

PUDU BG1 Series

AI-Native Large Scrubber-Dryer Robot





CONTENT

About BG1 Series

Key Features

Application Scenarios



Product Appearance

Sensor

Audio-Visual
Warning System

Cleaning Mechanism





Product Appearance

Sensor

Audio-Visual
Warning System

Cleaning Mechanism

Others

Emergency Stop Button

Control Joystick

Storage Box

RGBD

Suction Pipe

AI Camera

Front Fill Light

LiDAR

Dual Cleaning Agent Boxes

Suction Pipe

Squeegee

3D VSLAM Camera

Power On/Off Button

Outline Light

Semi-automatic Water Inlet
(Supports Auto-stop When Full)

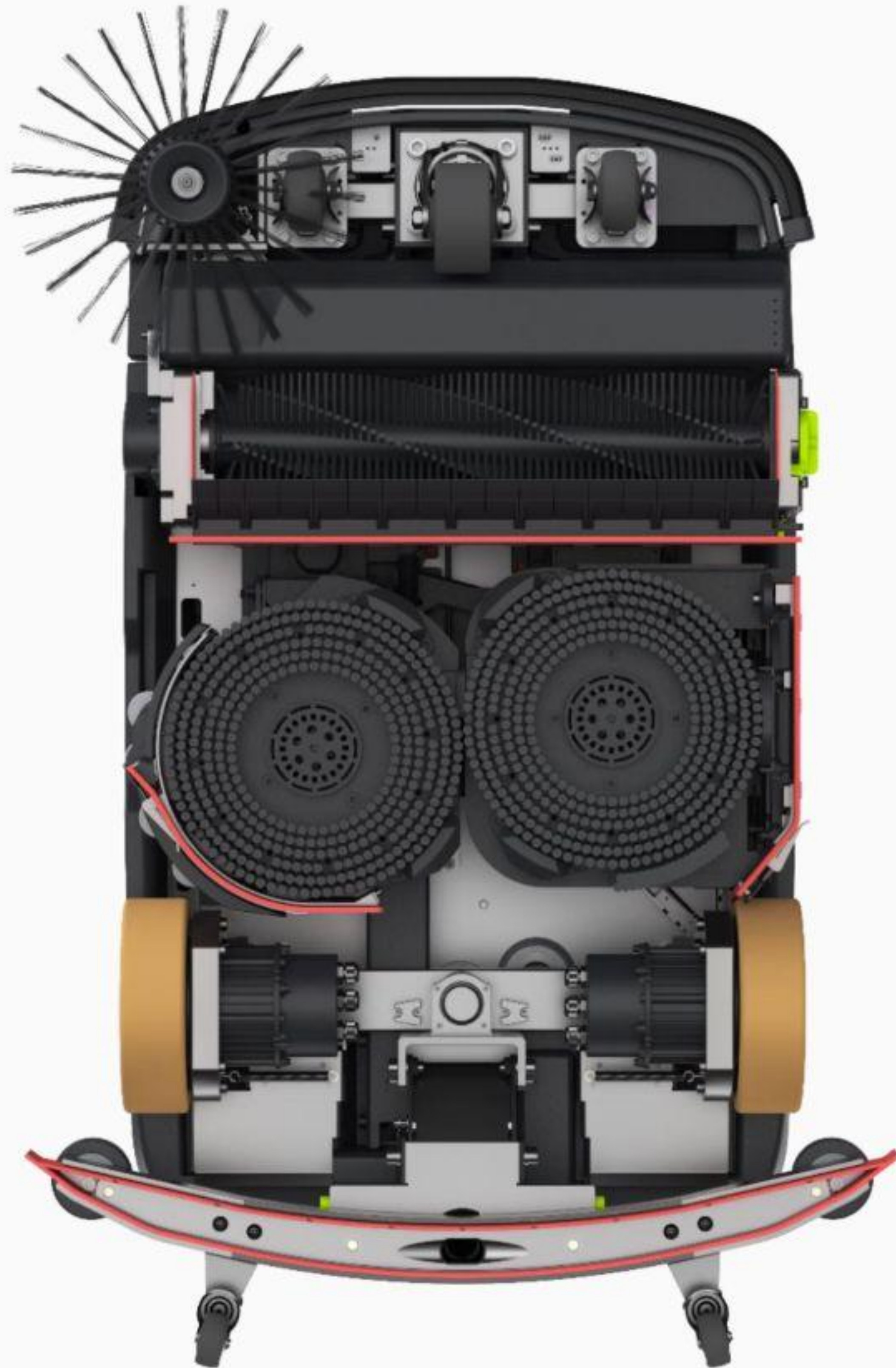
RGB Camera

Extended Disc Brush





Core Functions



**One-Pass
Sweep & Scrub**



**Extendable
Edge Cleaning**



**Instant, User-friendly
Maintenance**



AI Magic Cleaning



**3D Perception
Enhancement**



**24/7
Continuous Operation**

- **Scrubbing, Polishing, Sweeping, Dust Mopping**
- **Dual Cleaning Agent Automatic Real-time Mixing**
- **Ultra-long Run-time, Ultra-high Cleaning Efficiency**

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Product Specifications

	PUDU BG1	PUDU BG1 Pro
Total Machine Weight	approx. 344 kg (approx. 758 lbs)	
Overall Dimensions	1195x760 x 1303 mm (with squeegee) 1120x660 x 1303 mm (without squeegee) 47.0x29.9 x 51.3 in (with squeegee) 44.1x25.9 x 51.3 in (without squeegee)	
Battery Capacity	90Ah (48V platform, equivalent to 24V platform 180Ah)	
Run-time	Front sweep, rear scrub, up to 7.5h , Standard mode 5.5h+	
Charging Time	High voltage area (AC≥180V): about 3h Low voltage area (AC≤180V): about 4.5h * Adapter auto voltage recognition	
Cleaning Capability	Sweeper-scrubber integration, dust mopping (optional), polishing (optional) Supports Extendable Edge Cleaning, Dual Cleaning Agent Real-time Mixing	
Navigation Method	LiDAR + 3D VSLAM Fusion Positioning	3D LiDAR + 3D VSLAM Fusion Positioning



Product Specifications

	PUDU BG1	PUDU BG1 Pro
Min. Path Clearance	85 cm(33.5 in)	
Cleaning Width	550 mm / 708 mm (with side brushes) 21.65 in / 27.87 in (with side brushes)	
Cleaning Efficiency (Scrubbing)	Covered Cleaning Mode: Max. 2000 m²/h Spot Cleaning Mode: Max. 6000m ² /h Covered Cleaning: Max. 21,528 ft²/h Spot Cleaning Mode: Max. 64,583.4 ft ² /h	
Dust Box Capacity	5L 1.32 Gal (US)	
Water Tank Capacity	Clean Water Tank: 75 L Waste Water Tank: 60 L Clean Water Tank: 19.81 Gal (US) Waste Water Tank: 15.85 Gal (US)	
Cleaning Agent Box	Dual Cleaning Agent Box , total capacity approx. 7L	
Unattended Operation	Supported (requires optional charging/docking station)	





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AI-Native Cleaning Robot?

Hardware Design → ~~AI-Power~~ → AI-Native



AI-Native Cleaning Robot

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Precisely executed "Hardware Degrees of Freedom"

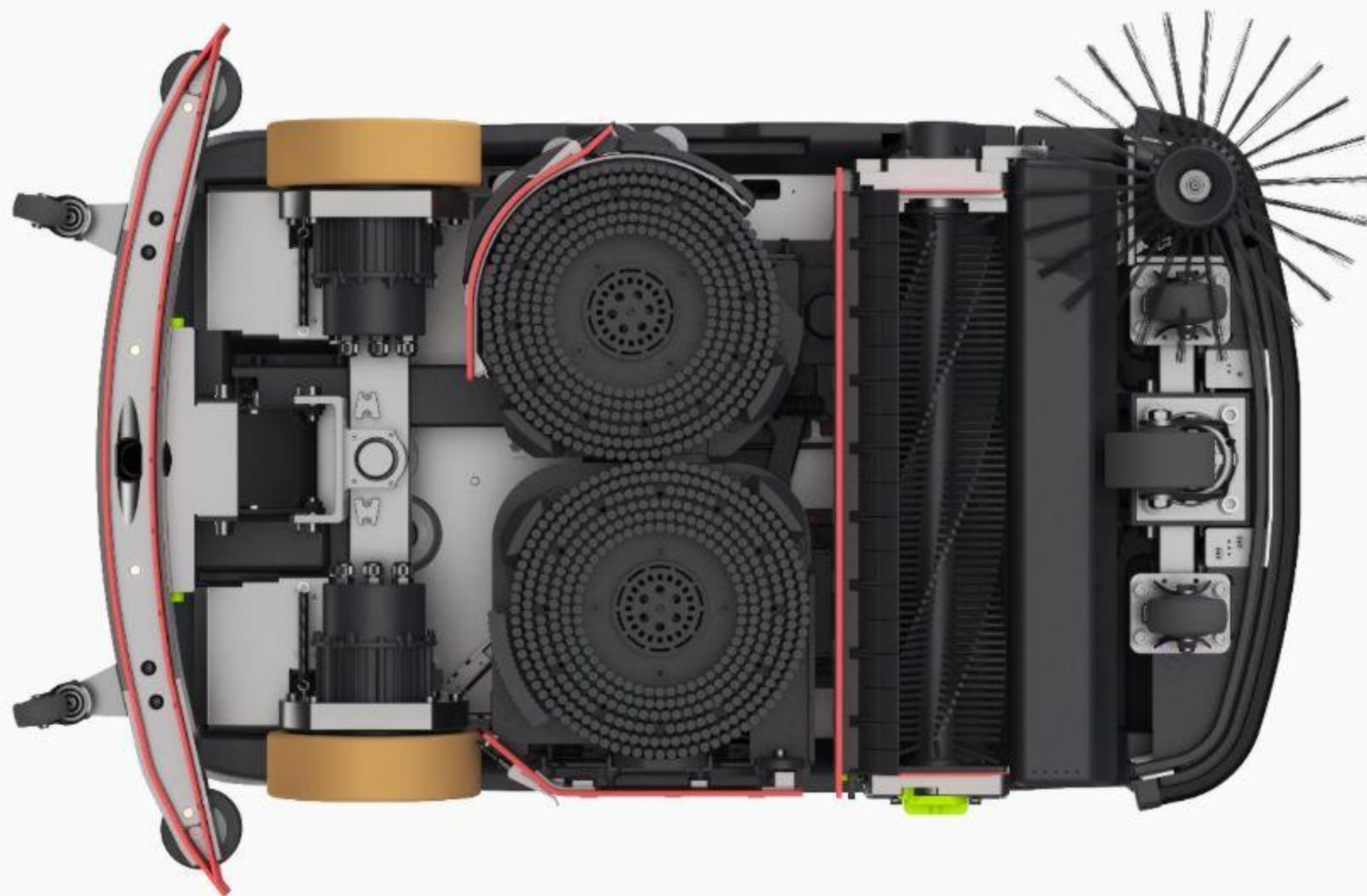
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Ever-evolving "AI Degrees of Freedom "



Front Sweep, Rear Scrub, Restructuring Cleaning Efficiency

One-Pass Sweep & Scrub

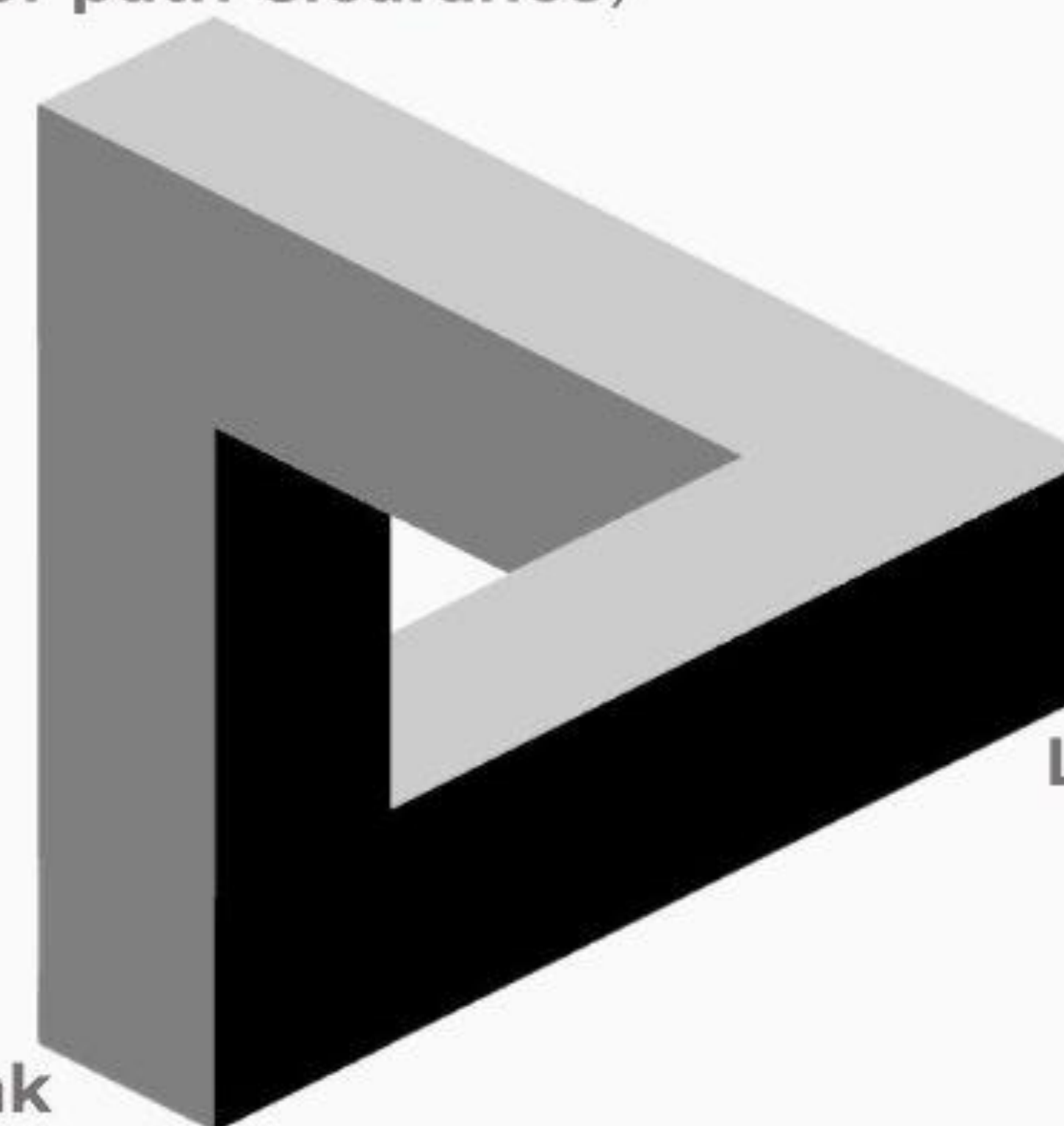


550mm scrubbing width, **708mm** sweeping width

75L/60L water capacity, **7L** cleaning agent capacity, **5L** dust box capacity

Advanced Architecture, Ultimate Efficiency

Compact Design
(for path Clearance)



Long Run-time

Huge Water Tank

48V electrical architecture, 90Ah equivalent to 24V platform **180Ah**

7.5h+ cleaning time (standard mode **5.5h+**), **2000m²/h** cleaning efficiency



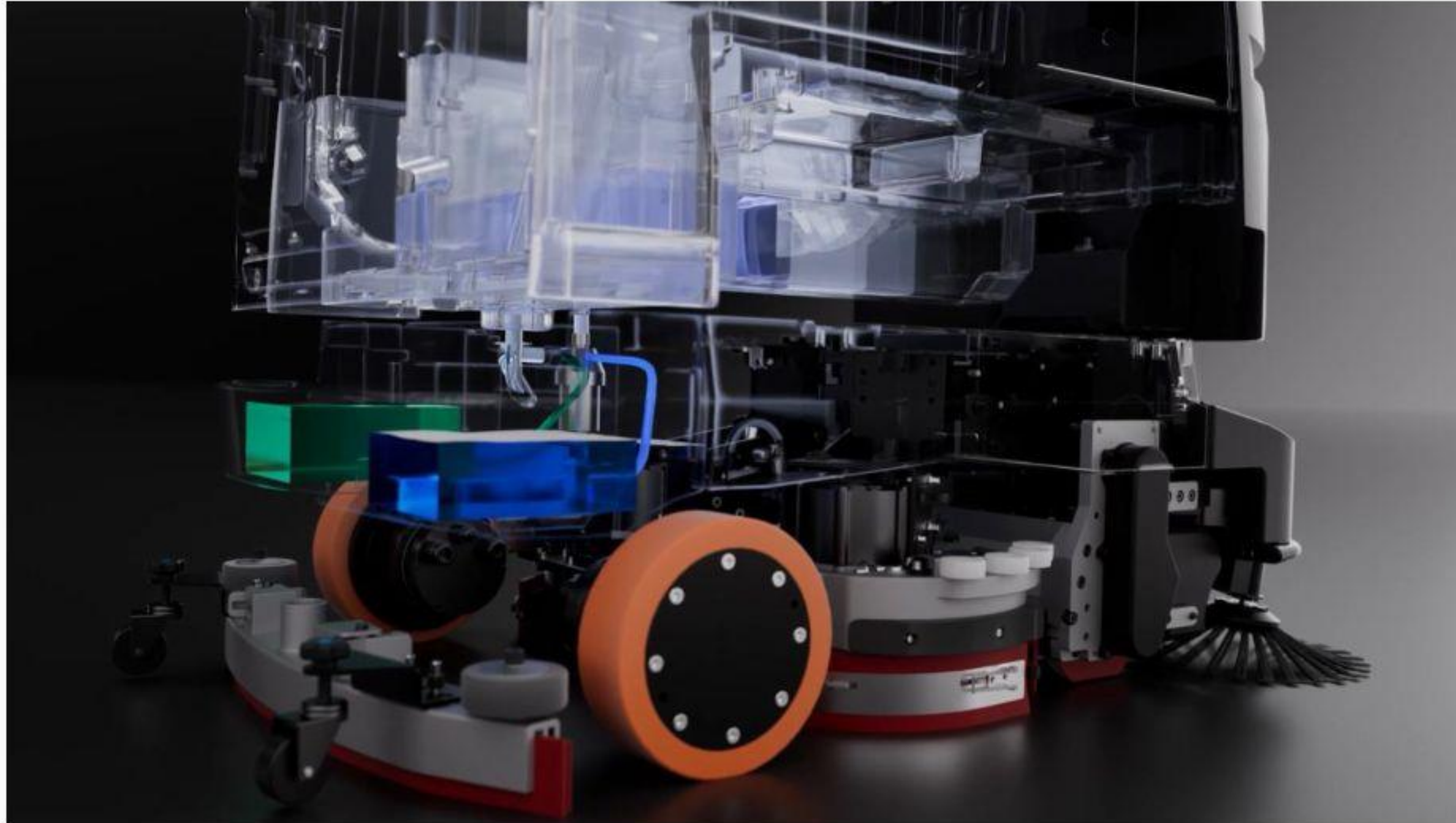
Extendable Edge Cleaning



The scrubbing brush can physically extend to reach walls and shelving edges, thoroughly removing dust and dirt along edges, improving coverage, and minimizing manual touch-ups.



Dual Cleaning Agent Real-time Mixing



Dual agent tanks(**7L total**) with **milliliter-level accuracy**.

Automatic dosing eliminates inaccuracies from manual mixing.

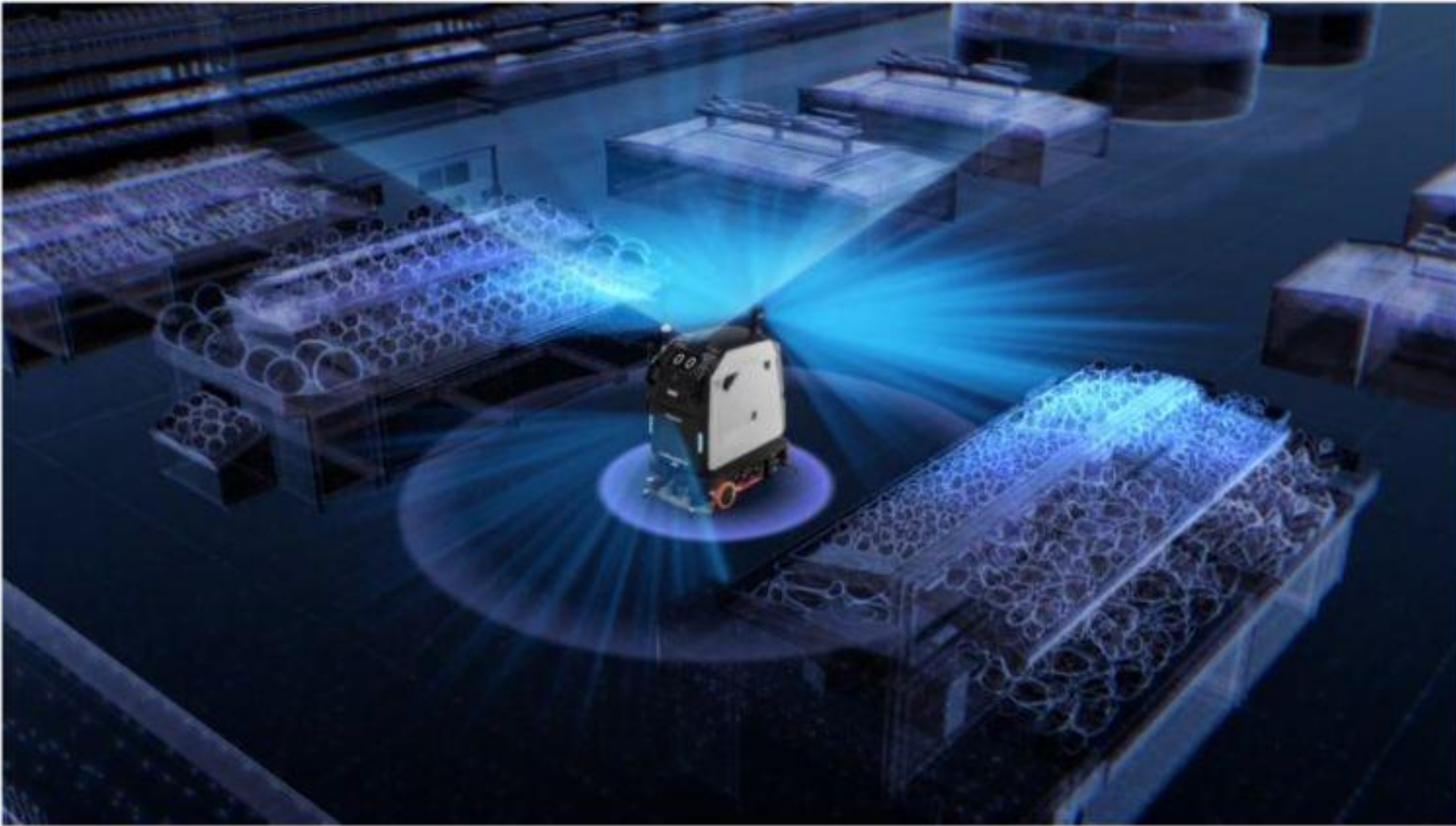
Potential Agent Combinations:

1. Acidic Cleaner + Alkaline Cleaner
2. Cleaner + Disinfectant
3. Cleaner + Defoamer
4. Cleaner + Deodorizer
5. Cleaner + Polishing Conditioner

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Visual 3D Fusion



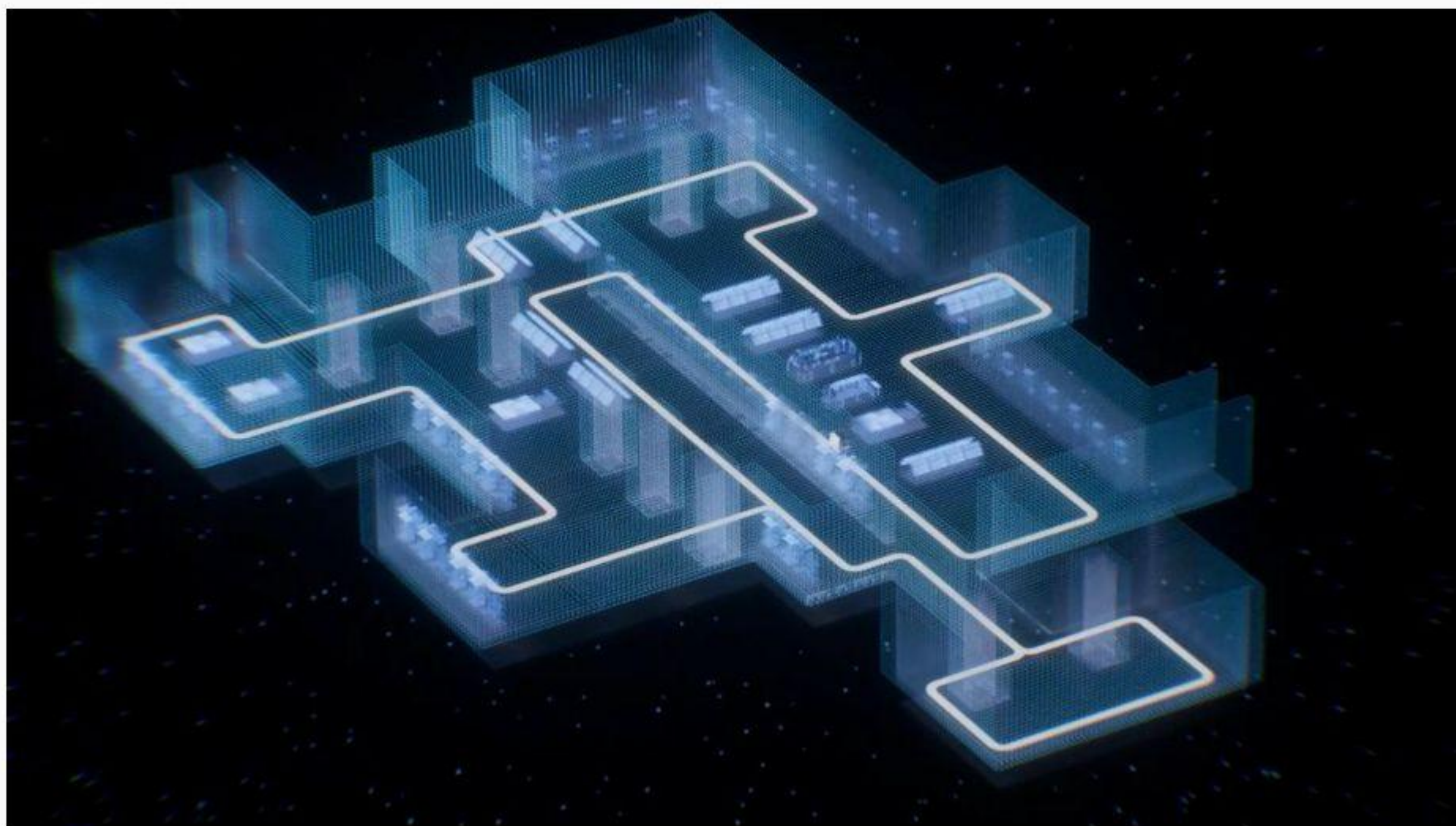
3D VSLAM + LiDAR + Multi-sensor Fusion



AI High Computing Power Platform
(Dual Chips + AI Enhanced Computing Unit)



Magic Cleaning – AI Spot Cleaning



Spot Cleaning Mode Cleaning Efficiency

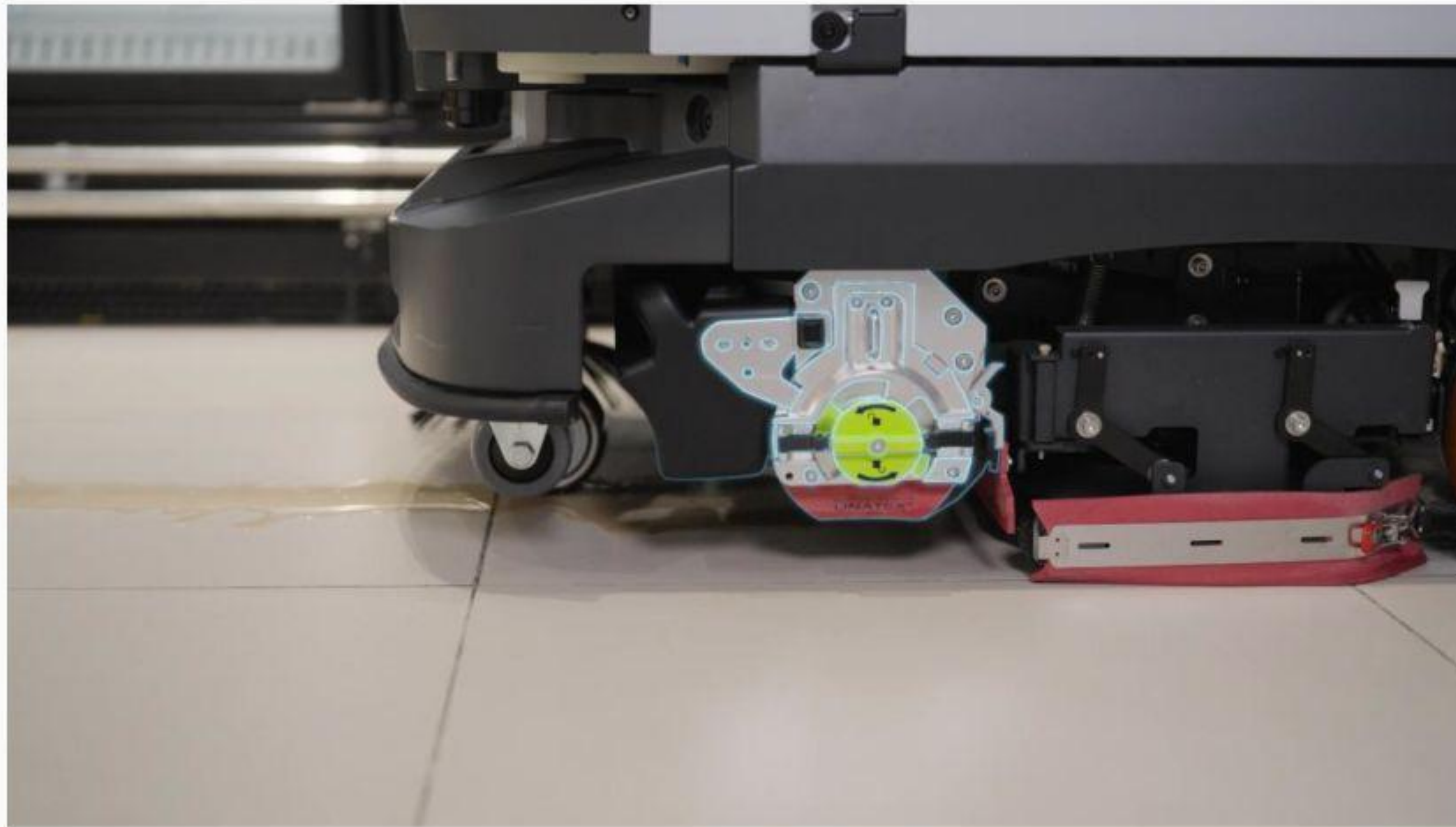
6000m²/h

Powered by an ultra-wide FOV and AI vision, the PUDU BG1 series detects and targets messes in real-time. This "See-and-Clean" approach transforms operations from passive to proactive, ensuring pristine floors in high-traffic zones with split-second response times.

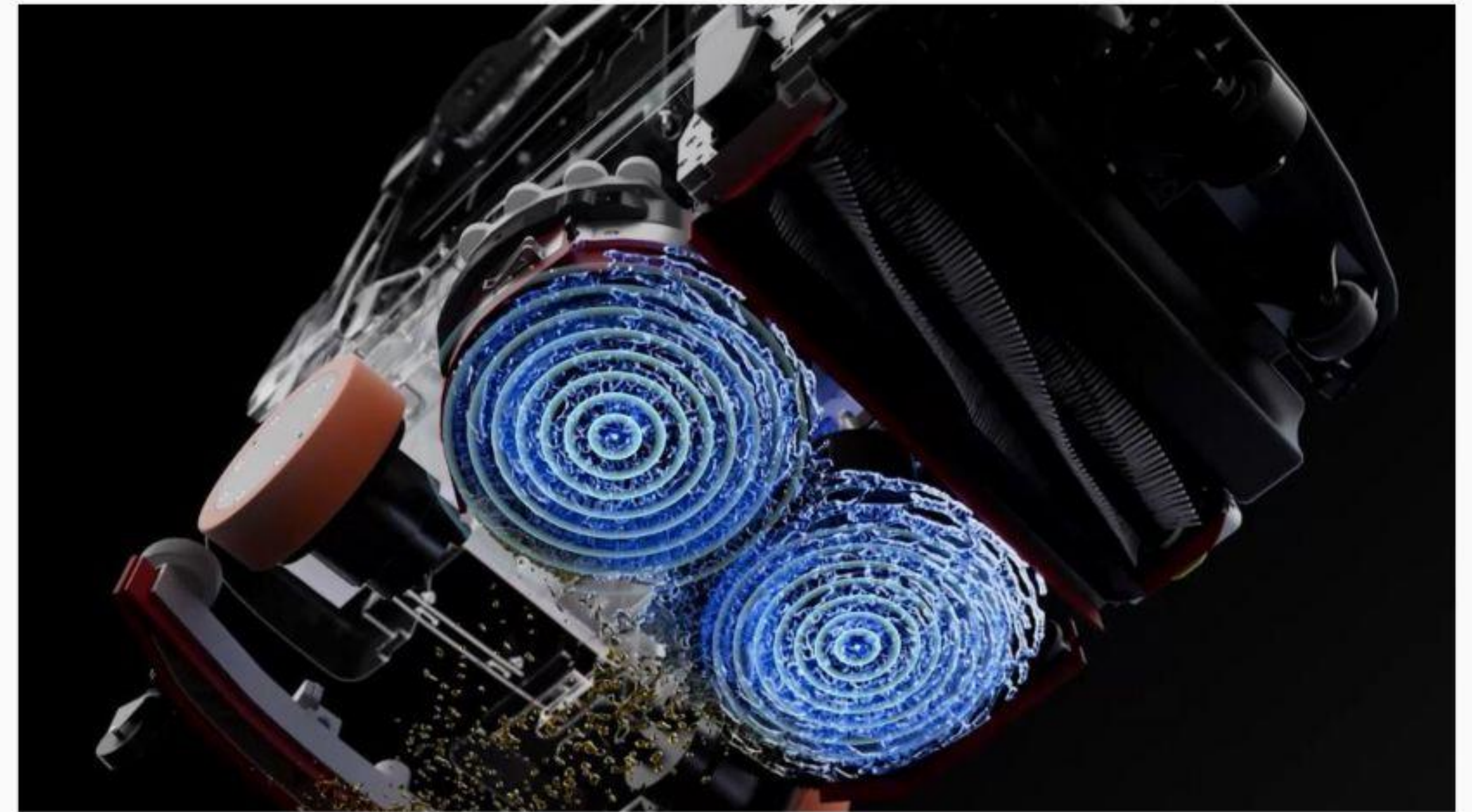


Magic Cleaning – AI Adaptation

Adaptive Cleaning Mechanism



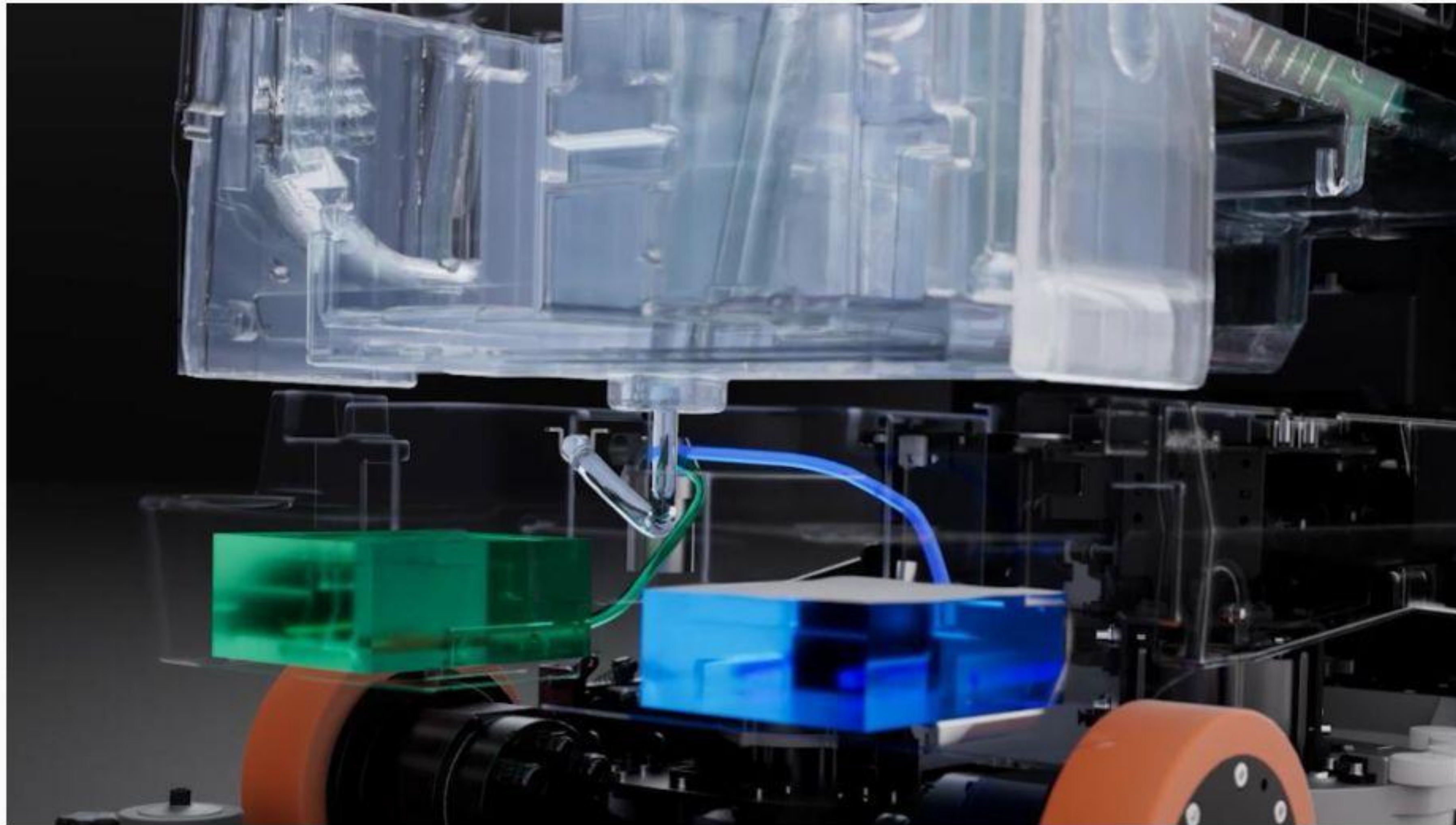
Upon detecting wet spills, it instantly retracts the sweeping modules(side brush, roller brush) to prevent secondary spreading.



For stubborn stains, it automatically boosts brush pressure & speed for a spotless, single-pass clean.



Magic Cleaning – AI Adaptation



Adaptive Cleaning Agents Mixing:

It automatically scales chemical intensity to match floor conditions, optimizing cleaning performance while reducing consumption.



Magic Cleaning – Summon Cleaning



Teamwork makes the clean work

- Smart Detection: Real-time stain recording.
- Seamless Handover: Automatic task dispatching between robots.
- Total Coverage: From sweeping large debris to scrubbing stains.



Magic Cleaning – Others

Stain Heat Map



Generate the heat map based on the accumulation of garbage detected in each cleaning task.

Ultra Spot Cleaning

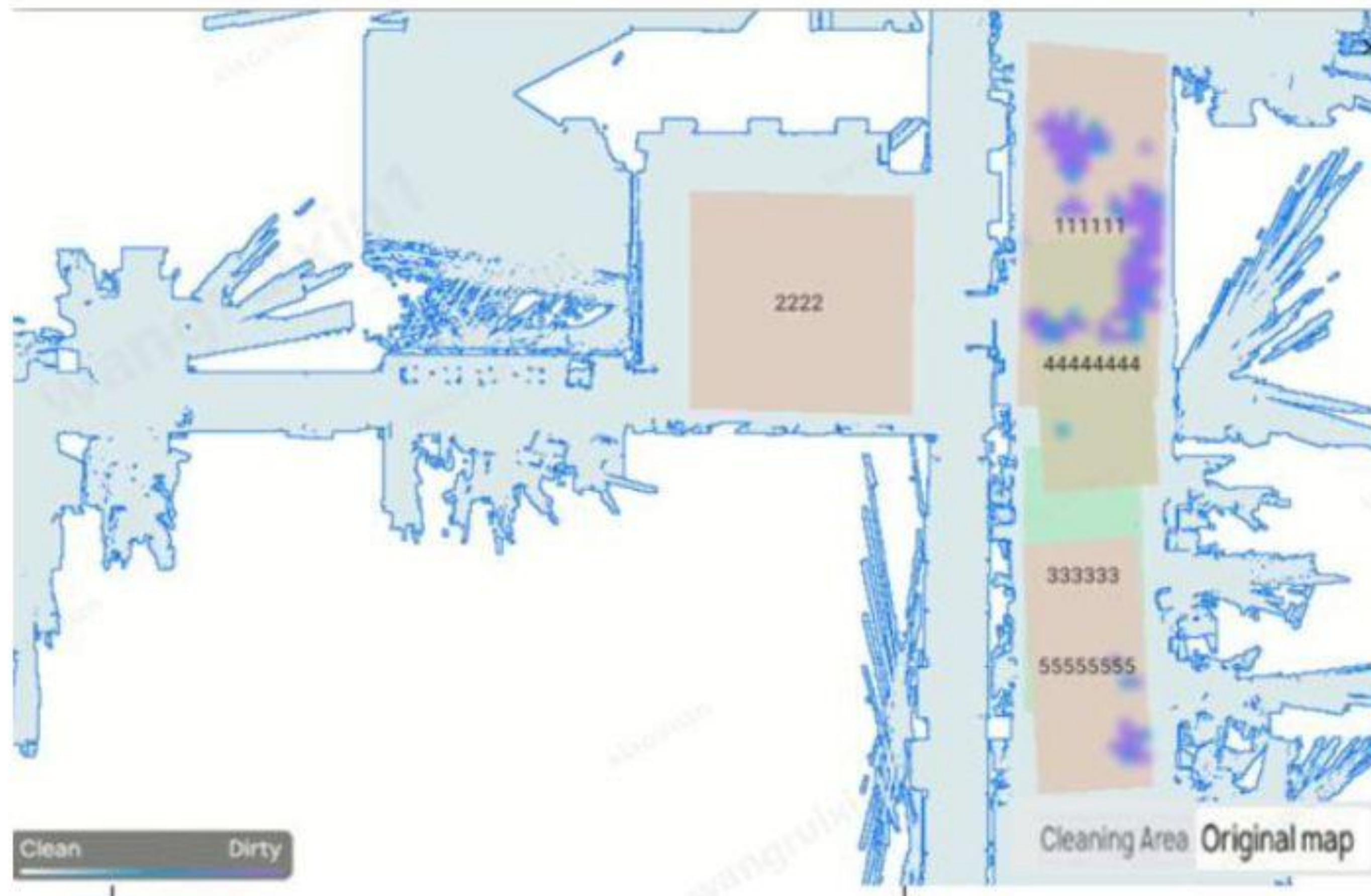


Quickly clean areas with a higher probability of staining based on the historical data of the stain heat map.



Magic Cleaning – Others

Cleaning Effect Map



Guided Cleaning



Record stubborn stains such as adhesive marks and chewing gum that cannot be completely cleaned in each cleaning task.



AI Smart Re-cleaning



How to understand AI-Native Cleaning Robot?



AI-Native Cleaning Skills = Precise Execution "**Hardware Freedom**" x Ever-evolving "**AI Versatility** "

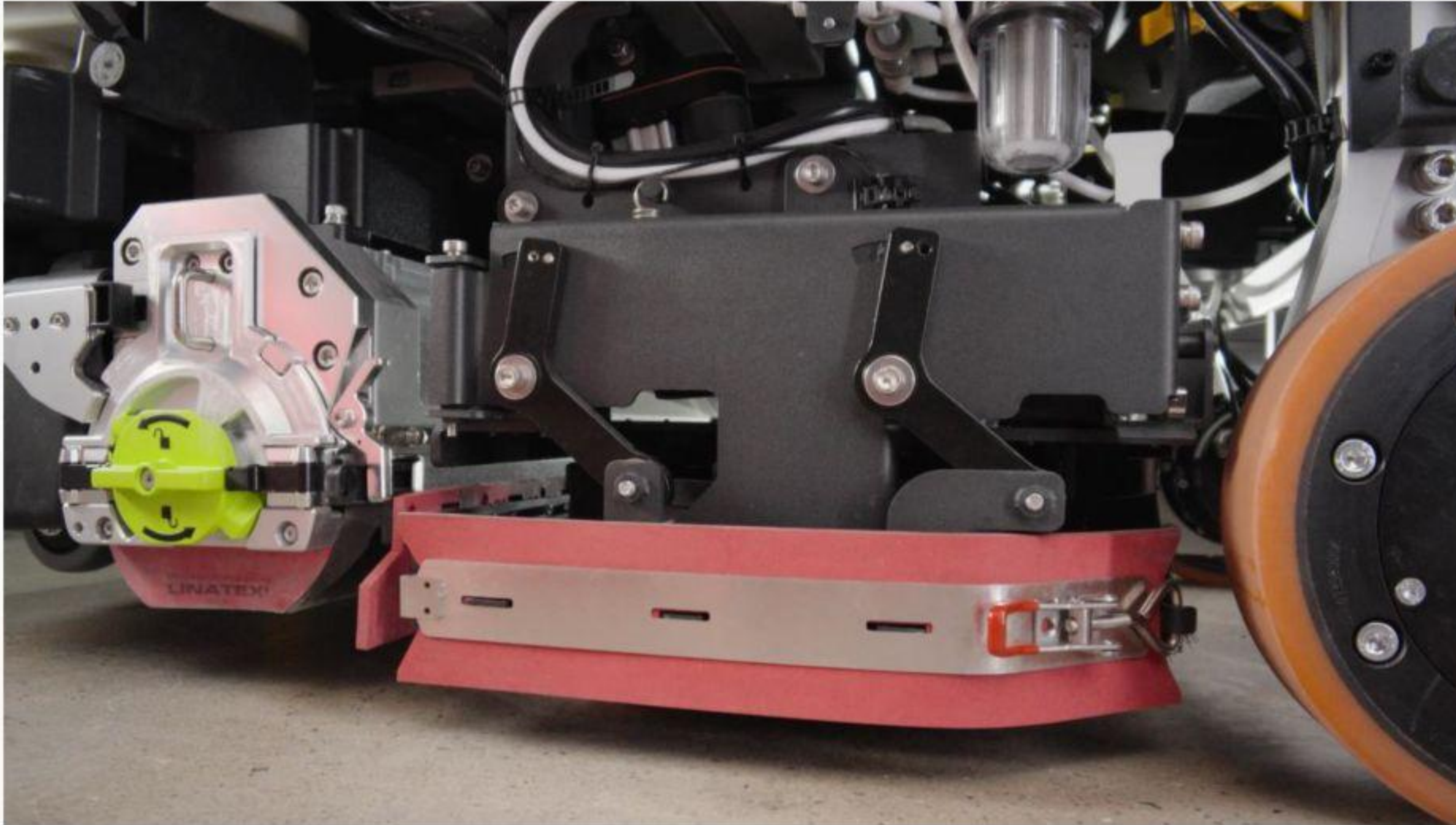
- AI Cleaning Mechanism Adaptive
- AI Adaptive Cleaning Agent Mixing
- AI Spot Cleaning
- Stain Heatmap
- Cleaning Effect Map
- Summon Cleaning
- Guided Cleaning
- Ultra Spot Cleaning
-

- Front (Strong) Sweep, Rear Scrub
- Disc Brush Independent Lifting & Control
- Roller Brush Independent Lifting & Control
- Disc Brush Extendable Edge Cleaning
- Dual Cleaning Agent Real-time Automatic Mixing
- Front and Rear AI Cameras & VSLAM Cameras

- Trash/Stain Recognition Capability
- Cleaning Effect Detection Capability
- 3D VSLAM
- Automatic Edge-Cleaning
- Vehicle Recognition and Perception
-



Quick and Convenient Maintenance



World's First

Cleaning robot with automatic disc brush installation, making it the world's first truly user-friendly cleaning robot for cleaning staff.



24H Fully Automatic Cleaning



The all-in-one station automates refilling, drainage, and charging, ensuring 24/7 mission-readiness. By closing the loop between task execution and maintenance, the system prevents residue buildup and odors, achieving a seamless, zero-intervention workflow.



Human-Machine Interaction



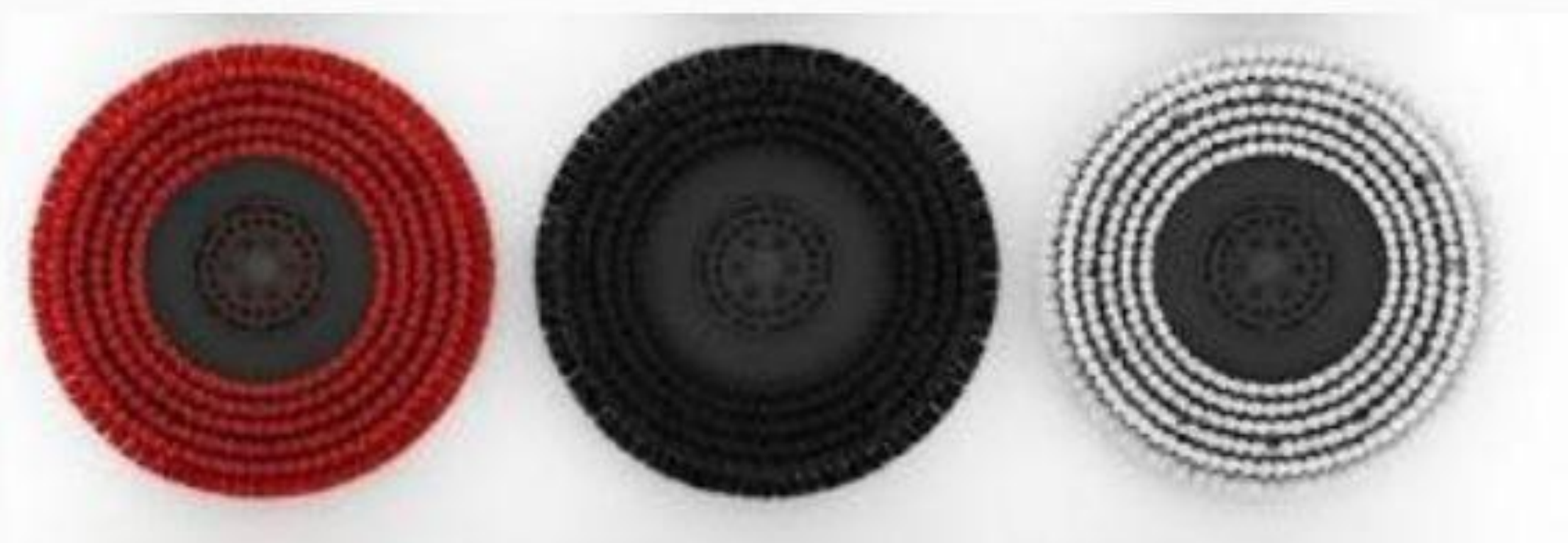
Audio-Visual Alarm System



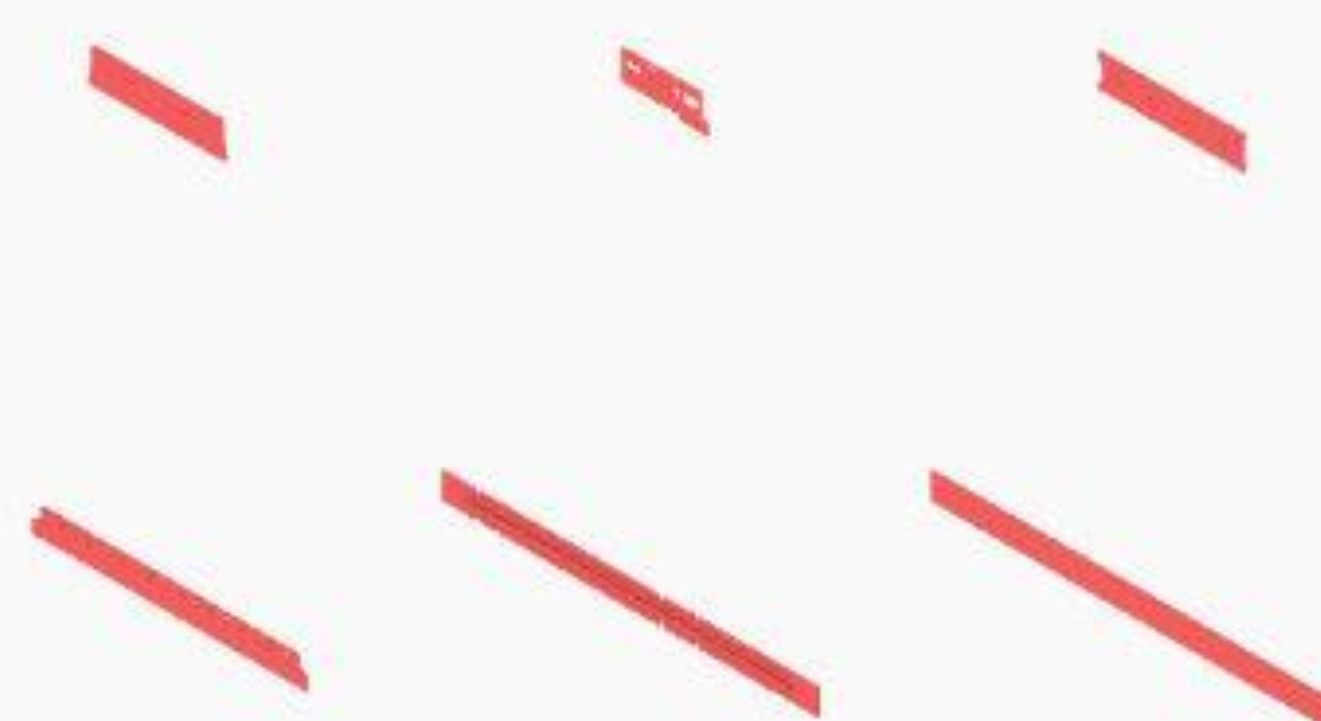
Ride-on Mode



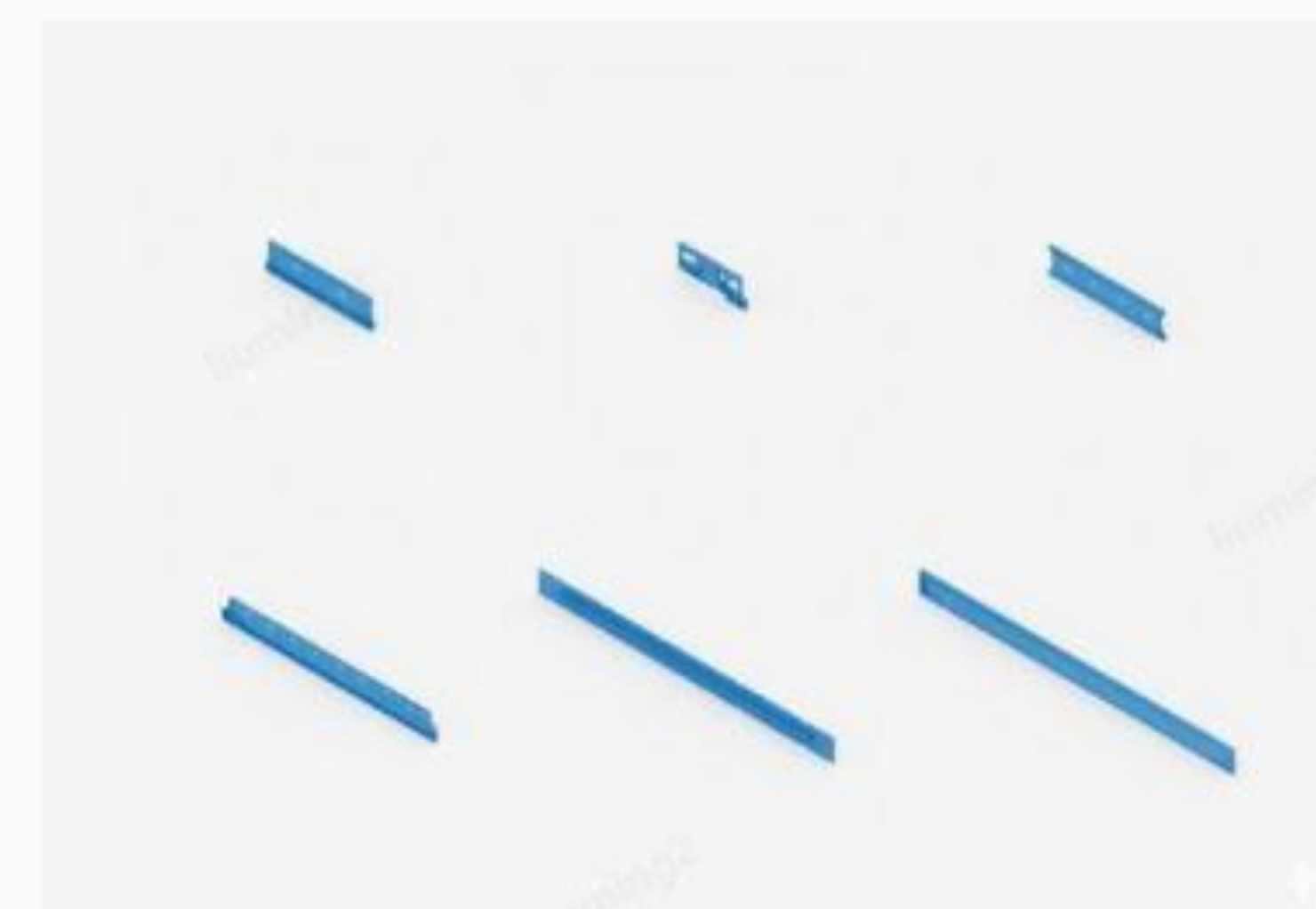
Core Consumables & Optional Accessories



Scrubbing Disc Brush



Rubber Blade



Rubber Blade
(Oil-resistant)



Scouring Pad

- Ride-on Kit
- Dust Mop Assembly

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IoT



Elevator Control



Automatic door/gate



Pudulink App



World's first AI-Native Large Scrubber-Dryer Robot



**One-Pass
Sweep & Scrub**



**Extendable
Edge Cleaning**



**Instant, User-friendly
Maintenance**



AI Magic Cleaning



**3D Perception
Enhancement**



**24/7
Continuous Operation**



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Key Features

Application Scenarios



Retail Examples

● **L1: Retail**

- Department stores and supermarkets
 - **Warehouse supermarkets**
 - DIY/home improvement supermarkets
 - Commercial complexes
- ● ● ● ● ●

● **Scenario segmentation**

Fresh food area

Shelf area

Aisle



BG1 Task High-frequency scrubbing + edge cleaning

- ★ **BG1 Fits Core Value:**
- **Anti-slip and instantly dry,**
wet and dry waste cleaned in one pass
 - **Edge cleaning,** perfectly covers
shelf edges

One-Pass Sweep & Scrub
Wet and dry waste cleaned in one go

55cm
Ultra-wide scrubbing width

External Edge Cleaning
Active external expansion

AI Adaptive Cleaning/Spot Cleaning
Cleaner, more efficient





Industrial Manufacturing Examples

● **L1: Industry**

- Food manufacturing
 - **Chemical manufacturing**
 - Beverage manufacturing
 - Chemical products manufacturing
- ● ● ● ● ●

● **Scenario segmentation**

- Workshop area
- Workshop aisle**
- Office area
- ● ● ● ● ●

BG1 Task **Deep cleaning + edge and corner cleaning**

★ **BG1 Fits Core Value:**

- **Oil stain cleaning:** dual disc brush powerful scrubbing, free detergent ratio, flexible switching
- **Floor protection:** One-Pass sweep & scrub, debris cleaning

One-Pass Sweep & Scrub

One pass, double clean

Dual Disc Brush

Ultimate stripping

Dual Cleaning Agent Tanks

High-precision real-time mixing

AI Adaptive Cleaning/Spot Cleaning

Cleaner, more efficient





Warehouse Logistics Examples

● L1: Logistics

☐ Raw material warehousing

☒ FMCG warehousing

☐ 3PL warehousing

☐ Cold chain warehousing



● Scenario segmentation

Sorting area

Warehouse shelf area

Office area



BG1 Task

Large-area cleaning operations

★ BG1 Fits Core Value:

- **24H cleaning:** non-stop cleaning
- **Efficient cleaning:** timed cleaning with ease
- **Floor protection:** One-Pass sweep & scrub, debris cleaning

90Ah

Equivalent 24V platform 180Ah

75L/60L

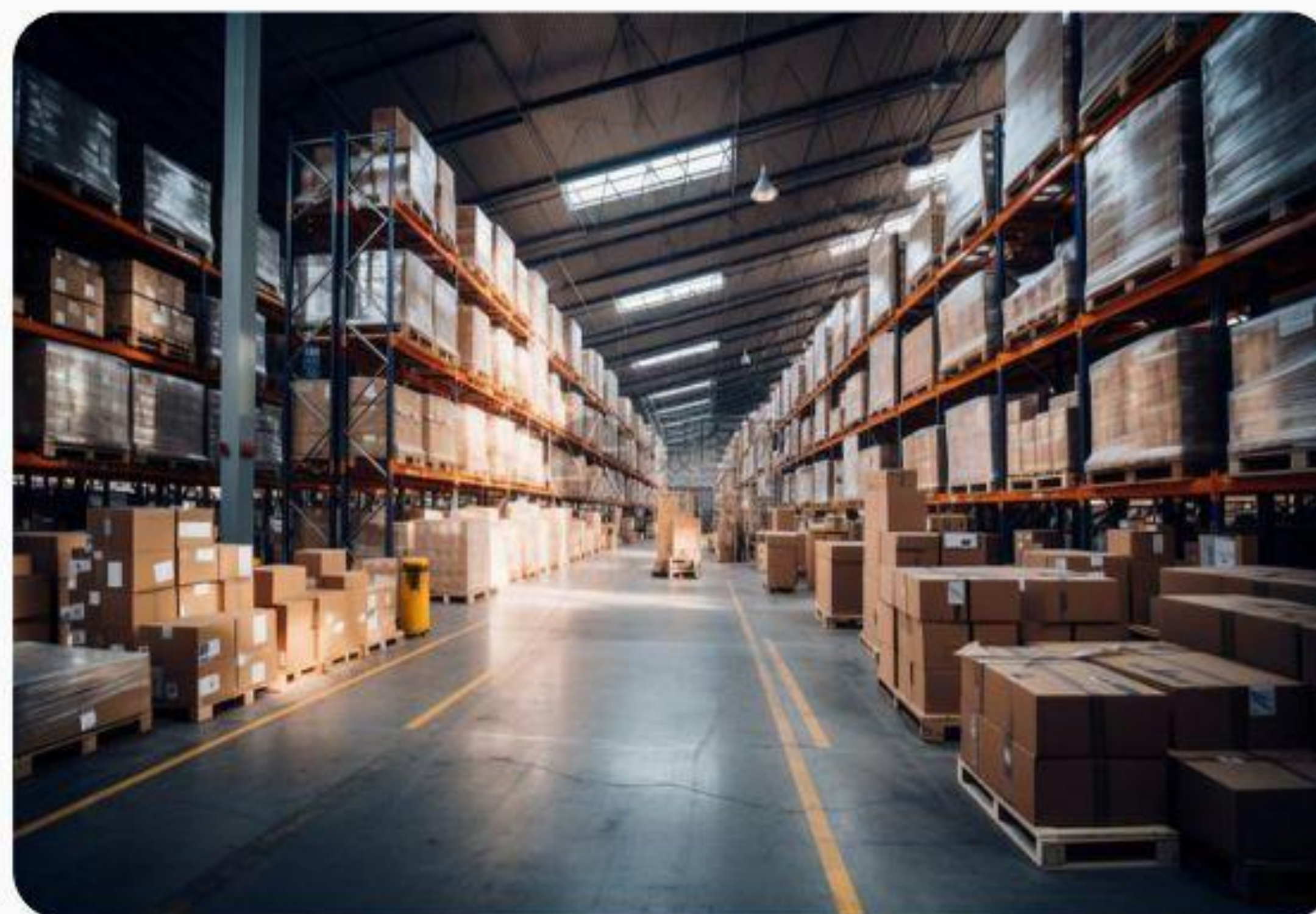
Large clean/dirty water tanks

7.5h

Maximum run-time

One-Pass Sweep & Scrub

One pass, double clean





Parking Garage Examples

- **L1: Real Estate & Property Services**
 - Property & Facilities Management
 - **Residential & office real estate**
 - Cleaning Service
-

- **Scenario segmentation**
 - Lobby area
 - Basement area**
 - Office area
-

BG1 Pro Task

Lane and parking space cleaning

- ★**BG1 Pro Fits Core Value:**
 - Clean and protection:** dual disc brush, high pressure, powerful scrubbing
 - Safe, no collision:** vehicle recognition
 - Large-area cleaning:** large size, large capacity, and deep scrubbing

31Kg
Ultimate dirt stripping capability

One-Pass Sweep & Scrub
One pass, double clean

> 10000m²+
Maximum single operation area

Vehicle Avoidance
3D Lidar





BG1 Series Target Market

Retail

Core consumption scenarios, high traffic, high standard cleanliness



 Warehouse Supermarkets



 DIY/Home Improvement Supermarkets



 Floral & Gardening Markets



 Department Stores & Supermarkets



 Comprehensive Food Supermarkets



 Shopping Centers



 Underground Parking Garage



 Electronics & Appliances Supermarkets



 Stationery & Sports Goods Retail



 Auto Repair Shop

Logistics

High-speed turnover scenarios, large area, fully automated operation



 Raw Material Warehousing



 FMCG Warehousing



 Cold Chain Warehousing



 Electronics & Appliances Warehousing



 3PL Warehousing



 Constant Temperature & Humidity Warehousing



 Consolidation Center



 Distribution Center



 Transit Center



BG1 Series Target Market:

Industry

Harsh working conditions and professional cleaning services



 Food & Beverage Manufacturing



 Computer & Electronics Manufacturing



 Chemical Manufacturing



 Plastic Product Manufacturing



 Basic Pharmaceutical Manufacturing

Real Estate & Property Services

professional cleaning services



 FM Companies



 Cleaning Service Companies



 Municipal Building

Transportation, Residential, Hospital, Hotel, and Public Services, etc.

Extensive scenario coverage, full area cleaning



 Parking Lot



 Expressway Service Area



 Subway Station



 Airport



 Stadium



 Aquarium



 General Hospital



 Resort



 Museum

more industries...



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

