

Inspur Intelligent Terminal Co. , Ltd.

iScrub X30 Product Introduction

Using robotics to empower better public services



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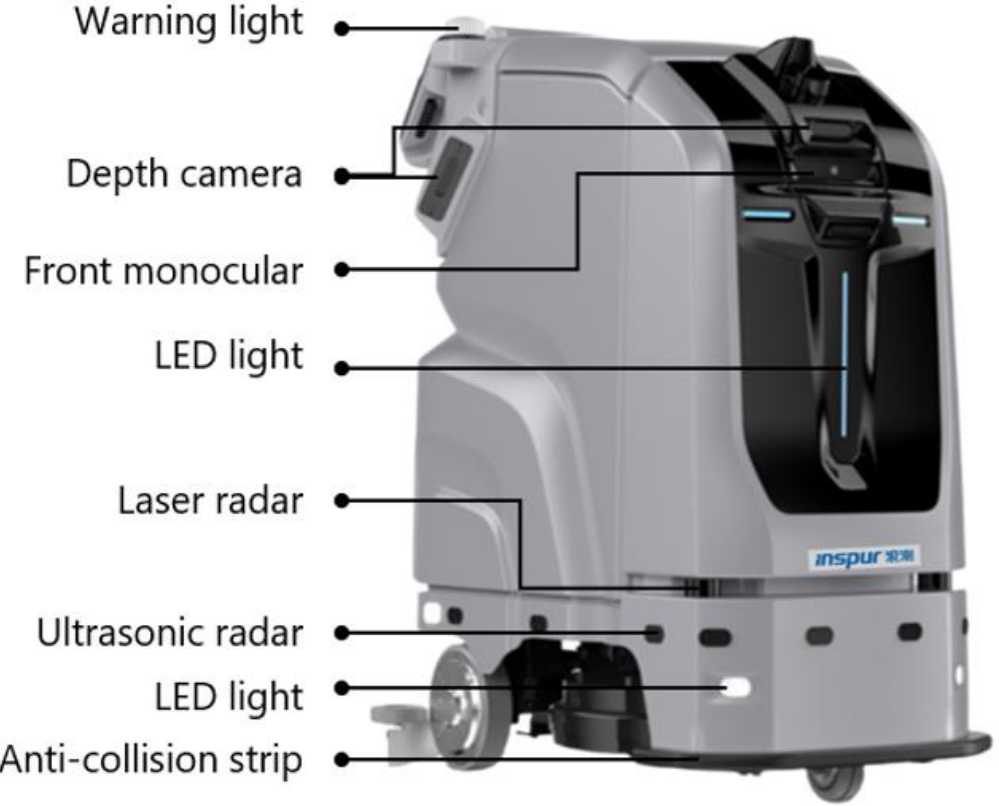
Product Overview

Commercial cleaning specialists



iScrub X30 is designed to provide floor cleaning solutions for various types of commercial indoor areas. It can automatically plan working paths and avoid obstacles, and automatically clean and disinfect. Equipped with microsecond level self-developed intelligent system, real-time response, real-time display, safe obstacle avoidance. Actively planning clean path, efficiently clean the ground, build a better business environment.

Product hardware layout



Traditional cleaning pain points

Effective working hours are short

According to the survey, the average effective working time of domestic cleaners is only 3.2 hours per day

Rising labor costs

According to the survey, in 2023 our country cleaning average wage reached 5970 yuan, 10% compound growth from 2014 to 2023

Hard to find workers

Enterprises struggle to recruit satisfactory cleaners. In many star hotels, there is a 20% labor gap

Old Age

The average cleaning staff is 50-60 years old, which is difficult to be competent for high-strength tasks and difficult to manage

Easy to move

The annual average turnover rate of domestic cleaners more than 30% , summer and winter is the high incidence of separation period

Customer demands



Product value

To the cleaner

Reduce the intensity of work and
duplication of effort
Shift more energy to other tasks

For managers

Reduce labor and management costs
Show the intelligent image of the
scene

To the user

Improving the user's comfort
experience
Create the impression of a sense of
technology

To the environment

Reduce over-cleaning
Avoid waste of detergents and
energy

Product advantage

Traditional cleaning

- Strong dependence on manpower, low cleaning efficiency and different cleaning quality
- Frequent manual intervention increases the difficulty of management
- Different places have different cleaning requirements, so it is difficult to clean

Efficiency

Through intelligent path planning and autonomous cleaning, the cleaning task can be completed efficiently and comprehensively

Consistency

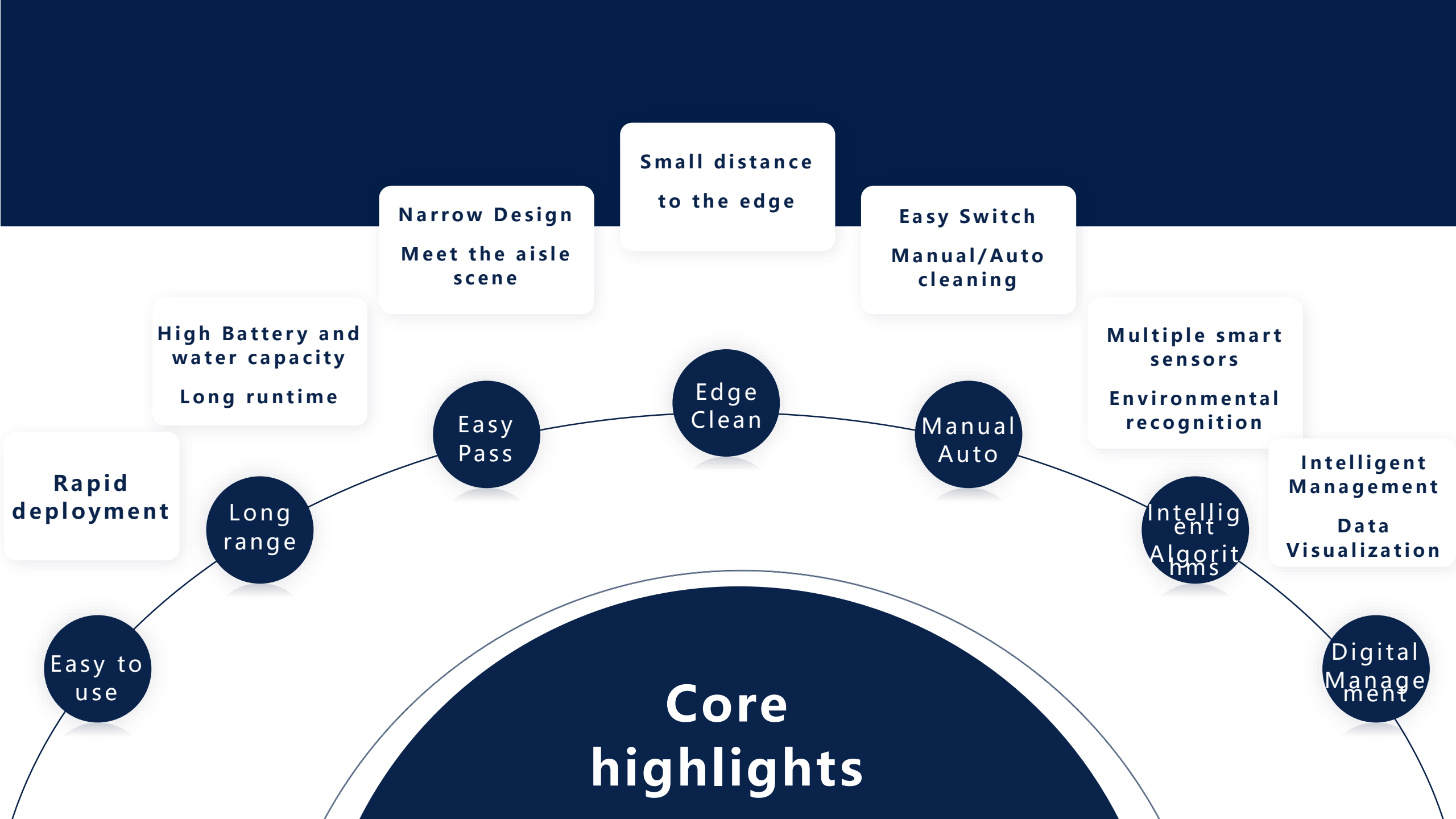
Provides consistent cleaning quality and reduces the influence of human factors on cleaning effectiveness

Flexibility

It can meet the cleaning requirements of different places and sweep on various ground materials

Low cost

Support high-intensity continuous work to reduce labor costs



Core highlights

Easy to use

Long range

Easy Pass

Edge Clean

Manual Auto

Intelligent Algorithms

Digital Management

High Battery and water capacity

Long runtime

Narrow Design

Meet the aisle scene

Small distance to the edge

Easy Switch

Manual/Auto cleaning

Multiple smart sensors

Environmental recognition

Intelligent Management

Data Visualization

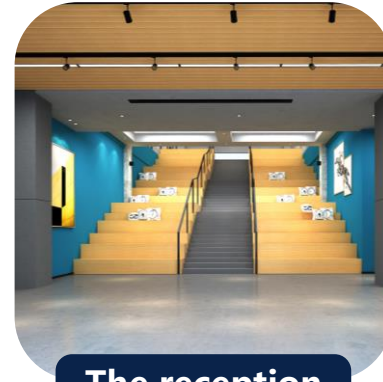
Suitable cleaning scenes



Hotel lobby



Transport Station



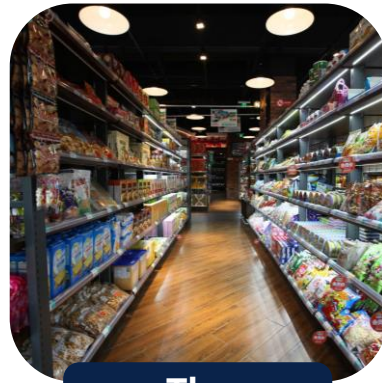
The reception room



Hospital



Museums



The supermarket



The factory



Office building

Suitable floor types



Material: Marble
Mode: Floor wash



Material: Granite
Mode: Floor wash



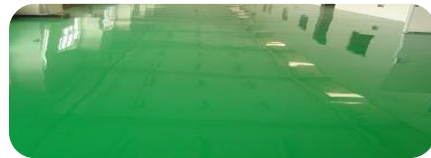
Material : Concrete
Mode: Floor wash



Material: Wood
Mode: Dust mop



Material: Tiles
Mode: Floor wash
Dust mop



Material : Epoxy
Mode: Floor wash



Material: Plastic
Mode: Floor wash

2

Features



Sensing systems

Mono cular



- Full Viewing Angle
 - 210° ultra-wide field of view, no blind spots
- High accuracy
 - Millimeter-level positioning accuracy

LiDAR



- High RPM
 - 900 RPM
- Long range
 - 30m extreme distance
- High accuracy
 - 0.125degree

Depth Camera



- High frame rate
 - Up to 45 FPS
- Fine capture
 - 2 cm recognition accuracy
- Ultra-sensitive
 - 20ms reaction time
- Wide View
 - 135 ° viewing angle

Control Platform



- AI computing power
 - 3 TOPS

Sensing systems



Ultrasonic radar

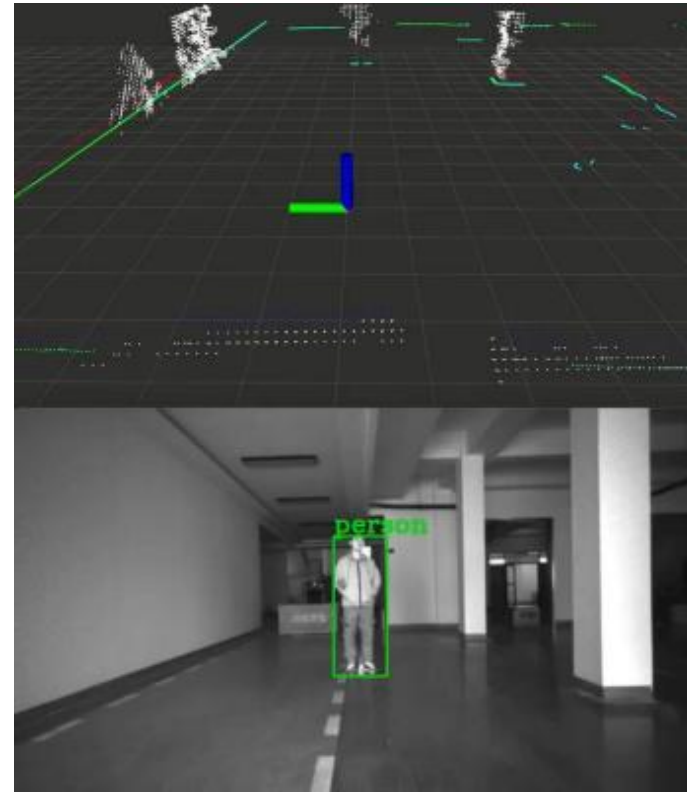
Surrounding detection for precise distance measurement and obstacle avoidance



Smart anti-collision strip

In case of accidental collision, the emergency stop device is triggered immediately to ensure safety

Obstacle recognition



Better fit and safer

Self-developed multi-sensor matrix, deep fusion, millimeter level accuracy, stereo surround design

70
L

**Large water
tank**

long runtime

70
cm

**Strong
passage**

Easily Passage
A narrow place

1.2
m/s

Run Fast

Perform efficient
cleaning

17.8
g/CM²

**Pressure per
unit area**

Effectively
enhance
Cleaning Ability

Detailed parameters

The iScrub X30 parameter		
Basic parameters	Size L * W * H	1160 * 580 * 1210
	Weight	254kg (without water)
Performance parameters	Clean width	510mm
	Suction rake width	790mm
	Maximum operating speed	1.2 m/s
	Earth pressure	27 kg
	Pressure per unit area of brush disc	17.8 g/cm ²
	Volume of clear water tank	70L
	Tank capacity	50L
	Proceed at speed	Automatic: 4km/h; Manual: 4km/h
	Efficiency	2040 m ² /h
	Climbing ability	6%
Electronic Systems	Voltage	DC24V
	Battery life	3-4h
	Battery capacity	DC24V, 120Ah
Smart Systems	Navigation scheme	Vision + laser
	Sensor scheme	Panoramic monocular/270 ° LIDAR/360 ° depth camera/360 ° ultrasonic/IMU/Anti-collision strip
	Event data recorder	Optional
Disinfection module	Reserved interface	Optional



Suitable cleaning dirt



Dust



Dry Stains



Liquid

Cleaning mode

A variety of cleaning modes to support different scenarios at different times and cleaning needs



Cleaning Method



Manual cleaning

Intervention by staff ensures flexibility for targeted deep cleaning of specific areas

Auto Cleaning

No manual intervention is required; the device utilizes navigation and path planning to autonomously perform intelligent cleaning.

Regular Clean

By setting a scheduled task, the machine will automatically start and execute the task when there is sufficient clean water and power, without excessive manual intervention.

Cleaning in the morning

04:30-05:30

Deep sweeping and suction

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Midday cleaning

13:30 to 14:30

Full cleaning

2

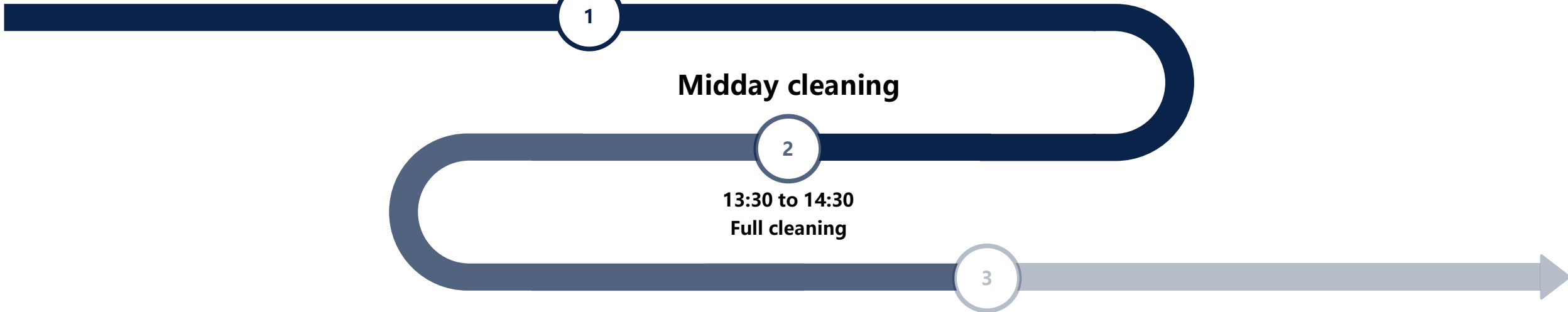
Evening cleaning

18:30 to 19:30

Silent Sweeping

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Office lobby for example



Support Elevator Access



In order to solve the problem of cross-floor and cross-area cleaning in various places, we use IOT linkage to realize the machine support to take the elevator, go through the gate, and then go to the target location for cleaning, to expand the cleaning area, to achieve all-day unmanned intervention



Disinfection module



Application scenarios

- **Floor disinfection:** The disinfection area at the rear of the machine can spray harmless sterilizing liquid.
- **Air disinfection:** Equipped with replaceable disinfection components, it replaces manual labor for automatic patrol disinfection, achieving more professional and thorough results.

Function description

- Professional-grade disinfection applications feature smaller droplets and longer suspension time.
- Adopts four-core ultrasonic atomization disinfection technology, delivering excellent atomization performance.
- Droplet size, suspension time, and the professionalism of disinfectants are the criteria for evaluating the effectiveness of atomization disinfection equipment.
- With a minimum droplet size of only $5\mu\text{m}$, the four-core ultrasonic atomization disinfection module is the first choice for professional atomization disinfection.

Charging Post/workstation

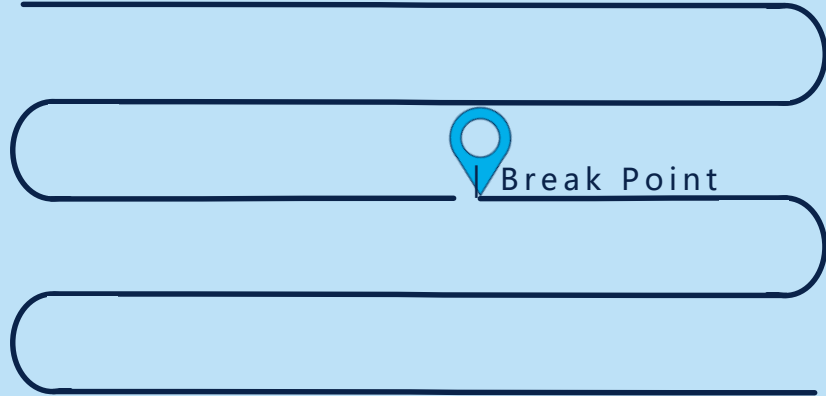


When the machine runs low on power during a task or completes the task, it will automatically return to the charging station/pile to recharge, ensuring its continuous cleaning capability.

Breakpoints continue to scan

The machine will remember the cleaning progress, and then can continue from the save location to avoid repeated cleaning

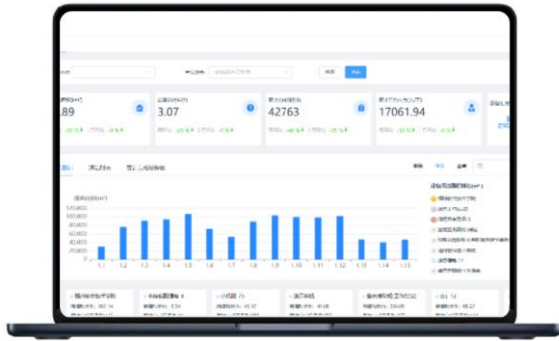
| The Beginning



In which case does the breakpoint task occur?

- Human Intervention: the human finishes the current task and decides whether to continue cleaning next time
- Machine decision: when the machine become low power in the process of cleaning and support the remaining cleaning area, then it returns to the post to charge, until the power is enough to continue to clean

3-terminal synchronous digital management



Web

- Digital Cloud Platform
- Remote control devices
- Visualizing cleaning data

Machine-side

- Control device
- Create a task
- Set up the cleaning parameters

App

- View data at any time
- Start the task
- Master the status of consumables

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User Case

School

Customer Requirements

Cleaning Power: Frequent cleaning is needed due to heavy student foot print, while disinfection capabilities are also required.

Silence Performance: Operate with low noise to avoid disrupting students' study and rest.

Intelligence: Minimize manual intervention to save labor costs.

Safety: Avoid obstacles (people and objects) to prevent safety accidents.

Case 1: Shenzhen Guangming Experimental School





Hospital

Customer Requirements

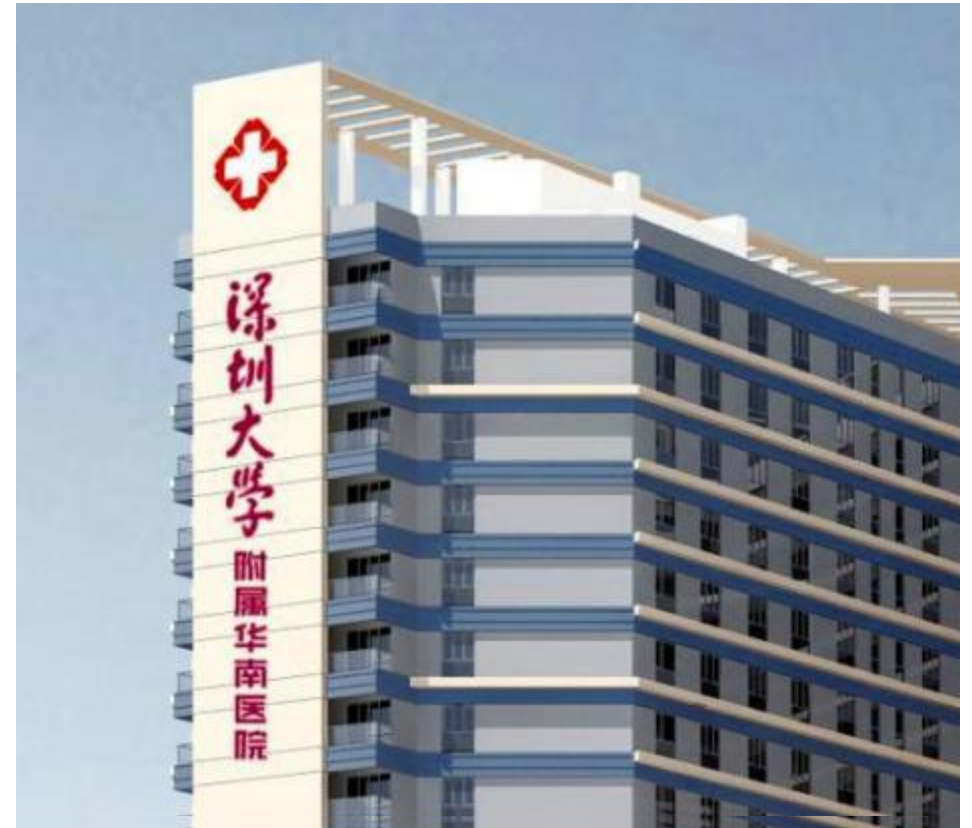
High-frequency Cleaning Requirement: Strict hygiene environment standards call for frequent and thorough cleaning.

Reduced Cross-infection Risk: Incomplete floor cleaning may elevate the risk of cross-infection.

Intelligent Upgrade: Capable of autonomous cleaning without staff supervision — this not only enhances hygiene safety standards and cleaning efficiency, but also saves costs and time.

Hospital Image Upgrade: Showcase the hospital's modern image (prioritizing hygiene safety, environmental protection & energy conservation, and intelligent management) to gain the trust and positive feedback of patients and visitors.

Case: Huanan Hospital



Application Cases



Application Cases



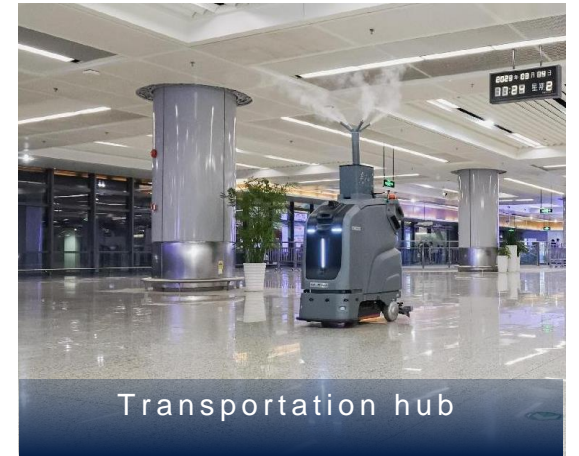
Application Cases



Factory



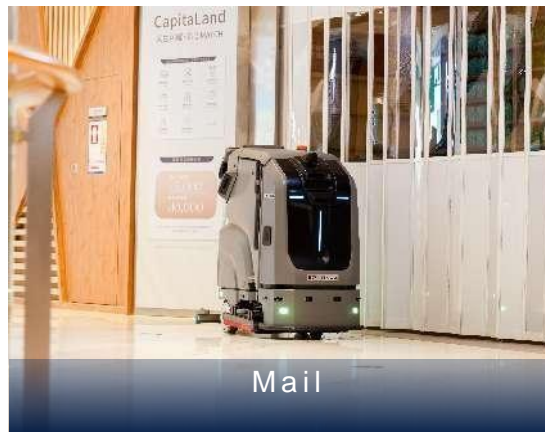
Hospital



Transportation hub



School



Mail



Supermarket



Car garage