# AUTO MS ( MOBILE SUIT)
## Autonomous Navigation Robot

AUTO MS is designed for special application scenarios of hazardous chemicals such as flammable gas, dusty condition, petrochemical factory, gas station, hydrogen refueling station, ammunition depot, chemical terminal etc. It provides reliable and professional data collection and multi-function autonomous navigation robot platform.

Autonomous Navigation Robot

**AUTO MS ( MOBILE SUIT)** provides multiple solutions such as modular simultaneous localization and map building, autonomous navigation, path planning, autonomous obstacle-avoid etc. Supporting modular carrying and multiple application expanded.

Celerity Disassembly Application Modules

**Speaker**

**Acoustic Picker**

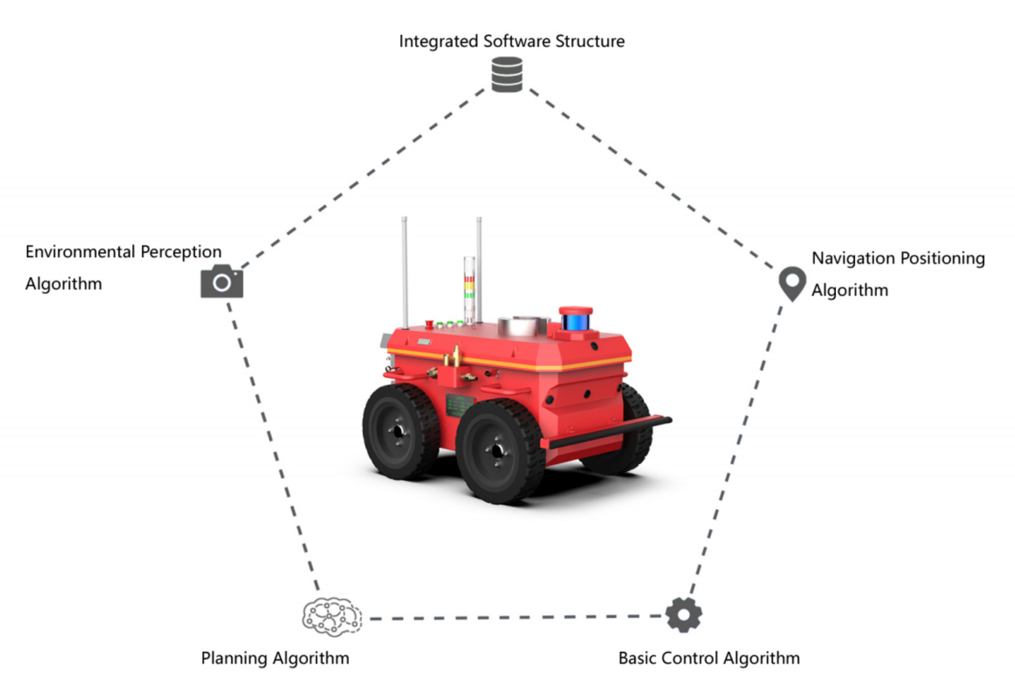
**Dual Light PTZ Camera**

**Robotic Arm**

**Gas Sensor**

Modular Mounting Suit Display

L4 Level Autonomous Navigation

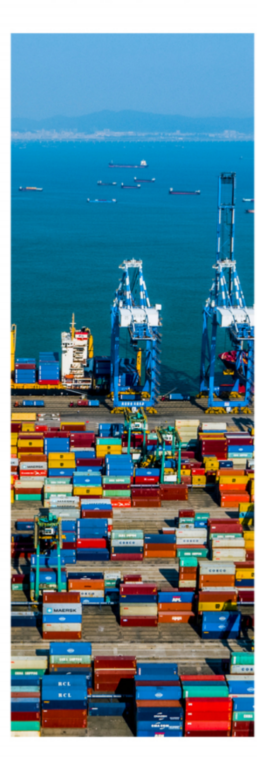

Integrated Software Structure
Environmental Perception Algorithm
Navigation Positioning Algorithm
Planning Algorithm
Basic Control Algorithm

Self-upgrade Ability by Matrix Algorithm

## AUTO MS Available for Multi Scenario Applications

Oil and Gas Field Station

LPG Station



Chemical Terminal

Hazardous Chemicals Factory

……future

……We would like to invite you to create more applications together with YUHESEN.

All Weather Operation

High Temperature

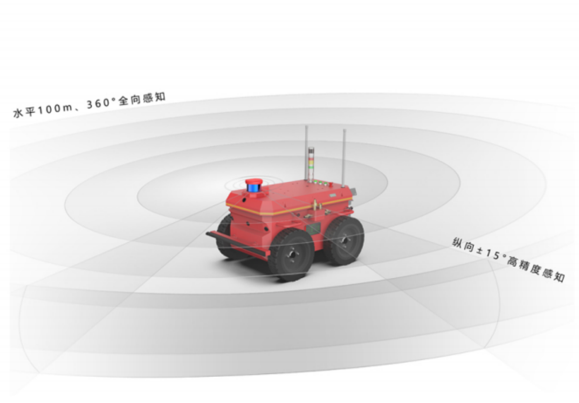
At Night

Drizzle

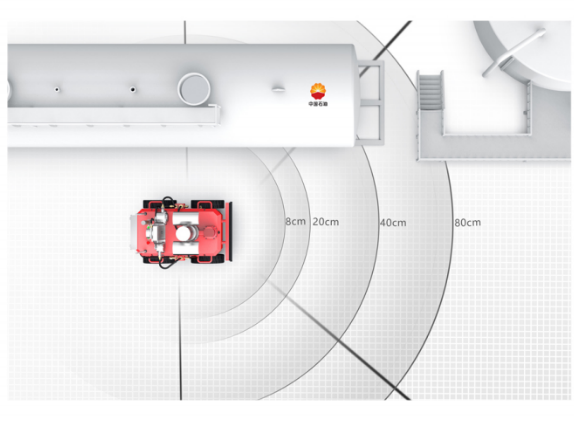
Windy

Light Snow

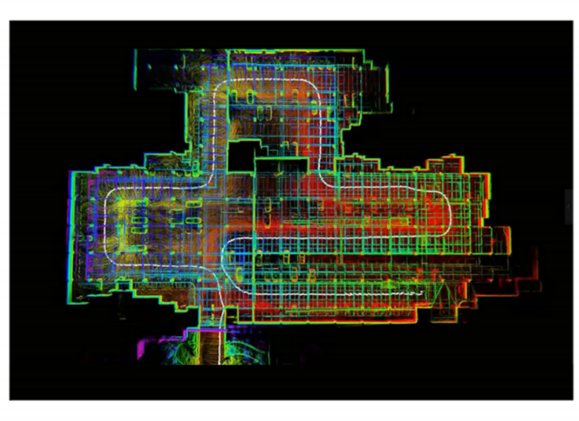
Fog



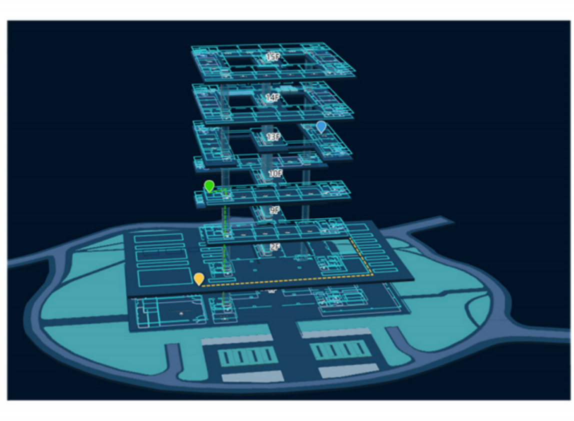
Multi-sensor Integrated Obstacle-avoid Capability



Centimeter-level High-precision Mapping and Positioning Capability



Large Scale Drawing



Adapting to Indoor and Outdoor Situation

## AUTO MS Navigation Robot Main Function:

Map building: precise 2D/3D map building.

Precise positioning: centimeter-level positioning accuracy.

Autonomous navigation: autonomous path planning from point to point.

Path planning: directly path drawing via APP.

Intelligent obstacle-avoid: autonomous create circumvented path.

Auto charging: autonomous connect charging port by setting charging mission.

Mission setting: multiple charging ports and mission points setting.

Multiple paths combination: free combined multiple paths accordingly.

Map edit: set restricted zone.

Standard SDK: realizing secondary development by robot platform' s auto-drive API interface.

Intelligent Obstacle-Avoid

Security Logic and Hardware Protection

Autonomous Path Planning

Autonomous Charging

2D/3D Map Building

16 Channels LiDAR

Path Drawing by APP

Multiple Sensors

Ex LiDAR

Ex IPC

Explosion-proof Wireless Charging Terminal

Ex 5G Antenna

## AUTO MS Configuration:

Sensors: 16 Channels LiDAR, Ultrasonic Probe.

Communication: vehicle-grade CAN, gigabit network interactive machine.

Positioning: dual antenna RTK module, navigation module.

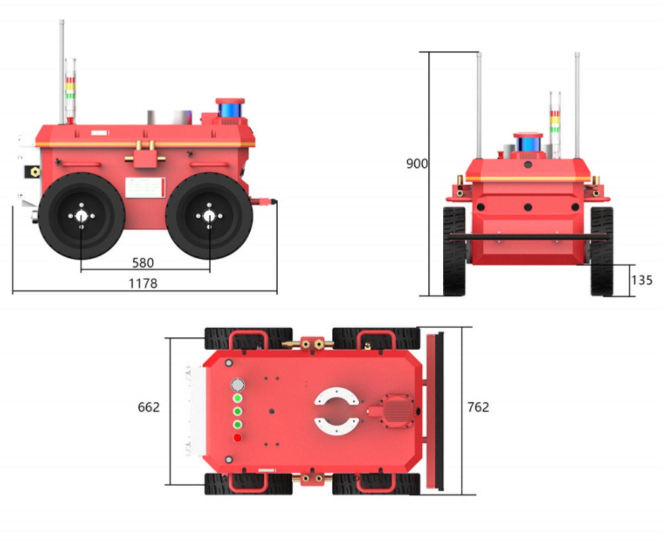
Computing power: NIVADA/INTEL.

Platform: FB-001.

Application: AUTO MS APP(Android)/Standard Secondary Development API.

## Specifications

| | | | |
|---|---|---|---|
| Product Size | 1178*762*900mm | Working Temperature | -20℃-60℃ |
| Weight | 270kg | Braking | Motor Brake |
| Drive Form | Differential 4WD | Parking | Motor Parking |
| Material | Q235 | Communication Interface | CAN 2.0B |
| Ground Clearance | 135mm | Kinematic Analysis | √ |
| Wheelbase | 580mm | Remote Control Range | 50m |
| Wheel Track | 662mm | Speed | 4.5km/h |
| Tire Outer Diameter | 400mm | Mileage | 15km |
| Motor | 1000W*4, DC Servo Motor | Wading Depth | 140mm |
| Battery | 36V/60AH | Climbing Capacity | 15° |
| Charging Time | 3-4h | Obstacle Crossing Height | 80mm |
| Charging Mode | 36V/18A-36V/6A Charger | Protection Level | IP65 |



**Technical Manual**

**ROS_PACKAGE**

**Modular Mounting Board**

**High Speed CAN Interface**

**When you become YUHESEN customers, we will provide you with professional and efficient technical services**

Technical experts will keep in touch with you regularly so that you can keep abreast of our product updates.

- **Open source technical support**
- **Hardware and software support**
- **Occasional return visits**
- **Technology upgrades**