

Gausium SC50 Pro

Working smarter and easier with Gausium service robots

Saxon Solution Manager



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- 2. Applicable Scenarios
- 3. Software and cloud platform
- 4. Accessories (Charging dock & Workstation)
- 5. Product Advantages and Values
- 6. Demos
- 7. Success case

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• The two versions of SC50 Pro are on sale for overseas market.



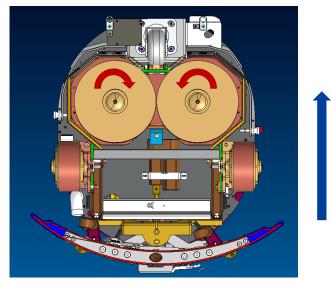


SC50 Pro (V4.1) Disc Brush Version SC50 Pro (V4.1) Roller Brush Version

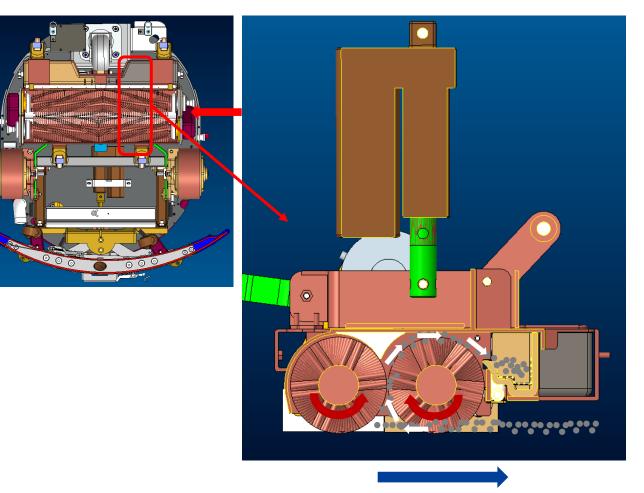
Basic Information – Two Versions of SC50 Pro



Disc brush version



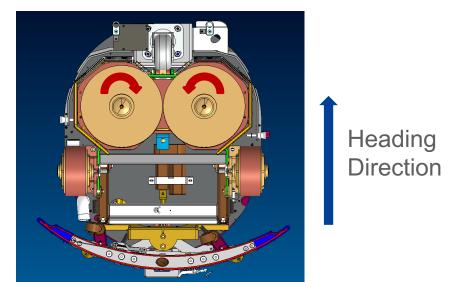
Heading Direction Roller brush version



Heading Direction



Disc brush version



Working process: Two disc brushes would rotate inwards to scrub the floor with the help of water.

Applicable scenarios: Factory, warehouse, hospital, buildings (lobby), etc.

Pros: Cleaning efficiency would be relatively higher on flat surface.

Basic Information - Working Principle of Scrubbing



1. Scrubbing: Two roller brushes would rotate to scrub the floor with the help of water.

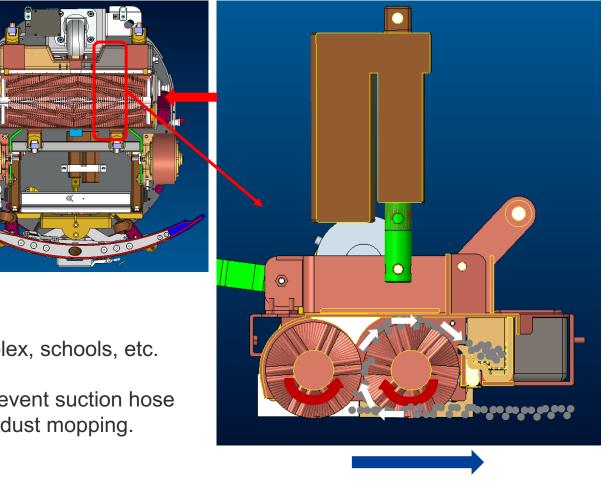
2. Sweeping: Two roller brushes would rotate inwards to throw up trashes on the floor and move them into the trash tray.

3. Trash type: Toothpicks, cigarettes, peanuts could be swept away. While fresh food, cards can not be swept away.

4. Applicable scenarios: Supermarkets, commercial complex, schools, etc.

5. Pros: Able to sweep away certain types of trashes to prevent suction hose from getting clogged. You could also use cloth roller to do dust mopping.

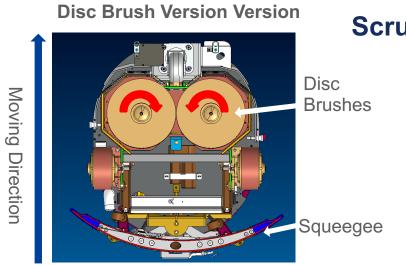
Roller brush version



Heading Direction

Basic Information - Working Principle of Mopping





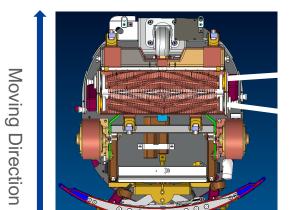
Scrubbing c ishes

Moving Direction

Mopping



Squeegee + Dry mopping cloth



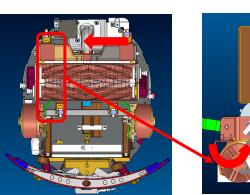


Roller brush

// Mopping cloth

Roller Brush Version

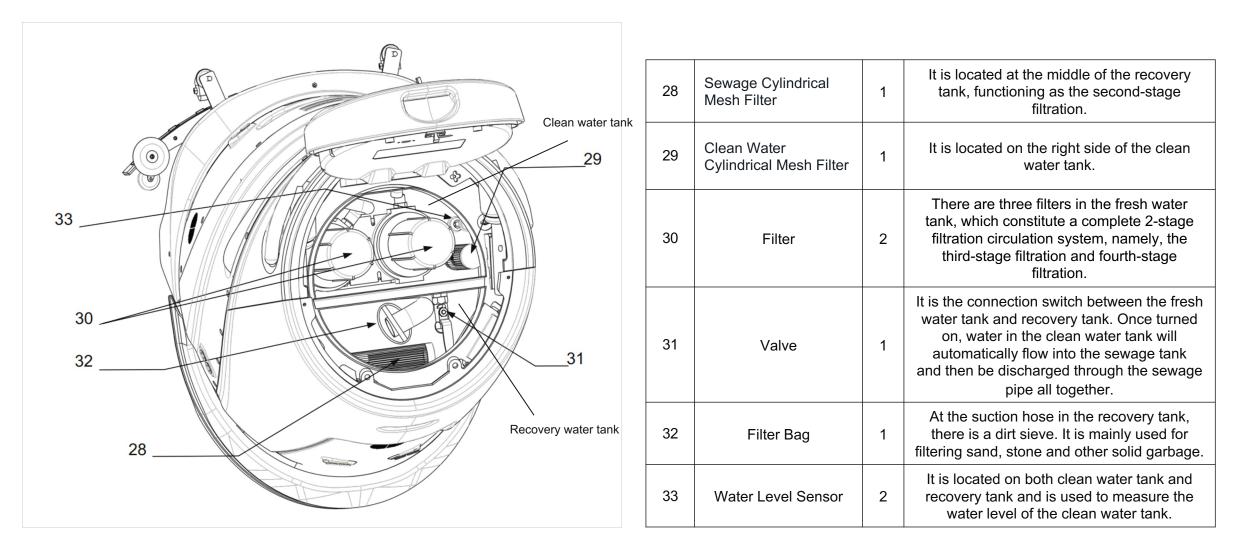
Moving Direction



Moving Direction

Basic Information - Filtration System





Water flow: 32 28 30 29







Feature Highlight - Sensor





Upgrade of Sensor

- Front oblique depth camera: bigger FOV, improving the accuracy of detecting escalator, stairs, etc.
- The back line LiDAR is equipped: improving the accuracy and stability of docking
- Rear RGB camera: improving the ability of detecting obstacles at the back, to ensure more efficient and smoother obstacle avoidance
- Front RGB camera: used for spot cleaning*, improving cleaning efficiency in an intelligent way
- Left & right camera: they are moved from top to the bottom, facing up, to detect hanging obstacles more accurately

* Now, auto spot cleaning function is only applicable to sweeping mode for roller brush version SC50 Pro, and scrubbing mode will be available for both roller brush and disc brush version of SC50 Pro in Q1, 2024.







Basic Information - Modules





Upgrade of the Bumper sensor

- Fixed design, no need to dissemble during daily maintenance, meaning it will not easily fall off
- Maintenance can be done with quick access via the maintenance cover on both sides

Feature Highlight - Module





Upgrade of modules

- Manual / Auto switch & Lock Screen & Tank indicators are all removed from the panel
- The key switch is moved to the back, easier to switch on or off when people pushing at the back

Feature Highlight – Water Tanks



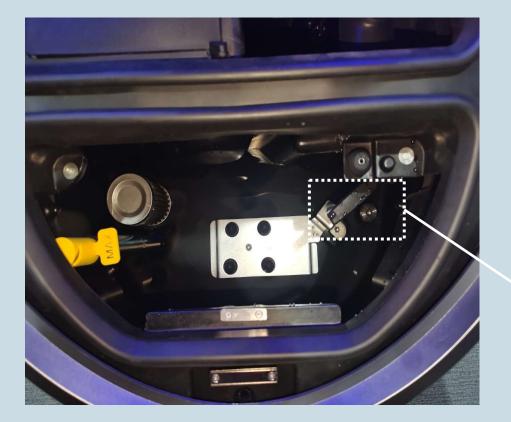


Upgrade of Water Tanks

- The material of water tank is more stable, bigger capacity (30L of clean water tank and 24L of dirty water tank), decreasing the frequency of robot going back to workstation to refill or discharge water.
- The dust bag becomes stainless dust sieve, easier to clean.
- Additional module (rubber cover) to prevent suction motor from water, less possibility of pouring water to the motor when adding clean water.

Feature Highlight – Plug





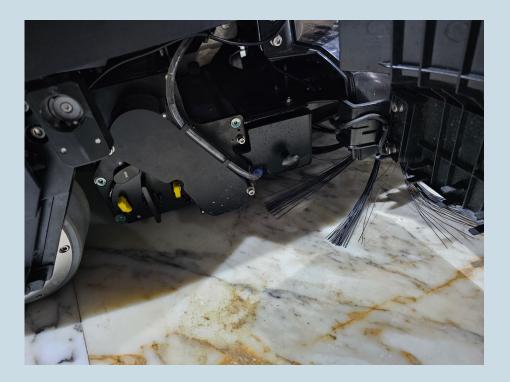
Plug for clean water tank

• No need to reach the bottom of the water tank to pull the plug, but simply pull out the stick on the plug, easier to drain the clean water.



Feature Highlight – Roller Brush



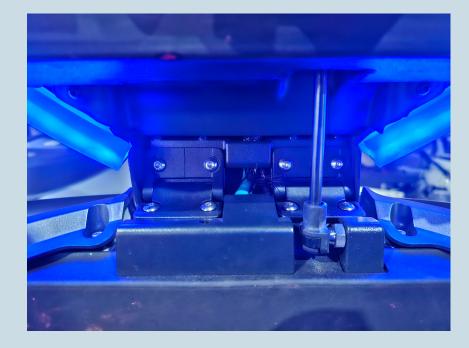


Roller Brush Module

- The two small shells on both sides can be easily opened, to replace the roller brush, less maintenance time needed (less than 30s).
- Front shell: easier to dismount, magnetic design.

Feature Highlight – Hinge





Upgrade of Hinge

• The lid can be opened with a boost, easier to open

Feature Highlight – Pedal





Upgrade of Pedal

• The pedal is foldable, easier to put it down when pushing the robot to go over some small bumps.

Feature Highlight – Speaker







Upgrade of Speaker

• The speaker is moved to the lower part, wider range, clearer voice to warn pedestrians around.

Feature Highlight – Side Brush





Side brush is available for roller brush version

• The side brush can sweep garbage at corners, more cleaning width, easier to dismount and maintain with magnetic design (about 10s to replace).



Feature Highlight – Detergent Box





Detergent box

• We can add detergent to a specific box, then mixed with water by software configuration, to clean something like oil stains, spilled milk or coffee.

Features & Functions – Scrubber 50 Pro (V4.1) GAUSIUM





Parameter Comparison – V3.7 VS V4.1



ITEM		V3.7		V4.1		
		Disc Brush Version	Roller Brush Version	Disc Brush Version	Roller Brush Version	
General Info	L*W*H(mm)	860*700*1030mm		810*700*1070		
Scrubbing	Cleaning Width of Robot	460mm	406mm	460mm	406mm (roller brush) 780mm (with side brush)	
	Clean/Recovery Water Tank Capacity	24L / 18L		30L / 24L		
	Theoretical Max. Cleaning Efficiency (cleaning width * max. cleaning speed * 3600s/h)	1490 sqm/h	1315 sqm/h	1490 sqm/h	1315 sqm/h (roller brush) 2527 sqm/h (with side brush)	
	Filtration System	5-stage (Filter bag>Sewage Filter Steel Cartridge>100-micron filter->50-micron filter>Clean water filter cartridge)				
	Brush pressure	25kg	18kg	25kg	18kg	
Sweeping	Trash tray (L)	/	2*0.6L	/	2*0.6L	
	Supported/Not supported trash type	/	Supported: toothpick, Cigarette Not supported: Fresh food, Cards	1	Supported: toothpick, Cigarette Not supported: Fresh food, Cards	
Maneuverability	Max. Cleaning Speed	0.9m/s (1m/s for transportation)				
	Min. Passing Width (transportation)	900mm				
	Min. Turning Width (transportation)	1200mm				
	Min. Running distance from the wall	50-100mm		40mm	0mm	
Electric Parameter	Battery Life	3h (Scrubbing, 60Ah battery)				
	Charging Time	2h (Scrubbing, 60Ah battery)				

For more parameters, please check the spec document

Features Comparison – V3.7 VS V4.1



ITEM		SC50 Pro (V3.7)		SC50 Pro (V4.1)			
		Disc Brush Version	Roller Brush Version	Disc Brush Version	Roller Brush Version		
Sensor	Front head-up depth camera	Yes					
	Front oblique depth camera	Yes					
	Front RGB camera	Yes					
	Rear head-up depth camera	Yes		No			
	Rear head-up line LiDAR	No		Yes			
	Front RGB camera	Yes		Yes			
	Rear RGB camera	No		Yes			
	Left camera	Yes (facing down from top)		Yes (facing up from bottom)			
	Right camera	Yes (facing down from top)		Yes (facing up from bottom)			
	2D Lidar	Yes					
	TOF Camera	Yes		No			
Others	Side brush	No		No	Yes		
	Charger	Yes					
	Charging dock	Optional					
	Workstation			Optional			
	Big Capacity Battery (60Ah)			Yes			
Picture							

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Shopping Center

Hotel & Office Building

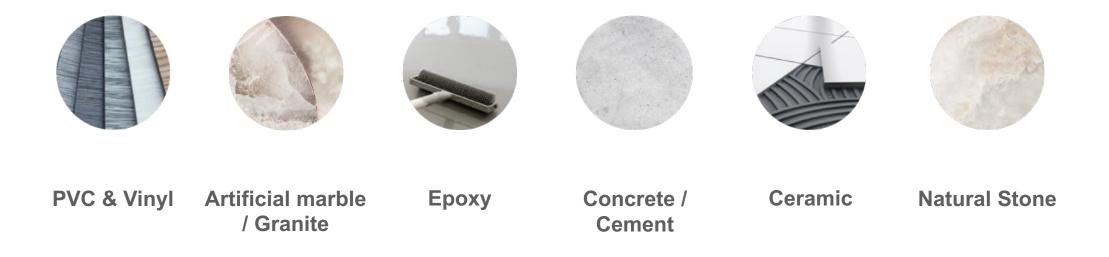
Supermarket

SC50 Pro is applicable to clean scenarios like shopping malls, hotels, office buildings (lobby), supermarkets. And train stations, hospitals, schools, exhibition halls or factories.





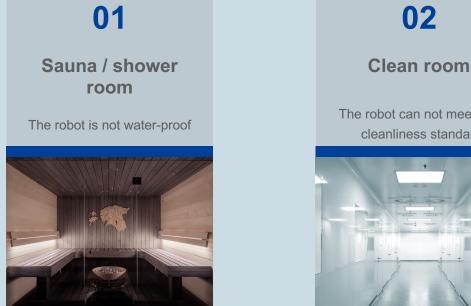




Scrubber 50 Pro can be applied for floorings types like natural stone, artificial marble, granite, ceramic, PVC, vinyl, epoxy, concrete/cement, tile, terrazzo, plastic floorings, etc.

NOT Applicable Scenario Types





02

The robot can not meet high cleanliness standard



Tire production factory

03

The robot can not see black objects



04

Semi-outdoor environment

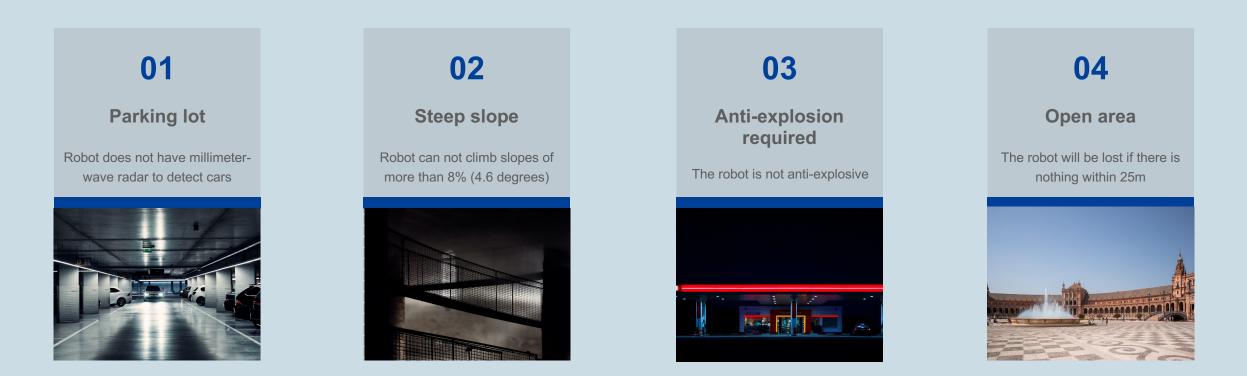
The robot is not dust-proof



- The robot is not waterproof or dustproof ٠
- The clean rooms typically maintain rigorous cleanliness standards that robots cannot match. ٠
- The black objects with high reflection, hanging black objects, or glass door, might not be detected by the robot by camera ٠
- The robot may easily get lost when working at highly dynamic environment, like warehouse (many pallets would be moved from one • place to another).





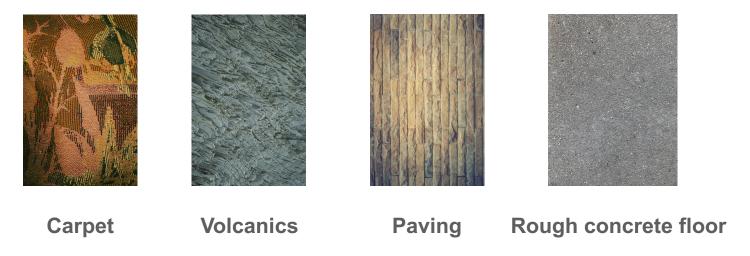


- SC50 Pro might not be able to detect cars from a far distance since it is not equipped with millimeter-wave radar like SC75 P.
- The flourmill or gas station may require anti-explosion standard since they have explosive particles, where robots can not be applied.
- The robot might easily get lost if there is nothing objects within 25m for reference, like too open area.









Scrubber 50 Pro can NOT be applied in carpet flooring, volcanics flooring (water would leak into it), paving flooring (water suction would be bad), rough concrete flooring, tactile paving, floor light (more than 2mm high).

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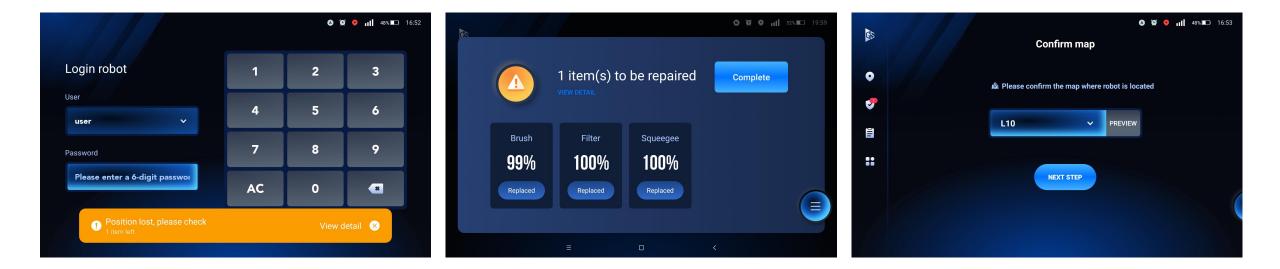
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Built-in GMIND APP Introduction





Separate accounts for different permissions (user & admin)

The health status of robot can be viewed at a glance.

Select, preview or confirm your maps easily.



Built-in GMIND APP Introduction



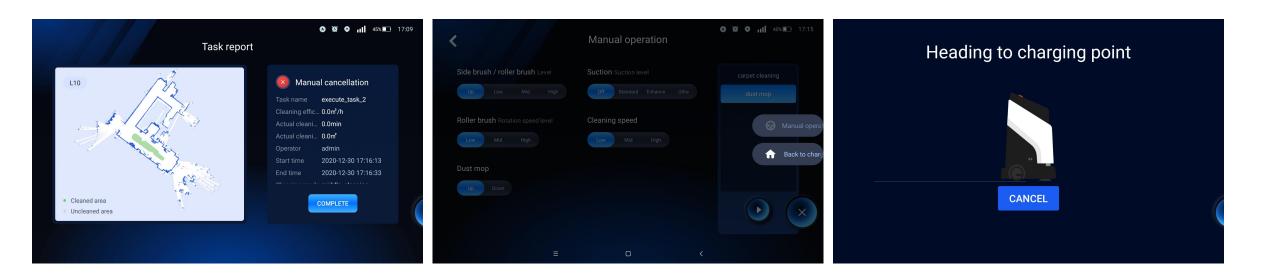


Clear UI for you to select your task, cleaning mode and number of loops, easy to start. Clear UI for you to check out the progress of cleaning tasks, you can easily pause, continue or end task.

Easy to adjust cleaning parameters by selecting different levels for different equipment.



Built-in GMIND APP Introduction



After the task is finished, this interface can show you all the details about the task (task report).

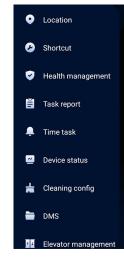
You can also tap the floating ball on the side to switch to manual operation mode. You can also ask the robot to go back to the charging dock, workstation or a specific spot with a simple click.

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Image: State of the state



Common interaction mode as smart phones, you can swipe downwards to check out the shortcut menu.

Status bar also indicates a lot of

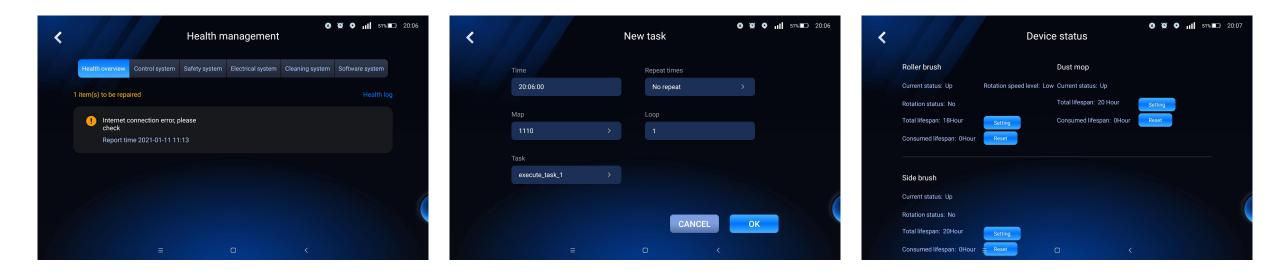
information, so you can basically know everything by a glance.

With the sidebar, you can check out for more professional configurations.



Built-in GMIND APP Introduction





Health management allows you to check all the alarms or warnings.

You can even set up scheduled tasks, so you do not have to start the task at midnight. You can view the status of remaining service life and usage time of all the consumables, so you know when to replace



Built-in GMIND APP Introduction



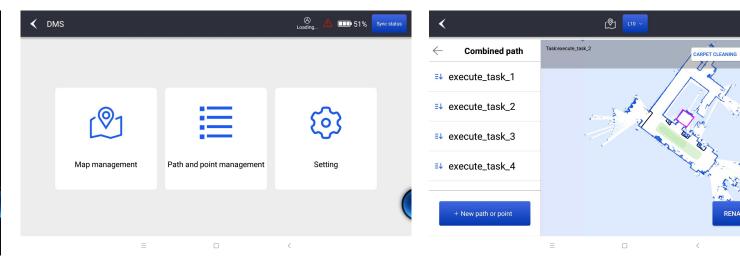
III) 44%

DELETE

TASK ICON

RENAM

<		Syster	n setting	6) (C	`O .	11 51% 💶)	20:07
	About robot						
	System and update						
	Storage ratio						
	Volume						
	Display						
	Action and gesture						
	Operating instructions		0				



This module is designed for you to check out back information about robot, and update software, adjust some back parameters of robot.

Data management part is accessible to admin account only, so admin account can edit maps, paths and some settings.

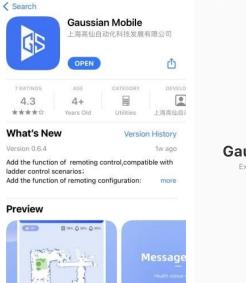
You can see a list of maps, paths easily, add new path or points easily.





You can download from:

- 1. IOS: App store,
- 2. Android: Google Play
- 3. Search "Gaussian mobile".



Low battery

Q

Search



Gaussian Mobile

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Feature Highlights:

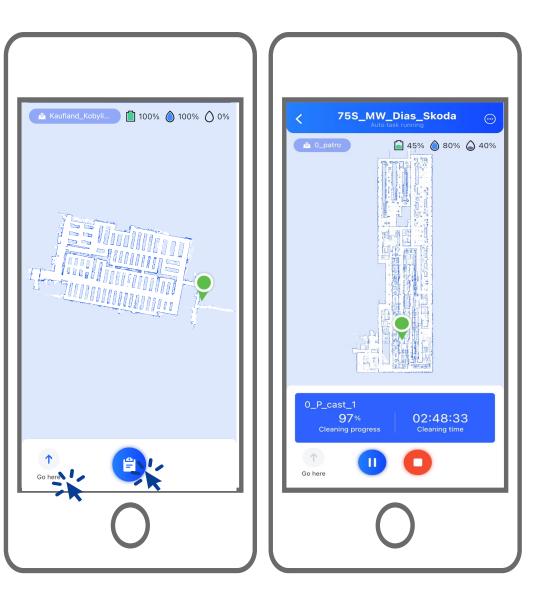
- 1. Remote Control
- 2. Manage all your robots
- 3. Check up on cleaning reports
- 4. Receive alarms & messages
- 5. Find your robot's location
- 6. Robot operation guide
- 7. Bind your robots



Basic function:

- 1. Log into your account
- 2. Reset password
- 3. Change language / Unit according to your regions





Feature Highlights:

- 1. Remote Control
- 2. Manage all your robots
- 3. Check up on cleaning reports

GAUSIUM

- 4. Receive alarms & messages
- 5. Find your robot's location
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- 7. Bind your robots

You can remotely start, pause, end task remotely. Or even ask the robot to go to a specific preset point by clicking "go here" icon.







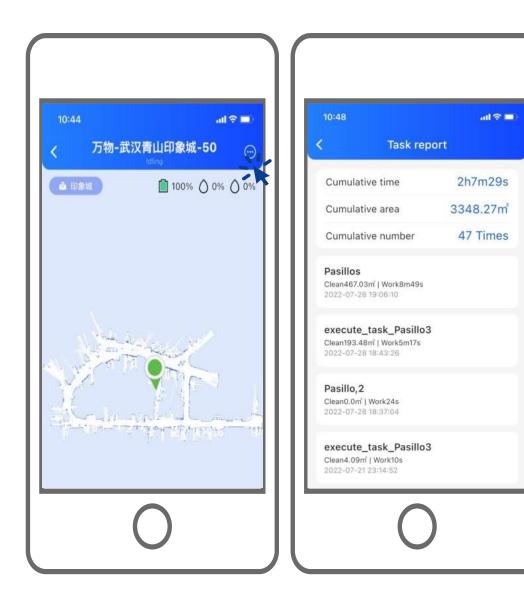
Feature Highlights:

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You can manage all your robots under your account, click "Online" to check all the online robots or click "Offline" to see which robots are offline.







Feature Highlights:

- 1. Remote Control
- 2. Manage all your robots

3. Check up on cleaning reports

- 4. Receive alarms & messages
- 5. Find your robot's location
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Find a robot, tap the icon at the right-upper corner, then you can see all task reports of it, including cumulative operation time, area and number of tasks.







Feature Highlights:

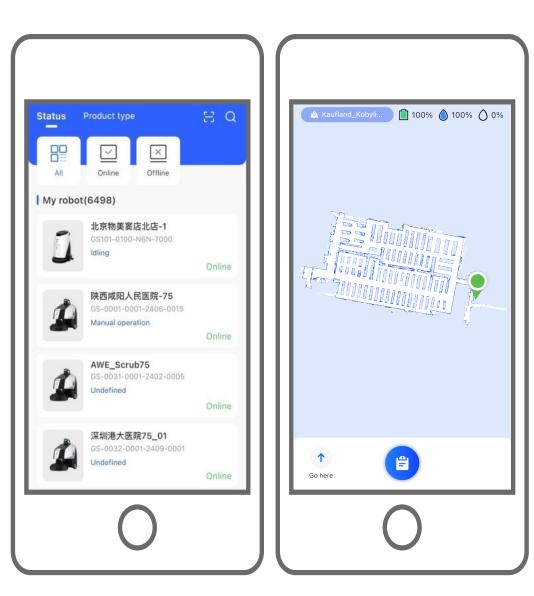
- 1. Remote Control
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You can receive alarms or messages as notifications, including error messages, reminds of task status, etc.





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- 4. Receive alarms & messages
- 5. Find your robot's location
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When the area is too big to find robot's location, you can find its relative location on the map, which helps you save time.

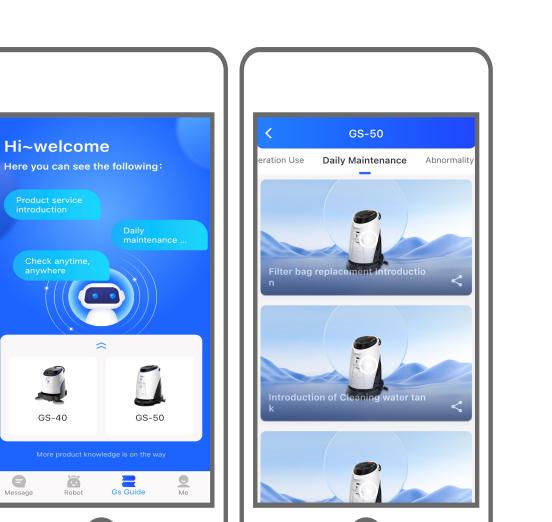


GS-40

8

Message

Mobile APP Introduction – Gaussian Mobile



Feature Highlights:

- 1. Remote Control
- 2. Manage all your robots
- 3. Check up on cleaning reports

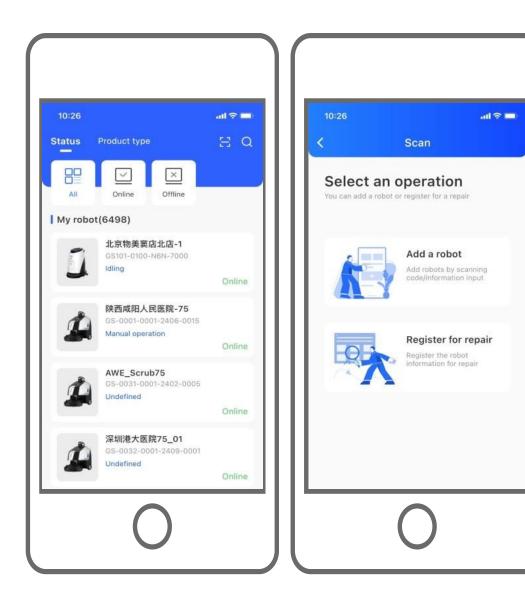
GAUSIUM

- 4. Receive alarms & messages
- 5. Find your robot's location
- 6. Robot operation guide
- 7. Bind your robots

We also provide many videos for your reference, including "product introduction", "operation use", "daily maintenance", "malfunction handling".







Feature Highlights:

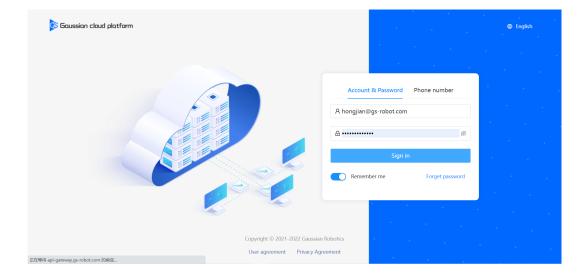
- 1. Remote Control
- 2. Manage all your robots
- 3. Check up on cleaning reports
- 4. Receive alarms & messages
- 5. Find your robot's location
- 6. Robot operation guide

7. Bind your robots

You can scan the QR code, or manually input the S/N of a robot, to add and link it to your account, then you can see it is in the list.







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F	Robot > Robot manageme	ent										
2												
5	Machine S/N:	Please enter		Robot	name: Ple	ase enter		Machine type:	Please select	~		
	Contract client:	Please select		End cus	tomer: Ple	ase select		O & M Region:	Please select			
9	purpose:	Please select		Customer	rating: Ple	ase select		Scenes:	Please select			
B	Country/Region:	Country							Online	Q Search		
	Machine S/N		Robot name		Machine typ	e Online status	Working state	us Contract client		End customer	Operating	
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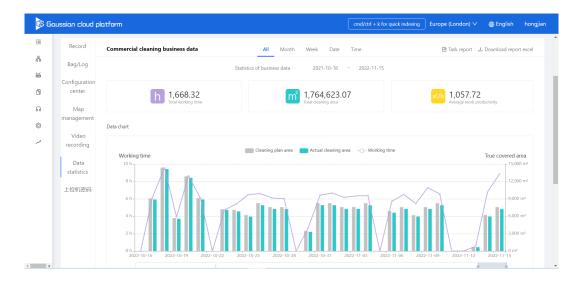
Cloud platform access portal:

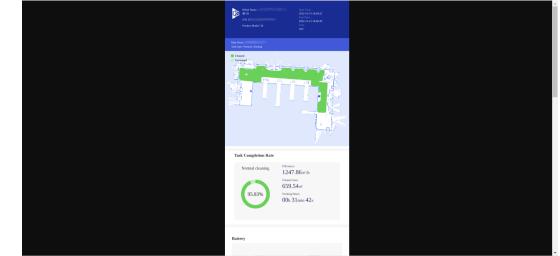
https://cloud.gs-robot.com/#/robot/manager

You can see all the robot under your account, or search any of them by inputting several conditions.

Cloud Platform Introduction







You can check up on more **detailed statistics** according to month, week, date or a timespan. You can either click "download report excel" to see a report summary. Or you can also click "**task report**" to see a specific task report.





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Ξ						Q Apply X Cancel	* <u>=</u>	Event center > Robot configuration table					
8						C Apply X Cancel	*						
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5 A	✓ Openall X Close all Q. Search Contractivity Event receiption												
\$	Event code	Event name	Event level	Event total switch	Email switch	Gmind mobile switch	6 ©	Robot S/N	Robot name	Task report mail switch	Task report mobile terminal switch		
	10001	Float ball of clear water tank is abnormal, please check if the float ball is stuck	НЗ				~	GS-0001-0001-2406-0015	陕西咸阳人民医院-75				
	10002	Float ball of dirty water tank is abnormal, please check if the float ball is stuck	H6					GS-0038-0001-2411-0003	重庆龙湖时代天街-10号机				
	10003	Drive warning: Filter motor overload, please replace the filter	H5					GS-0038-0001-2501-0005	Kastell_75_001 KASTELL				
	10004	Steering potentiometer and encoder calibration error	H5					GS-AS-0000-0006-0030-0317	Kastell_50_001_KASTELL				
	10005	Left encoder exceeds speed limit, please check	H5					GS-AS-0000-0006-0030-0319	50马桥-01-34版-1楼大厅				
	10006	Right encoder exceeds speed limit, please check	H5					GS057-0170-43N-000L	捷克				
	10007	Front-wheel encoder exceeds speed limit	H5					GS100-0010-65M-6000	GS100-0010-65M-6000				

Event subscriptions: you can also decide which kind of event would you like to receive in which way (email or mobile), and you can switch off some of them if you do not need.

Task report subscriptions: you can also decide which way to receive task reports from which robots.

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SC50 Pro



Charging Dock



Workstation (V1.2 & V2.0)

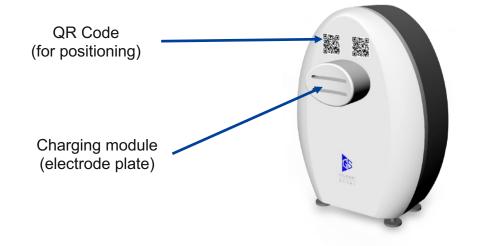
When the battery reaches the low threshold, robots can automatically go to the charging dock to recharge.

The robots can go to the workstation to recharge, refill fresh water, drain the dirty water if any of these conditions is met:

- 1. Battery is less than 10%
- 2. Clean water tank is empty
- 3. Dirty water tank is full







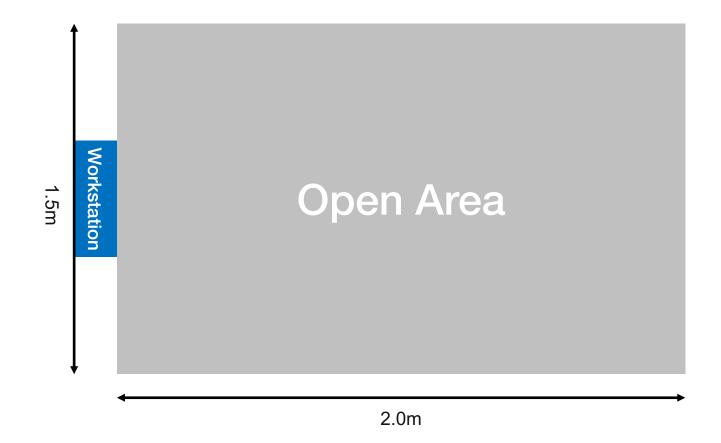
Charging Dock



Workstation (V2.0)



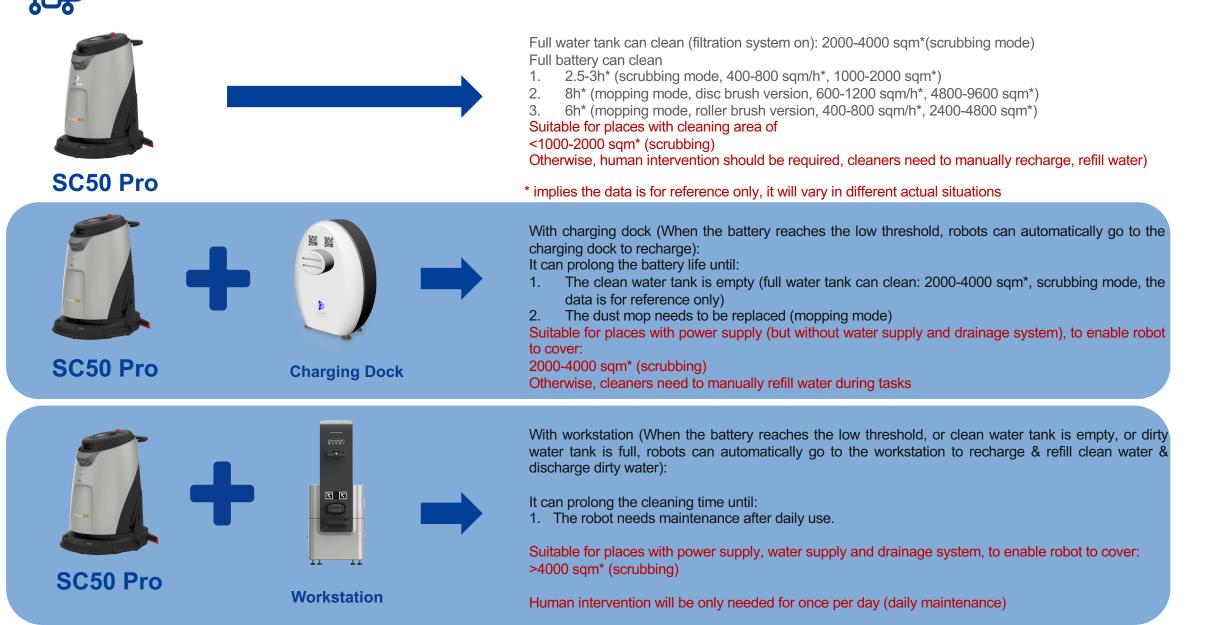




To ensure SC50 Pro can dock to the charging dock or workstation, we need a space of at least 1.5*2.0m in front of where the charging dock or workstation is installed, make sure the ground is flat without any potholes, bumps or reflective materials (like glass).



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Brand Promotion





Productivity Improvement Cleaning Effect Improvement Brand Promotion

We need people to do the 20% work as shown below:

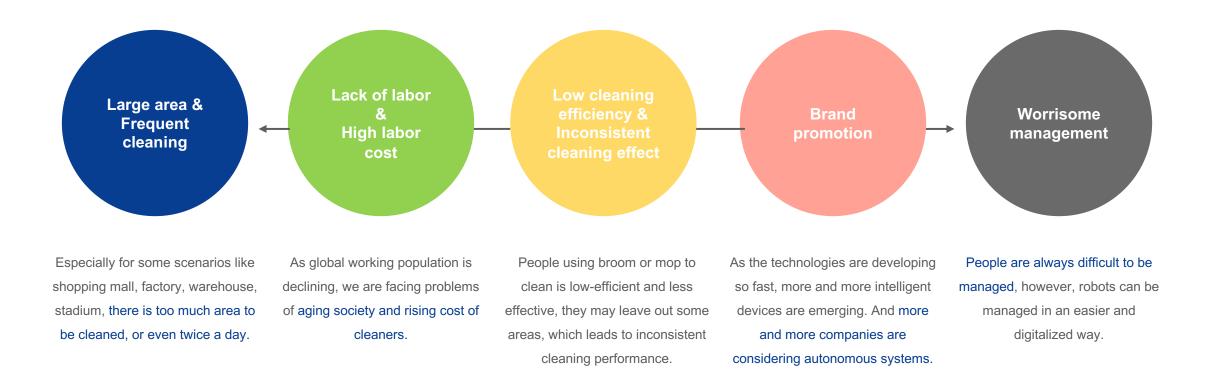
- 1. Flexible cleaning, like ceilings, corners;
- 2. Maintenance for robots;
- 3. Manual assistance for robot;
- 4. Pre-sweeping for big trash.

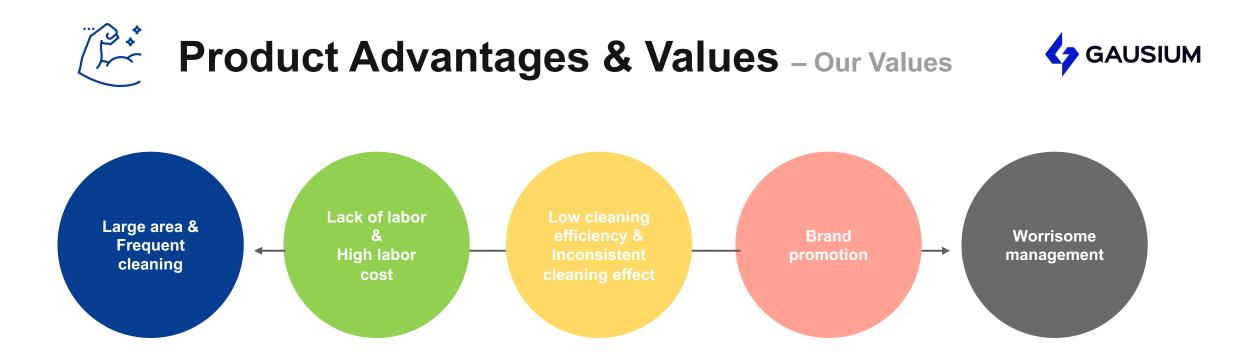
Robots can clean 80% area repetitively with high efficiency and long runtime.





What pain points we can resolve and what requirements we can meet?





What values we can offer?

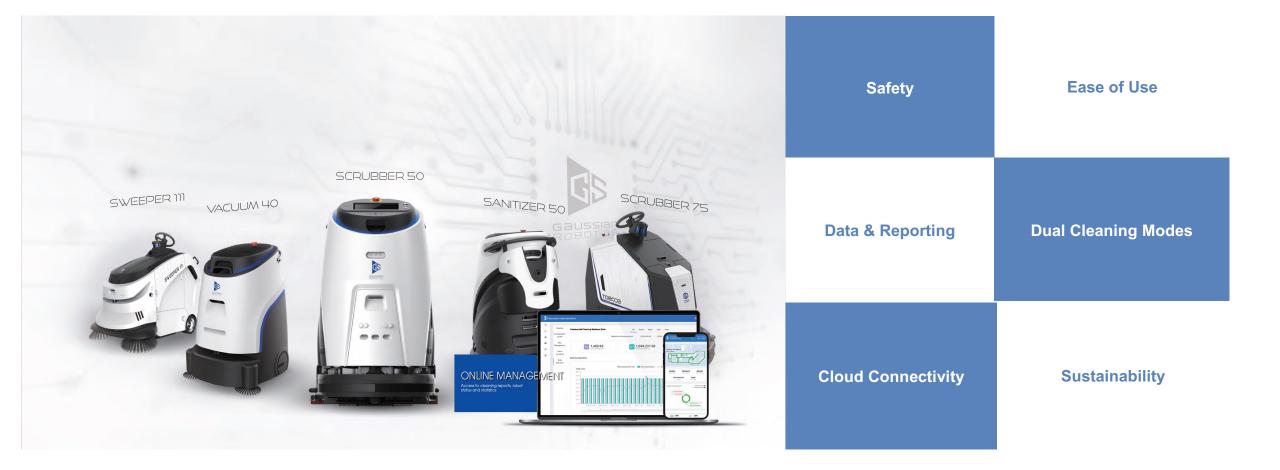
SC50 Pro can clean in an autonomous and intelligent way, no matter in terms of path planning or obstacle avoidance. It can run for 2.5-3h on a single charge, which can cover around 2000 sqm.

As what is suggested in the "co-botic solution" section, robot can help people do heavy and repetitive work, while people can do more valuable and flexible work, which eventually helps save total cost. Robot can clean in a more effective and efficient way with 25kg down pressure to the ground to ensure cleaning performance, and with 400-800 sqm/h productivity to cover more areas.

SC50 Pro features its friendly appearance, which enables it to work during daytime if when there are some people walking around. That can promote the brand of the company since people would find it attractive and intelligent. As what we have presented in the previous slides, you can easily use mobile app or cloud platform to manage your robots, you can either remotely control it or check up on its data anywhere, anytime.







Contents

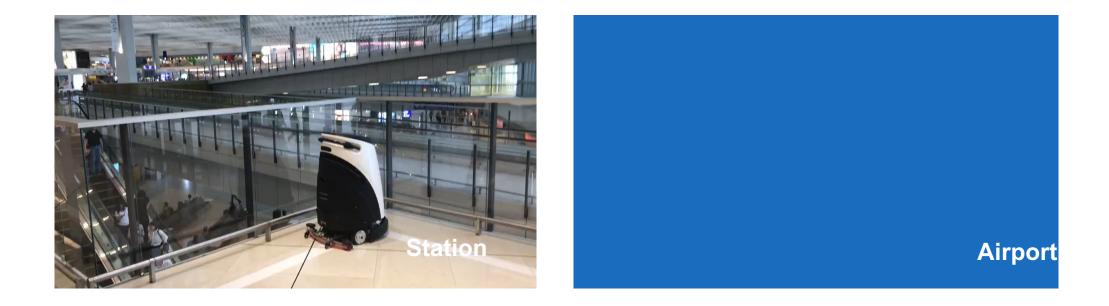


1. Basic Information

- 2. Applicable Scenarios
- 3. Software and cloud platform
- 4. Accessories (Charging dock & Workstation)
- 5. Product Advantages and Values
- 6. Demos
- 7. Success case



















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K-mart (Finland)

Carrefour (French)

M&S (UK)









Ipswich Hospital (UK)

Rabin Medical Center (Israel)



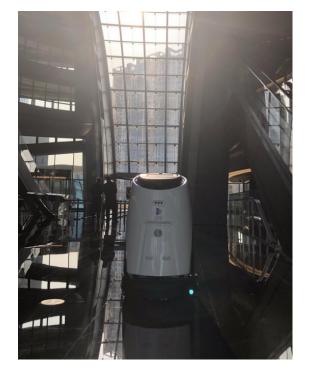




ICE Warehouse (UK)







Stansted Airport railway station (UK)



St Pancra Station (UK)



Luton Airport (UK)









New Lippumäki Ball Sports Hall (Finland)

Tottenham Hotspur Stadium (UK)



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