



PUDU MT1 Max

AI-powered 3D Perception Robotic Sweeper





Product Overview

Product Features

Product Value



PUDU MT 1 Max

AI-powered 3D Perception Robotic Sweeper

Building on MT1, MT1 Max is enhanced for semi-outdoor environments such as residential courtyards and for areas with high-speed dynamic obstacles like parking garages. It features stronger perception with 3D LiDAR, greater computing power with dual SoCs, and improved obstacle-crossing capability. With optimized environmental adaptability and a fully automated workflow, it delivers a safer and more efficient cleaning experience for users.





Key Features



3D Perception Integration



Magic Cleaning



Smart Obstacle
Avoidance Upgrade



Empty the Facility of Any
Dirt & Trash



24/7 Continuous
Operation



AI Adaptive Cleaning



Covers Up to 100,000m²



Intelligent Active Interaction



Product Introduction





Product Specifications

Robot Dimensions(L×W×H)	840 × 600 × 675mm (33*23.6*26.6 in)
Robot Weight	85 kg (187.39 lbs)
Cleaning Capabilities	Sweeping
Cleaning Performance	Cover Cleaning Max. 2200m ² /h (23680.6 ft ² /h) Spot Cleaning Max. 7000m ² /h (75,347 ft ² /h)
Charging Time	< 3.5 h
Run-time	5-10 h, Standard Mode 8 h
Battery Capacity	60 Ah
Cruise Speed	0.2 m/s ~ 1.2 m/s (0.66 ft/s–3.94 ft/s) (adjustable)
Cleaning Width	70 cm (27.6 in) (with side brush)
Navigation	VSLAM + Marker + 3D LiDAR SLAM
Waste Container Capacity	35 L (9.25 US gal)





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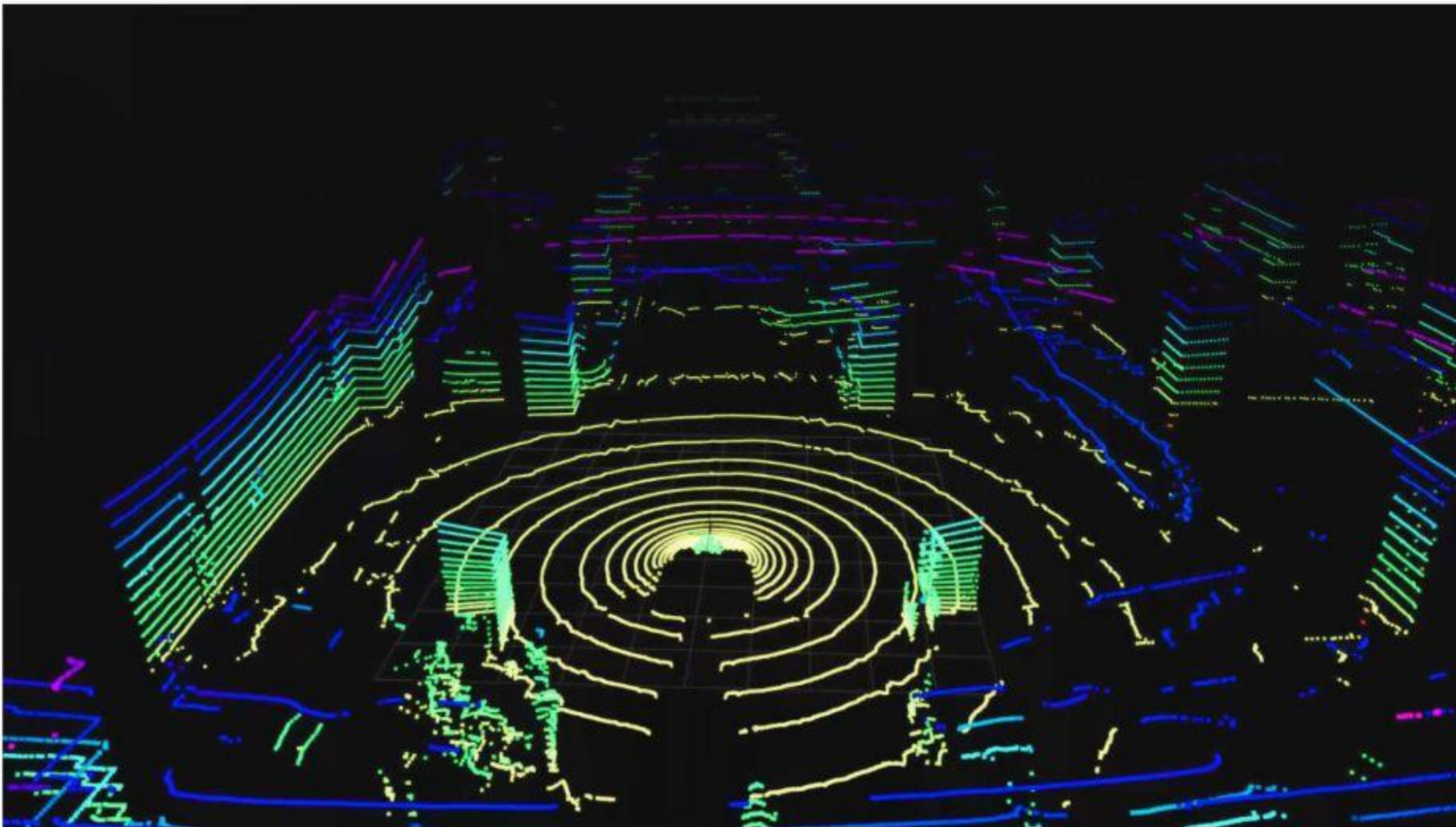
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3D Perception Enhancement



MTI Max uses 3D LiDAR and multi-sensor fusion to accurately perceive and understand complex environments.

It delivers precise mapping and stable navigation in settings ranging from ultra-high ceilings and glass rooftops to semi-outdoor spaces and low-light conditions.

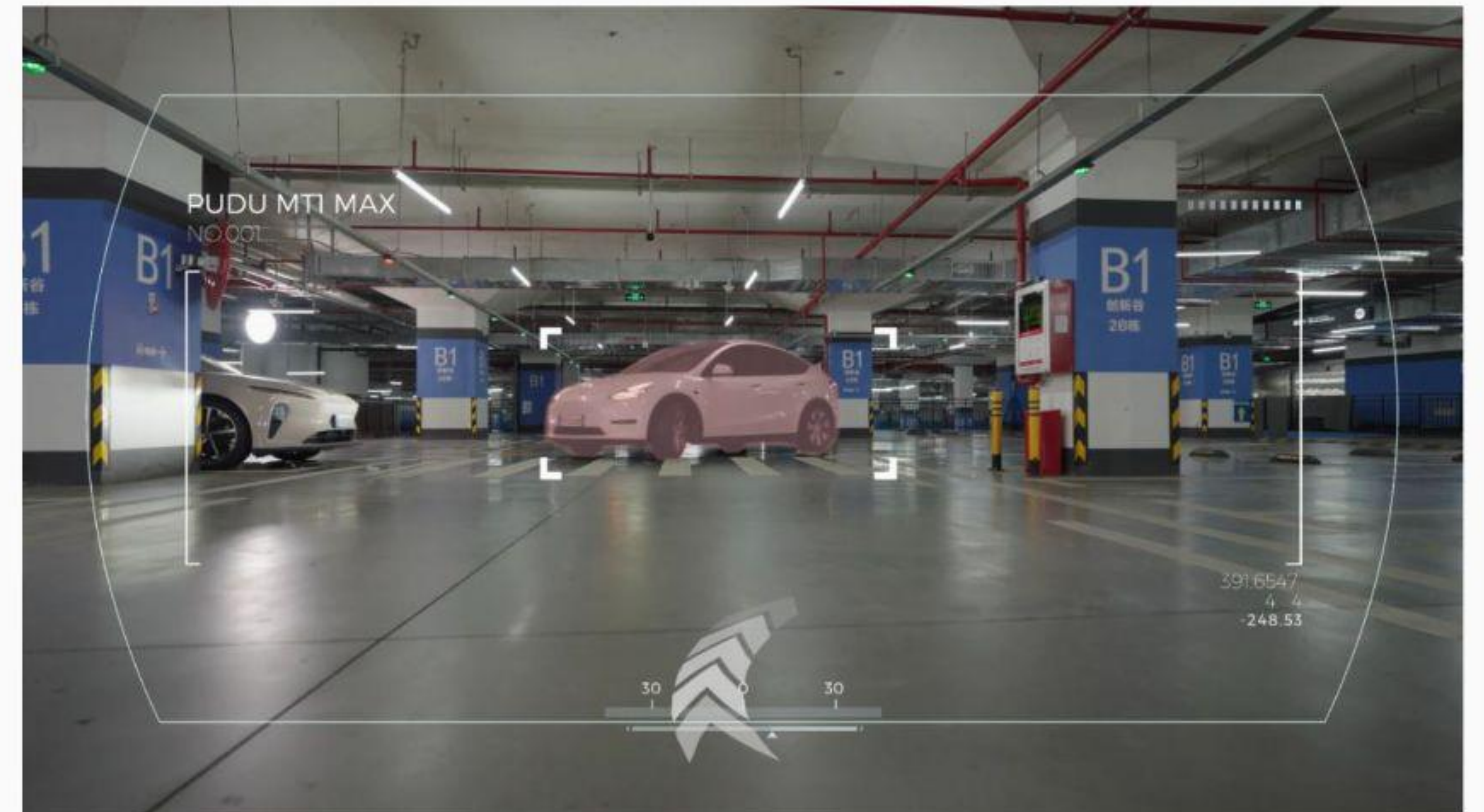
Even in heavy dust, sandstorms, or fog, it maintains accuracy, responding swiftly to vehicles and adjusting seamlessly to changing surroundings.



Smart Obstacle Avoidance Upgrade

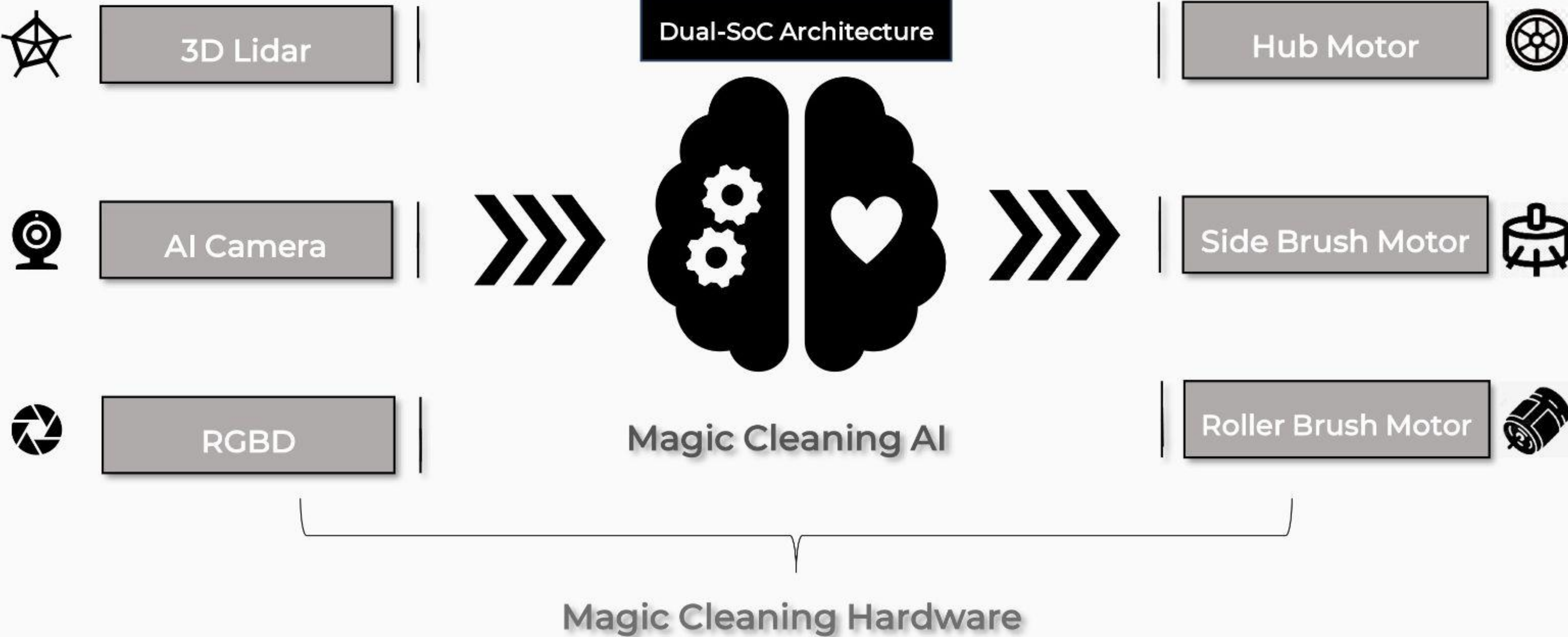
MTI Max features a fully upgraded obstacle avoidance system with 3D LiDAR, enabling smarter dynamic avoidance and differentiated strategies:

- MTI Max can stop to let vehicles pass, pause at lane entrances, or edge aside while keeping the route clear and traffic undisturbed.
- Detects sudden movement from people or animals, responding instantly to ensure safety.





Magic Cleaning





Magic Cleaning



Featuring a dual-chip architecture, MTI Max doubles computing power to enable more precise AI recognition and faster processing, while built-in redundancy ensures stable operation.

Hardware-software integration allows sensors, hub motors, side brushes, and main brush to work in harmony, powering AI adaptive cleaning, AI trash recognition, and AI spot cleaning.



Magic Cleaning



Cleaning mode adaptation

Automatically lowers brush settings for light debris to prevent scattering, and increases pressure for heavier waste to ensure complete removal.

AI Adaptive Cleaning Strategy



Cleaning posture adaptation

Automatically adjusts body alignment when debris is detected, positioning it between the side brushes for thorough pickup without omissions.



Magic Cleaning



AI Trash Recognition

Equipped with an AI camera, PUDU MT1 Max accurately identifies different types of waste in real time, continuously improving through deep learning and database updates.

AI Spot Cleaning

Targeted & Precise: the PUDU MT1 Max combines an ultra-wide scanning view with routine patrols to detect waste accurately and remove it efficiently, delivering smarter and more convenient cleaning.



Empty the Facility of Any Dirt & Trash

70 cm

Cleaning Width

0 cm

Edge Cleaning

35 L

Trash-bin Capacity

MTI Max removes everything from cigarette butts and paper scraps to large bottles in a single sweep.

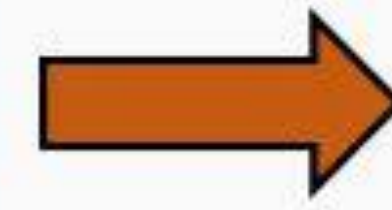




Automatic Filter Cleaning



Before



After

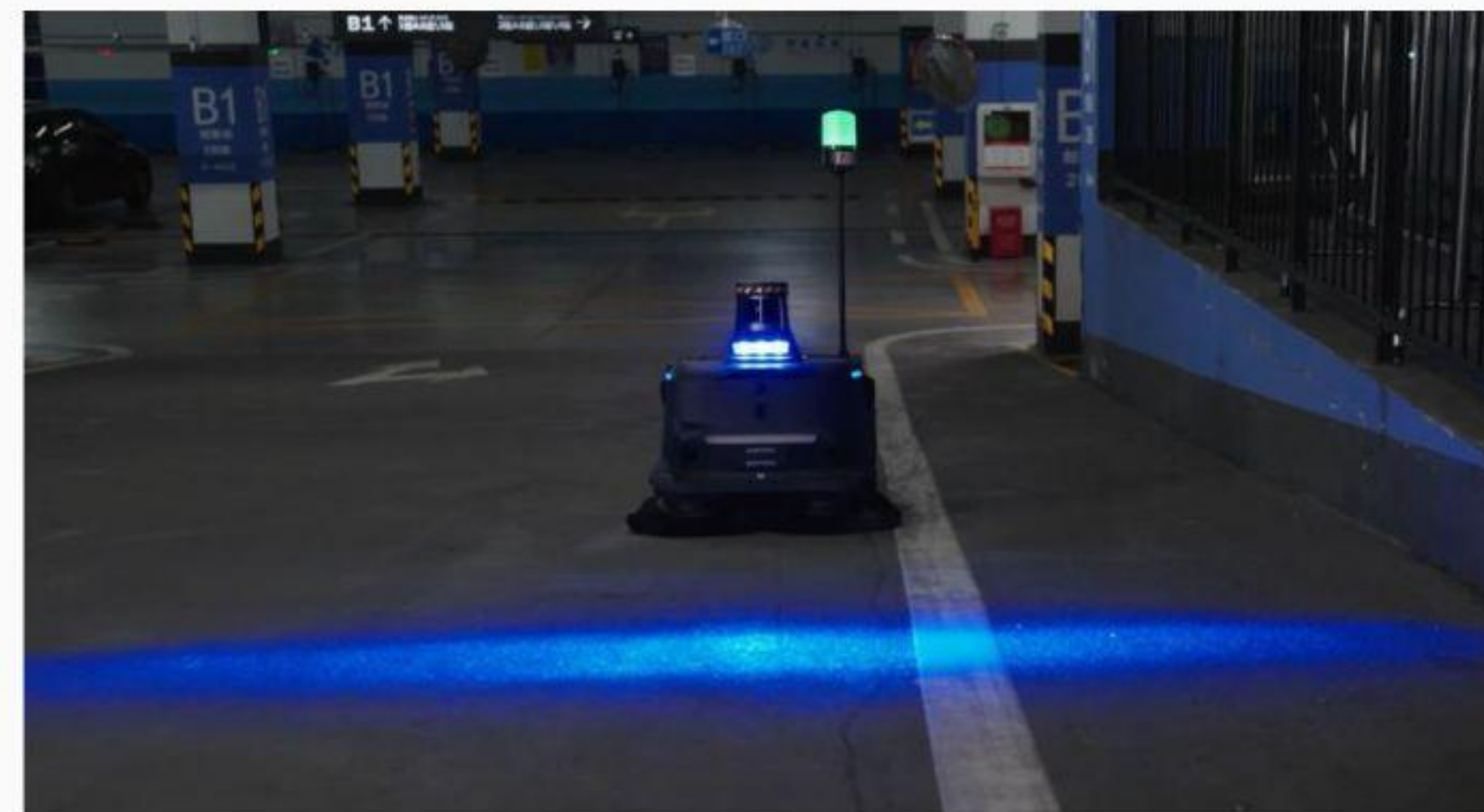
An internal vibration system keeps filters clear in real time, preserving suction and filtration efficiency while extending component life. The process is fully automatic, eliminating manual upkeep and reducing maintenance frequency.



Intelligent Active Interaction

MTI Max features multi-dimensional safety upgrades. Combining structural protection with intelligent responses, along with audible and visual alerts, slope climbing and obstacle overcoming, and proactive rain avoidance, it **actively senses and intelligently responds to its environment.**

- Equipped with a 1.2-meter high warning light and a **safety projection light**, combined with audible and visual alarms, MTI Max enhances visibility for pedestrians and vehicles, proactively preventing potential risks.
- Crosses 5 cm speed bumps
- Climbs slopes up to 8°





Intelligent Active Interaction



- Full IP54 sealing defends against dust ingress and water spray for consistent reliability.
- Automatically **detects water drops*** and triggers a protective avoidance mode, **guiding the robot to safe zones** while reducing electrical risks.
- Operating Temperature: -10 ~ 45 °C, with temperature sensor

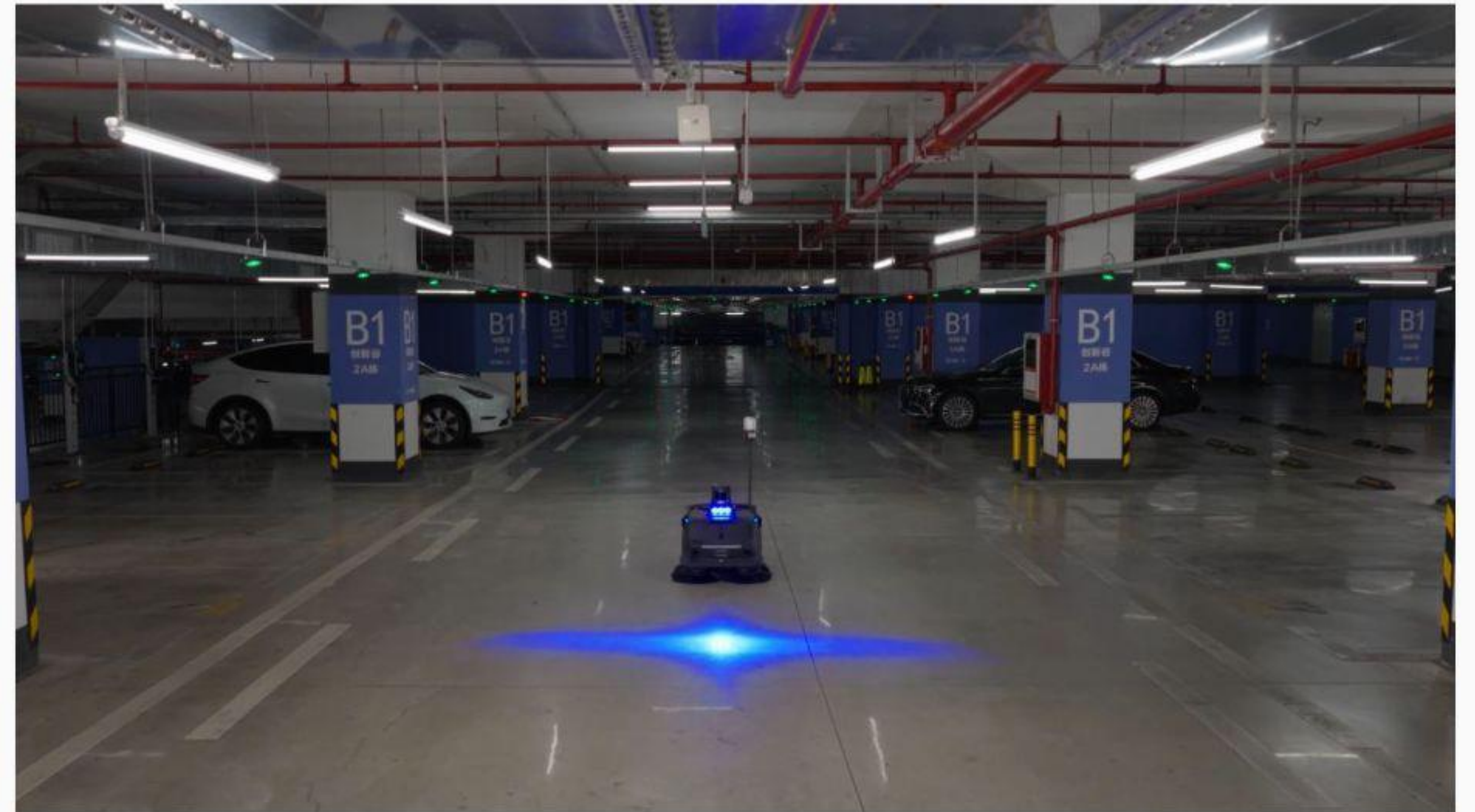
*Do not perform cleaning tasks in extreme weather.



Design for Big Venues

100,000m² (1.08 million ft²)

Professional dry cleaning for spaces larger than 100,000m².





User-friendly Design



Manual Operation Supported

The retractable handle allows staff to manually move the robot between cleaning areas as needed.



24/7 Continuous Operation

Extended Run-time, Always-on Performance

With a large battery, fast-charging system, and automatic charging station, the MTI Vac supports 24/7 operation—ready anytime for high-frequency cleaning needs.





IOT Capabilities

IoT Integration

Connects with IoT infrastructure like elevators and access gates for multi-floor operation. Supports remote monitoring via phone or PC, offers real-time updates, cleaning reports, and overflow alerts for efficient management.



PUDU Link (App)



Elevator Control Module



E-gate Control Module





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Parking Garage



Factory Aisle



Residential Courtyard



Campus



Shopping Complex



Shopping Complex Surroundings



Supermarket



Office Building



Airport / Transportation



Resort



Sports Venue



Event Venue



Urban Square



Sidewalk



Park Trail



Waterfront Parking Lot



Supermarket Parking Lot



Community Courtyard



Office Building Parking Lot



Train Station Square



Industrial Park Parking Lot



Park Square



Street-side Sidewalk



Residential Parking Lot



Product Value

A Systematic Cleaning Solution for Large Spaces

The MTI Max, built on powerful sweeping capabilities and a large-capacity dustbin, combined with an AI recognition system, supports long-duration, low-interruption operations. It reshapes traditional large-scale cleaning methods and helps customers establish a standardized, scalable cleaning workflow.



Measurable and Repeatable Cleaning Efficiency

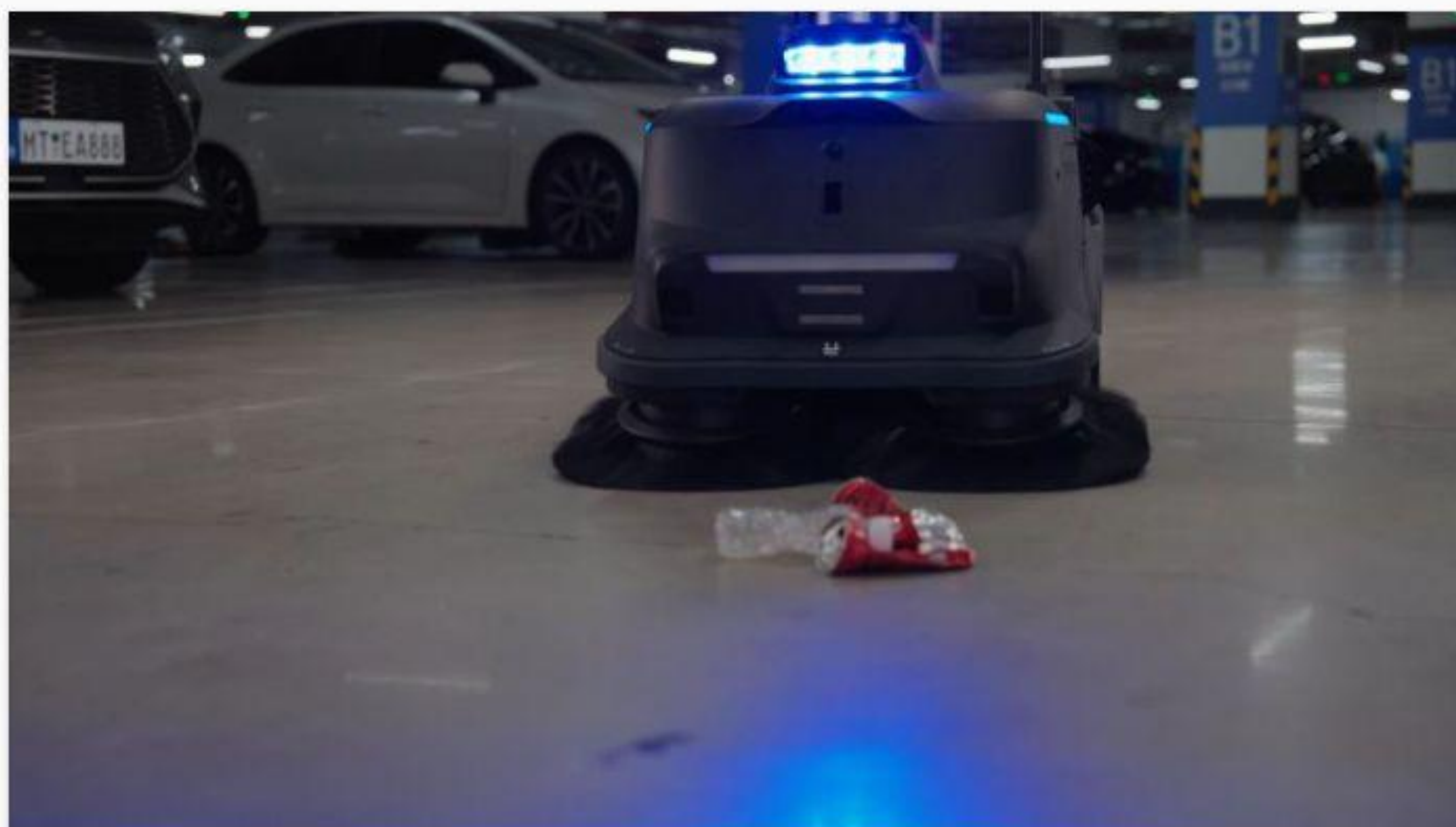
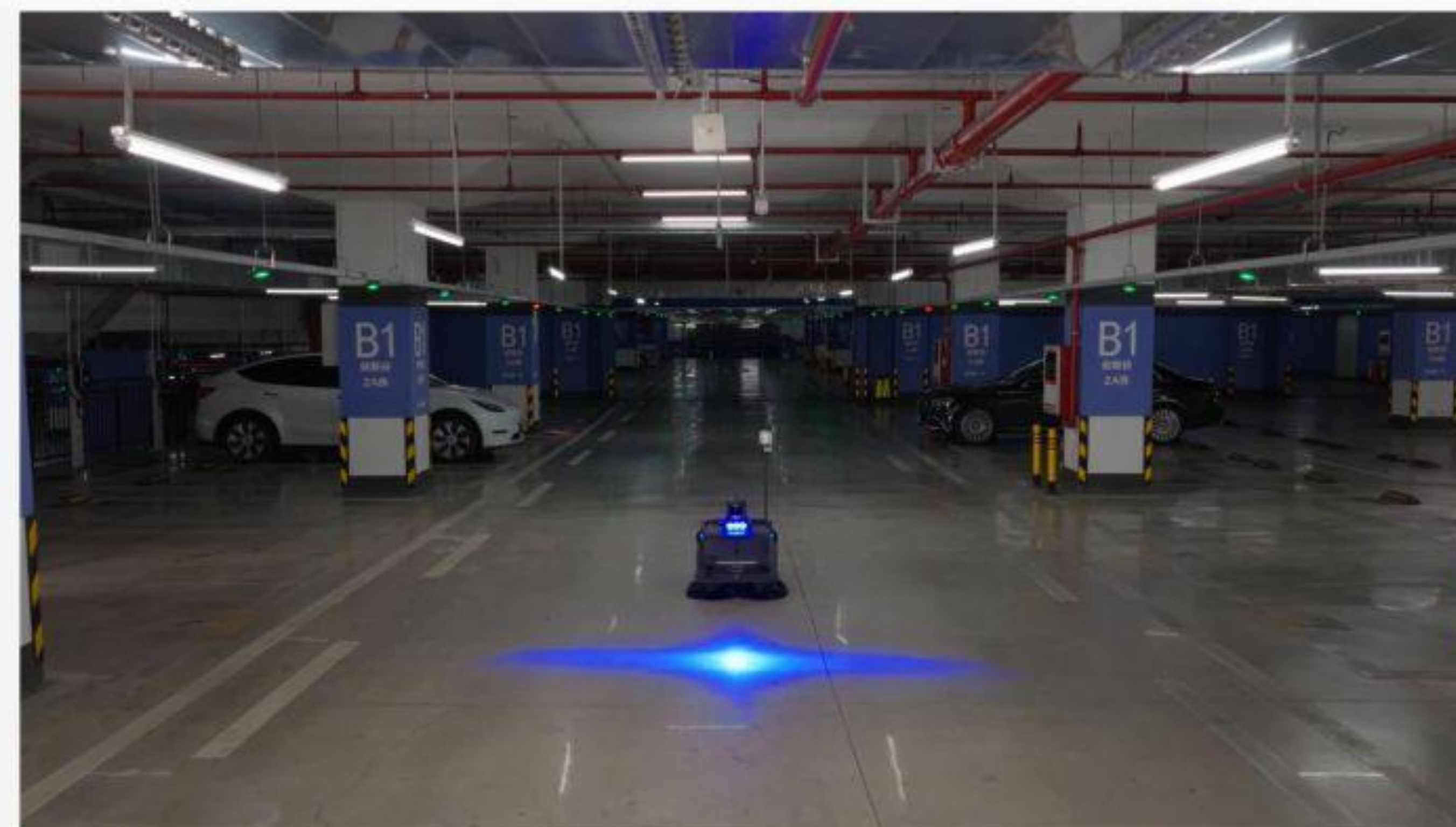
The MTI Max leverages intelligent sensing, dynamic path optimization, and full-scenario autonomous operation to multiply the efficiency of traditional cleaning methods. It reduces reliance on manual labor, shortens cleaning cycles, and directly lowers cleaning costs per unit area while optimizing operational workflows.



Product Value

Reliable Operation in Complex Environments

With 3D LiDAR and VSLAM fusion positioning, combined with omnidirectional environmental perception, the MTI Max achieves high dynamic adaptability. It can operate continuously and stably even in low-light conditions, semi-outdoor spaces, high-traffic areas, and rapidly changing environments, providing strong support for unattended operation models.



Free Up Labor for Higher-Value Tasks

With 24-hour continuous operation and an ultra-simple maintenance design, the device can independently handle routine repetitive tasks, freeing up human resources for higher-value work and effectively enhancing the organizational efficiency and role alignment of cleaning teams.



About Pringle Robotics

Pringle Robotics

Leading the Way in Human-Robot Partnerships

Headquartered in Peoria, Illinois, Pringle Robotics is a developer of integrated robotic solutions for people-focused industries. We create service robots that help people work smarter, faster and with less stress so that they, in turn, can better deliver the high-value customer care that matters most.

All of our robots are designed from the ground up for autonomous operation, and natively built with the latest AMR operating system—never retrofitted. Our line of BoTs ranges from hosting, serving, dish bussing and delivery for the hospitality industry to cleaning, disinfection and secured delivery for complex, large scale facilities like hospitals and schools.

Our Mission

Pringle Robotics is a company on a mission to elevate people-focused industries for the benefit of all through practical automation.

Our Vision

Creating Autonomous Solutions that empower people and communities to be Productive and Safe. We believe in continuous innovation and integration with other platforms to build the most useful and flexible robots in the industry.

How Do Our BoTs Help Facilities?

Quite simply, by letting people do what they do best. In shifting time consuming and repetitive tasks to robots, human workers can focus on the higher-value work. This practical automation improves operational efficiency, lowers costs related to hiring and retention, and boosts satisfaction all around.

What Sets Pringle Robotics Apart?

We're just as committed to our customers as you are to yours.

While some technology providers focus on sales, we're focused on solutions. We approach each customer engagement as innovation-obsessed collaborators, committed to not only providing the widest and most versatile range of service robots on the market—but also backing them up with the industry's most comprehensive customer support. In-depth on-site training, unlimited virtual technical support and round-the-clock remote robot monitoring are standard components of our customer care philosophy.

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THANK YOU

Contact us

