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Hivebotics: Automating the Cleaning Task Few People Want

Singapore-based Hivebotics is developing a robot to clean commercial restrooms, beginning with one of facilities management's most repetitive and difficult jobs. The company's challenge is to make specialised automation work in real buildings.

Hivebotics · Robotics · Singapore
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Starting with the hardest room

Restroom cleaning is repetitive, physically demanding and difficult to staff consistently. The work also involves multiple fixtures and surfaces in tight spaces. A machine that merely sweeps an open floor does not solve the whole task.

Hivebotics is a Singapore robotics company attempting to automate that more specialised job. Founded in 2021 by Rishab Patwari and Nguyen Tuan Dung out of the National University of Singapore, it developed Abluo, a mobile robot designed to clean toilets, urinals, sinks and floors in commercial facilities. The system combines a moving base with an articulated arm and a set of cleaning and inspection technologies.

THE HARDEST ROOM

Hivebotics

Abluo reaches toilets, sinks and urinals

The choice of problem is strategic. Facilities operators face staffing constraints and must maintain hygiene standards across buildings. If a robot can take on a portion of repetitive work, staff may be redeployed to inspection and tasks requiring judgment. That is a business hypothesis; the technology must show consistent results, fit existing workflows and remain serviceable after deployment.

Designing for a messy environment

A commercial restroom is not a controlled factory line. Fixtures vary, spaces are wet and crowded, and objects may be moved between cleaning cycles. Hivebotics says Abluo uses computer vision to identify fixtures and generate cleaning routes. It combines high-pressure steam, targeted chemical application, vacuum extraction and drying, then produces a scored before-and-after check.

This product design focuses on the whole task rather than one visible motion. Cleaning quality has to be repeatable and verifiable. For a facility manager, a record of completed work may be as valuable as the labour saved, because hygiene standards can be inspected instead of assumed. The robot also has to navigate safely around people and facility equipment.

In September 2026, lead investor Vertex Ventures announced a US$6 million Series A for Hivebotics. The investor said the funding would help move Abluo from pilot deployments into volume production and expand distribution. The same announcement reported nearly 10,000 operating hours over 12 months at more than 20 sites across Asia, Europe, the Middle East and North America. These are investor/company-reported deployment figures, not an independent performance audit.

The announcement also described a workflow in which the robot replaces around 30 minutes of manual work with a five-minute human inspection. This measure should be understood as the company’s reported comparison. Actual labour savings depend on restroom size, soil level, staffing patterns and how much preparation or replenishment the machine requires.

From prototype to facility product

Robotics companies face a difficult transition when a successful pilot must become a product that can be produced, installed and maintained at scale. Hardware needs supply chains. Customers require training and support. Facility managers may have existing vendors and contracts, so a robot must fit their budgets and operating routines.

Hivebotics has framed restroom cleaning as the starting point for a wider facilities-management platform. Its longer-term plan includes using the HiveIntelligence software layer to plan and monitor work, with robotics potentially extending to other tasks. Starting in a narrow category can help the company learn what customers value before broadening the system. Expanding too quickly could spread engineering and service resources thin.

There is also a workforce question. Automation changes tasks; it does not automatically remove a staffing shortage or improve working conditions. Operators need to decide how employees are trained, how roles change and who is accountable if the machine misses a task. A credible product story should include these human operating choices alongside specifications.

GCEIP View

Hivebotics is aiming at a specific job where repetition, hygiene and staffing intersect. The company’s design treats the restroom as a complete cleaning process, including verification, rather than a simple floor-care problem. The next proof is repeatable performance across different sites, a service model that keeps robots running, and clear evidence of how the work changes for facility teams. That is what will turn an intriguing machine into dependable infrastructure.