



whiz

REINVENTING THE COMMERCIAL CLEANING INDUSTRY
WITH ROBOTIC SOLUTIONS



GOOD
DESIGN
AWARD
2019



Maximum Cleaning Efficiency with Cutting-Edge AI

Changing Professional Cleaning with Breakthrough AI Navigation Technology



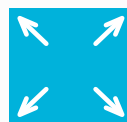
Easy To Set-Up, Easy To Use

Teach cleaning route manually to save a route



Smart AI Cleaning

On-board BrainOS*² determines the best route given the surrounding environment



Outstanding Cleaning Efficiency

Continuous operation up to three hours
Coverage up to 1,500m²



Simple Controls

Check status via smartphone or PC

*² Uses the BrainOS autonomous-driving AI. SoftBank is the exclusive license distributor for BrainOS in Japan.

>300

Whiz
DEPLOYED
across APAC^{*1}

>500

SITES
cleaned by
Whiz

18

CITIES^{*1}
embraced
Whiz

^{*1} Deployed across China, Hong Kong and Singapore.

EASY TO USE

User friendly, Whiz works right out of the box, so teams can start benefiting right away.

REAL-TIME ALERTS

A notification pager alerts your team when Whiz is done — or if it needs a hand.

AUTONOMOUS AND MANUAL MODES

Let Whiz do the work, or take control when you need to.

COVER MORE GROUND

Whiz learns all the routes your team needs — and cleans up to 1,500m² per charge.

SAFETY AND PERFORMANCE

Whiz autonomously avoids people, glass walls, cliffs, and other hazards.

CONFIRMED CLEAN

Whiz delivers robust cleaning performance data that can easily be shared with critical stakeholders.



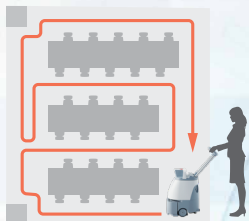
**A Simple to Use.
Simple Setup.**
Teach a cleaning
route and press
the start button.
It's that simple.

Create a route (Teaching)

- 1 Set the Home Location Code as the starting point.
- 2 Manually push Whiz through the cleaning route to teach.

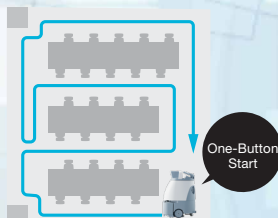


Use the Home Location Code to define start and end point.



Moves Autonomously Along the Cleaning Path

After initial use, simply press the start button for autonomous cleaning. Capable of memorizing several routes.



B Whiz detects and avoids obstacles, responding to environmental changes.

Multiple sensors detect obstacles, stairs, and human movement. Whiz avoids objects or stops until the route clears.



Access and clean narrow spaces, even along hallway wall edges.

Detects Obstacle

Avoids obstacle and continues cleaning



Detects Movement

Pauses in place until route clears



WHAT IS THE A3 LUMITESTER SMART TEST KIT ?

- The A3 Test is a common sanitary cleanliness test and is used to test the cleanliness of a surface during food preparation.
- It is used to test the presence of;
 - (a) Adenosine Triphosphate (ATP)
 - (b) Adenosine Diphosphate (ADP)
 - (c) Adenosine Monophosphate (AMP)

[ATP is known to be hydrolyzed to adenosine diphosphate (ADP) and adenosine heat treatment or in acidic/alkaline conditions.]
- ATP swabs has been recommended as a cleanliness test by the United States Center for Disease Control and Prevention as one of the objective methods to evaluate environmental hygiene.
- SoftBank Robotics is using A3 Lumitester Smart Test Kit to test for surface A3 level.

RESEARCH FINDINGS

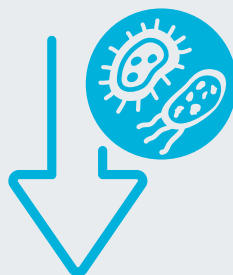


SoftBank Robotics conducted a research in Tokyo, Japan to evaluate the effectiveness of Whiz to clean office buildings. The study was conducted across **116 sites.**



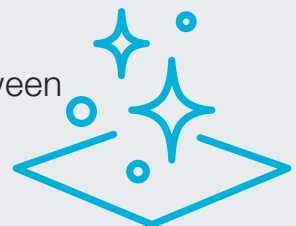
Scan to find out more.

Findings



Whiz helped to **decrease airborne fungi** in indoor environments by **80%.**

There is a **correlation** between **floor cleanliness** and **air cleanliness.**



Hence, keeping the floor clean will result **IN BETTER AIR QUALITY.**

Manual cleaning



the concentration of **airborne fungi**^{*3} (n / cubic meter) was **20,000 to 30,000.**

Using Whiz



the **residue** and **microorganisms** remain constant at **2,000RLU to 4,000RLU**

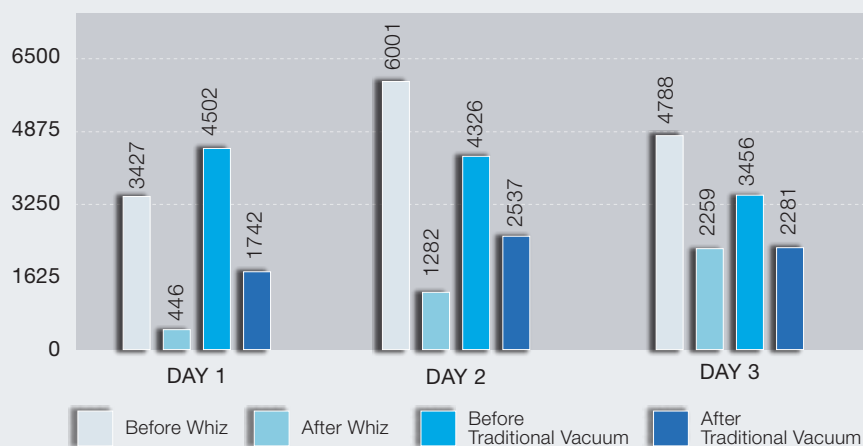
Airborne fungi remained at a range of **4,000 to 6,000**

^{*3} Measured using "Microbe Sensor BM-300C"

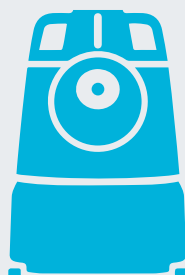
SHANGHAI OFFICE



We spend countless hours in the office, **often staying at least 8 hours a day** or more. Hence, the cleanliness of the office is an important **occupational health and safety issue** to manage for both employers and employees. See how **Whiz is able to help reduce the A3 level** for a brand new, non-tenanted office over three days.



Comparison between Whiz and a traditional vacuum cleaner:



VS



An average of
71.95%
reduction in residue
and microorganisms

An average of
46.6%
reduction in residue
and microorganisms

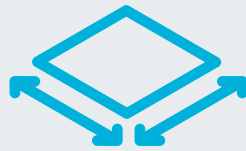


Using Whiz resulted in a
25.35%
more reduction in residue
and microorganisms.

SINGAPORE 4-STAR HOTEL



Hoteliers all over the world face the same issue – a **short cleaning window** to turnaround rooms in-between guests, coupled with the need to **ensure a minimum standard of cleanliness** across the corridors and common areas. A Singapore 4-star hotel was looking for suitable robotics solutions to **augment its workforce and reduce operating cost.**



Total Gross Floor Area:
2,700m²



No. of Rooms:
>400
rooms

By deploying Whiz,
the Hotel **was able to save**

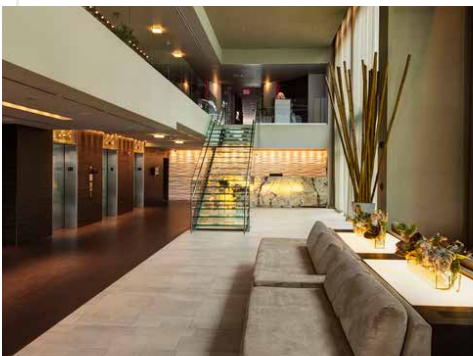
486
minutes per day



equivalent to
S\$2,525.20^{*4}
per month



^{*4} Based on S\$10.40/hr excluding the cost of Whiz rental.



Specifications *Specifications and/or design details may change without prior notice.

Main Unit Dimensions (Handle Recessed)	455mm × 474mm × 653mm (Width, Length, Height)
Weight (Excluding Battery)	30kg
Coverage *5	500m2/hour
Continuous Operation *5	Approximately 3 hours (Normal mode) / 1.5 hours (Max Power Mode)
Speed	1.8km/h max.
Cleaning Capacity	4.0L (Paper Bag)
Battery	5kg lithium ion; 23.7 Ah, 25.2V
Charging Time	4 hours
Battery Charger Capacity	100-240V AC
Rated Output	29.4V / 8A × 2
Safety Features	Obstacle detection, fall prevention (LIDAR sensor, 3D camera), impact detection (sensor-installed bumper), anomaly detection (Cliff sensors, wheel contact sensors, emergency brake function)
Alert functions	Notification Pager (attaches to main unit) and smartphone app
Accessories	Battery, Battery charger , Notification pager, HEPA filter, Paper bag, Brush

Supplies *Includes charger, home location code, vacuum motor and other accessories.



Paper Bag
Easy disposal;
4L max
capacity



Brush
Removable
rotating brush,
auto height
adjust



HEPA Filter
Captures 99.97%
of PM2.5 particles,
including pollen
and house dust



Battery
Replaceable
lithium ion
battery

Parts/Functions

Front



2D/3D Camera (Sensor)
Dustbin
LIDAR Sensor

Back



Main Power Switch
Notification Pager
HEPA Filter Cover
Battery Compartment

Top



Emergency Stop Button
Touch Display
Steering Handle
Max power mode
button
Autonomous clean
start/stop button
Vacuum power
button



Notification Pager
62mm × 100mm × 18mm
(Width, Length, Height)



Home Location
Code
80mm × 80mm

*5 May differ according to usage environment. * Whiz is a trademark of SoftBank Robotics. *BrainOS is a trademark of Brain Corp.



Website
For more information, visit our website.
<https://www.softbankrobotics.com/apac>

