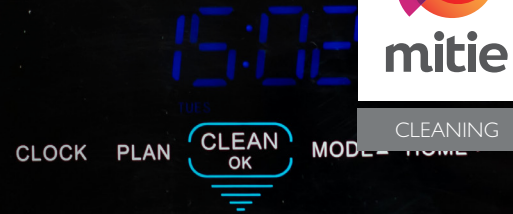


Mitie Cleaning & Hygiene Services

Improving Service and Sustainability Through Abbee HIVES (Robotic Vacuums)



Mitie is continually evolving its service offering, one area that has seen a particular focus in recent years has been in the realm of robotics and robotic vacuums.

With Mitie's focus on innovation in cleaning and hygiene we have undertaken multiple trials of robotic cleaning solutions in different sectors and industries, testing their

ability to free-up time whilst maintaining our commitment to our 'Plan Zero' initiative and furthering our customer promise of delivering the exceptional, every day.

Using automated technology has obvious benefits, but Mitie have led the way in implementing automated vacuuming to improve service.

As part of a deepdive into the technology, Mitie implemented robotic cleaning solutions, the "Abbee Hive" in multiple locations across different sectors, including the substantial office space of a high-profile corporate customer, a retail environment, a premium London law firm

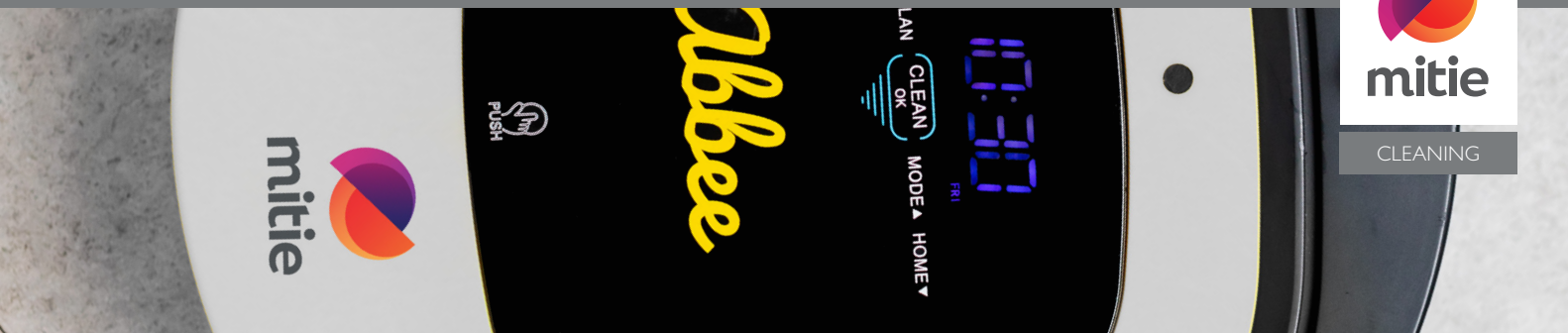
and an education environment, to explore the benefits automated vacuums deliver. The trials included hygiene tests, time studies and electricity consumption monitoring which demonstrated some impressive results.

By introducing robotic solutions, Cleaning Operatives can focus on the periodic sanitisation of hot-desks, workstations and the numerous touchpoints associated with communal workplaces, that are a key focus for employers in a post-COVID world





CLEANING



Step 1: Time & Motion Study

Each Cleaning Operative using the automated vacuums was timed, including the transporting of the Abbees to and from their destination, deploying, collecting, emptying, and securing the robots. This process was benchmarked against their existing process using tub vacuums.

**AVERAGE
TIMED SAVED
DAILY**
82%

Step 2: Controlled Cleanliness Testing

The most exciting part of the trials was the team taking controlled tests using Hygiena EnSURE Touch to test the cleanliness of the floor over a period of three days. The test involved taking swab tests from three specific areas. Tests were completed before and immediately after automated vacuuming took place. The test shows an impressive increase in standards which will impact the floor's levels of cleanliness and hygiene.

CLEANLINESS
↑ 62%

Step 3: Saving Electricity Consumption

Next up, electricity monitoring meters were used to measure the energy consumption of the current tub vacuums in use. Based on the model used, Abbees on average saved 62.5% in electricity consumption compared to the tub vacuums.

**AVERAGE
ENERGY
SAVED**
62.5%

Time & Motion	High-Profile Corporate	Retail	Law Firm	Education
No. Abbee's Required	20	5	10	70
Total Automated Vacuuming Time	22	6	16	3h 34m
Minimum Time Saved Daily	2h 37m	29m	1h 13m	10h 34m
% Minimum Time Saved	88%	83%	81%	76%
Additional Savings	3x Vacs (c£285)	2x Vacs (c£190)	3x Vacs (c£285)	7x Vacs (c£665)
Cleanliness Testing	High-Profile Corporate	Retail	Law Firm	Education
Ave. RLU Before Trial	225	175	81	517
Ave. RLU After Trial	51	60	28	311
% Ave. Cleanliness Improvement	77%	66%	65%	40%
Electricity Consumption	High-Profile Corporate	Retail	Law Firm	Education
Power Used to Charge Abbees (kW)	0.54	0.27	0.54	0.54
Total Power Used (kW)	1.08	0.14	0.54	3.78
Power used to run a Tub Vac	2.20 kW	0.50 kW	1.50 kW	10.00 kW
Power Saving per year	286.72 kW	93.44 kW	245.76 kW	1592.32 kW
% Energy Saved	50.9%	73%	64%	62.2%
CO2e Reduction per year (KG)	105.2 (KG) CO2e	34.3 (KG) CO2e	90.2 (KG) CO2e	584.4 (KG) CO2e

**LORRAINE DAVIS**

Director of Cleaning & Hygiene Services, Mitie.

“We have been absolutely delighted by the results of these trials, especially the fantastic improvements of standards which will result in improved cleanliness and levels of hygiene.

With the environmental impact of large-scale businesses being a hot topic, we are also excited by the energy saving findings from the trials and are sure our customers will be excited to be part of lessening their carbon footprint.

We continue to be focused on innovation in the cleaning industry, and by implementing technology alongside our dedicated Cleaning Operatives and taking a blended approach, organisations can truly get the best of both worlds, with a high-quality output that is proven to improve hygiene standards, save energy consumption and deliver time efficiencies.”

MICHAEL RICHARDSON

CEO of TPLC commented:

“We were honoured to be part of these trials with Mitie.

It’s an exciting time for the robotic cleaning industry with more people turning to robots for help at this time.

By completing these trials in a controlled environment, we have successfully demonstrated that cleanliness levels are improved as a result of the robots, resulting in reduced electricity consumption and greater efficiency, so teams can concentrate on the more important tasks during the pandemic and moving forward – such as touch points.

We are also personally very proud to be part of lessening the carbon footprint of many with our ever-increasing swarm of ‘Abbees’.”

Notes:

The swabs used were Hygiena Ultrasnap and the ATP levels measured using a Hygiena Ensure Touch. The Sanitiser used was RBT Ultimate diluted to 3%.

For reference information, please visit: www.rbt.global | www.hygiene.com |