



# ***PUDU CC1 Pro***

**AI-powered Autonomous Cleaning Robot**





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# PUDU CC1 Pro

## AI-powered Autonomous Cleaning Robot

The PUDU CC1 cleaning robot builds upon the robust design of the PUDU CC1, integrating advanced **AI perception and control systems** to deliver a fully automated, **closed-loop cleaning process**.

CC1 Pro autonomously manages the entire cleaning cycle—from dirty debris detection and adaptive cleaning intensity adjustment to real-time cleanliness assessment and self-monitoring of cleaning components—**addressing the persistent challenge of standardizing the final stages of commercial cleaning**.

With features like automatic water refilling and drainage, self-charging capabilities, breakpoint resume functionality, and multi-floor operation, CC1 Pro streamlines the cleaning workflow, significantly **reducing manual intervention and ensuring consistent cleaning outcomes**.





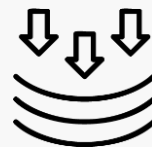
# Key Features



AI Spot Scrubbing



AI Real-Time  
Cleaning Performance Detection



AI Cleaning Intensity Control



AI Components  
Self-Monitoring



4-in-1 Versatile Cleaning



VSLAM+ Positioning



AI-driven Perception



IEC 63327 Certification



# Product Introduction





# Product Specifications

|                                    |                                                                                                                                                                             |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Voltage                  | DC 23V~29.2V                                                                                                                                                                |
| Battery Type                       | Lithium Iron Phosphate (LiFePO <sub>4</sub> ) Battery                                                                                                                       |
| Battery Capacity                   | 50 Ah                                                                                                                                                                       |
| Charging Time                      | About 3 h                                                                                                                                                                   |
| Run-time                           | Scrubbing: 5h; Sweeping & Vacuuming: 5h; Carpet Vacuuming: 4h; Silent Mopping: 9h                                                                                           |
| Cleaning Capabilities              | Sweeping, (Carpet) Vacuuming, Dust Mopping, Scrubbing                                                                                                                       |
| Weight                             | 75 kg (165.35 lbs)                                                                                                                                                          |
| Dimensions                         | 629 x 552 x 695 mm (24.76 x 21.73 x 27.36 in)                                                                                                                               |
| Display                            | 10.1-inch LCD Screen                                                                                                                                                        |
| Navigation                         | LiDAR + Visual Fusion Positioning                                                                                                                                           |
| Cruising Speed                     | 0.2 m/s ~ 1.2 m/s (0.66 ft/s ~ 3.94 ft/s) (Adjustable)                                                                                                                      |
| Noise Level                        | <70 dB                                                                                                                                                                      |
| Min. Path Clearance                | 70 cm (27.56 in)                                                                                                                                                            |
| Threshold Overcoming Height        | 20 mm (0.79 in) (Non-Cleaning Mode), 8 mm (0.31 in) (Cleaning Mode)                                                                                                         |
| Max. Climbing Angle                | 8° (Non-Cleaning Mode), 3° (Cleaning Mode)                                                                                                                                  |
| Groove Crossing Width              | 35 mm (1.38 in) (Non-Cleaning Mode), 20 mm (0.79 in) (Cleaning Mode)                                                                                                        |
| Cleaning Width (with side brush)   | 500 mm (19.69 in)                                                                                                                                                           |
| Cleaning Efficiency                | 700-1000 m <sup>2</sup> /h (837.19-1195.99 yd <sup>2</sup> /h) (All-covered Cleaning)<br>1500-3000 m <sup>2</sup> /h (1,793.99-3,587.97 yd <sup>2</sup> /h) (Spot Cleaning) |
| Dustbin Capacity                   | 2.5 L (0.66 gal) / 6 L (1.59 gal) (Dust bag)                                                                                                                                |
| Water Tank Capacity                | Clean Water Tank: 15 L (3.96 gal), Dirty Water Tank: 15 L (3.96 gal)                                                                                                        |
| Communication                      | Supports 4G, Wi-Fi, Bluetooth, E-gate & Elevator Control (Optional)                                                                                                         |
| Auto Charging & Water Refill/Drain | Supported (Requires Optional Docking Station)                                                                                                                               |
| Ingress Protection (IP) Rating     | IPX4                                                                                                                                                                        |





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# PUDU VSLAM+

## Unlimited by Space, Unmatched in Cleanliness

- Featuring a fusion of PUDU VSLAM and LiDAR SLAM technologies, the system delivers accurate mapping and stable navigation—**no markers required**. It **excels in low-feature and complex environments**, ensuring reliable performance in locations like subway stations, airports, and warehouses where traditional deployment methods are limited.
- Paired with an AI spot scrubbing mode, the CC1 Pro combines environmental awareness with real-time decision-making to clean areas of **5,000–8,000 m<sup>2</sup> in a single run**. Designed for **complex, high-intensity environments** such as commercial complexes, transport hubs, hospitals, and industrial sites, it brings smarter, more efficient cleaning to every scenario.





# AI Spot Scrubbing

## Targeted Cleaning for Precision & Efficiency

- Powered by vision-based **AI recognition**, the system detects common wet stains such as coffee spills, sauces, and puddles during its patrol, instantly creating optimal cleaning routes and enhancing the overall intelligence and responsiveness of the operation.
- With AI-powered scheduling and dynamic path planning, **scrubbing efficiency is boosted by up to 3×**, achieving a cleaning rate of **1500–3,000 m<sup>2</sup>/h**, comparable to large-scale floor cleaning machines.



# AI Cleaning Intensity Control

## Adaptive Strategy for Optimal Cleaning

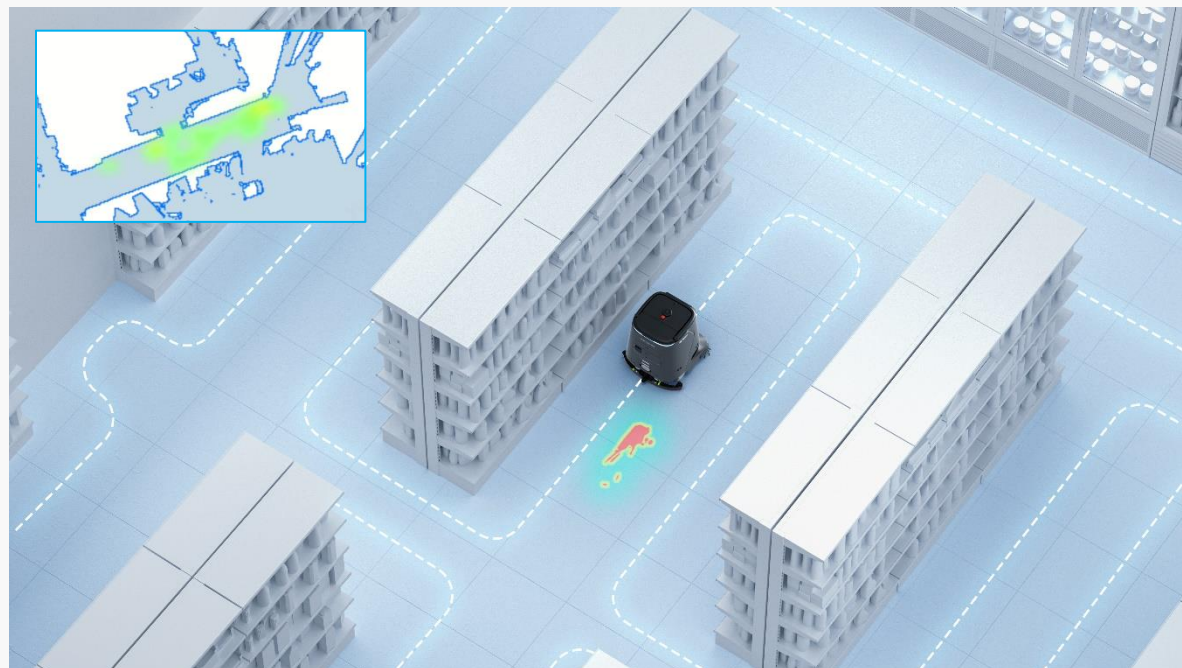
- For stubborn stains, it automatically boosts cleaning power for deeper cleaning.
- It also monitors floor cleanliness, adjusting the cleaning **mode** to conserve battery in clean areas and switch to deep cleaning mode in dirty areas for optimal performance.
- The system automatically **detects floor types**. On hard surfaces, it uses a sweep-and-suction mode for efficient dust and debris removal, while switching to suction-only mode on carpets to prevent tangling and protect the fabric.



# AI Real-Time Cleaning Performance Detection

## Rear AI Vision System for Real-time Cleaning Performance Monitoring

- CC1 Pro features the world's first rear AI camera, which monitors and evaluates cleaning performance in real-time. It detects leftover stains, triggers spot re-cleaning, and generates heatmaps after each task for clear insight into cleaning results.



# AI Components Self-Monitoring

## Real-time Monitoring Eliminates Cleaning Inefficiencies

- The CC1 Pro's rear AI vision system ensures effective floor cleaning and monitors the cleaning components in real time. With high-precision image recognition, it **detects issues** like dirt buildup on brushes or squeegees, which can leave floor marks or water residue.
- When an issue is detected, the system responds instantly by marking the map, sending notifications, initiating touch-up cleaning, or triggering a self-cleaning cycle\*. This prevents **secondary contamination** and ensures consistent cleaning quality.

\*This process will be available in a later release.





# AI-driven Perception

## All-Around Safety Coverage

- The CC1 Pro comes with an AI-driven **perception system** (multi-sensor fusion) that accurately **detects both static and dynamic obstacles**, greatly enhancing adaptability and safety during cleaning.
- It features **dynamic obstacle avoidance** to ensure wide cleaning coverage even in complex environments. **The recognition model continuously evolves**, expanding its ability to detect more obstacles and **adapting to diverse scenarios**, enhancing the system's overall intelligence and efficiency.



# Versatile Cleaning

## All-in-One Cleaning Solution

- Combines sweeping, scrubbing, vacuuming, and dust-mopping into one multifunctional system.
- Four cleaning modes:
  - Standard Sweeping Mode
  - Scrubbing Mode
  - Carpet Vacuuming Mode
  - Silent Mopping Mode
  - AI Spot Cleaning Mode



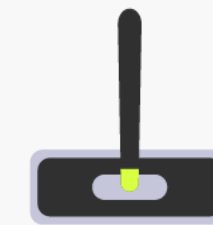
Sweeping



Scrubbing

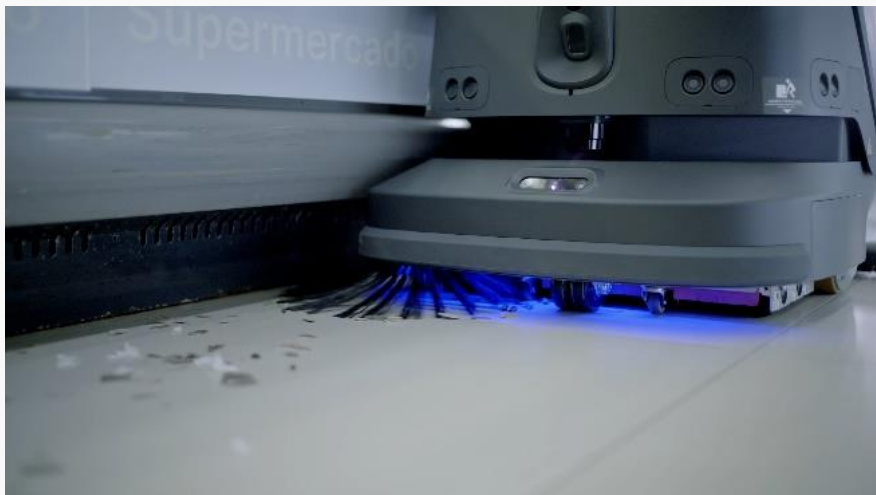


Vacuuming



Dust Mopping

# Versatile Cleaning



## Edge-to-edge Cleaning

- With advanced smart navigation, the CC1 Pro's side brush **precisely tracks along walls and edges**, effectively removing dust and dirt from even the tightest spaces.



## Suitable for Various Floor Types

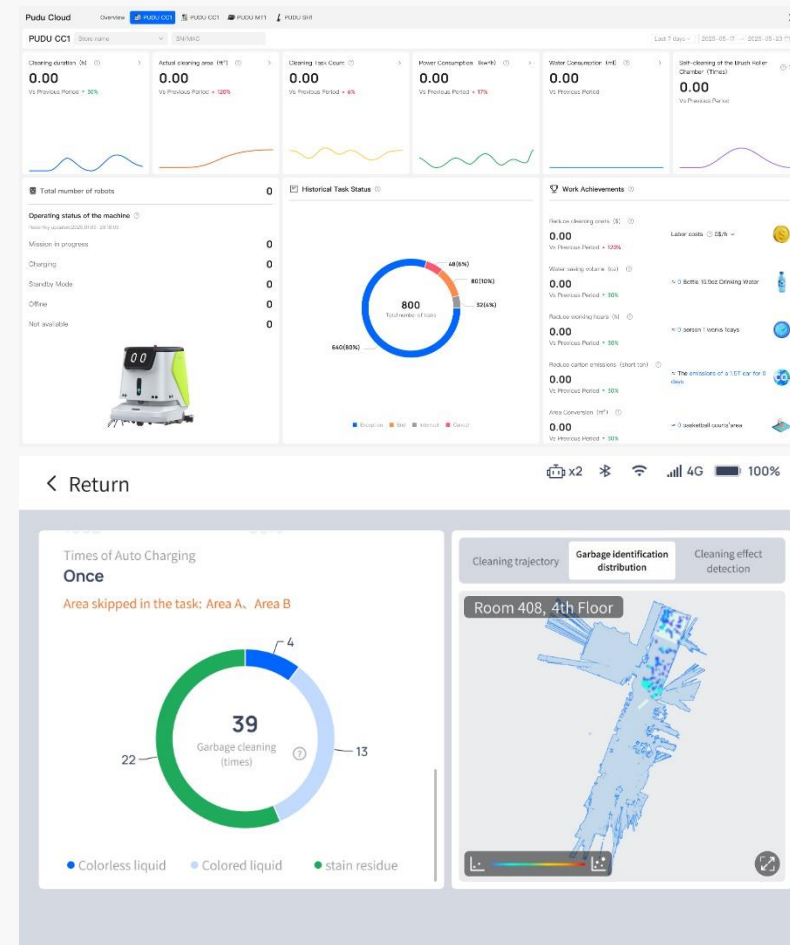
- Suitable for various indoor floor materials and **hardness**. Whether it's hard floors or soft carpets, the CC1 Pro adapts with ease.



# Measurable Cleaning

## Transforming Data into Actionable Insights

- Waste Hotspot map: Highlights areas with the heaviest waste accumulation, enabling precise scheduling of cleaning operations.
- Cleaning Performance Heatmap: Marks stubborn stains that remain after multiple cleaning cycles, helping with manual inspection and further cleaning.
- Operation Dashboard: Visualizes key metrics — task execution and completion rates, maintenance frequency — and issues real-time alerts for any equipment anomalies.



# Cleaning System Upgrade

## Inner Cleaning Structure Optimization

- Compliant with IEC 63327 Standards
- Enhanced Durability and Maintenance: Self-cleaning brushes, contour-following brush compartments, and large metal filters significantly improve usability.
- Improved Cleaning Power: Increased water flow, enhanced fan suction, and faster brush rotation



# Docking Station

## ■ Automatic Water Refill and Drainage:

Equipped with an integrated water and power system, it automatically refills and drains, offering a convenient and efficient docking station cleaning experience.

## ■ Automatic Recharging:

After completing a task, the CC1 Pro automatically returns to the docking station to charge, ensuring extended run-time.



# Mobile Water Tank

## No Plumbing Modification

- Fixed docking stations, combined with this mobile water tank, eliminate the need for water pipeline modifications—just plug in and use.
- The mobile water tank has a sufficient internal capacity, featuring a 30L clean water tank and a 30L wastewater tank, providing enough water for two complete cycles of the CC1 Pro.
- When the clean water runs out or the wastewater tank is full, intelligent prompts on the mobile app and the robot's homepage will alert users to manually refill the mobile water tank.



# Modular Design

## Rapid Deployment & Easy Maintenance

- The modular design allows for quick assembly and disassembly of cleaning components in just one minute, enabling seamless function switches and simplifying the cleaning process.





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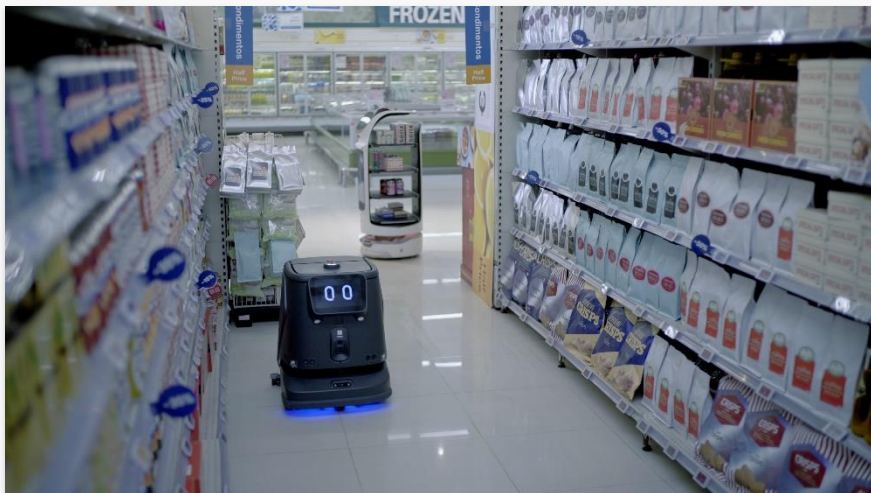
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# Product Value

## Smarter Efficiency, Focused Human Effort

Powered by AI-driven adaptive cleaning strategies, the robot autonomously handles high-frequency, repetitive tasks. It frees up staff to focus on more detailed, judgment-based work—boosting overall operational efficiency.



## Built-in Safety, Worry-Free Operation

With 360° perception and multi-sensor fusion, the system accurately detects and avoids obstacles, ensuring smooth operation in dynamic environments. It minimizes the risk of collisions and errors, supporting safe and reliable daily cleaning.

# Product Value



## Eco-Conscious Design, Smarter Resource Use

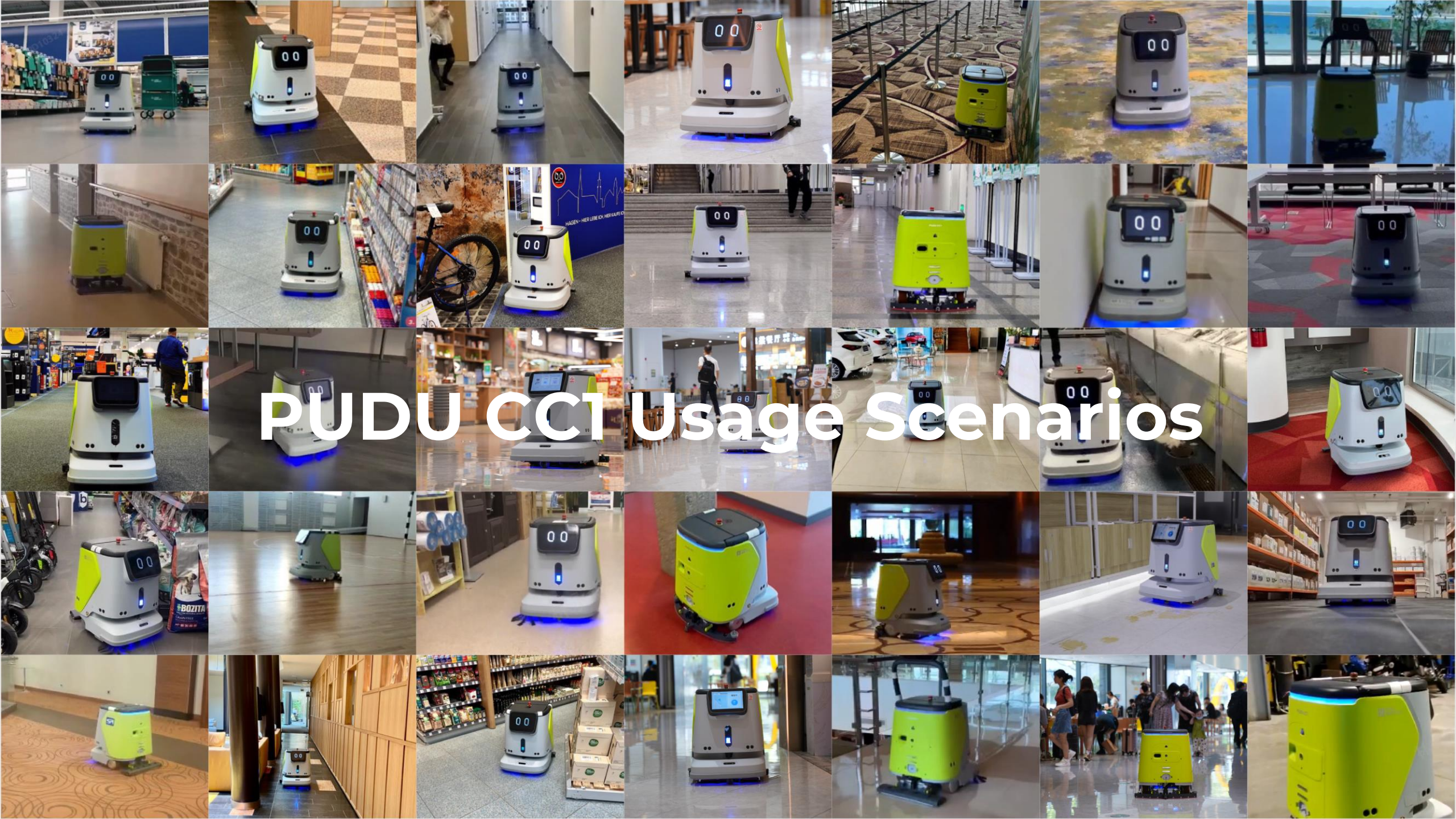
With intelligent power management and smart resource allocation, the robot adjusts intensity only where needed, reducing energy and water consumption while maintaining cleaning performance for sustainable operations.

## Insight-Driven, Smarter Cleaning Management

Real-time dashboards visualize key metrics—like task completion, error alerts, and cleaning heatmaps—giving teams actionable insights to optimize performance, troubleshoot quickly, and move from reactive to proactive cleaning management.







# PUDU CCI Usage Scenarios



# Revolutionizing Ten Major Industries with Smart Robotic Solutions



Food & Beverage



Hospitality



Retail



Industrial Facility



Health Care



Residential and Office Buildings



Education



Entertainment & Sport



Transportation and Related Service



Public Service



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# About US



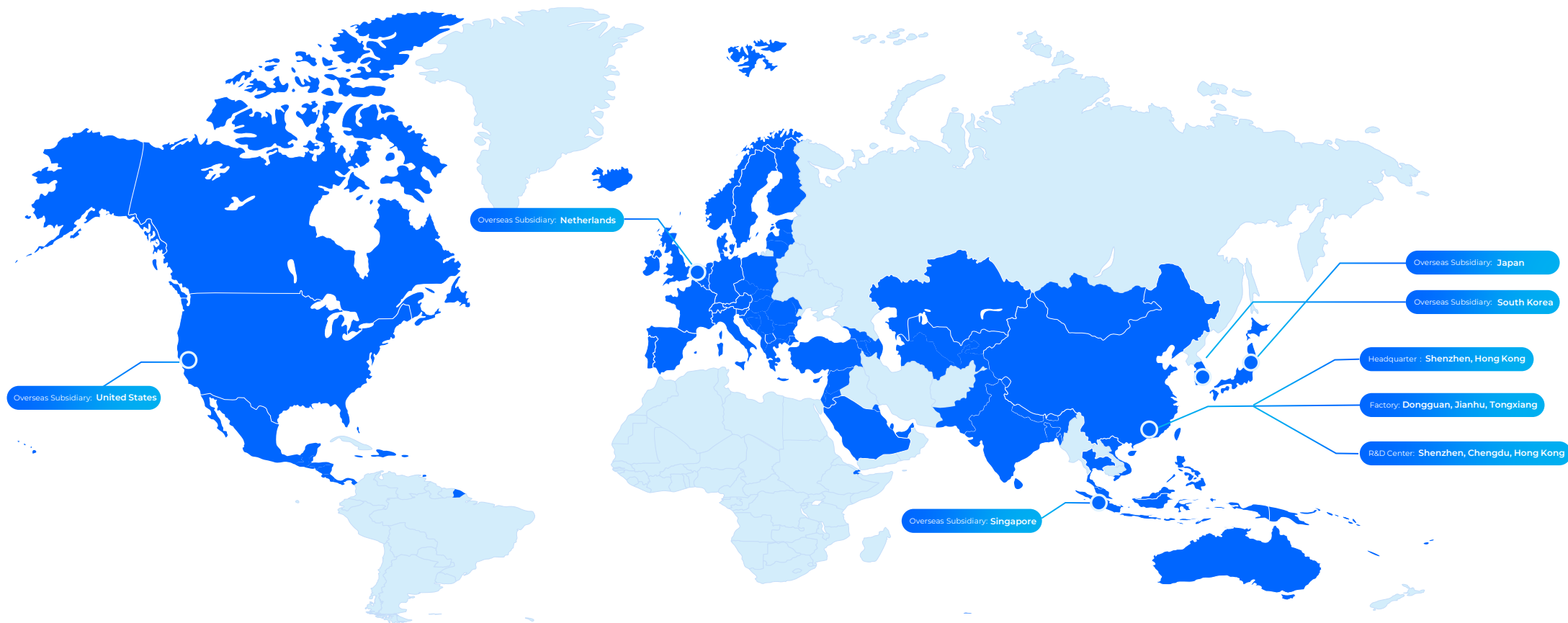
Pudu Robotics, a [global leader in the service robotics sector](#), is dedicated to enhancing human productivity and living standards through innovative robot technology.

With a focus on R&D, manufacturing, and sales of service robots, PUDU emphasizes three core technologies: [mobility, manipulation, and artificial intelligence](#). PUDU has taken the lead in establishing a comprehensive range of [specialized, semi-humanoid, and humanoid robotic products](#) in the industry.

Currently, PUDU offers three product lines: [service delivery robots, commercial cleaning robots, and industrial delivery robots](#), which are deployed across ten major industries, including food and beverage, retail, hospitality, healthcare, entertainment and sports, industrial facilities, education, and more. To date, PUDU has successfully shipped [over 90,000 units](#) to a variety of markets, with a presence in [more than 60 countries and regions worldwide](#).



# Global Footprint



**60+** Countries and Regions Covered

**600+** Cities Covered

**700+** Global Distributors

**800+** Total Employees

\* Relevant statistics as of Mar. 2025



# Milestones



70+ million

Kilometers operated by  
service delivery robots

547+ million

Square meters cleaned by  
cleaning robots

70,750+

Hours of tasks executed by  
industrial delivery robots

Semi-humanoid & Humanoid

Industrial Delivery

Cleaning

Service Delivery

PuduBot



BellaBot



HolaBot



KettyBot



FlashBot



SwiftBot



PuduBot 2



KettyBot Pro



BellaBot Pro



FlashBot Max



PUDU CC1



PUDU SH1



PUDU MT1



PUDU D1



PUDU A1



PUDU D7



PUDU DH11



PUDU D9



FlashBot Arm



PUDU T300



▲ 2016

▲ 2019

▲ 2021

▲ 2022

▲ 2024

▲ 2025

🤖 30,000+

🤖 56,000+

🤖 80,000+

🤖 90,000+

● Founded in Shenzhen

- Chengdu Subsidiary Established as Pudu's Second R&D Center
- Pudu's First Factory Established in Dongguan, China

● Complete super factory in Jiangsu, China

🤖 PUDU Robots Cumulative Shipments

\* Relevant statistics as of Mar. 2025

# Manufacturing Facility



- Pudu Robotics has established three core factories located in [Jianhu \(Yancheng\)](#), [Tongxiang \(Jiaxing\)](#), and [Dongguan](#) in China, spanning over 100,000 m<sup>2</sup>.
- With comprehensive supply chains and robust production capabilities, these factories ensure we can swiftly meet market demands.
- At full capacity, they are expected to [produce 150,000 units annually](#), providing strong support for the global service robotics market.



• Jianhu Factory in Yancheng

[↑ Click to Play the Video](#)



• Dongguan Factory



• Tongxiang Factory in Jiaxing

# Honor and Awards



Pudu Robotics has gained recognition from organizations and institutions across various industries.

|                                                                                                                                 |                                                                                                             |                                                                                                                              |                                                                                                                                                                |                                                                                                                                                                                    |                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>reddot award</b><br>best of the best       |  <b>reddot</b> winner 2025 |  INTERNATIONAL DESIGN<br>EXCELLENCE AWARDS |  <b>DESIGN<br/>AWARD<br/>2025</b>                                           |  <b>GOOD DESIGN<br/>AWARD 2022</b>                                                              |  <b>FAST COMPANY</b><br>INNOVATION<br>BY<br>DESIGN<br>2024                                                                                            |
| Red Dot Award:<br>"Best of the Best"                                                                                            | Red Dot Award:<br>Product Design 2023 & 2025                                                                | International Design<br>Excellence Awards                                                                                    | iF DESIGN AWARD<br>2023 & 2025                                                                                                                                 | Good Design Award                                                                                                                                                                  | Fast Company<br>Innovation by Design Awards                                                                                                                                                                                              |
|  <b>Finalists</b><br>WIPO<br>Global<br>Awards |  <b>CES</b>               |  <b>IFEX Innovation<br/>Awards 2022</b>  |  <b>HIP</b> Horeca<br>Professional<br>Expo<br>HOSPITALITY INNOVATION PLANET |  <b>COMMERCIAL<br/>KITCHEN<br/>INNOVATION<br/>CHALLENGE</b><br><b>GOLD<br/>WINNER<br/>2022</b> |  <b>THE<br/>IFSA'S</b><br>THE HIGH FOODSERVICE<br>SUPPLIER AWARDS<br><b>BEST FOODSERVICE<br/>TECHNOLOGY<br/>PRODUCT -<br/>FRONT OF HOUSE<br/>2023</b> |
| Named among the top 25 for<br>the WIPO Global Awards                                                                            | CES Innovation Awards                                                                                       | IFEX Innovation Awards                                                                                                       | Horeca New Business<br>Models Awards                                                                                                                           | Winner of Commercial Kitchen<br>Innovation Challenge                                                                                                                               | IFSA Awards                                                                                                                                                                                                                              |



# Global Certifications

The full range of Pudu Robotics robots have the following certifications worldwide.



CE



FCC



KC



RCM



INFOCOMM  
MEDIA  
DEVELOPMENT  
AUTHORITY

IMDA



TELEC



CR



SIRIM



# Patents and Trademarks



Pudu Robotics holds **1,684 global patents**, including pending applications. Additionally, we have **1,304 global trademark registrations** spanning **over 50 countries and regions**.







# Thank you!



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