# Deploying Automated Floor Cleaning Robots in Facilities Management

Four business leaders share their experiences deploying commercial floor cleaning robots at their facilities.

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# Introduction

Innovation in Facilities Management is accelerating through the power of technology. Throughout the connected building, new capabilities, new experiences and new efficiencies are being unlocked through the introduction of intelligent, automated systems and devices. Smart lighting, HVAC and cleaning technologies are creating healthier environments for customers and coworkers, while facility leaders reap the rewards of reduced management effort, cost savings, productivity gains plus the delivery of higher operating standards and a better customer experience.

If you've yet to take your first steps in automation, adoption may seem daunting. Understanding available technology, business case development, change management procedure and, of course, the human factors involved in adoption can be perceived to comprise a significant challenge.

At ISSA 2018, we held a panel at which four recent Avidbots customers shared their stories of planning and deploying the Neo automated floor-scrubbing robot at their facilities. These business leaders, from industries including education, retail, food service and commercial real estate, shared their perspectives on transitioning from legacy solutions to the future of commercial floor cleaning Neo.

In this eBook, we are bringing that discussion to you. You'll read real-world perspectives on the challenges facing facilities managers today, the strategic goals being set, and how automated technologies are helping drive transformation in facilities management.

# In this book, you will discover:

- How the journey to automation began; including deployment strategies, drivers to automation and creating a culture to embrace automation.
- A discussion on data, safety, and managing implementation of the robotic automated floor cleaning solution.
- How Neo is transforming business today and into the future, including delivering significant ROI.

Get an inside look at how Neo is not only revolutionizing floor cleaning for these organizations but also boosting productivity and profitability, through maximizing human potential.

# Meet the Business Leaders

### Commercial Real Estate

***Kimberly Train*** *is the Director of National Programs at Oxford Properties Group. Kimberly's experience comes from her work with commercial landlords and business relationship management in the areas of shopping centers and real estate development. Oxford Properties Group is a global real estate firm with assets in North America and the EU with over $55 billion in assets under management.*

### Manufacturing

***Craig Rudin*** *has spent the last 30 years in the chemical manufacturing and distribution business. Craig is the CEO of Superior Solutions Group, a GDI company. GDI is one of the largest facilities management companies with over one billion dollars in revenue, providing customers with end-to-end solutions that drive a cleaner, healthier and safer environment at lowest total cost.*

### Education

***Derek Sylvester*** *has been in the facilities field for over 15 year currently as the Director of Building Environmental Services at Rochester Institute of Technology, USA. Derek's team of 120 staff supports 70 buildings with over five million square feet of cleanable education space.*

### Food Services

***Paul Rocha*** *is the VP Operations for Eurest Services, a division of the Compass Group, a global food service industry giant with holdings around the world. Eurest provides global clients with customized facilities, solutions and services.*

*Thanks to all our ISSA 2018 panel participants and attendees for sharing their perspectives and experiences in deploying the Neo floor-scrubbing robot and other automated solutions.*

# What Were Your Drivers to Automation?

**Craig:** We have about 25,000 employees that work within our commercial cleaning business. Part of our business is in Canada, part of it is in the U.S. For us, a cleaner now costs anywhere from $35,000-$45,000. The cost of labor is becoming very, very expensive.

The ability to get labor and get labor consistently is becoming more and more of a challenge. 12-15% of our workers don't show up every day, so think about juggling that over millions and millions of square feet, trying to please clients and do what we do every day.

Automation is really the next holy grail for us. In our business, it's innovate or die. By having robots do repetitive, monotonous work, we can then have the humans do more important work, which is interfacing with the clients, being more intuitive, and it's a huge part of our strategy going forward.

**Kim:** As a large landlord, our biggest motivator is return on investment and saving money, as well as the quality of the output of the cleaning we receive. It's something that directly touches all of our customers, and so it weighs very heavily on how we're perceived as a landlord.

**Derek:** We're fortunate enough at our school that we're continuing to grow. We've added at least one building every year with two more already planned. Like a lot of industries, we're expected to do more with either less or the same amount, so we have to think of other ways to get that work done, and automation was the perfect fit for us and has made a huge change in our operation.

**Paul:** Automation helped us find a more efficient way to produce our service with the consistency of labor that we had, and that continues to be our motivator.

# What Were Your Concerns About Automation?

**Paul:** As far as risk goes, it's technology. It's moving so fast, the decisions we needed to make and what it was going to look like tomorrow, and the investment that was going to be required. The commitment that it took on everybody's behalf to be able to deliver that.

**Derek:** The hardest pitch we had upfront was convincing everybody that this wasn't to replace people's jobs. This is to enhance what they can do and allow them to do things easier, quicker, take some of the monotony out of their work. It was a tough sell. We really started talking about it, about a year before we got our first robot. By now, everybody's fine with it. It's commonplace and actually, people are asking for more because they see the benefits of it.

**Kim:** The biggest challenge I had within our company was trying to understand who should be responsible for the purchasing of the equipment because historically, it's the cleaning companies. If it's a third party cleaned site, they typically purchase the equipment that they're using.

In an ideal world, it would be the landlord, in my mind, who does the initial acquisition to get the cleaning companies accustomed to using the robotics, but then moving forward, once everybody has become comfortable with the technology, it really should go back to being part of the service that they offer. They could even achieve a revenue opportunity on top of it with the landlords.

**Craig:** For us, the most important thing out of the gate was safety. Are these things safe? If we're going to run them during the day, are we going to have problems? Will they fall down stairs? Will they do things that are unpredictable? That was the first major thing that we wanted to get through.

You're either going to wait for something perfect or you're going to lead the way and pioneer. When you pioneer, you have to be able to communicate to the stakeholders that it's not going to be perfect and that, "We're going to have to invest in the process, and we're going to have to learn about deploying robots. We're going to have to be smart about how we deploy these robots."

Half of our staff is a union staff. Our clients are very important, but our associates are really important to us, because they got to show up and do the work every day, and so we didn't want to alienate them on the fact that we were putting in stuff to replace them. The message was, "We're going to have machines do the stupid work and we're going to have you guys do the smart work, but you're managing the machine, the machine's not managing you."

# What Challenges Did You Experience When Deploying a Floor-Scrubbing Robot?

**Craig:** The first challenge is you have to map the robot and that means you have to teach the robot the cleaning path. Do you take the same cleaning path that our folks were doing for 20 years and just now teach the robot to do that? Or do you look at a smarter way to do the cleaning path? You take it as an opportunity to optimize your cleaning and change the process. That was a big part of what we had to accomplish. You can't have the humans watching the robot work because that isn't going to give you your ROI. You have to be smart about how you deploy the robot, and what the humans do while the robot's doing its thing.

**Kim:** I'm not a directly hands-on person when it comes to the implementation. However, I can speak to the challenges of mandating the technology for our cleaning companies. We've done the return on investment for all our retail sites, and so we specifically state how many units to actually have with the RFP. Mandating the technology hasn't been easy on our relationship with the cleaning companies and there has been a lot of back and forth with the company in getting them accustomed to it.

**Derek:** Fortunately, being a science and engineering school, it's been really well-received by staff and faculty and the students. I think our situation is a little unique being in a university because we have kids that like to touch and play and try to make things difficult for us. We were concerned about that initially, and whether or not they were going to stand in front of it to make it stop. Now that they've become accustomed to it, it's pretty funny. They just accept it as part of what they see around campus.

When the kids get out of class, it fills up the hall and the robot comes down and it's like parting the water. All the students just stand against the walls and stay on their phones doing what they're doing. The robot goes by, and they just go back in the middle of the hall and keep going. It was an initial adjustment, but it's been well-received. They even decorate it at Christmas and take selfies with it.

**Paul:** As far as people go, it is education. We need to educate them on what we're trying to accomplish and get them to buy-in. The biggest implementation thing we found out is that depending on the ability of that robot and its capabilities, we had to change our practices, we had to change our scheduling, we had to change the way we had always done things from whatever time the floor was swept to when we picked up waste. Implementing the robot means having to change the way things have always been done. And change is hard because you're disrupting everyone's routine. Everyone within the building is impacted by the deployment of that robot. Understanding the robot's capabilities to help the people, and finding a way to get that message across, that's what we're really focusing on as well.

# How Important Is Data to You and to Your Organization and How Are You Using It?

**Craig:** In today's world, data is huge. They say, "If you can't measure something, how are you going to manage it?" We've traditionally been a very low-tech industry. We staff statically, so if somebody comes up with a spec which says, "Here's your task frequency times units," that determines your workloading, that determines how many staff. Somebody puts out a tender, they spec that staffing pattern, and so it's very static.

For us to be able to use data, we now have an ability to dynamically staff so that we can put labor where the people are, and that we can clean stuff that needs to be cleaned and not clean stuff that doesn't need to be cleaned. The ability to switch out our workloads and focus on delivering a product to a client that excites them is an ability to do that without spending more money, so it's a reallocation of effort and workloading through data.

**Kim:** The data reaffirms where the cleaners have been, and when they've been there. We're actually trying to follow where the cleaners go and have them align in a proactive way to where they need to be, and not just in a scheduled way. So that they send the cleaners exactly where they need to be, when they need to be there.

**Derek:** Data is extremely important. From my perspective, I get into the labor and the cost, so when I know exactly how long it's taking, what it would have taken for a human to do it, I can break it down to the per foot on cleaning, and then present that to our senior management, which hopefully will help me expand the fleet in the near future.

For us, the upfront capital expense is not a big a deal as the continuing operational expense compared to a human need for wages and benefits. The expense of the robot is completely justified.

**Paul:** The biggest thing with technology is the fact that we truly know what was done last night. A cleaner in the past could tell you it was done, you're not on site, you're not exactly aware of what that person has accomplished, but with today and the technology of Avidbots, we truly know what that robot has done, what areas were cleaned, even what areas weren't done so you can react accordingly.

# How Important Is ROI in Automated Cleaning?

**Paul:** We know every second that the robot runs and when it's running, how long we can maximize the efficiency of that machine. If you have the space and they're available, you can run that robot 24 hours, so you can workload and you know where that machine has gone. So, the return on investment is maximizing the runtime available within your property, and those are the decisions that we look at when we're made the decision to purchase or not.

**Derek:** We're running it only one shift a day right now, that'll be changing as we move forward, but we're saving half a full-time employee (FTE) already, and without even really putting a lot of effort into it, so the ROI is less than two years. As the minimum wage keeps increasing, it's gonna get less and less, so it's perfect for us to start planning ahead and maintaining a robot fleet.

**Kim:** Our return on investment tends to be between $30,000 and $150,000 per year with this technology, based on the number of robots we have on the site, the common area square footage, the productivity, and when it's run during the day which obviously affects the productivity, or whether it's run at night.

**Paul:** We know every second that the robot runs and when it's running, how long we can maximize the efficiency of that machine. If you have the space and they're available, you can run that robot 24 hours, so you can workload and you know where that machine has gone. So, the return on investment is maximizing the runtime available within your property, and those are the decisions that we look at when we're made the decision to purchase or not.

# Did You Have Any Surprises in Your Implementation of the Avidbots Robot?

**Paul:** The process of that step one to step two or where to start the machine, that was our biggest challenge, understanding and making it fit with our operation.

**Derek:** I don't know if we had a lot, only because we did stay ahead of it. We were researching it and looking at things and for those of you who've been here, there's numerous types of robots that are out there. We really did a lot of homework on it to make sure what we were getting was what we wanted and what was going to work best for us.

When we were able to decide Avidbots was the right choice for us for sure and implement it, there really wasn't a lot of surprises. I think it's the communication with the staff and the faculty and other stakeholders, however you need to get it out there to make sure when it does come onboard, that they're aware and ready for it.

**Kim:** Well, the biggest surprise for me was the resistance that I had from the cleaning companies, and their desire to not want to change how they did their business. It really shouldn't be surprising because they're a labor-driven business, and so something that threatens the labor aspect of the business, especially in a unionized environment, which the majority of our sites are, can cause a little bit of friction. Embracing the technology and changing the business model was the biggest challenge that surprised me. Only because I'm constantly being told, through the RFP process, how innovative the companies are, and what the latest and greatest things are that they're doing.

**Craig:** We were surprised at how well our associates embraced the concept. This is frontline cleaners, managers, supervisors that were actually excited to deploy the technology, because all they want to do is please their client. We thought we were going to get a bunch of pushback on changing process, changing the routines, now putting in a robot, and we actually got the opposite, so that was actually the most exciting thing.

# Meet Neo, the Autonomous Floor Scrubbing Robot

Powered by Avidbots, Neo automates commercial floor cleaning to lower labor costs, increase productivity, and deliver clean, dry, streak-free floors throughout your facility. Neo takes the burden of floor scrubbing off your cleaning staff, freeing them to focus on more value-adding tasks.

### Automated navigation and first-class cleaning.

Neo uses preinstalled cleaning maps and an array of smart sensors to navigate and clean your facility. Neo detects and works around obstacles in its path, so requires little supervision. A discussion on data, safety, and managing implementation of the robotic automated floor cleaning solution.

### Safe and simple operation.

Intuitive touchscreen controls allow easy operation in automated or manual cleaning modes. Integrated safety features prevent collisions, protecting people and property.

### Maximum uptime, minimized costs.

Up to six hours run time and twin 120L water tanks maximize operating time, with limited maintenance required. Enhanced cleaning productivity, floor coverage and consistency boosts customer experience and your bottom line.

### Keeps you in the know.

Take the guesswork out of facility management. Avidbots Command Center monitoring portal provides unprecedented insight into cleaning performance and status, allowing instant access to productivity metrics and coverage maps after every clean. Monitor one or an entire fleet of Neo robots remotely to enhance and maintain operating standards.

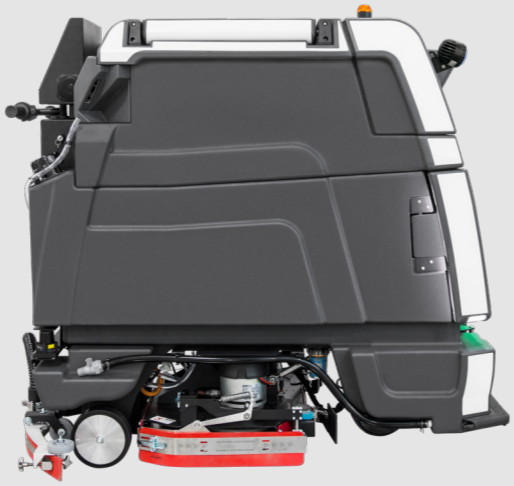
### World-class support.

Our team of expert map editors, support engineers, deployment specialists, and account managers work in partnership with your operators to launch and optimize your cleaning program. Get help with initial training and configuration needs, request revisions to facility maps, and access 24-7 remote monitoring and software updates.

Learn more about Avidbots Neo and smarter business cleaning at [Avidbots.com](Avidbots.com)

## 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

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**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