

The Future is Crystal Clean

10 Innovations and Trends in Professional Cleaning and Hygiene for 2024





Contents

2024: A Year of Hygiene Innovation Across Industries

Innovations in healthcare, office real estate and food service and hospitality

Trend 1: Stepping into a cleaner more efficient future

VR and AR Revolutionise Cleaning Training and Work

Trend 2: Cleaning in the Age of Hyper-Awareness

How IoT Sensors are Powering the 2024 Hygiene Revolution

Trend 3: Unveiling the Sparkle

Data Driven Hygiene, Digitalisation and AI Transform Professional Cleaning

Trend 4: Can Big Data Keep a Secret?

Navigating Data Privacy Concerns in AI-Powered Hygiene and Cleaning

Trend 5: Wearable Tech Innovations

A Smarter Way to Clean

Trend 6: Cost Savings

From Squeezing to Soaring

Trend 7: Small in size, but big in impact

How smaller size innovations can offer more impressive functionality through design innovations

Trend 8: Cleaning Up the Crisis

Innovative Solutions for Healthcare's Hygiene Vacuum

Trend 9: Green Warriors of Clean

Sustainability and ESG innovations take centre stage

Trend 10: A high five for the human element

The vital importance of cleaners

Conclusion

InterClean: Your Go-To Partner to Navigate and Embrace Innovations in The Industry

The Future is Sparkling Bright

See you at InterClean Amsterdam 2024 and InterClean China 2024!

Introduction

2024: A Year of Cleaning and Hygiene Innovation Across Industries

Dust off your preconceptions of the cleaning industry – 2024 is set to be a year full of cleaning and hygiene revolutions that stretch far beyond mopping floors and wiping windows! From robot janitors to germ-busting nanotech, get ready for innovations that will redefine cleanliness and reshape the way we think about hygiene. Get ready for a future where sparkling floors and pathogen-free surfaces are more than just wishful thinking – they're the new standard.

This year, the spotlight shines on sustainability, technology, and customisation. Cleaning is becoming a specialised and exciting science of tailored solutions as well as a sought-after profession, driven by cutting-edge technological tools and a deep commitment to protecting both people and the planet.

The year 2024 promises to be a shining year for the professional cleaning and hygiene industry, with exciting trends and innovations poised to revolutionise cleanliness across diverse sectors.

Let's dive into some examples from different sectors:

Healthcare Innovations:

Hyper-focused disinfection: Robots equipped with UV-C light or other antimicrobial technologies will target high-touch surfaces and critical areas to combat hospital-acquired infections (HAIs).

Smart sensors and IoT: Sensor networks will detect air quality, temperature, and even pathogen presence, prompting proactive cleaning and real-time alerts for potential outbreaks.

Remote cleaning: Remotely operated robots will disinfect contaminated areas, minimising patient and staff exposure to hazardous materials.

Nanotech coatings: Surfaces in high-traffic areas will be coated with self-cleaning nano-coatings that repel dirt and germs, reducing the need for frequent cleaning.

Office Real Estate Innovations:

Smart building integration: Cleaning robots and sensor networks will become seamlessly integrated with building management systems, optimising cleaning schedules and resource allocation based on occupancy and air quality data.



Touchless hygiene solutions: Voice-activated handwashing stations, automated door openers, and sensor-triggered sanitising dispensers will minimise contact with potential germ hotspots.

Biophilic design and cleaning: Integrating natural elements like plants and natural materials into office spaces will be paired with eco-friendly cleaning solutions, promoting both physical and mental wellbeing.

Data-driven insights: Cleaning schedules will be dynamically adjusted based on real-time data about foot traffic, occupancy patterns, and potential allergen levels, ensuring targeted and efficient hygiene practices.

Food Service and Hospitality Innovations:

Automated kitchen hygiene: Robots will handle tasks like floor cleaning, dishwashing, and even disinfecting surfaces, improving hygiene standards and freeing up staff for guest interaction.

Food safety tech: Smart thermometers and blockchain technology will track food preparation temperatures and ingredient provenance, minimising the risk of foodborne illnesses.

Self-service hygiene stations: Interactive kiosks dispensing disinfectants, wipes, and disposable gloves will empower guests to take control of their personal hygiene in shared spaces.

Antimicrobial materials: Restaurant furniture and surfaces will be treated with antimicrobial coatings to combat the spread of germs, boosting guest confidence and hygiene levels.

These are just a glimpse of the exciting trends and innovations waiting to transform the professional cleaning and hygiene industry in 2024. These advancements promise not only to enhance cleanliness and hygiene standards but also to improve efficiency, sustainability, and even the overall human experience within these diverse sectors.

Remember, this is just the beginning. There is amazing potential for innovation in the cleaning and hygiene industry, and who knows what the future holds? We can expect even more amazing advancements that will leave our hospitals, offices, restaurants, hotels, airports, leisure centres and shopping malls not just clean, but truly shining with hygienic brilliance.

So, buckle up, the future of clean is looking brighter than ever!





Stepping into a Cleaner Future: VR and AR Revolutionise Cleaning Training and Work

One of the biggest trends we're seeing is the use of VR and AR to improve training of cleaning staff and their on-the-job work.

Forget the dusty training manuals and static classrooms - VR (Virtual Reality) and AR (Augmented Reality) are poised to transform the way in which cleaning and hygiene staff learn and work. Immerse yourself in the possibilities!

AR is the technology that blends digital information or images into the real world via devices such as smartphones, tablets or AR glasses. For example, AR can be used to create interactive education and training programs for cleaners. Through AR glasses or mobile devices, virtual training content can be superimposed over real work environments.”¹

Training Goes Immersive: Imagine stepping into a virtual hotel room with messy spills, overflowing bins, and lurking bacteria. VR training modules can recreate any cleaning scenario, from hospital wards to office kitchens, allowing trainees to practice proper protocol in a safe, controlled environment. They can learn proper cleaning techniques, tackle emergency situations, and receive instant feedback on their performance, all without risking real-world mistakes. This immersive training not only boosts knowledge retention but also builds confidence and prepares staff for any cleaning challenge.

New employees can be trained more efficiently by gaining hands-on experience in a simulated environment. AR can overlay visual guidance and work instructions over real-world scenarios in real time. This can improve the accuracy and efficiency of cleaning processes, as employees know exactly which steps to perform and in what order.

AR Empowers On-the-Job Performance: AR overlays digital information onto the real world, turning any environment into a training ground. Imagine cleaning staff wearing smart glasses that display cleaning protocols for specific surfaces, highlight areas requiring disinfection, or even provide step-by-step instructions for operating complex equipment. This real-time guidance

¹ The Cleaning Industry Gets a Boost from AI and AR | Startups Magazine)

reduces errors, ensures consistency, and empowers staff to tackle any cleaning task with precision and efficiency.

Boosting Motivation and Engagement: Traditional training can be a bit monotonous and unstimulating, but VR and AR inject a dose of fun and interactivity. Gamified VR training modules can turn cleaning into a virtual competition, awarding points for proper technique and speed. AR can display cleaning progress visualised through augmented reality, creating a sense of accomplishment and satisfaction with each completed task. This increased engagement leads to better learning outcomes and a more motivated workforce.

Beyond Training: Optimising Workflows and Safety: The benefits extend beyond training. Imagine AR glasses displaying building blueprints and cleaning schedules, guiding staff to prioritise tasks

“AR can be used to detect defects or soiling that are difficult to see with the naked eye. Cameras can capture images of surfaces, and AR software can highlight irregularities or provide instructions on how to fix problems.”

and optimise their cleaning routes. Real-time monitoring of hygiene parameters like air quality or surface cleanliness can trigger alerts and proactive interventions, preventing outbreaks and ensuring a safe environment for everyone.

“AR can be used to detect defects or soiling that are difficult to see with the naked eye. Cameras can capture images of surfaces, and AR software can highlight irregularities or provide instructions on how to fix problems.”²

This is just the beginning of how VR and AR can transform the cleaning industry. With these innovative tools, cleaning staff can be better trained, more engaged, and ultimately, more effective in keeping our world clean and healthy.

Traditional training can be a bit monotonous and unstimulating, but VR and AR inject a dose of fun and interactivity

Cleaning in the Age of Hyper-Awareness: How IoT Sensors are Powering the 2024 Hygiene Revolution

Get ready to ditch static schedules and one-size-fits-all approaches – the future of cleaning in 2024 will see a surge in the use of the Internet of Things (IoT) to streamline and optimize processes and protocols. Imagine buildings “alive” with sensors, communicating valuable data about every surface, every air particle, every movement. This isn’t science fiction; it’s the new reality of hyper-aware cleaning, and the possibilities are dazzling!

Turning Buildings into Data Oracles: Imagine smart floors embedded with pressure sensors, revealing which areas are most heavily trafficked and need priority cleaning. Picture trash bins equipped with fill-level sensors, alerting crews before overflow becomes a reality. Walls painted with air quality sensors can map out invisible

² <https://ar-check.com/post/guide-to-augmented-reality-in-high-tech-commercial-cleaning>

pollution patterns, guiding targeted disinfection efforts. These “whispers” of data, once unheard, paint a vibrant picture of how a building breathes, lives, and gets dirty.

“It’s really exciting the data that you can grab from a building. And the fun things that we’re finding from that data for example are: How many people are in the building? Where in the building are they? What are they doing and what is the temperature in the building? What time do the employees come in, where are they eating their lunches or where are they having their breaks and where are they using their workspaces?” explains Jill Frey, Chairwoman of Facility Data Standard.

“It’s really been interesting to see the people that do go into the office, when they go into the office and what they are doing in the office. From that data that we gather, we can then understand what part of the building needs to be cleaned. So, maybe if someone doesn’t come to the office for a week, then we don’t clean that office for a week. Using this data we are able to save on labour, cleaning materials, costs and time,” says Jill. ³

Data Empowers, Efficiency Reigns: But this symphony of data isn’t just for listening; it’s for dancing. Powerful algorithms will waltz with these insights, orchestrating a cleaning revolution. Optimised cleaning schedules will emerge, dynamically adjusting to real-time data, ensuring high-traffic areas are spotless during peak usage while lower-traffic zones receive the attention they deserve – no more wasted effort, no more missed spots. Cleaning becomes dynamic, a choreography of efficiency and precision.

From Reactive to Proactive: Data isn’t just about efficiency; it’s about hygiene on a microscopic level. Imagine sensors detecting specific pathogens on surfaces, revealing previously invisible contamination patterns. AI analyses these patterns, identifying high-risk areas and even predicting potential outbreaks. Forget reactive responses to mess; data allows for proactive interventions, preventing threats before they blossom into full-blown problems.

The Human Touch in the Digital Symphony: But this data revolution isn’t a solo act for algorithms. It’s a duet between technology and human



Data isn’t just about efficiency; it’s about hygiene on a microscopic level.

expertise. Imagine cleaning staff equipped with AI-powered tablets, displaying real-time information on surface cleanliness, potential contamination hotspots, and optimised cleaning routes. Data empowers, informing every step but never replacing the human touch.

The journey into the era of IoT-powered cleaning is just beginning, and the potential is electrifying. From optimised efficiency to proactive hygiene, data promises to transform the cleaning industry, leaving behind a trail of sparkling floors and healthier environments. ⁴



³ https://www.linkedin.com/posts/interclean-show_interclean-cleaning-hygiene-activity-7143146506932404224-2LXX?utm_source=share&utm_medium=member_desktop

⁴ Top New Technology Innovations Used by Commercial Cleaning Services | Select Shield Cleaning

Increasing awareness about the importance of using data

According to Jill technology is almost all about communication. “When you’re gathering data, you’re communicating that data to other people. You’re telling them what you are finding because people don’t know. They don’t know how many people are in the building or where they are going but when you take that protocol and you share that information, then people can get the communication and they can use it and say, for instance, “I want to help the environment” or “I want to recycle more” or “I want to use less of a carbon footprint”. So, the feedback from the data is helping them become more conscious,” she explains.

Unveiling the Sparkle: Data Driven Hygiene, Digitalisation and AI Transform Professional Cleaning

Gone are the days of relying on intuition and elbow grease. Cutting-edge tech has introduced a new wave of precise, data-driven cleaning.

In the ever-evolving cleaning industry, staying ahead of the curve requires more than just high-quality service and customer satisfaction. The real game-changer lies in utilising cutting-edge technologies in the most strategic way possible, and artificial intelligence tops the list. ⁵

The world of professional cleaning, once seen as a strictly physical domain, is undergoing a data-driven metamorphosis. Data science and AI are transforming the industry, casting light on previously hidden aspects of cleaning efficacy and efficiency. Imagine a world where mop heads are replaced with data-driven cleaning strategies, tailored to each building’s unique needs!

The world of professional cleaning, once seen as a strictly physical domain, is undergoing a data-driven metamorphosis.

Cleaning is set to become hyper-intelligent with IoT sensors and advanced data analytics. Imagine floors that signal when they need mopping, or waste bins that automatically optimise collection schedules. This data-driven approach will not only enhance cleaning efficiency but also provide valuable insights into building usage and potential hygiene hotspots.

“AI can help reduce cleaning time by working faster and more accurately than traditional manual methods. In certain cases, such as cleaning dangerous or hard-to-reach places, AI-controlled robots can be used to protect human cleaners from potential risks. The integration of AI into the cleaning industry encourages innovation and the development of new technologies that drive the industry forward.”



⁵ Innovative Commercial Cleaning Technologies Transforming Businesses (snccleaningservices.co.uk)

Deep Dive into Efficiency: Imagine sensors embedded in cleaning tools, silently collecting data with every swipe and scrub. From pressure applied to surfaces cleaned, these sensors communicate valuable insights to data scientists. Algorithms then analyse these numbers, revealing what tools truly perform best on specific surfaces, optimising cleaning routines for speed and thoroughness.

The Space Whisperer: Buildings themselves become important sources of valuable data, sharing their secrets through IoT sensors. Occupancy patterns? Room temperature fluctuations? Air quality fluctuations? This incredible feedback paints a vibrant picture of how a space is used, allowing AI to predict its cleaning needs. Forget static schedules – algorithms will dynamically dispatch cleaning crews based on real-time data, ensuring high-traffic areas are spotless during peak usage, while lower-traffic zones receive the attention they deserve without unnecessary effort.

The Germ Genome Project: Data science isn't just about efficiency; it's also about hygiene on a microscopic level. Imagine sensors detecting specific pathogens on surfaces, revealing previously invisible contamination patterns. AI, the tireless data detective, analyses these patterns, identifying high-risk areas and even predicting potential outbreaks. Customised disinfection protocols tailored to specific bacteria and viruses – that's the future of sanitation, informed by the power of data.

But this data revolution isn't just about robots and algorithms. It's about empowering cleaning professionals with actionable insights. Cleaning staff can be equipped with AI-powered tablets, displaying real-time information on surface cleanliness, potential contamination hotspots, and optimised cleaning routes. This data-driven partnership between humans and technology elevates cleaning from a chore to a science, ensuring a truly sparkling future for all.

Some innovations such as AI-powered drones or advanced predictive analysis might appear a bit futuristic, but they paint an exciting and promising picture of the cleaning industry's high-tech horizon.



Here are some innovative ways to employ AI in your professional cleaning and hygiene business, ranging from customer service to predictive maintenance, inventory management, and beyond ⁶:

- **Smart Scheduling:** Say goodbye to guesswork! AI automatically schedules cleanings based on your preferences, ensuring the right cleaning at the right time.
- **Predictive Maintenance:** No more last-minute equipment breakdowns. AI predicts when cleaning equipment needs servicing, so you can stay ahead of schedule and avoid downtime.
- **Inventory on Autopilot:** Forget manual stock checks. AI keeps track of cleaning supplies and automatically reorders when needed, saving you time and hassle.
- **Route Optimisation:** Ditch the detours! AI optimises cleaning staff routes, saving time, fuel, and frustration.
- **Robot Assistants:** Let robots handle the repetitive tasks. AI-powered cleaning robots tackle the tedious jobs, freeing your staff for more specialised work.
- **AI-Powered Hiring:** Streamline your hiring process. AI helps you find qualified cleaning staff quickly and efficiently.

⁶ The Cleaning Industry Gets a Boost from AI and AR | Startups Magazine

- **Waste No More:** Implement AI-powered wastesorting and recycling. Let technology do the dirty work, maximising efficiency and environmental responsibility.
- **Clean Before You See:** Take a virtual tour of any space before cleaning. AI-powered virtual tours give you a clear picture of what needs to be done.
- **Go Green with Energy:** Save energy and money with AI-powered management and reduction tools.
- **Cleaning Tailored to You:** Get cleaning recommendations based on your specific needs. AI personalises your cleaning experience.
- **Shift Scheduling Made Easy:** Optimise your staff schedules with AI-powered assistance.
- **Deep Clean Before the Mess:** Don't wait for disaster. AI predicts when deep cleaning is needed, ensuring your space stays pristine.



- **Eyes in the Back of Your Head:** Keep an eye on everything remotely. AI-powered cameras allow you to supervise cleaning tasks even when you're not there.
- **VR Training Revolution:** Level up your cleaning staff with immersive virtual reality training.
- **Quality Guaranteed:** Maintain consistently high standards. AI ensures adherence to cleaning standards, so your clients are always satisfied.
- **Effortless Reporting:** Forget manual reporting. AI generates detailed cleaning reports for you, freeing your time for other important tasks.
- **Say Goodbye to Repetitive Tasks:** Automate repetitive administrative tasks with Robotic Process Automation (RPA).
- **Clean Before It Gets Dirty:** Get a heads-up on areas that will need cleaning soon. AI predicts cleaning needs proactively.
- **Drones Take Flight:** Reach new heights with AI-powered cleaning drones. Tackle those hard-to-reach areas with ease.
- **Smart Sensors: The Dirt Doesn't Stand a Chance:** AI-powered sensors detect dirt and dust levels instantly, so you can clean smarter, not harder.
- **Robot Disinfection on Patrol:** Defend against germs with efficient AI-powered disinfection robots.
- **Sustainable Cleaning Champions:** Use AI to assess and improve the sustainability of your cleaning practices.
- **Stay Compliant with Ease:** AI helps you ensure compliance with health and safety regulations, giving you peace of mind.

- **Augmented Reality: See Cleaning Come Alive:** Use AR to train staff effectively or demonstrate cleaning processes to clients in a whole new way.
- **Green Clean Champions:** Minimize your environmental impact. AI optimises environmentally friendly cleaning processes.
- **Cleaning Supplies at Your Fingertips:** Access cleaning supplies on-demand with AI-powered vending machines.
- **Peace and Quiet, Please:** Keep noise levels down during cleaning with AI-powered solutions.
- **Real-time Tracking for Total Transparency:** Know where your cleaning staff are and what they're doing in real-time with AI-powered tracking.
- **Water Conservation Warriors:** Use AI to optimise water usage during cleaning, conserving this precious resource.
- **Carbon Footprint Champions:** Track and reduce your carbon footprint with AI-powered technology.
- **Breathe Easy After the Clean:** Use AI-powered devices to monitor and improve indoor air quality after cleaning, ensuring a healthier environment for everyone.

fluctuations, conversations within businesses are producing some thought-provoking questions.

The details are in the data

Whose data is it? Is it the building owner's, the cleaning company's, or even the individual cleaners, whose every step and swipe are potentially tracked? Clear ownership and consent protocols are crucial.

What data is collected? Is it limited to cleaning specifics, or does it delve deeper into building usage, employee schedules, or even personal health data through air quality sensors? Transparency and purpose limitation are key.

How is data used and secured? Will insights be anonymous and aggregated, or will individual cleaning patterns be identifiable? Robust security measures and clear deletion policies are essential.

Who has access to the data? Is it limited to authorised cleaning personnel and building management, or will third-party vendors be involved? Access control and audit trails are paramount.

Can Big Data Keep a Secret? Navigating Data Privacy Concerns in AI-Powered Hygiene and Cleaning

The promise of AI-powered cleaning is looking extremely promising – spotless buildings tailored to real-time data, optimised efficiency, and improved hygiene. But behind the shine, a shadow lurks: the controversial issue of data privacy. As sensors gather information on everything from cleaning tools used to air quality



Building confidence and ensuring co-operation

These conversations are crucial because trust and transparency are vital for the AI-powered cleaning revolution to succeed. Businesses need to engage in open dialogue with stakeholders – employees, building occupants, and the public – to address concerns and establish ethical data practices.

Furthermore, regulatory frameworks need to evolve to keep pace with these innovations. Data protection laws must be revised to address the specific challenges of cleaning data, ensuring responsible collection, use, and disposal.

The potential of AI-powered cleaning is undeniable, but ensuring data privacy needs to be an integral part of the conversation. Building trust is a continuous process, and AI-powered cleaning companies must actively engage with clients and address concerns head-on. By demonstrating a commitment to data privacy and ethical practices, these companies can pave the way for a future where clean buildings and trust stand side-by-side.⁷

Wearable Tech Innovations: A Smarter Way to Clean

Imagine cleaning crews equipped with smartwatches or wristbands or gloves that track their movements, monitor vital signs, and even guide them through cleaning tasks. This is the reality wearable tech brings to the table. These amazing gadgets can:

Track cleaning progress: Wristbands equipped with RFID (radio frequency identification) tags can record which areas have been cleaned and ensure nothing gets missed.

Optimise routes: Real-time data on workload and cleaning times can be used to create efficient cleaning routes, saving time and effort.

Monitor worker well-being: Wearables can track factors like heart rate and temperature, alerting

⁷ Smart Cleaning: How is it Driving the Cleaning Industry and the Challenges that Come Along with It (fminnovators.org)



supervisors to potential fatigue or heat stress, protecting worker health.

Exoskeletons: Supercharging the Cleaning Workforce

Exoskeletons, once the stuff of science fiction, are poised to become a game-changer in the cleaning industry.⁸ These wearable robotic suits can:

Reduce physical strain: Exoskeletons can support the weight of heavy equipment and tools, preventing musculoskeletal injuries and fatigue.

Increase lifting capacity: Cleaners can handle heavier loads with ease, boosting productivity and efficiency.

Improve ergonomics: Exoskeletons can adjust to individual body shapes and postures, promoting proper form and reducing the risk of back pain.

⁸ Will exoskeletons enter the cleaning industry? - Newsroom (fmnewsroom.com)

Robots: The New Cleaning Crew Members

Move over, Roombas, because industrial-grade cleaning robots are rolling in. Robotic floor scrubbers, window washers, and even germ-zapping drones can perform their tasks with laser-like precision and tireless efficiency. These robotic workhorses will free up human cleaners for more specialised tasks, while also boosting productivity and reducing risks.⁹

While robots won't be replacing human cleaners anytime soon, they're certainly becoming valuable teammates. Expect to see:

- **Autonomous floor cleaners:** These robots tirelessly navigate and clean large spaces, freeing up human cleaners for more complex tasks.
- **Disinfection robots:** Equipped with UV-C light or other germ-killing technologies, these robots can efficiently disinfect high-touch surfaces, reducing the spread of pathogens.
- **Window washing robots:** Scaling skyscrapers will become a breeze with robots specially designed for cleaning windows, improving safety and efficiency.

Cost Savings: From Squeezing to Soaring

Tech is so much more than just gadgets – it's a powerful force transforming the professional cleaning and hygiene industry. However innovative technological advances aren't only about polished floors and clean windows; they're about boosting your brand and increasing your profit. By embracing these innovations, cleaning companies can move beyond the mop and bucket, unlocking a future of precision, cost-efficiency, and a sparkling tomorrow.

Here's how:

- **Automated cleaning robots** can take over repetitive tasks, freeing up human staff for more complex jobs and maximising labour efficiency.
- **Predictive maintenance software** monitors cleaning equipment and product usage, preventing costly breakdowns and extending equipment lifespan.
- **Digital workflow management systems** streamline scheduling, communication, and reporting, saving time and reducing administrative overhead.



⁹ FMUKDecember2023 (yudu.com)

The result? Reduced operational costs, improved resource allocation, and a more profitable cleaning business.

Small in size, but big in impact: How smaller size innovations can offer more impressive functionality through design innovations

Technological innovations in the professional cleaning and hygiene industry have the potential to further advance through design innovations that focus on smaller size and more impressive functionality.

By incorporating these design elements, the industry can achieve greater efficiency, effectiveness, and user-friendliness in their cleaning processes.¹⁰ Here are a few ways in which design innovations can contribute to the advancement of technology in this industry:

Compact and Portable Devices: Designing cleaning equipment and tools with smaller form factors allows for increased mobility

Compact devices can navigate tight spaces, reach difficult-to-access areas, and provide efficient cleaning in confined environments.

and flexibility. Compact devices can navigate tight spaces, reach difficult-to-access areas, and provide efficient cleaning in confined environments. This design innovation enables professionals to achieve thorough cleanliness in various settings, including offices, hospitals, and public spaces.

Integration of Multiple Functions: Designing cleaning devices with multifunctionality can significantly enhance their functionality. For example, incorporating features such as UV-C disinfection capabilities, air purifiers, or scent diffusers into cleaning equipment can provide added value and convenience. This integration allows professionals to perform multiple tasks simultaneously, saving time and resources.

User-Friendly Interfaces: Designing intuitive and user-friendly interfaces for cleaning devices simplifies operation and reduces the learning curve for users. Clear and easily understandable controls, touchscreens, or voice-activated commands can enhance usability and ensure that cleaning professionals can quickly adapt to new technologies. This design innovation promotes efficiency and productivity in their daily tasks.

Enhanced Connectivity and Automation: Designing cleaning devices with enhanced connectivity capabilities, such as IoT integration, enables seamless communication and data exchange between devices and systems. This connectivity allows for centralised monitoring, remote control, and data analysis, leading to more efficient cleaning processes. Automation features, such as autonomous navigation and



¹⁰ Innovations In Commercial Cleaning Sector
(gjkfacilityservices.com.au)

scheduling, can further streamline operations and optimise resource allocation.

Ergonomic and Comfortable Designs:

Designing cleaning equipment with ergonomic considerations in mind can improve user comfort and reduce fatigue during extended use. Lightweight materials, adjustable handles, and ergonomic grips can minimise physical strain and enhance the overall user experience. This design innovation promotes the well-being of cleaning professionals and increases their productivity.

By incorporating smaller size and more impressive functionality through design innovations, the professional cleaning and hygiene industry can unlock new levels of efficiency, effectiveness, and user satisfaction. These advancements have the potential to revolutionise the industry, making cleaning processes more streamlined, sustainable, and technologically advanced.

Cleaning Up the Crisis: Innovative Solutions for Healthcare's Hygiene Vacuum

Healthcare facilities face a double nightmare: the ever-present threat of infections and the worrying issue of staff shortages. In 2024, these challenges will require clever and cutting-edge solutions to ensure patient safety despite a shrinking workforce. But fear not, for innovation is breathing life into a seemingly bleak picture! ¹¹

Healthcare Self-Assessment Systems to the Rescue!

InterClean recently spoke to Alexandra Peters PhD, Scientific Lead for Clean Hospitals for the Institute of Global Health at the University of Geneva. ¹²

Alexandra and her research team have been at the forefront of the research and development

of The Healthcare Environmental Hygiene Self Assessment Framework (HEHSAF) to help healthcare facilities to identify areas for improvement in their environmental hygiene programs as well as benchmark this improvement over time.

Clean Hospitals was founded as a public private partnership to really use the synergies from both the academic and the company sectors and to break down the silos between the two in order to increase the global visibility of healthcare environmental hygiene.

Lightweight materials, adjustable handles, and ergonomic grips can minimise physical strain and enhance the overall user experience.

Trends and findings

"Trends that I am noticing currently are often on automated room disinfection. There are also trends in companies becoming full-service providers with training and not just selling their product. There is also a move towards healthcare facilities being able to manage data of where people are cleaning and how they are performing and how much time is being used. There is a lot of automation on the human side. The overall trend is definitely going towards new technological innovations to make up for human errors," explains Alexandra.

Tackling challenges and finding solutions

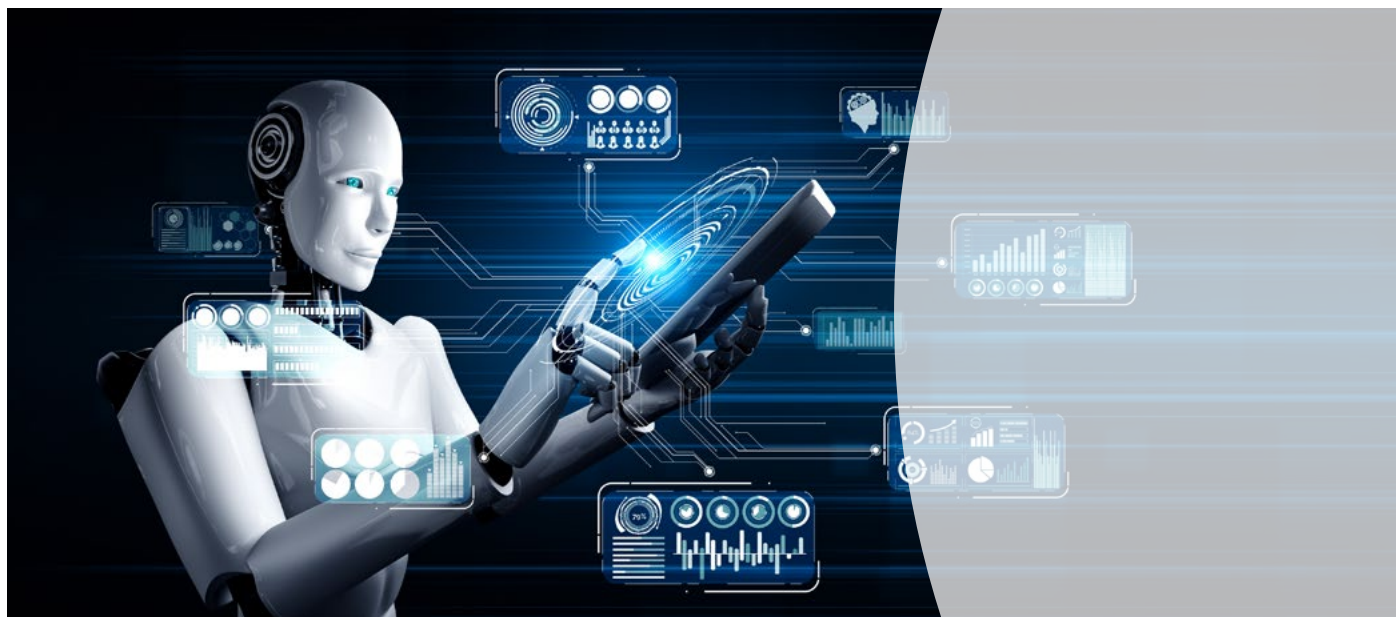
"I would say that the current challenges in the field remain that environmental hygiene is

¹¹ Ask Our Expert: Lorraine Davis about healthcare cleaning technology [Videos] | InterClean (intercleanshow.com)

¹² Healthcare cleaning is a specialized career | InterClean (intercleanshow.com)

traditionally a field that is not invested into by healthcare institutions. It's underfunded, it's undervalued, the people that are actually doing the cleaning are also undervalued and underpaid. And they are not given the attention or the training and the management or the salaries that they really deserve. So it's human factors," she explains.

Alexandra and her team have been working together with InterClean to develop the program for the Healthcare Cleaning Forum and some of the subjects that we will be delving into are self-assessment for healthcare facilities. Together we are looking at how to implement changes within the institution, such as new technologies and especially automated room disinfection technologies. "We're looking into different challenges and strategies concerning sustainability and how things are done in different countries as well," says Alexandra.



HEHSF is an online tool that healthcare facilities can fill out and benchmark against themselves to see how good their environmental hygiene programs are and where the gaps are. It's structured around a comprehensive improvement system for behaviour change and it really helps healthcare facilities decide where to invest their resources in order to start addressing the biggest gaps that they have in their own program.

An exciting future for healthcare environmental hygiene

"What I am most excited about isn't actually a specific technological innovation or element. I am really excited that there is this growing consciousness that's happening in the field of environmental hygiene. The literature is increasing at an exponential rate, the quality of the literature is increasing, the visibility is increasing. People are starting to talk about

different elements and ask the social inequality questions, the environmental questions, the patient safety questions, that just weren't asked up until now. I'm excited about being able to be here for the moment that this paradigm is slowly shifting and to be able to be a part of that," comments Alexandra.

"We are at the beginning of a growing momentum in healthcare environmental hygiene and we really see interest and quality of research at levels that we have never seen before. The new innovation in industry and all of the new studies that are going on are extremely exciting – as is the shift in focus towards environmental hygiene on a global level," she explains.

The healthcare staff shortage presents a formidable challenge, but innovation is rising to meet it. From robotic reinforcements to data-driven insights, the year 2024 promises a future where hygiene is not just maintained, but actively orchestrated. Healthcare facilities will become safer, cleaner, and more efficient, proving that

even in the face of adversity, human ingenuity can keep the gleaming promise of hygiene alive.

Be part of the conversation and momentum

“Please join us at the specialized Healthcare Cleaning Forum at Interclean Amsterdam 2024 on how environmental cleaning and disinfection and hygiene is revolutionary for infection prevention and control and patient safety. Tickets are available now and we look forward to seeing you in Amsterdam in May,” says Alexandra.

Green Warriors of Clean: Sustainability and ESG innovations take centre stage

As eco-friendly cleaning products and practices become the norm, we are fortunate to have many exciting resources for sustainability solutions at our disposal! Think biodegradable cleaning solutions, microfiber cloths replacing paper towels, and water-saving technologies that minimise waste. Not only is this good for the environment, but it also aligns with the growing demand for green buildings and healthy workspaces.¹³

Beyond Sparkling Floors: Procurement Pushes ESG in Cleaning and Hygiene

The professional cleaning and hygiene industry is undergoing a significant shift, driven by the rising importance of Environmental, Social, and Governance (ESG) principles. Procurement teams are playing a crucial role in this transformation, pushing for suppliers and service providers to prioritise sustainability, ethical practices, and social responsibility.¹⁴

Environmental Focus:

Procurement teams are seeking cleaning products and equipment with reduced environmental impact. This includes looking for biodegradable and non-toxic cleaning solutions, energy-efficient equipment, and sustainable packaging practices.

Emphasis is placed on minimising waste generation, with preference given to suppliers that offer refillable systems and closed-loop recycling programs.

The focus extends beyond products, with procurement teams considering the environmental footprint of cleaning services themselves, encouraging the use of electric cleaning vehicles and optimising routes to reduce emissions.



Social Responsibility Gains in Momentum

Procurement teams are increasingly concerned about the working conditions and fair treatment of cleaning staff. This means prioritising suppliers who offer competitive wages, benefits, and opportunities for training and development.

¹³ Sustainability in the Cleaning Industry | ToolSense News

¹⁴ How procurement and supply chains drive corporate ESG objectives (thomsonreuters.com)

Diversity and inclusion are becoming key factors in selecting vendors, with a focus on promoting equal opportunities for all regardless of gender, race, or background.

Supporting local businesses and community initiatives is also gaining traction, fostering social responsibility within the cleaning and hygiene industry.

Governance Matters:

Transparency and ethical practices are critical for procurement teams. They demand clear communication from suppliers about their ESG practices and responsible sourcing protocols.

Compliance with environmental and labour regulations is non-negotiable, with preference given to suppliers who demonstrably uphold ethical standards.

Risk management is also a key consideration, with procurement teams favoring suppliers with robust ESG policies to mitigate potential environmental and social liabilities.

This push from procurement teams is driving positive change within the cleaning and hygiene industry. Suppliers are adapting their practices to meet these evolving requirements, leading to a more sustainable, equitable, and ethical sector. Ultimately, this shift benefits everyone – from the environment and cleaning staff to businesses and consumers alike.

Remember, the journey towards a truly ESG-oriented cleaning and hygiene industry is ongoing. Procurement teams have a crucial role to play in fostering continuous improvement,

Compliance with environmental and labour regulations is non-negotiable, with preference given to suppliers who demonstrably uphold ethical standards.

pushing for even higher standards and driving positive change through their purchasing power. As demand for ESG-compliant cleaning solutions grows, we can expect to see continued innovation and advancement in this evolving field.



A high five for the human element. The vital importance of cleaners

Cleaners play an essential role in the professional cleaning and hygiene industry, serving as the backbone of maintaining cleanliness, sanitation, and overall hygiene standards in various settings. Their importance cannot be overstated, as they are the ones responsible for ensuring that spaces are safe, healthy, and presentable for both occupants and visitors.

Providing expertise and knowledge

One of the key reasons why cleaners are considered the most valuable asset in the industry is their expertise and knowledge in executing cleaning tasks efficiently and effectively. They have a deep understanding of different cleaning techniques, products, and equipment, allowing them to tackle a wide range of cleaning

challenges with precision. Their experience and skillset enable them to identify and address specific cleaning needs, ensuring that spaces are thoroughly cleaned and sanitised.

Frontline warriors

Moreover, cleaners are often the first line of defense against the spread of infections and diseases. In the wake of the global health crisis, their role has become even more critical. They are trained in proper disinfection protocols and are equipped with the necessary tools to eliminate harmful pathogens. By diligently following established cleaning procedures, they contribute significantly to creating healthier environments and reducing the risk of infections.

Enhancing spaces

Cleaners also play a vital role in maintaining the overall image and reputation of businesses and organisations. A clean and well-maintained space not only enhances the visual appeal but also creates a positive impression on customers, clients, and employees. Cleaners ensure that spaces are presentable, organised, and free from clutter, contributing to a professional and welcoming atmosphere.

Passionately proactive

Furthermore, cleaners are often the eyes and ears of the cleaning and hygiene industry. They have

Cleaners are and will remain the most valuable asset and resource in the professional cleaning and hygiene industry.

a keen eye for detail and can identify potential maintenance issues or areas that require attention. By promptly reporting such issues, they enable facility managers and maintenance teams to address them before they escalate into more significant problems. This proactive approach helps in maintaining the longevity and functionality of buildings and facilities.

Cleaners are and will remain the most valuable asset and resource in the professional cleaning and hygiene industry. Their expertise, dedication, and attention to detail are instrumental in ensuring cleanliness, hygiene, and safety in various settings. As the industry continues to evolve, their role will remain indispensable in upholding the highest standards of cleanliness and contributing to healthier and more sustainable environments.¹⁵

Recruitment Revolution Attracting and Retaining Top Talent

The importance of the professional cleaning and hygiene industry often gets overlooked and associated with repetitive tasks and manual labour. But what if we told you this perception is about to get a serious makeover? A wave of cutting-edge technologies is transforming the cleaning industry, attracting top talent and rebranding the profession into a dynamic, high-tech field.

Customised Cleanliness:

One-size-fits-all cleaning is going extinct. Expect to see a surge in personalised cleaning



¹⁵ <https://www.clean-group.com.au/cleaning-for-caring/>

plans tailored to specific needs and preferences. Whether it's allergen-free environments for sensitive individuals or deep disinfection protocols for healthcare facilities, the cleaning industry is becoming as bespoke as your favourite cup of coffee.¹⁶

From Mop to Marvel: Tech Transforms the Game

Tech is more than just gadgets; it's a powerful force rebranding the cleaning industry from the inside out. By embracing these innovations, companies can not only attract and retain top talent but also contribute to a safer, healthier, and more sustainable future.

Today's cleaning landscape is buzzing with innovations like:

Autonomous floor-cleaning robots: These tireless bots navigate and sanitise large spaces, freeing up human cleaners for more complex tasks.

Exoskeletons: Supercharge cleaning crews with robotic suits that support weight, reduce fatigue, and prevent injuries.

Sensor-equipped tools and robots: Precision takes center stage with tools that pinpoint dirt, dust, and even pathogens, ensuring targeted cleaning efforts.

Data-driven cleaning platforms: Optimise operations with real-time data dashboards and AI-powered algorithms for hyper-efficient cleaning schedules and resource allocation.

Perception Shift: From Menial to Meaningful

This tech infusion is not just about glistening floors; it's about rebranding the industry. This rebranding translates to a talent magnet:

- **Reduced turnover:** Improved working conditions, reduced physical strain, and opportunities for growth keep valuable employees engaged.
- **Diversity and Inclusion:** Attract a broader talent pool with a tech-driven industry that prioritises skills and knowledge over physical labor.

- **Enhanced Employer Brand:** Showcase your company as a leader in innovation, attracting top talent looking for meaningful careers.
- **High-Tech Appeal:** Attract tech-savvy millennials and Gen Z with the allure of working with cutting-edge tools and robots.
- **Skill Development:** Embrace continuous learning with training programs on operating and maintaining advanced cleaning technologies.
- **Empowerment and Growth:** Exoskeletons and data-driven tools empower cleaners, giving them a sense of control and ownership over their work.
- **Career Advancement:** Open doors to specialised roles like robot technicians, data analysts, and cleaning technology experts.

So, the next time you think about the cleaning industry, don't picture a mop in a dusty corner. Think of dynamic professionals wielding high-tech tools, analysing data, and driving innovation. The future of cleaning is bright, and it's attracting the brightest minds to join the revolution.



¹⁶ <https://www.linkedin.com/pulse/cleaning-hygiene-industry-overcoming-staff-shortages-future-marcham/>

Conclusion

Interclean: Your Go-To Partner to Navigate and Embrace Innovations in The Industry

Innovation will always be necessary in the industry as human existence and experience keeps changing and cleaning will have to change with it. As technology continues to advance at an unprecedented pace, the cleaning and hygiene sector is not far behind in embracing cutting-edge solutions to enhance efficiency, sustainability, and overall cleanliness.

When the professional cleaning and hygiene industry thinks INNOVATION, TRENDS and OPPORTUNITIES they turn to InterClean as their trusted partner to stay ahead of the curve.

Communicating new innovations and best practices is essential to keep our customers safe and make sure cleaning capabilities start ahead of popular expectations.

We are exceptionally proud of our role in facilitating and assisting the industry to propel the cleaning and hygiene industry into an exciting, profitable and sustainable future.

We hope you've enjoyed this trend report we've compiled! This is just a taste of the cleaning revolution brewing in 2024. So, buckle up and stay

tuned as we continue to delve deeper into these exciting innovations and explore how they're shaping the future of professional cleaning and hygiene.

Join us as we navigate through the exciting innovations and trends that are shaping the professional cleaning and hygiene industry in 2024. Whether you are a cleaning professional, facility manager, or simply interested in staying informed about the latest advancements, we'll continue to provide valuable insights into the future of this dynamic industry.

Let's embrace the future of clean, together!



Robert Stelling

Director InterClean Global Events
RAI Amsterdam



The Future is Sparkling Bright: See you at Interclean Amsterdam and Interclean China

Interclean Amsterdam 2024

We're always evolving! Join us for the cleaning experience of the year!

This May, Interclean Amsterdam is back with a bang – featuring an unmissable mix of expert content, immersive experiences and superb entertainment! We're plugged in and pushing boundaries! With 11 halls featuring more than 900 exhibitors excited to showcase their latest products, services and knowledge, it's set to be a groundbreaking edition.

From 14 to 17 May 2024 Amsterdam will once again transform into the capital of cleaning and hygiene where the industry comes together.

Registration is open!

[REGISTER NOW](#)

[FIND OUT MORE](#)

At the show we'll unveil the top cleaning innovation trends for 2024 to help your business stay ahead.

This year we're focusing on the following main themes on our 3 stages:

1. Technology/ Innovation/ Digitalisation/ Data
2. Sustainability/ Environment/ ESG
3. Healthcare/ Hygiene/ Disinfection

We'll discuss:

- The value of data: what does it yield?
- Privacy and robotisation
- Energy transformation and real estate

- Staff, training and integration
- Cleaning and hygiene in the food service industry
- Indoor air quality
- Toilet hygiene

Interclean China 2024

Discover China's full potential at Interclean China 2024 taking place in Shanghai 11-13 December 2024. Join thousands of professionals at Interclean China 2024, China's only dedicated professional cleaning and hygiene trade show. Network, gain insight and learn about the latest innovative products from top industry experts and professionals from across China and beyond.

[FIND OUT MORE](#)

We look forward to seeing you at our Interclean 2024 experiences!

Interclean, a place where innovation is on show!





intercleanshow.com

