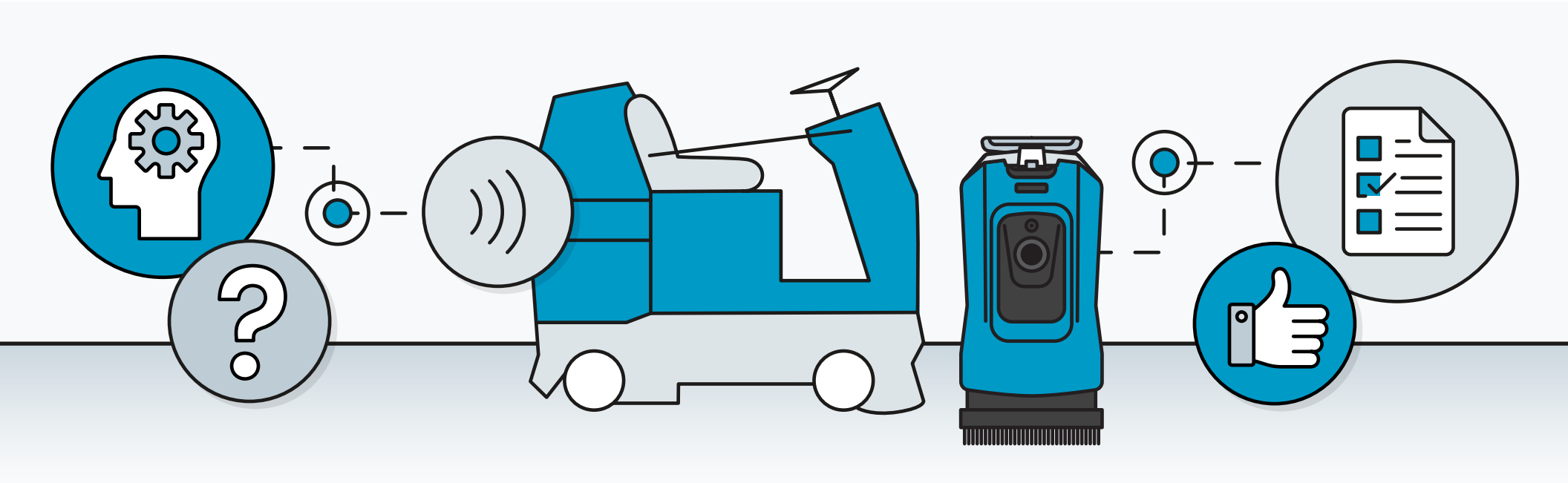
From hesitation to automation:

the decision-maker's playbook for robotic cleaning



Streamline your cleaning process with smart, efficient robotic solutions

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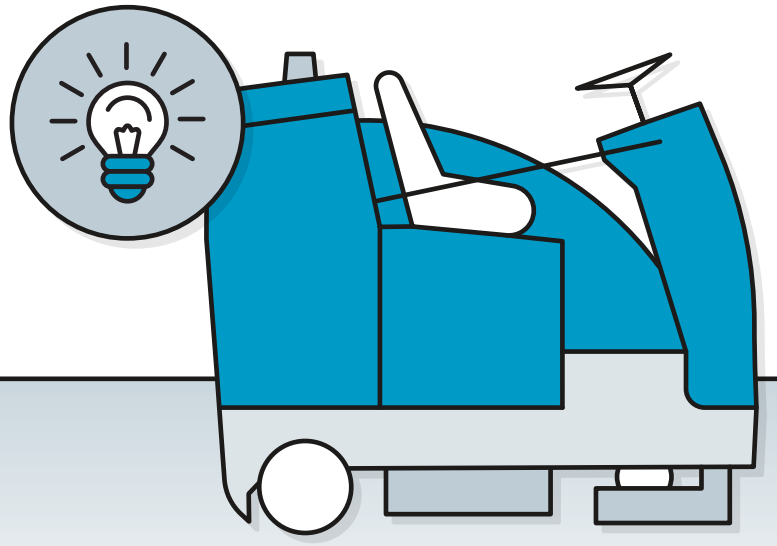
Automation isn't coming. It's already here.
If you're exploring robotics, you're not alone. Leaders across industries are under pressure to do more with less — fewer staff, tighter budgets, higher expectations. Robotic cleaning isn't just a nice-to-have. It's a smart, scalable way to solve real operational challenges. This guide is built for decision-makers like you. We'll cut through the noise, tackle the sticking points, and show you how to move from curiosity to confident implementation.

What's in the guide?



SECTION 1:

Why robotics now?

Across industries, teams are under pressure to clean more spaces, more often — and with fewer resources. Labour shortages. Budget constraints. Rising expectations for safety and consistency. These aren't future problems, they're here. In fact, the European Labour Authority's 2024 report stated 84% of the 436 occupations considered in the analysis were in labour shortages.[1]

Fortunately, robotic cleaning technology is proven, scalable, and ready now — and it's relevant for nearly every industry.

Robotic cleaning gains are immediate:

Smarter labour deployment: Robots handle repetitive work, so your team can focus on what matters most.

Consistent performance: No shortcuts, no missed spots — just reliable cleaning, every time.

Proof of clean: Collect proof-of-work data for total transparency and accountability.

Safer spaces: Cleaner environments mean fewer risks for staff and customers.

Stronger brand image: Well-maintained floors make a clear impression on customers, tenants, and employees alike.

Secure data collection: No collection of personal data, encrypted data from robot to EU-based cloud storage, and limited access to data by authorized personnel only.

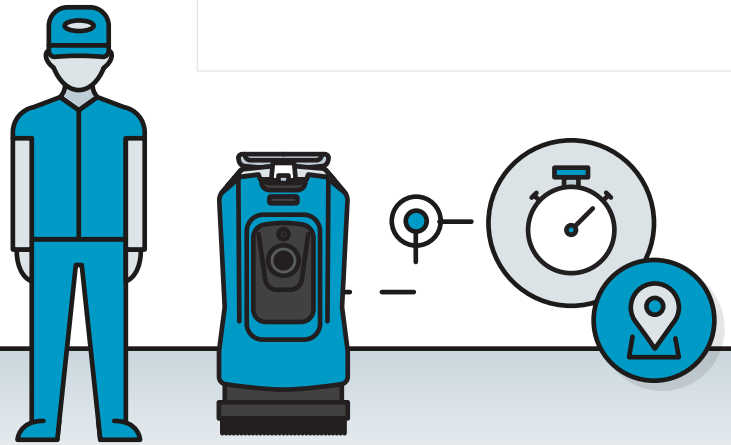
[1] *Too many jobs for too few workers?, May 2024, ELA European Labour Authority, https://www.ela.europa.eu/en/news/too-many-jobs-too-few-workers#:~:text=In%20some%20of%20the%20shortage,surplus%20occupations%20were%20highly%20qualified*

SECTION 2:

Robotics myths: busted by real-world results

Robotics sound great in theory, but if you're like most teams, a few big questions (and a few outdated assumptions) are still holding you back. Let's address the most common myths keeping teams from embracing robotic cleaning technology.

MYTH #1: ROBOTS STEAL JOBS	REAL-WORLD MYTH BUSTING
Not true. Cleaning robots handle repetitive, time-consuming work — they don't replace your team. Robots free up your team for higher-impact tasks, and they help you do more with the staff you already have.	At Bremen Waterfront Mall, a busy 12,000-square-meter retail hub, Söffge turned to Tennant's T16AMR to help manage rising labour pressures and demanding cleaning schedules. "We view the cleaning robot as a cobot, with its ability to support and make things easier for our human workforce. Being able to achieve our goal of 300 days of cleaning a year from one machine is remarkable," said Boris Söffge, highlighting the T16AMR's ability to improve cleaning quality while allowing staff to focus on higher-value tasks. The success at Bremen Waterfront Mall has set the stage for further deployments, with plans to introduce additional machines for smaller spaces and other clients.



MYTH #2: ROBOTS ARE TOO EXPENSIVE	REAL-WORLD MYTH BUSTING
Upfront costs are real, but the return is faster than you'd expect. Many see ROI quickly, thanks to reduced labour spend, improved efficiency, and longer equipment life.	At Quinnipiac University, Facilities Director Jon Terry made the business case for robotics by comparing the upfront cost of a traditional cleaning machine versus an AMR — then factoring in extended runtime, increased surface area cleaned, and time saved for high-impact tasks. "We saw this as an opportunity for us to take our already high service level and bring it to an even higher level," said Terry. The investment paid off, enabling the team to clean more frequently and redirect labour toward detailed work that enhances the campus experience.
MYTH #3: ROBOTS ARE TOO COMPLICATED	**REAL-WORLD MYTH BUSTING**
Robotics can sound intimidating. But the reality is today's robotic cleaning machines are intuitive, reliable, and easy to add to daily operations. Most teams are up and running within days, not months. And Tennant supports you every step of the way.	Veritiv, a leading distributor serving healthcare, food and beverage, retail, and manufacturing, deployed Tennant T16AMR robotic scrubbers across its 23 facilities. The results? More than 43.6 million square meters cleaned autonomously — and strong operator buy-in across the network. Employees embraced the technology quickly, and feedback has been overwhelmingly positive. With Tennant's support, Veritiv didn't just adopt robotics, they became advocates and now recommend robotic cleaning machines to their own customers.
MYTH #4: OUR FACILITY IS TOO COMPLEX	**REAL-WORLD MYTH BUSTING**
Airports. Warehouses. Hospitals. Schools. We've heard it before: "Our environment is too busy, too tight, too unpredictable for robotics." But today's equipment is built for just those concerns: spaces with changing conditions, mixed traffic, and 24/7 demands.	At Frankfurt Airport, cleaning teams manage over 500,000 square meters of public-facing flooring. Operations run around the clock. Passenger traffic peaks at 200,000 a day. Manual-only solutions weren't scalable—so Fraport Facility Services introduced Tennant's T16AMR to handle routine floor maintenance in the main terminal's wider corridors, and the X4 ROVR to tackle tighter, high-traffic zones that demand precise navigation. In the first six months, Tennant's robotic cleaning machines cleaned more than 1.6 million square meters, all without interrupting foot traffic or flight schedules. Even better? Tennant's AMRs are already a recognizable part of the airport's daily operations, leaving a positive impression and enhancing passengers' experience.

Bottom line: The obstacles aren't as big as they seem — and the upside is bigger than most teams expect.

SECTION 3:

Your robotics roadmap

From conversation to clean: How real implementation works

Implementing robotic cleaning machines can seem overwhelming — but with the right partner, it's simpler than you think. Tennant has helped hundreds of teams go from curiosity to confidence with robotics. Here's what that journey typically looks like.

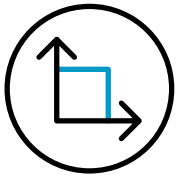
Define your cleaning challenges

It starts with a conversation. Tennant's team works with you to understand:

- Where your biggest labour gaps or cleaning inefficiencies lie
- When cleaning happens and how long your window is (e.g., "We have only 4 hours before the store opens.")
- What areas need consistent, high-performance cleaning vs. detailed, manual attention

"What would you do with the 6 hours you just got back?"

– Reid Rabon,
Sr Robotics Product Manager



Right-size your solution

Not every space warrants the same robotic cleaning machine. Tennant helps assess your environment and match you with the right solution — whether that's the compact X4 ROVR robotic scrubber or the T16AMR industrial robotic scrubber. In some cases, the right answer is both.

Things we consider:

- Surface area and layout
- Aisle width and manoeuvrability
- Floor type
- Charging and maintenance accessibility
- Daily vs. multi-shift usage needs

Onboarding and training

Setup is easier than most teams expect. Tennant provides:

- Onsite demo and training support via our sales and distributor partners
- Route programming assistance
- Access to in-app training videos and support materials
- Ongoing support from our Customer Success team

"Most teams are up and running in days, not weeks or months."

– Reid Rabon,
Sr Robotics Product Manager

Optimize and expand

Once you're up and running, Tennant's Customer Success team monitors usage and helps you improve ROI:

- Usage tracking and proactive check-ins
- Training refreshers and route refinements
- Identifying other locations or tasks where automation can help
- Gain visibility to cleaning results with Brain Ops Management Tools, including the BrainOS® Mobile app

"It's not just about deploying robots. It's about continuously maximizing their impact."

– Luke Bromback,
Lead Engineer on the X6 ROVR™ Robotic Scrubber

Scale with confidence

Robotic cleaning becomes easier and more effective over time. From education and healthcare to retail and industrial spaces, Tennant's machines adapt to complex environments and scale with your business.

"Robotics doesn't replace people, but it's a good complement to help our cleaners focus on doing more detailed work that has to be done by a person."

– Jim Ryan, Assistant Director of Buildings and Grounds Churchville-Chili Central School District

SECTION 4:

Discover Tennant's robotics

Tennant has earned its reputation by building some of the most trusted, durable cleaning equipment in the world. Our robotic solutions build on that legacy, combining proven Tennant scrubbers with autonomous technology powered by BrainOS®. Here's how each machine stacks up.

X4 ROVR™ Autonomous Floor Scrubber

Purpose-built for autonomy in small, complex environments like clinics, convenience stores, and high-traffic retail.

Why it stands out:

- Compact design for tight, cluttered spaces
- 3D Lidar and RGB cameras enhance vision for increased autonomy and obstacle detection
- Intuitive touchscreen and easy integration into workflows

X6 ROVR™ Autonomous Floor Scrubber

Next-level maneuverability ideal for large, open environments like distribution centers and warehouses and spaces like retail stores and schools.

Why it stands out:

- Larger tank and extended runtime for maximum coverage
- Optional XC[1] charging dock for opportunity charging
- From tight spaces to expansive areas, the X6 ROVR is ideal for areas requiring consistent, repetitive cleaning

T380AMR

The T380AMR is built for smaller, high-traffic spaces — perfect for healthcare, retail, and education environments where precision and mobility matter.

Why it stands out:

- Compact footprint for small spaces and narrow aisles
- Safe to operate in busy environments with people present
- Easy onboarding and quick route setup

T7AMR

Versatile and productive, built for open indoor spaces like airports, malls, and logistics corridors.

Why it stands out:

- Balances cleaning capacity with a tight turning radius
- Smart route mapping in dynamic environments
- Operator-friendly controls for fast team adoption

T16AMR

Heavy-duty performance for large industrial spaces that demand high output and consistent coverage.

Why it stands out:

- Long runtime and high-capacity tanks for extended shifts
- Cylindrical scrub head reduces need for pre-sweeping
- Optional ec-H2O NanoClean® technology helps support sustainability goals

SECTION 5:

You're past curious. Let's get to confident.

You've explored the benefits. You've seen the real-world success. Now it's time to bring it all together — with a partner who makes robotics not just possible, but practical.

Tennant isn't new to cleaning. We've spent over a century helping teams clean smarter, safer, and more efficiently. Our robotic solutions are built on that legacy, combining the machines you already trust with technology that meets the moment.

Why teams trust Tennant:

Proven performance in the real world.
Tight aisles. Heavy foot traffic. Long shifts. Our robots are engineered to deliver a consistently high standard of clean, even in the most demanding environments.

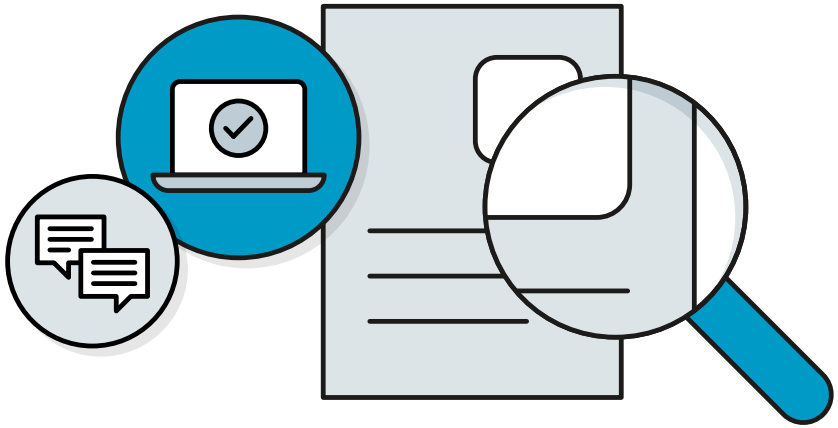
Built on a legacy of reliability.
Backed by over 150 years of industry experience, Tennant's robotic scrubbers combine trusted hardware with intelligent autonomy to help you clean smarter and longer.

Innovation that accelerates your goals.
From velocity-controlled solution delivery to high-capacity Lithium-ion batteries, charging stations, and sustainability features like ec-H2O NanoClean® technology — our innovation doesn't just keep up — it moves you forward.

Always-on support.
Tennant's Customer Success team walks with you every step of the way, from pilot to rollout and beyond. With preventative maintenance, expert training, and responsive service, we help maximize your uptime and your ROI.

Talk to a Tennant robotics expert

We'll walk the floor with you, map your robotics opportunity, demo machines, and help build and deploy a strategy that will work for your team.



SECTION 6:

Resources

Looking for even more robotics resources?

Click the links below to view case studies, web pages, and more.

Case studies

[Söffge >]

[Fraport Facility Services >]

[Veritiv >]

Blogs

[AMR Myths: What's Fact and What's Fiction? >]

[How Tennant helped develop and implement global robotic cleaning safety standards >]

[5 Ways Robotic Floor Cleaners are Revolutionizing Retail & BSC Cleaning >]

Web pages

[Robotic cleaning machines >]

[Robotic scrubbers >]

[Robotic floor scrubber resources >]