



# **mj flood**

## **Robotics**

### **Innovating Tomorrow, Today**

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# MJ Flood Robotics

## Revolutionising Your Operations

At MJ Flood Robotics, we partner with Pudu to provide advanced Robotic Cleaning solutions across Ireland, boosting productivity and reducing manual labour.



The minimal startup costs and flexible agreements associated with the Clean & Clever, 4-in-1 Pudu CC1, MJ Flood Robotics provide businesses with an accessible, cost-effective solution for upgrading their cleaning capabilities and improving operational workflows.

Discover more at MJ Flood Robotics.



## About Us

MJ Flood Security is a proudly Irish-owned and operated system integrator, specialising in Security and Fire services for the corporate sector across Ireland. With over 60 years of experience, our team of qualified engineers collaborates with leading industry brands to deliver the highest quality service to our valued customers. We embrace a customer-first philosophy, making service delivery our top priority.

Expanding our horizons, MJ Flood has now introduced MJ Flood Robotics, further broadening our service offerings. With a focus on innovation and advanced technology, MJ Flood Robotics is committed to providing state-of-the-art robotic solutions tailored to the evolving needs of the modern business landscape. This addition allows us to offer an even wider range of services, ensuring that our clients benefit from cutting-edge solutions that enhance efficiency, security, and operational performance.

At MJ Flood Security, including our new MJ Flood Robotics division, we are committed to providing true nationwide reach to the business community. Our regionally-based sales and service teams with in-depth local market knowledge are best positioned to quickly and effectively respond to your security management needs.



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# Versatile Cleaning

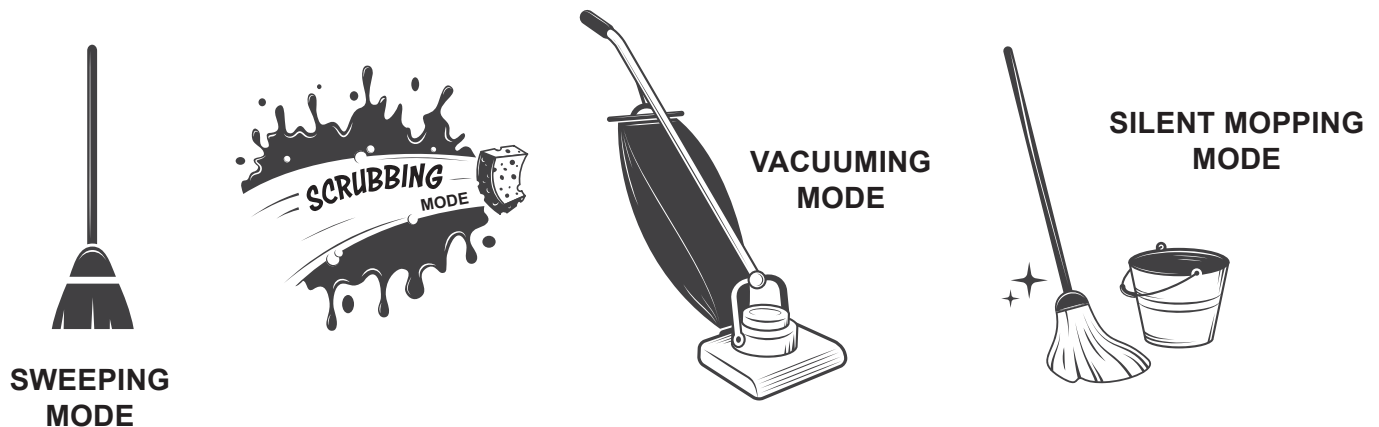
## Multi-functional and committed to enhancing productivity

The Pudu CC1 is an advanced cleaning robot developed by Pudu Robotics, designed to deliver efficient and intelligent floor cleaning in various environments. It is a 4-in-1 solution, offering multiple functions in one compact machine.



### Function Highlights:

- **Sweeping:** The CC1 is equipped with brushes and suction systems to effectively sweep up dust, debris and dirt from different types of floors.
- **Mopping:** It features a built-in mopping system that allows for thorough cleaning and can be used on a variety of surfaces, ensuring a polished finish.
- **Disinfection:** The CC1 can also carry out disinfection tasks, utilising cleaning agents and UV lights to ensure hygienic environments, especially important in healthcare and foodservice industries.
- **Four Cleaning Modes:**
  1. Standard Sweeping Mode
  2. Scrubbing Mode
  3. Carpet Vacuuming Mode
  4. Silent Mopping Mode
- **Self-charging:** With the capability to return to its docking station for automatic charging, the CC1 ensures minimal downtime and is ready for continuous use.



Suitable for indoor floors with **different materials and hardness:**

- **Hard Floor:** Terrazzo, Marble, Floortile, Epoxyresin, Sandstone, Artificial Stone Flooring, Etc.
- **Soft Floor:** Low-Pile Carpet

**Ultimate edge cleaning** in certain scenes with side brushes. It performs edge sweeping well with no trash left behind. Thorough coverage, leaving no spot untouched.

## Safe & Secure Operations

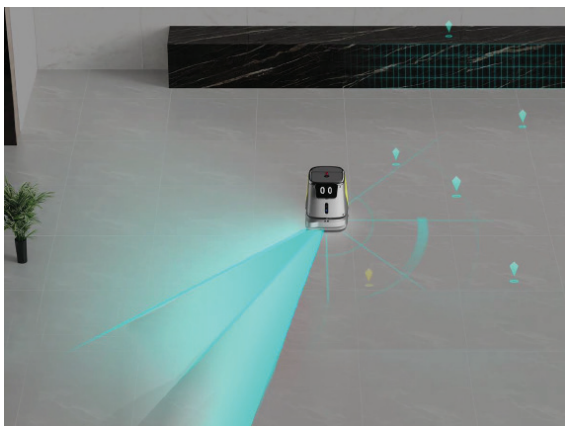
### Multi-fusion Sensors

The Pudu CC1 is designed with AI-powered navigation for efficient path planning, obstacle avoidance and the ability to seamlessly integrate into existing environments. Its design aims to reduce labour costs, improve cleaning consistency and enhance operational efficiency. The robot is versatile, making it ideal for a range of industries, including hospitals, hotels, shopping malls and office buildings.

Equipped with **Multi-fusion sensors**, it can stop at any angle and move away as soon as it encounters obstacles.



### Automatic Localisation & Navigation



- Based on PUDU SLAM positioning system, CC1 supports both **Visual SLAM** and **Lidar SLAM** positioning and navigation solutions to perform tasks more efficiently in complex scenarios.
- Equipped with Multi-fusion sensors, it can stop at any angle and move away as soon as it encounters obstacles.



The robot will automatically return to the charging station when the power is low.



## Auto Water Refill & Discharge

### Large Capacity

Equipped with a 15L clean water tank and a 15L waste water tank, the Pudu CC1 features an exclusive workstation for efficient operation.

- **Automatic Water Refill & Power Charging:** The robot automatically refills water and charges its power at the docking station, ensuring continuous operation without the need for manual intervention.
- **Worry-Free & Labor-Saving:** With its automated systems, there is no need for constant monitoring or manual handling, saving both time and labour while maintaining optimal performance.



### Mobile Water Tank - No Plumbing Modification

- Fixed docking stations, combined with this mobile watertank, 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.
- 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, Flexible Extension, Easy Maintenance, Easy Accessibility

This advanced cleaning solution combines multiple functions in a single, versatile machine. Designed with a modular architecture, it allows for quick disassembly and effortless component switching with a single click.

The cleaning modules can be assembled or removed in under one minute, making it simple to adapt the machine to various cleaning tasks as needed.

### Streamlined Cleaning Process

The modular design simplifies the cleaning process by offering flexibility, ease of use, and time efficiency.

### Function Highlights

- **Rapid Deployment:** Quickly set up and switch between functions as required, ensuring efficient operations in any setting.
- **Flexible Extension:** Easily add or adjust modules to expand the machine's capabilities based on specific cleaning needs.
- **Easy Maintenance:** Components are designed for hassle-free maintenance, reducing downtime and extending the machine's lifespan.
- **User-Friendly Accessibility:** With easy access to all parts, users can quickly replace or clean components, minimising operational interruptions.

# Robot-System Interaction

## PUDU Cleaning App

The Pudu Cleaning App is a specialised app developed by Pudu Robotics to provide centralised control and monitoring for their cleaning robots, like the Pudu CC1. It allows users to efficiently manage cleaning tasks, monitor real-time performance and customise operational settings.



### Key features of the App include:

#### Centralised Control and Monitoring

The app provides a user-friendly interface where operators can oversee all cleaning operations, schedule tasks, and adjust settings with ease. It displays real-time data on cleaning progress, battery life, water levels, and other key metrics, making it easy to track the robot's performance and status.

#### Customisable Cleaning Plans

Users can create, edit, and store multiple cleaning schedules for different areas or times, tailoring the cleaning tasks to the needs of specific environments. The app supports zone mapping, enabling users to designate specific areas for cleaning, set up no-go zones, or prioritise certain sections for more frequent cleaning.

#### Automated Alerts and Maintenance Reminders

The app issues alerts and notifications for routine maintenance tasks, such as when the water tank needs refilling or when a filter requires cleaning. It can also send real-time alerts for issues like low battery or obstacles, allowing quick response and minimising downtime.

#### Remote Troubleshooting and Software Updates

The Pudu Cleaning App supports remote diagnostics, allowing operators to troubleshoot minor issues through the app interface. Pudu Robotics frequently releases firmware updates to improve functionality and add features, which can be easily installed via the app.

#### Data Analytics and Reporting

The app provides comprehensive data analytics, including reports on cleaning coverage, frequency, and performance metrics over time. This data can help businesses optimise cleaning routines and make data-driven improvements.

#### Multi-Device Compatibility

The app is compatible with various devices (smartphones, tablets and computers), making it accessible to multiple users who may need to control or monitor the cleaning robot.

### Product Overview



<b>Machine Dimension</b>	629 x 552 x 695mm
<b>Machine weight</b>	75kg
<b>Cleaning Width (with side brush)</b>	500mm
<b>Water Tank Capacity</b>	Clean Water Tank 15L Waste Water Tank 15L
<b>Charging Time</b>	<3h
<b>Run-time</b>	3 - 9h
<b>Cleaning Efficiency</b>	700 - 1000m <sup>2</sup> /h
<b>Cleaning Operating Noise</b>	<70dB
<b>Cruise Speed</b>	0.2 - 1.2 m/s
<b>Local Interaction</b>	10.1 inch touch screen
<b>Positioning Method</b>	Visual + Lidar Positioning



## Product Values

- **Simplify your cleaning processes** and improve your workflow: pre-set programme enables CC1 to start operating automatically and immediately
- Stable cleaning efficiency and **higher quality of cleaning.**
- Reduce risks of workforce challenges, such as employee absenteeism and turnover
- Redeploy labor: **Employees can focus on more complex responsibilities**, ensuring more productivity.
- Lower recruitment, training and management costs: simple operation and user-friendly interface, set up and use in hours with minimal training.
- With measurable records and reports, custodial inspections can be easily dealt with, and work status can be optimised.



MJ Flood Security is Licensed by  
The Private Security Authority  
PSA License Number 03133

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