Avidbots® Autonomy

Powering the future of autonomous floor cleaning.

Avidbots®

Avidbots Autonomy powers Neo, Neo 2W, and Kas, enabling our autonomous floor scrubbing robots to understand their operating environment and take actions to maximize cleaning productivity while minimizing human intervention.

Industry-leading Avidbots Autonomy means our robots outshine the rest in true autonomous cleaning and sanitization.

Micromanaging not required

Avidbots Autonomy is the smartest in the business.

Avidbots Autonomy — leveraging data from a variety of robot sensors — provides situational awareness, enables advanced decision-making capabilities and reliably completes its two key objectives: determining the robot's position within space and finding the best path for the task at hand.

Avidbots Autonomy delivers true autonomy, rarely getting lost, stuck or needing to be rescued by an operator. As a result, it reduces reliance on local operators when compared with antiquated methods of operation such as teach-and-repeat.

Advanced dynamic planning

With facility environments experiencing a significant change 82%[1] of the time in a given week, Avidbots Autonomy empowers Avidbots robots to handle these changes with ease. Many other self-driving floor scrubbers cannot handle these environmental layout changes.

When either Neo or Kas are deployed in a new facility, the entire space is mapped and a fully-customizable cleaning plan is generated. From that point forward, using the onboard suite of sensors, at the start of each cleaning session Avidbots Autonomy compares what the space looks like this time to the original cleaning plan. When this takes place, it's determining the best path to maximize cleaning productivity. Avidbots robots know the room and then determine the best route in real time.

Because floor scrubbers that operate using the teach-and-repeat principle only know the routes an operator has taught them, they are prone to stoppages when environments change (e.g. holiday display setup or seating area moved). Once stuck, the operator has to rescue the floor scrubber and reteach it the new environment. This is a time-consuming task that results in non-productive downtime. Imagine having to do this each time the environment changes.

With Avidbots Autonomy providing advanced dynamic planning, Neo and Kas remain productive members of your cleaning team.

82%[1] of facilities experience changes in layout significant enough to affect a robot's performance during a one-week period.

The importance of best-in-class localization

Localization is the process of determining where a robot is located with respect to its environment; it's key to our robots' success.

Avidbots' advanced localization algorithms, engineered on the experience of hundreds of thousands of operating hours, allow continuous operation in even the most dynamic and challenging environments where off-the-shelf SLAM (simultaneously localization and mapping) algorithms used by many robots fail. Avidbots' proprietary algorithms result in fewer stoppages and more consistent cleaning.

By interpreting long-range lidar sensor data and taking advantage of large and detailed cleaning maps, Avidbots Autonomy provides location-level awareness to Avidbots robots — Avidbots' robots understand their location relative to items in their immediate vicinity as well as in a wider context, such as where they are in a large facility.

This intelligence enables better decision-making. Avidbots Autonomy-equipped robots can choose to temporarily skip over entire sectors if blockages prohibit cleaning completion or take detours of any length through an already cleaned area in order to get the job done. If a sector is skipped, it will be reported on the cleaning report via Avidbots Command Center the very next day.

To get the best possible floor-scrubbing robot for your facility, it's important to evaluate the robot's localization capabilities, which are crucial to its success. With our robots' advanced localization algorithms along with location-level awareness, you are getting the smartest autonomous floor-scrubbing robots on the market that will deliver a consistent, reliable and measurable clean.

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1. The percentage of sites that experience change is based on data from 5 different industries over a span of a month - 7 out of 9 industries looked significantly different than their original floor plan. Based on research by Avidbots.

Market-leading obstacle avoidance and enhanced safety

Avidbots Autonomy means our robots are unmatched in obstacle avoidance. Using a variety of sensors, Avidbots Autonomy consistently evaluates the data being collected to ensure our robots can avoid anyone or anything and stop when unexpected obstacles appear. Unlike other self-driving machines that get confused and typically stop when multiple obstacles get in the way, Avidbots Autonomy enables our robots to handle navigating dynamic environments with ease. Our robots help keep the operational environment safe.

Industry-leading suite of sensors

An industry-leading suite of lidar (light detection and ranging) and 3-D sensors provide Avidbots Autonomy with a constant stream of information and data that is analyzed to make informed decisions on a consistent basis.

In addition to providing the Avidbots Autonomy with this data, it's shared with our Customer Success Team who work directly with our customers to optimize their cleaning operation, delivering the best floor care possible.

More improvements automatically updated

Avidbots Autonomy seamlessly updates via the Cloud with manual updates being a thing of the past. The machine learning equipped Avidbots Autonomy will continually get "smarter", recognizing different objects in different environments and floor plans. This is similar to self-driving cars powered by AI that learn from other self-driving cars on the road and get smarter over time.

When it comes to autonomous floor cleaning, Avidbots Autonomy puts Neo and Kas ahead of all the rest!

Meet the **Avidbots family** of cleaning robots

Why Avidbots?

Buying an Avidbots robot isn't just buying a floor scrubber. It's investing in a technological future that can redefine your cleaning function, making it more productive, more cost effective, and easier to run. More importantly, our robotics and AI-powered advanced autonomy open up new opportunities to make your business even more successful. We realize this isn't just about buying a product, or a technology, or even a business proposition. You want to buy into a trusted partner who can take you into the future of automated operations using cutting-edge robotics. At Avidbots, we work side-by-side with our customers to earn that trust and realize all the benefits that robotics can bring them.

Neo 2W
Warehouse

Neo 2
All-purpose

Kas
Commercial

About us

Avidbots is a robotics company with a vision to expand humanity's potential through robotics and automation. Our groundbreaking fully autonomous solutions — Neo, Neo 2W, and Kas — allow organizations to simplify their cleaning process, becoming more efficient, productive, and cost effective. Trusted by leading organizations across the world, our robots open new possibilities for businesses and their workers, making cleanliness a stepping stone to a more prosperous future. Founded in 2014 and headquartered in Kitchener, ON, Canada, Avidbots is offering comprehensive service and support to customers on five continents. Avidbots is backed by top global venture capital firms, including True Ventures, Next47, GGV Capital, BDC, Felicis Ventures, Real Ventures, and Golden Ventures.

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