in China's birth rate and aging population
- Service industry faces labor shortages and high turnover
- Increased labor costs for businesses

Average Urban Employment Wages in China (in 10,000 RMB)



% of Labor Force in Europe, America, Japan, and South Korea of the Total Population

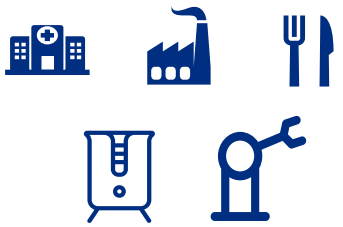


Strong Demand in Overseas Markets

- Global aging population increases the utility of robots
- Higher labor costs abroad encourage adoption of robots
- Weak competitive products overseas and high prices, giving domestic robot manufacturers long-term dominance in international markets

Rich Unexplored Scenarios

- Scenarios like restaurant delivery and cleaning have completed PMF validation
- Mobile chassis can empower a wider range of scenarios, such as combining mobile robots with air purifiers, robotic arms, cleaning equipment, etc...



Source: 1 & 2: EO Intelligence, China Market Data

Traditional Robotics Faces Technological Limitations

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Pain Points of Traditional Mobile Robots

Difficult to Deploy

Manual marking, manual path planning; requires on-site personnel, complex and inefficient processes

Challenging Positioning

Prone to losing positioning (changes in environment, sunlight interference, human intervention)

High Maintenance Costs

Lack of OTA, openness, unable to implement secondary customization, limiting diversification into industry applications

Challenges in Traditional Robotics Industry Development

- Chassis costs constitute over 50% of the total robot cost
- Integration of multiple sensors, drive systems, battery systems, and algorithm fusion for robot chassis demands significant software development investment
- High chassis development costs and lengthy development cycles impede widespread robot adoption across various industries

Robot Core Competencies (Mapping + Localization + Control) Outpacing Traditional Technologies by a Generation

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Adopting a Real-Time, High-Efficiency, Distributed Architecture Tailored for Autonomous Driving
Breaking Through Traditional Robot Technology Bottlenecks.

AutoXing RAP

Autopilot Framework

Automated Deployment

- **Exclusive Remote High-Precision Mapping**
  - ➢ Innovative Multi-Sensor Mapping Mode, Usable within Minutes
  - ➢ In-House Grid and Vector Map Fusion Technology with No Area Limitation
  - ➢ Offline-Online Hybrid Mapping Mode, Exclusive Support for Offline Mapping
- **Exclusive Autopilot Automatic Mapping Mode**

High Position Reliability

- No Need for MARKER or Other Physical Features Assistance
- Based on the powerful Cartographer algorithm within the autonomous driving framework
- Innovatively employing incremental mapping technology for precise indoor and outdoor positioning under complex environment
- An automatic self learning mechanism powered by AX AI.

Intelligent Plan and Control

- L4 Level Collision Avoidance Technology Integration Using Sensor Fusion Tech.
- Millimeter-Level Collision Avoidance Response and Motion Control
- The Only one doing with Strict Straight Navigation with 1cm Error Tolerance
- Up to Three Levels of Dynamic Path Planning Capability and Mutiple Route Navi Ability
- RCS with Multiple Robot Management and Flexible Map Configuration

On-Site Deployment Person-Days		Reliability of Localization	Failure Rate	Low Object Recognition Accuracy	Response Speed	Outdoor Navigation
1 day × 2 hours	**10** times efficiency improvement	30%-50%	20%-30%	10cm	sec	Not Supported
↓		↓	↓	↓	↓	↓
0 person × **20** min	**0** On-Site Labor Cost	**≈99%***	**≈2%**	**2CM**	**Milliseconds**	**Supported**

AX-Cloud：Cloud Intelligent Brain + Local Intelligence Forms Three-dimensional Matrix Management

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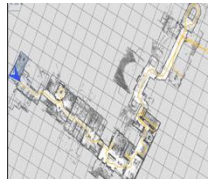
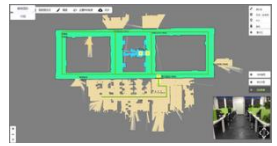
Terminal offline mapping ⟷ **Auto Deployment** ⟷ **Remote Deployment**



- Privatized deployment
- Offline deployment
- Easy to change
- Multiple terminal support

- Minute-by-minute mapping
- Centimeter scale HD 3Dmap
- Cartographer Enhanced algorithms
- Unlimited mapping area

- Remote deployment
- No need to be on site
- multi-robot synchronization
- Multiplayer collaboration



AX-KIT AI Termina;

Stand-alone Intelligence

Edge Computing ⟷

- Positioning
- Obstacle avoidance
- Navigation
- Terminal a priori handling
- Small arithmetic power
- Low cost

AX-Engine Autonomous Driving engine

⟷ **AI SaaS**

- Awareness
- Planning
- Control
- Multi-computer navigation: global + local road counting
- Cloud Commands
- AI Engine

AX-Cloud AI Platform

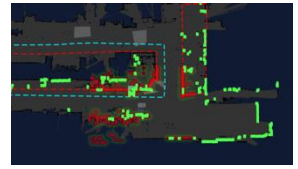
Cloud-computer Intelligence

Terminal Operations Management ⟷ **Full lifecycle OTA** ⟷ **Cloud Operations Management**

- Real time state
- Real time alarm
- Local reset
- Local upgrade

- Fault
- Maintenance information
- Daily Situation
- Environment Data
- Entire machine OTA

- Remote real-time warning
- Auto analysis
- Traceability of the problem
- Vehicle-specification grade OTA



AX-Cloud：Big data cloud computing platform + AIOT interconnection to create information integration

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Client side
- Robot APP
- Mobile phone、pad
- Large visualization screen
- Intelligent terminal

SaaS service
- Robot status
- Tasks status
- Task analysis
- Workflow management

PaaS service
- Operation management platform
- Mapping platform
- Monitoring platform
- Dispatch platform

Numerical Intelligence Base
- Data Center
- Equipment Center
- AI Center
- External Appliance

Robot side

AX-Cloud AI Platform

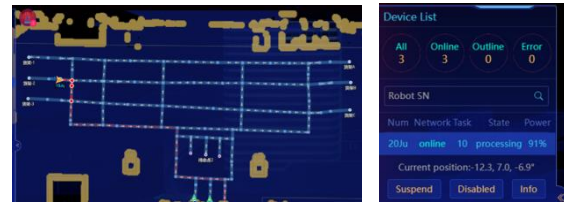
AX-KIT AI Terminal

AX-Engine Autonomous driving engine

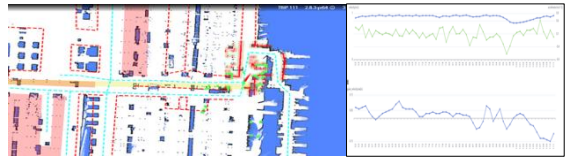
End+Item+Cloud Integrated IOT System

Telephone Elevator Gate Auto-door

Dispatch and Navigation Platform



Remote monitoring platform



Operations Visualisation Platform

Enabling the industry by the 'Robot+' strategy basing on Chassis technology

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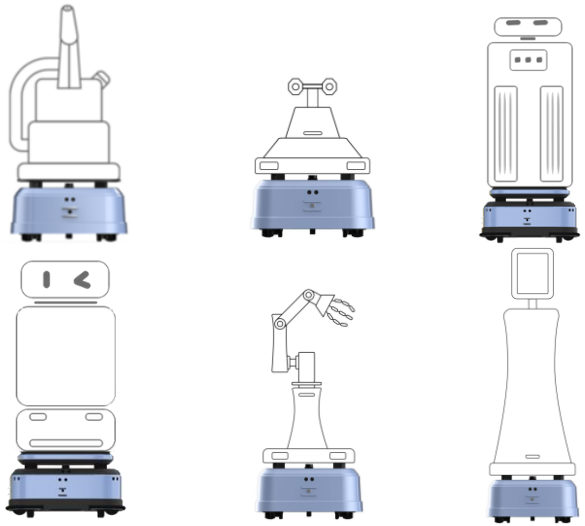
Robot Cloud Platform

IoT + V2X Smart IoT

Cloud Intelligence
Dispatch
Visualization
OTA
Data Fusion

- This system helps customers quickly build robots
- With minimal development required
- Significantly saves development time and costs

Robot Upper-Level Unit (Business Layer)

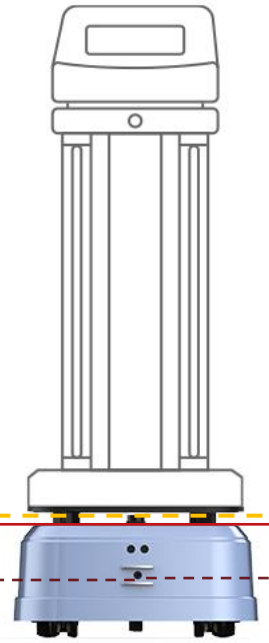


Robot Mobile Platform

(Software Layer + Hardware Layer)

Autopilot Algorithm

- HD map building
- Cm localization
- L4 sensor fusion obstacle avoidance
- Multi-level dynamic route planning



- Single-Line LiDAR
- Depth Camera
- RGB Camera
- IMU
- Wheel Encoders
- Optical Flow Sensor
- IoT Module
- V2X Module
- Suspension
- Dual-Arm Independent
- Hub Motors
- Differential Wheel
- Lithium Battery BMS
- Platform
- Centralized Computing

RAP Domain Controller Algorithm

Building the Most Comprehensive Platform-Level Developer Ecosystem

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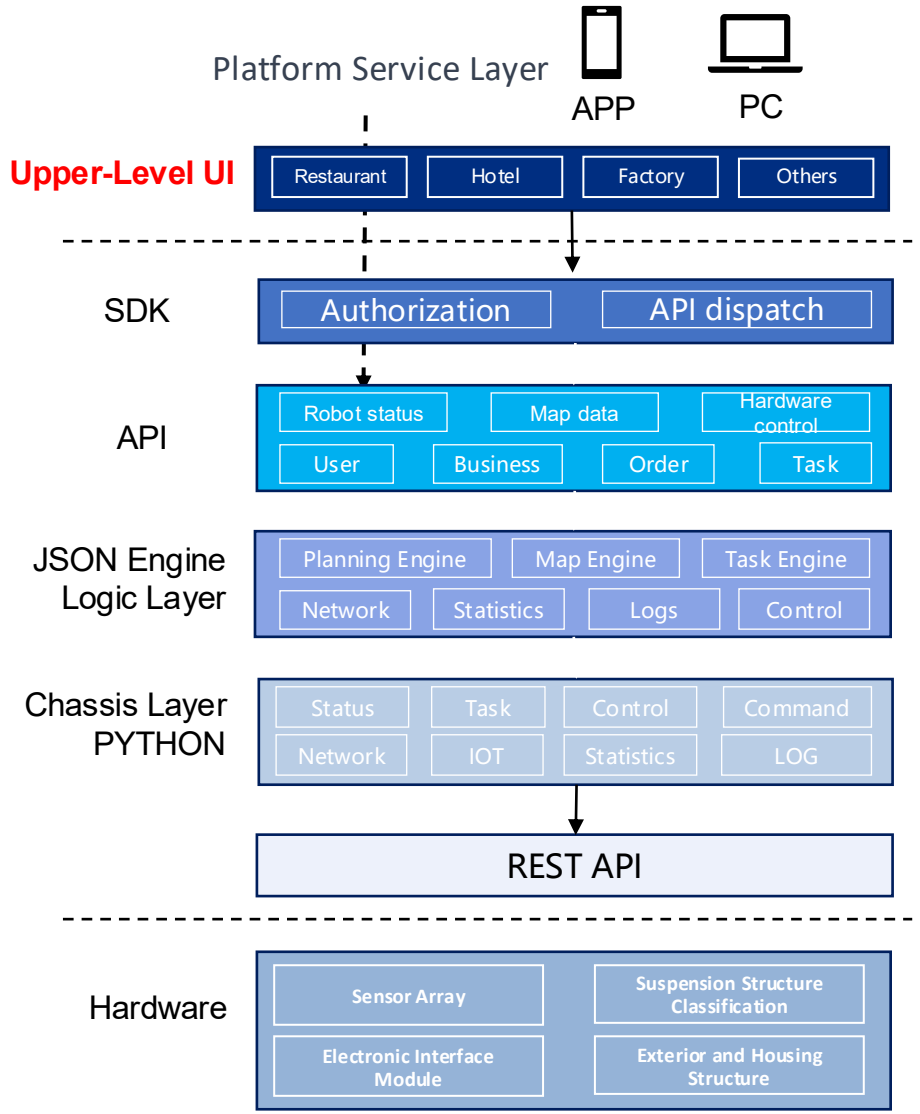
Offering future-oriented open interfaces and standards for a convenient and efficient secondary development mode, collaborating with ecosystem partners to empower and significantly enhance development efficiency.

Customer-Developed Upper-Level Software

Software Customization Interfaces

Modular Hardware Structure



Advantages of Open Architecture

- **Easy Accessibility, Cross-Platform**
- **Abundant Interfaces**
- **Low-Level Control**
- **Strong Expandability**

Greatly enhances customer product development efficiency, shortens development cycles, and standardizes the user experience.

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OUR VISION & MISSION

RAP Super Chassis Empowers Specialization and Ecological Development in Robotics Industry

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Ecosystem

Sales | Rental | Service fee | Maintenance

AX Robot Store: A multi-scenario mobile robot sales store with a wide range of categories

Industry Agents | **Robot Manufacturers** | **(Software and Hardware) System Integrators** | **Traditional Industry Equipment Suppliers**

AX Intelligent Terminals

In-house Complete Machines

Collaborative Complete Machines

Third-Party Empowerment

Third-party robots using AX kits, algorithms, and platforms

Cleaning | Transport | Inspection

AX Open Platform

GPT Developer Platform

Chassis	Standard Chassis	Collaborative Development Chassis	Third-Party Chassis
Adaptation Layer	Core Sensor Adaptation		
Platform	SLAM engine	Sensor fusion engine	Decision&movement control
	IOT&V2X	OTA	Remote deployment
	Monitoring dispatch management		

Autonomous Driving Domain Controller + Algorithm Suite

Relying on the RAP platform, establish a product system that spans multiple scenarios and industries.

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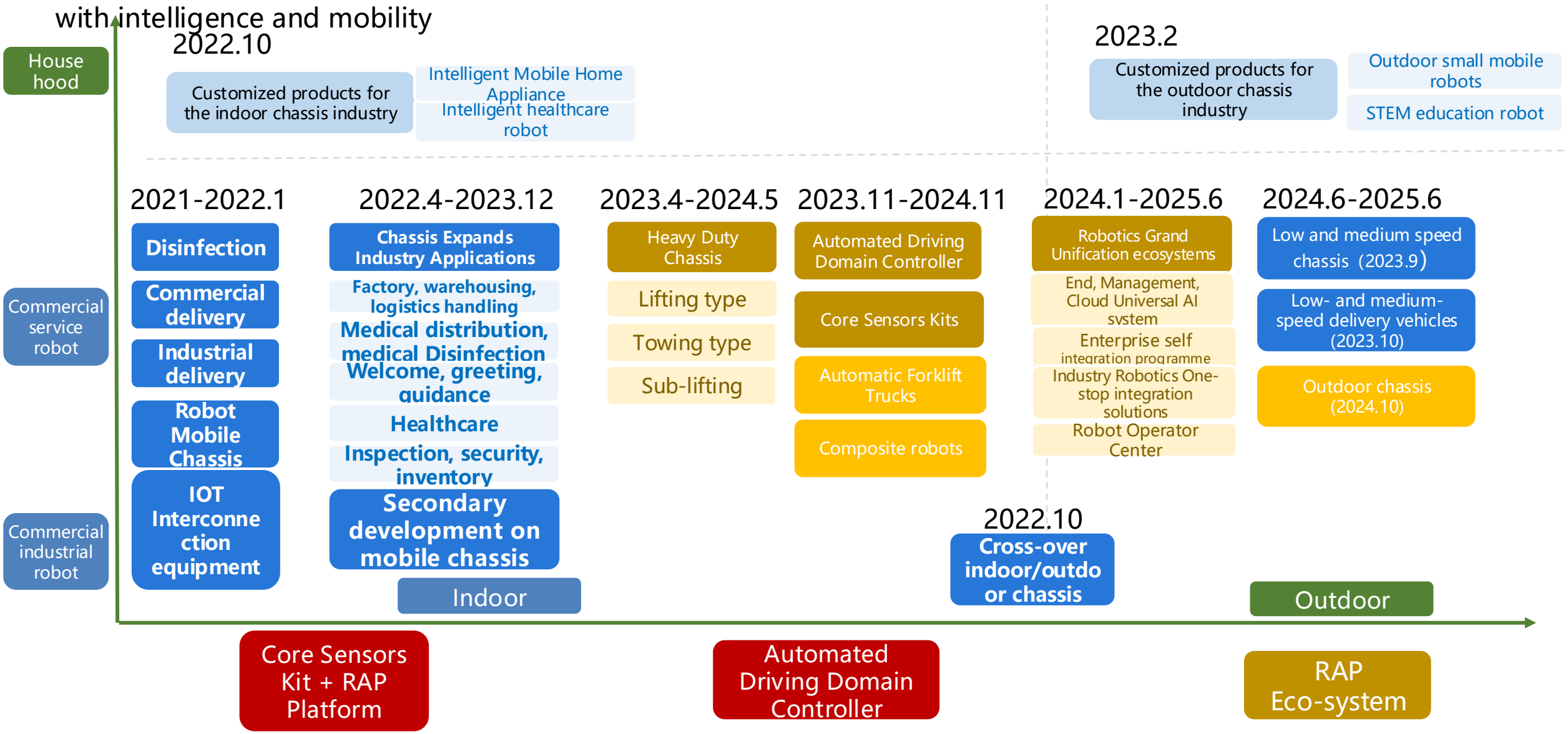
From indoor to outdoor, from service robots to industrial robots, deeply empowering traditional industries with intelligence and mobility



Full chain application of intelligent robots based on AI macro-models

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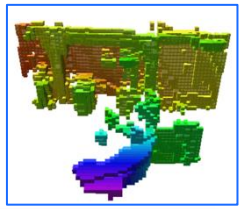
AX Large model application layer

Manufacturing | Logistics | Industry inspections | Information service | Catering, hospitality, retail | Medical, Education

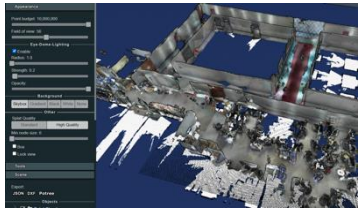
Powerful cognitive Centre

Unmanned deployment： ORB SLAM dense reconstruction

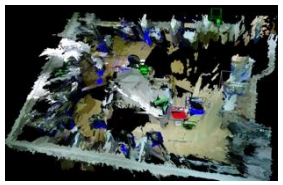
NLP prompt | 3Dstructural expression


Semantic Map | Metric Map | Feature Map | Topological Map



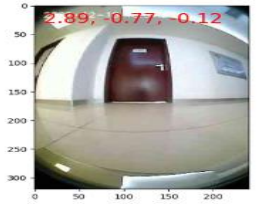
Structured semantics SLAM

Intelligent Learning Engine



Integrated sensory environment

Three-dimensional navigational decision-making



Semantic Parsing localization

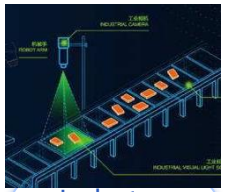
Obstacle avoidance control

Multimodal Interaction Specialist

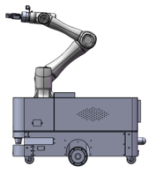
information interaction

Speech, text, terminal screen, gestures, images, etc.

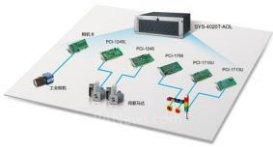
Industry Applications



Industry, Logistics Perception



Crawl



Equipment Intelligent Control

AX Large Model Kit Layer

RAG Agent Equipment & One-Click Service Calls

Semantic Maps | Semantic Navigator | Large Model Audio | Large Model Video | Large Model Visual | Large Model Text

AX Macro-model layer

Arithmetic resource | Markers | Sample Database | Framework Algorithm Library | Basic Model | Robotics Model

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APPENDIX