



# Cleaning In Focus 2023

Looking ahead at opportunities and challenges for the cleaning industry





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# What Do We Talk About, When We Talk About Cleaning?

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As 2023 begins, we reflect on the year that has passed as well as looking forward.

Last year we saw the COVID-19 pandemic move from centre stage to an equal role with more traditional hygiene concerns, but still present in our lives and professional considerations. We are in a phase where a heightened sense of hygiene and cleaning importance remains for many.

This sense for cleaning safety from facility users, be they staff, visitors or customers, has also begun to touch other areas such as sustainability and corporate responsibility. Cleaning as a form of caring now spreads beyond the internal protection of spaces to the protection of natural resources used in generating cleaning products, as well as the cleaning process itself.

Cleaning and sustainability both branch into operational and commercial efficiency, another growing concern that has risen this year that will carry into 2023. The perception that sustainable products cost more through upfront investment, and do not perform as well as their polluting counterparts, is pervasive throughout

the industry and continues to be a passionate discussion.

In 2023 we will undoubtedly see more discourse on products, practices and pricing as means to achieving cleaning industry goals. As well as continued conversation on the very core issue, in practical, actual terms, what does it mean for a business to behave sustainably?

The people that make up the cleaning industry will continue to be essential. Rising energy costs, cost of living increases and ongoing social struggles will continue to create challenges for many currently working within the industry. While businesses support staff, they face some of the same issues as well as disrupted supply chains and logistical issues as a result of geopolitical events. Not all cost increases can be borne by price increases, so where will businesses find themselves as the prospect of recession increases?

Not only do businesses want to take care of the staff they have, we continue to see them encounter recruitment and retention issues that create operational challenges. In 2023, what developments will we see that makes custodial work more appealing to younger generations, but also increases retention within organisations?

Robotics, cobotics and automation are the leading edges of technologically advanced and effective cleaning, potentially redefining the role that cleaning staff play within their organisation.



The idealised smart facility with centrally managed autonomous cleaning machines, that harnesses cobotic cleaning suits to aid humans in complex and dangerous tasks and deploys a team of external drones to clean the windows, is one that offers a very different set of job prospects for cleaning staff than a facility five years ago did.

In 2023, people will continue to want to get the most from cleaning. Whether that is peace of mind for those managing and operating a facility (that cleaning is an operationally successful process), for staff who are looking for interesting and rewarding careers, or simply visitors and customers who, in a post-pandemic mindset, are attuned to visible cleaning as well as visible signs that a space is clean.

I hope that you find the rest of this report engaging and stimulating. We look forward to another year of meeting new people, working with our existing partners and discovering the innovations and developments that are driving our industry and tackling the challenges we face.



**Robert Stelling**

Director InterClean Global Events  
RAI Amsterdam





# Making Cleaning Sustainable

Across every facet of our lives, sustainability and ecological issues continue to be prevalent as we see increasing signs of the disruption that is being caused to our planet and to all those that live there.

Businesses, staff and customers all have expectations for the actions taken by commercial entities to create a more sustainable form of business. In 2022, IBM research<sup>1</sup> into consumer preferences discovered that half of those surveyed had paid a premium, 59% on average, for products that demonstrated sustainable credentials or socially responsible practices.

Cleaning and sustainability intersect in many different ways in processes at facilities, occurring at many different points across the end-to-end cleaning process and are found in all the ways that a business operates.

## Beginning to Middle to End

Before a cleaning product even reaches you, it can already come with a significant ecological cost. Natural resources that go into plastic or chemical processes will have an extraction cost that comes with them and in the case of chemical solutions, an environmental cost for disposal after use.

When it comes to sustainable purchasing, the industry will continue to assess a multitude of factors beyond cleaning efficacy.

- Where did the material for this product come from?
- Was it produced with significant care for the environment?
- How durable is this product?
- What does it do for the sustainability of my facility?
- How will I dispose of it in a way that protects resources and the environment?

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<sup>1</sup>Balancing Sustainability and Profit

And when you get really into the sustainability of a product you might add questions like:

- How was this product distributed?
- How is the distributor's vehicle fleet powered?
- What energy powers its manufacture?
- Do the manufacturers offset their carbon?
- Do they offer end-of-life returns?

The questions to consider can be almost endless because sustainability touches on everything we do.

Sustainability also pulls into the sustainable development of your staff through education programs, ergonomic machinery, CSR responsibilities, waste and sustainability reporting and how to incentivise more sustainable methods of working and commercial practices.

As the cleaning industry progresses through the coming years, we need to be sure that as different entities we can either ask the right questions of our purchases or give the right answers about our products. Whether we serve individual customers or operate B2B, transparency is a key to sustainable success.

## What Does it Mean to be Sustainable?

The most traditional definition for a sustainable practice is the one that leaves a net zero impact on planetary resources. That whatever is taken from the natural world is returned at the end of a product's life or at the culmination of a process.

But is this a practical way of thinking about sustainability, is it actually possible for human industry to strike this balance with the natural world?

What is certain is that we are currently not meeting that balance, but there are patterns of operation we can implement that will improve the sustainability of what we do.

One of the key areas where products are returned to the natural world is through the shortfall in plastic recycling compared with manufacture and consumption. Oceana estimate that in 2023 we will add 33 billion pounds<sup>2</sup> of plastic to the oceans, plastic that will stay there polluting aquatic life, and humans, for millennia.

If your bath is overflowing, what would you do first, run and get a mop to tackle the overspill, or turn off the tap?

Many businesses have begun to look at how they can turn off the tap that's pouring plastic into the environment. Two key areas are product packaging and end-of-life processes. Whether it's bottles of cleaning solution, cleaning tools, machines or other cleaning products, 2023 will continue to see innovation in these areas.

End-of-life is still in its infancy, but harnessing reuse over virgin manufacture is going to create some improvements, while an emphasis on product durability, eliminating multiple cycles of remanufacture, will extend sustainability gains further.

<sup>2</sup> Oceana Plastic Waste

# The Commercial in Commercial Sustainability

Beneath all this, the products and the processes, the decisions and the outcomes, there is one consistent consideration, cost. What does a certain action cost environmentally, what does it cost commercially?

With the changing social and financial landscape in countries across Europe and the world, we will see increased tension between price, hygiene and sustainability. Particularly in areas where there is a perception that to be more sustainable requires paying more for products that are less effective. How purchasers and manufacturers balance these three elements will evolve as the year goes on.

- In cases where a more sustainable cleaning product costs more than its polluting alternative, what should a purchaser or a facility manager prefer?
- Likewise, if you expect (or have experience) that a greener product does not perform as well, should you buy the less sustainable product?
- Does buying a greater volume of a more sustainable product lessen its credentials?

As with many industries, the cleaning industry needs to have an engaging and open discourse about what sustainability in commercial cleaning looks like, what's important and how we balance the needs of hygiene, cost and sustainability so that our businesses thrive, our customers are confident and our staff and the people of the world, are taken care of.

## It's a People Business

As we have seen during 2022, staff shortages and the ability to bring new people into the cleaning industry, particularly within the practical sphere of cleaning, including janitorial and custodial work, will continue into 2023, and potentially

A British Cleaning Council (BCC) survey found that in the latter six months of 2021, cleaning vacancies rose by 252%<sup>3</sup>

beyond. Combining this with issues relating to staff retention and anticipated rising costs, we can foresee that a key trend in the coming year(s) is going to be the role that staff play in cleaning.

The BCC has long championed the notion that cleaning staff should be recognised as essential workers, with the recognition and provision such a classification brings with it. This would likely also go some way to combatting the notion that cleaning is menial work, or worse, an unimportant role to occupy, one that is physically exhausting and mentally unstimulating.

So what trends within the industry are likely to help perception and retention?

## The Machine Age of Cleaning

As we will see in the next section, cleaning is on the cusp of moving beyond the traditional perception of a broom, mop and vacuum paradigm to encompass a more diverse and technological way of doing cleaning.

Machines that not only bring technological enhancements but are designed to bring comfort to users and sustainability uplifts. The ability to walk behind an industrial cleaning machine that provides efficient sustainable cleaning, rather than constantly refilling mop buckets and unplugging vacuum cleaners, is a very visible way in which our industry is changing.

Including modern technology and ways of cleaning that are perhaps more unheard of outside of the cleaning industry in recruitment

<sup>3</sup>Cleaning a Recruitment Challenge

materials will show there's more to modern cleaning.

As the industry continues to include sustainability and technological messaging in these outward facing materials, the more it will create a rejuvenated perception of what it is to be a modern custodian, in a way that's appealing to younger generations.

And once people are in the role, we can then focus on methods of retention.

## Staying Cleaning

With both robotics and cobotics, we are seeing custodians and machines working together in a more comfortable way with a greater range of skills to develop.

Machines are increasingly designed in a way that other, more basic tools are not. Ergonomic operation extends the ease of clean from a purely mechanical improvement to one that physically benefits the operator, allowing them to clean in comfort. Adjustable ergonomics also allow for a broader type of operator as the machine can adapt to the stature and comportment of the operator.

Which is good for the physical aspects of custodial work, but what of the mental ones?

With more advanced technology, ongoing training is required in a way that allows an



As an industry, if we want to bring in more young people, we need to attend to a sense of professional and personal wellbeing.

operator to feel they are continually skilling up. Learning to not only use a machine but how to adapt it to different tasks, program it for cleaning and optimising it for sustainable operation, engages operators and increases satisfaction with the work they're doing, investing in it in a different way to their predecessors.

And from there, a world of data and metrics that robotic and autonomous cleaning provides as an avenue for professional development. Once you have seen how one machine can be flexible, the opportunity to do that across a suite of machines within a facility represents a significant levelling up opportunity for operators.

There are other benefits that come from technological development. Quieter, less interruptive machines and processes mean more daytime cleaning can take place, which gives operators a greater sense of wellbeing through better work life balance, something that is increasingly important to emergent generations.

In 2018, prior to the pandemic, Gallup<sup>4</sup> surveyed multiple generations to find out what they prefer most in their employers. For Millennials and Generation Z, the youngest generations, demonstrations that an organisation cares about their well being topped both polls.

Over the coming years, the recruitment offer that the industry makes to young people not only needs to reflect the changing technological face of our industry, but also appeal to the things that young people value most in their employment opportunities.

<sup>4</sup> What Employees Look for in their Employer

# The Power of Robotic Cleaning

Over the last few years, pandemic aside, the cleaning industry continues to fill column inches about robotic and autonomous cleaning, continues to talk about the many improvements that such technology can bring but doesn't overtly translate that into increasing deployments of such machines.

Why would you want a cleaning robot?

Why do we continue to talk about robotics, rather than adopting them?

## The Benefits of Robotic Cleaning

The robotisation of cleaning allows for an increase in the quality and availability of cleaning within a facility. Do cleaning staff constantly and proactively walk a facility looking for cleaning tasks? It's not common, but this is exactly what autonomous cleaning brings in the form of robotisation. And it improves it in three specific ways:

**Application** - whether it's a wet or dry scrubber, a vacuum machine or a multi discipline hybrid machine, a robot can clean thoroughly wherever it is needed, without additional tools or resources, carrying everything it needs onboard.

**Dedication** - Depending on the facility type and the machines involved, a robotic cleaner may be in a constant state of vigilance looking for areas in need of cleaning, or be diverted from their rounds to attend to specific cleaning needs by their operator.

**Collaboration** - Telemetry from machines and a wealth of cleaning data can help machines and humans understand more exactly what the cleaning needs of a facility are. What patterns emerge that allow greater efficiency, what issues are faced repeatedly that need resolution.



All of these aspects mean that the human that used to do this work is now freed up for more important, or more meaningful tasks. The robot is not a replacement for the human, they are a collaborative tool that can work without constant supervision. They still report to their human, can be redirected by them, but it also allows their human partner to do more through doing less.

## Adopting a Robot Cleaner

As we have seen elsewhere, cost will be a significant consideration over the coming months and years, this applies even more so where adoption of new technology is concerned.

When it comes to cost, implementing robotic or autonomous cleaning in a facility can have many cost implications from purchase, to training to ongoing maintenance or management costs. While total cost of ownership and operational cost efficiency are factors in many business decisions, cleaning robotics are also still in an early adoption phase. Initial investment can be significant and case studies, data driven calculations and the potential for ongoing cleaning improvements based on collected data are a vital part of the consideration process. As a result of this, a number of machine manufacturers and distributors have offered leasing models for machinery to alleviate some of the initial investment costs.

With the data collection and analysis noted in the previous section, facilities that adopt robotic cleaning machines can also assess longer term costs such as resource use (water, power, chemicals) and plan more accurately and according to their anticipated needs.

Where there is perhaps more uptake is in new builds, specifically smart buildings that can house advanced cleaning technology in an integral way and build costs into development. As more of these constructions are signed off and become part of the cleaning zeitgeist, adoption will spread to other facilities.

The more people encounter robotic cleaning in the buildings and businesses they visit, creating a critical mass of awareness, the more they will expect to see them elsewhere, or rather, begin to make a distinction between places where proactive cleaning is automated for maximum hygiene and efficiency, and places where it is reactive or scheduled to fit specific patterns.



## Lowering Costs and Cleaning Smarter

Throughout this report, we've looked at a number of areas where the cleaning industry is likely to develop over the next 12-24 months. Whether it's better sustainability, more robotics or hiring people, the golden thread that runs through them all is cost. The commercial considerations of doing any of these things.

## Raw Materials and Rising Costs

As we came out of the back of COVID-19 supply chain disruption, Ukraine was invaded causing more, and different, supply chain issues. Reliance on gas and crude oil in manufacture, as well as in energy, has led to another year in which the logistical operations of companies on the continent, and further afield, have been disrupted. The increasing costs of sourcing materials and transporting them internationally, or intercontinentally, has had a significant impact on pricing, that is only exacerbated further by global rises in interest rates.

Restricted relations with Russia have had a knock-on effect with technological developments and distribution methods through a limitation on precious mineral resources. A Deloitte report<sup>5</sup> soon after the conflict commenced identified that:

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<sup>5</sup> Supply chain implications of the Russia-Ukraine conflict

Russia is a significant source of many of the 35 critical minerals that the US Department of the Interior (DOI) deems vital to the nation's economic and national security interests, including 30% of the globe's supply of platinum-group elements (including palladium), 13% of titanium, and 11% of nickel. Russia is also a major source of neon, used for etching circuits on silicon wafers. Palladium, a critical component of catalytic converters for cars, has climbed as much as 80% in price since the conflict started.

As a result of gas supply restrictions, heating and other energy costs have consistently risen across the year and in many jurisdictions, governments and other authoritative bodies have had to step in to ensure that runaway pricing does not cause wider devastation for citizens and business alike.

Unlike governments who can pass the cost off elsewhere, businesses are unable to pass all of their increased costs on to their customers. Profit margins have thinned, and operational cuts have been made. As the issues of material and energy supply continue into the coming year it is likely that more costs will have to be passed on to customers, alongside other cuts to operation and activities.

## How Can Better Cleaning Help?

Over the next 12-24 months businesses will need to refocus on how they undertake different parts of their operations to deal with rising costs. As a part of operations, smart cleaning presents a variety of ways in which businesses can be more efficient and more cost effective.

Wherever there is resource use, be it cleaning agents, power for machines, water or other repeat costs, taking on processes or machinery that not only maximise utility of those resources, but also allow a business to understand their usage, is going to be critical. As cost increasingly becomes the overwhelming factor in purchase and operation decisions, the transparent value a product brings meets that consideration head-on.

The ability to clean during the day, either through reworked cleaning processes or the adoption of smart technology will reduce operational hours where buildings need to be heated and powered. If cleaning processes can be timed to finish at the same time as main operations end, the building can be closed for the day then, rather than running on a few more hours to encompass cleaning an empty building.

Technology will also allow for greater efficiency that protects revenue and other operational considerations. Machines and systems that are able to sense when something needs cleaning or

not, allows dynamic reallocation of resources and personnel.

2023 and beyond will see rising costs and businesses moving to account for their costs in any way they can. Cleaning as a process is still essential for many in a post-pandemic world, but it can also support businesses with smarter, more efficient ways to work. So more businesses will look to efficient energy and resource saving cleaning processes that can reduce their ongoing costs, to counter rising costs in other areas.



# Here's to 2023

While the future looks, as always, to be a mix of challenges and opportunities, cleaning and hygiene remain matters of great importance for citizens and businesses alike.

Throughout the year we will continue to bring you updates about the cleaning industry and everything in it. Whether that's covering trends and innovations or discussing challenges and solutions, online or in-person, we value the conversations, thoughts and input that our partners in the industry are always keen to provide.

We hope you have found this report useful and look forward to continuing to serve you throughout the year.



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