

Neo™ for healthcare

CUSTOMER STORY

Avidbots®



Avidbots®

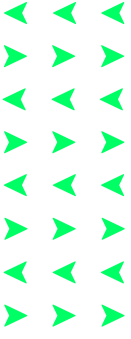


Contents

- 03 Neo Rolls into Healthcare
- 08 Neo Up Close
- 09 Piloting Neo
- 11 Neo Rolls into the Hospitals at Scale
- 12 Onboarding Neo
- 13 24 x 7 Support
- 14 Real-Time Monitoring and Reporting
- 14 Neo on the Job
- 15 Bold Thinking Leads to a Successful Technology Partnership
- 16 About HHS

Neo Rolls into Healthcare

Avidbots and HHS Deploy “Smart” Floor-Scrubbing Robots at Scale



HHS had a problem common to many growing businesses. As the largest privately-owned support services company in the US, HHS was no stranger to the challenges of providing housekeeping, food service, laundry, facilities management and operations assistance to complex operations. Serving clients in the resort, senior living, government, aviation, education, government and healthcare industries around the world, the company was practiced at making sure customers got the greatest value from HHS’ array of support services. But the industry was changing, especially in the healthcare market.

“

All healthcare facilities are being impacted by various regulations that impact financial payment scenarios. The value-based purchasing system demands that each facility look for innovative ways to be leaner and more efficient with current labor allocations.”

– Bobby Floyd, CEO | HHS Healthcare Division

Return on Investment

During Neo’s short time deployed in healthcare facilities, HHS has seen several measurable cost savings that imply a Neo unit can easily pay for itself within 12 to 18 months of purchase.

Neo projected lifespan

5 years

Neo fixed and variable cost

Neo unit

Service plan

Cleaning supplies

Wearable parts (brushes, buffer pads, etc.)

Top cleaning speed

1.35 meters (4.5 feet) per second

Neo cleans faster and more consistently

Annualized Neo value

Approximate value of work hours for 1 Neo operating 8 hours daily

\$30,000 per year

Other potential cost savings

Reduced maintenance cost
(versus manned floor scrubbers)

Fewer facility repairs due to human error

Liability

Potential hard and soft costs associated with employee fatigue and repetitive strain

An Avidbots representative can develop a custom Neo deployment plan and determine the ROI your organization can achieve with Neo autonomous floor-scrubbing robots.

This fundamental change in healthcare payment models had repercussions across the industry, affecting support organizations like HHS. As hospitals and medical facilities sought ways to streamline operations and reduce overhead, patient support functions like housekeeping and custodial were natural targets.

“Clearly, nursing and medical staff would not be the first departments considered to reduce expenses,” states Floyd. “Support was where healthcare management saw the opportunity to run leaner. The problem, of course, is that these functions are just as important to patient satisfaction and the daily operation of a modern medical facility. We were continually being challenged in our business space to find more efficient ways to utilize our team members. To do more with less.”

HHS prides itself on the operational agility private ownership permits, as they are able to swiftly address business issues and delight customers. The new regulatory landscape forced the company’s leadership to examine bold solutions in order to meet client needs and maintain a competitive stance. This is where the robots come in.

Evaluating Technology Solutions... with Robots

As the management team at HHS debated how to respond to the changing support needs of healthcare clients, the conversation veered in a surprising direction.

“We began seriously looking at robots to solve the problem,” says Floyd. “It was emerging technology and we were aware of many of the options. We have seen companies demo their machines at cleaning industry conferences. We started really researching options on the web. Our team needed to understand what was available, what the robots could do, and how these devices could help HHS and healthcare facilities achieve a meaningful ROI.”

HHS began with a common-sense vision for their healthcare clients: achieve cleaning results with the same quality expected from experienced custodial staff, free that staff to focus on higher-priority jobs, drive patient satisfaction and realize savings that could be passed on to customers. Defining that vision, it turned out, was easier than actually finding a technology partner to help HHS fulfill the promise.





“It took two-and-a-half years, beginning to end,” Bobby Floyd recalls. “We had the entire executive team involved in the evaluation process and we learned a lot along the way. Everyone knew it would be difficult to deploy something so new in hospitals where cleaning meant disinfection and prevention of disease. There was a great deal of scrutiny and we were cautious to start.”

During the discovery period, HHS compiled a list of 50 companies dealing in some form of automated cleaning, then trimmed that list by half. As HHS learned more about the technologies available on the market, the team continued to refine requirements and remove candidate firms from consideration until the choices narrowed to two robotics developers.



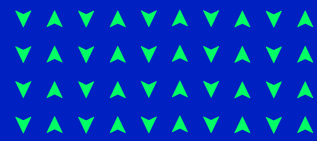


Enter Avidbots

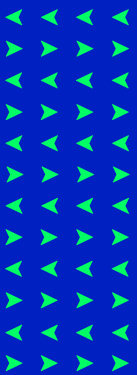
In the two years HHS spent evaluating robotic cleaning devices, their leadership witnessed a lot of robots in action. It was Avidbots' live demo of the Neo autonomous floor-scrubbing robot that convinced HHS that Avidbots met (and exceeded) HHS' business needs to minimize costs while improving custodial efficiencies. HHS representatives journeyed to Avidbots' 40,000 square foot industrial manufacturing and R&D facility in Kitchener, Ontario. There, they got their first up-close and personal look at the Neo unit and had the opportunity to test the robot.

Healthcare CEO Bobby Floyd remembers his team's reaction after that demonstration, "From the start, Avidbots was very engaged, but seeing Neo operate in their testing facility made us very comfortable. Avidbots is a true robotics company and we felt Neo was the only product on the market with true artificial intelligence. The robot is intuitive in its cleaning operation and can adjust cleaning paths based on many variables like unexpected obstructions or traffic patterns."





HHS decided to partner with Avidbots to deploy the Neo robot in their customers' medical facilities.



Neo Up Close

Introducing NEO, the Autonomous Floor-Scrubbing Robot

Neo, now in its 8th generation, is the product of more than 6 years of continual improvement. Built from the ground up by Avidbots, the Neo robot is – by any measure – impressive technology. Designed as an autonomous floor-scrubbing robot for public and commercial spaces, Neo uses cutting edge artificial intelligence (AI), mapping algorithms and vision sensors to safely deliver a high-quality, consistent clean with minimal human intervention.

Weighing about 472 kilograms (more than 1000 lbs) with batteries, the device itself resembles a mini Zamboni. It's a meter long and can carry 112 liters (32 gallons) of water contained in separate clean and dirty tanks. It's powered by industrial strength batteries, allowing it to clean continuously for up to 6 hours. Neo is ruggedly built but surprisingly quiet and nimble, and able to stop on a dime.

Neo's design is only half the story. The software driving the robot is the other half. Bobby Floyd says, "Neo uses advanced machine learning and AI that allows it to get better at cleaning over time. Neo is always learning how to improve its pathways and avoid people and obstacles in its way. Neo does not need to be remapped when floor layouts change, furniture is moved, or obstacles are placed in an area. It uses AI to re-learn pathways in real-time as floor layouts shift."

Avidbots' proprietary AI software gives the robot the ability to conduct dynamic planning to avoid obstacles and still get the job done, no teaching required. The floor scrubber follows the cleaning plan while handling new and moved objects in its environment. The AI finds alternate paths, even for large obstacles requiring significant deviations from the typical cleaning route. Neo's machine learning and constant software updates from the cloud mean the robot scrubber improves over time, finding the most efficient means to follow the cleaning plans.



Piloting Neo

Early in the selection process, Bobby Floyd and the team at HHS had a strong sense for which of their customers' facilities would be good candidates for Neo. "Our first deployment was January 2019 at our partner facility located in Tyler, Texas. We deployed one robot for an extended testing period."

Avidbots remained heavily invested during the entire deployment process. Experience had demonstrated that bringing a new AI-driven robot into a facility was about much more than turning on the machine and letting it clean. Autonomous self-learning robots represent cutting-edge technology and when not taking the human factor into account, new deployments can be bumpy. Without training and familiarization, staff can be apprehensive around Neo. Avidbots knew that, as with any new technology, people had to grow comfortable having Neo working nearby. So, HHS and Avidbots worked together to make sure people knew what to expect from Neo. They hosted trainings, shared educational videos and distributed documentation. Once facility staff got to know Neo, trepidation turned to excitement.

"There is a great deal of buzz in every facility where we have deployed an Avidbots Neo," relays Floyd. "Hospital administration and clinical teams, as well as patients and visitors, are all excited to see the technology in their facility. There have been many instances of a patient's family members and visitors taking pictures with our robots. However, we do keep the robots cleaning paths focused away from the clinical patient areas and more on common spaces such as lobbies and other large spaces. While the robot is very intuitive and safe, we take proper measures to ensure patients and visitors always maintain a safe distance."



Healthcare facilities can be busy and unpredictable, even chaotic. For now, Neo is kept from patient areas. Floyd explains, “Safety is especially important in hospitals where wheeled carts, gurneys and other objects are constantly being moved about.”

However, Avidbots designers built Neo for safety. Aside from the avoidance protection algorithms in the AI, Neo features sensors and cameras to survey its environment, full surround safety bumpers and an array of warning lights. Human operators can switch Neo to manual mode with a simple command.

Neo Rolls into Hospitals at Scale

During the 8-month trial period in Tyler, HHS, Avidbots and hospital leadership learned a lot (as did Neo). The extended pilot program provided the teams enough information – qualitative and quantitative – to craft best practices for deploying Neo onsite in healthcare facilities. They learned it was key to promote the machines among staff before Neo even got there. HHS realized that a 30-day training period comprising about 40 work hours was typical for facilities staff to get competent with Neo. Neo, the teams found, took about 90 days to receive and process enough data to advance to a point at which the key machine learning was in place. After those first three months, Neo was in the rhythm of its job, consistently able to maneuver through complex environments effortlessly.

HHS' Bobby Floyd recalls the general rollout. "In August 2019, we expanded our fleet to seven Neo floor-scrubbing robots across various locations – two additional facilities in Texas, two in Florida and one in both Mississippi and Georgia."

This deployment in seven facilities across the southeast United States constituted something new. Avidbots and HHS had, in the course of eight months, implemented the first at-scale implementation of AI cleaning robots in the healthcare industry. Other robotics firms had run limited programs, but HHS and Avidbots were outfitting facilities with autonomous cleaning robots as a regular part of custodial operations.

The deployment teams took the lessons learned in Tyler and replicated them at each new facility. Deployment teams arrived on site to unpack, set up and connect Neo to networks, then train staff. After deployment, Avidbots stayed in close contact, providing expert advice and information as employees became acclimated to Neo."





Onboarding Neo

Deploying Neo in a new facility takes a bit of planning, but Avidbots technicians work closely with partners to make sure Neo is properly set up and ready to clean floors. Together, onsite, Avidbots techs and facilities personnel review every facet of Neo's operation, then guide the machine through the facility – mapping out cleaning plans, setting start and end positions, defining no-go zones and slow down zones.

Neo Onboarding includes:

Onsite mapping of areas to be cleaned (up to 750,000 ft²).



Creation of customized cleaning plans optimized for maximum productivity and coverage.

On-site training with modules tailored for cleaning staff, cleaning supervisors and senior managers – covering hardware, software and maintenance.

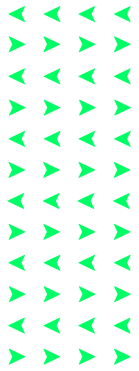


24 x 7 Support

For Avidbots, customer experience is key to successful relationships. The Neo robot, while easy and intuitive to use, comprises a complex stack of integrated hardware and software. The Command Center web app permits facilities management to keep a close eye on Neo's performance. Additionally, Avidbots made sure that knowledgeable, helpful technicians were available to HHS and partners around the clock.

"Avidbots has partnered with us at every step, providing ongoing support and automatic cloud-based updates, and that great customer service was a major part of our decision to partner with Avidbots," recalls Bobby Floyd from HHS. "Honestly, there have been no maintenance issues yet. Support interactions have been around education and problem solving."

The support function at Avidbots includes direct 24 x 7 x 365 contact with Neo technicians – by phone, online chat or quick response email. Technicians can access Neo remotely when needed and are trained to tackle the challenges bound to arise in healthcare facilities (new traffic patterns, changing environments, construction, temporary obstructions, weather and more). Avidbots' optional service plan offering covers regularly scheduled maintenance, comprehensive inspections, adjustments to Neo and part replacements.



Real-Time Monitoring & Reporting

While Neo is designed to operate autonomously, maintenance managers can check in on a unit at any time and get a host of useful information using the Avidbots' Command Center web app. The Avidbots' Command Center is an intuitive, always-on, multi-language interface, accessible from any web-enabled device, to monitor and manage robot scrubber fleets in real time. Neo's camera technology, integrated with the software-as-a-service (SaaS) platform, permits healthcare facility staff and HHS to see what Neo sees via live remote monitoring. The full reporting suite provides key metrics to ensure the robot is used to its full potential – productivity, coverage maps, water usage, individual cleaning plan reports, performance over time and more.

Neo on the Job

Neo, over time, became an accepted part of operations in the facilities where it cleaned floors. As custodial staff became accustomed to working the Neo, the benefits HHS and its partners anticipated began to materialize, along with some unexpected ones. The most obvious benefit noticed in facilities was the reallocation of labor to higher priority efforts. Far from the “machines will take our jobs” trope, facilities management found that Neo, in taking on the day-in, day-out floor scrubbing and buffing tasks, freed custodial professionals for detail cleaning jobs in patient rooms, nursing stations, labs, waiting rooms and other “first impression” public traffic areas.

Introduction of Neo into customer facilities has required the editing of some job descriptions to effectively incorporate robotic operations. As a result of this human-robot integration, Neo has driven higher efficiency, productivity and a renewed focus on patient care among custodial crews.

The consistency of cleaning operations and safety features also surfaced as HHS and their partners started to understand the value of using Neo. Because the machine always runs at optimal speed for quick halts, there's little chance of damage to walls, which reduces repair expenses. This same safety feature stops Neo if it detects any person near its path, which may reduce liability exposure. While still too early to draw conclusions, experts will be closely monitoring robot deployments to see if robots reduce fatigue and repetitive strain injuries among custodial staff.



Bold Thinking Leads to a Successful Technology Partnership

Bobby Floyd and his team at HHS demonstrated the sort of leadership and creative thinking that sets companies apart from their competitors. HHS had a specific business challenge that forced them to examine new processes and ways to run leaner – as Floyd put it, “to do more with less.” Working with Avidbots, they were able to use AI and advanced robotics to minimize costs, improve custodial effectiveness, and demonstrate an ROI that pays for the cost of a Neo very early in its operational life.

Now that HHS has solved one problem, it has a new one (but the kind of problem most companies welcome). Neo and the HHS healthcare deployment have generated a great deal of interest. The use of autonomous robots by a custodial services company is having an impact on marketing and sales; potential customers are asking about Neo. Offering robot floor-scrubbers, it turns out, is a competitive differentiator in the support services market.


With Neos deployed successfully across a network of healthcare facilities, Bobby Floyd is optimistic for a productive ongoing partnership. “We chose Avidbots Neo as we felt the innovative technology and safety features, combined with the superior level of direct support, were a winning combination. We’ve created a replicable deployment and onboarding process. Our customers are excited to have Neo in their facilities and we look forward to what’s next.”

About HHS

HHS serves more than 500 partner organizations both domestically and internationally, employing over 16,000 team members and 1,000 managers. Referrals have been the primary driver of HHS’ sustained, rapid growth, resulting in a 97% retention rate.

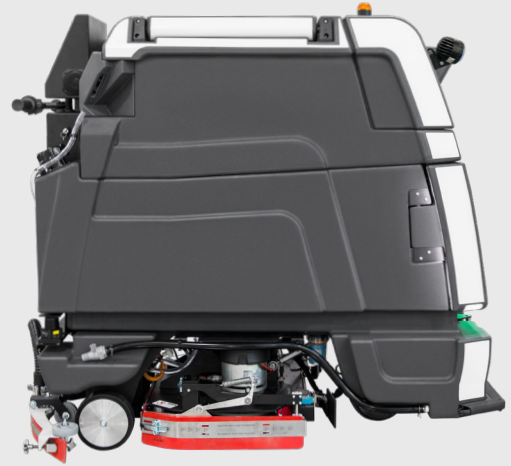
While HHS offers a diverse set of support services for the healthcare, resort, senior living, aviation, education, retail services and government industries, the company intentionally invests resources to ensure operational and service integrity across every industry. HHS has built a highly focused team of experts specialized in their specific service areas, guaranteeing partners always receive operational excellence and proficiency.

With more than 40 years in the support service industry, HHS has successfully identified and served customer needs, developing forward-thinking solutions. As HHS continues to expand and diversify, the company is dedicated to keeping its partners’ needs a top priority, truly encompassing what it means to be a full support service provider.



Why Avidbots?

Buying an Avidbots Neo 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 technology 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.



About us

Avidbots is a robotics company with a vision to make robots ubiquitous to unlock humanity's potential with a hyperfocus on autonomous cleaning. Our groundbreaking product, the Neo fully autonomous floor scrubbing robot, is deployed around the world and trusted by leading facilities and building service companies. Headquartered in Kitchener, ON, Canada, Avidbots is offering comprehensive service and support to customers on 5 continents.

Contact us

Learn more about Neo.



sales@avidbots.com



[+1.855.928.4326](tel:+18559284326)



avidbots.com



Avidbots Corp
45 Washburn Drive
Kitchener, ON N2R 1S1
Canada

Avidbots Chicago
5400 Newport Drive STE 7
Rolling Meadows, IL 60008
United States of America

Avidbots®

BR-HEA-05042020

©2023 Avidbots Corp. All rights reserved. "Avidbots", "Neo", "Command Center" and their respective logos are trademarks of Avidbots Corp.

