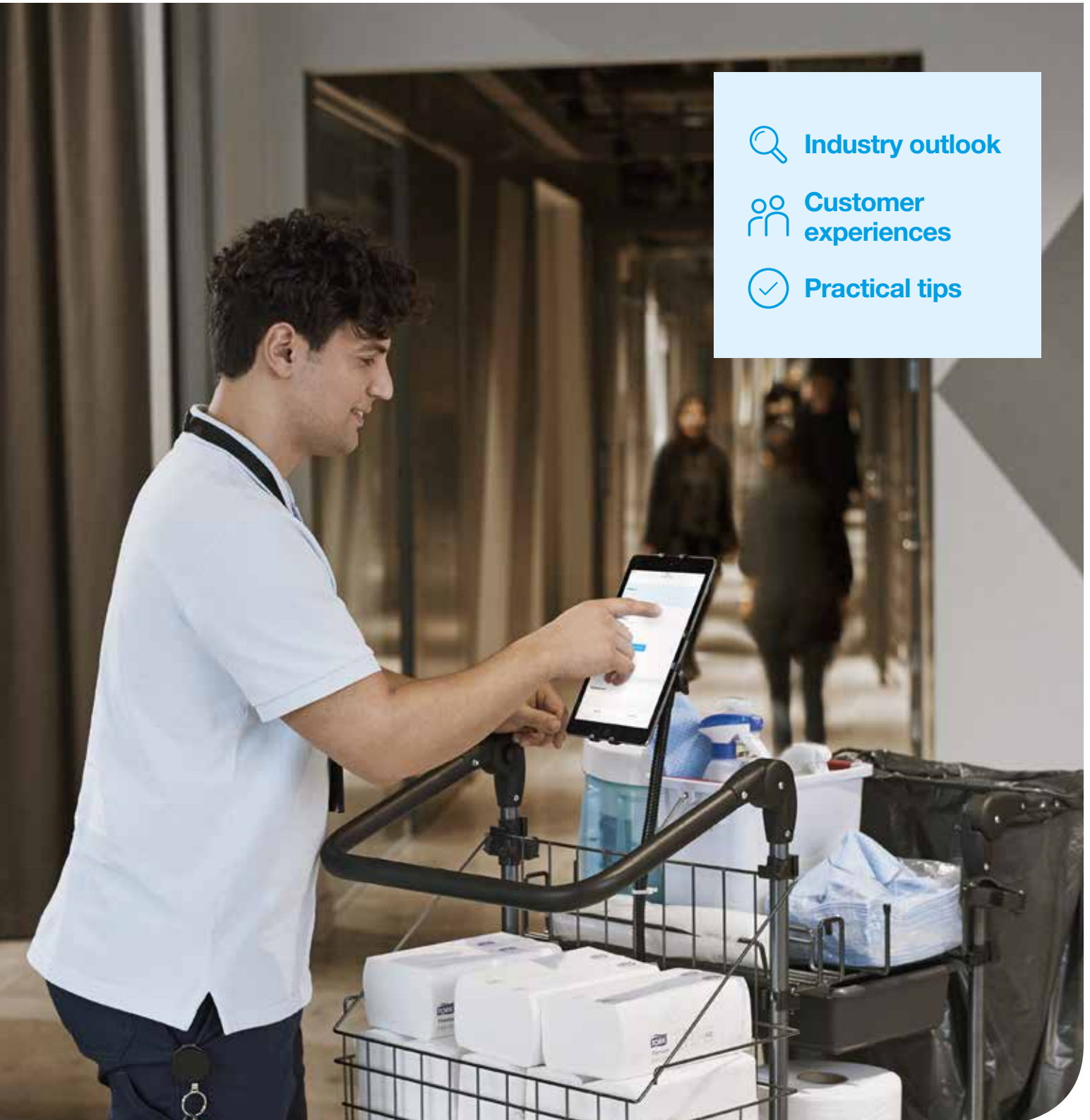# The insider's guide to data-driven cleaning

How to put the new evolution of facility cleaning into practice for your business

Industry outlook

Customer experiences

Practical tips

What is data-driven cleaning?

As societies and facilities have developed, new cleaning tools have developed with them. However, the next leap in professional cleaning is not a new tool as we're used to thinking about them. Rather, it's something that helps you make more out of the resources you've already got. Welcome to the era of data-driven cleaning.

Everything from coffee machines to washroom dispensers are being connected to the internet. Yet the value lies not in connectivity itself, but in the actions you can take based on the new information provided. When cleaning teams and their managers get real-time data about cleaning needs, the very logic for how cleaning can be done changes. It becomes possible to stay ahead of the game and do exactly what's needed when and where. This is data-driven cleaning. Handling a complex facility like a stadium or an airport is transformed from a frustrating guessing game into a fact-based precision sport.

"If you keep doing what you've always done, you'll keep getting what you've always got. Now suppliers are bringing new technology to the market, and it's time for end users – in this case the customers – to get on board."

Dorothee Stein
Head of Facility Care, Dubai Airports

How can data-driven cleaning benefit business?

Real-time data on actual cleaning needs makes it possible to dramatically improve cleaning operations in three important ways:

1
Take teams to maximum efficiency

Knowing exactly what's needed means no time is wasted. More time means teams can go the extra mile when cleaning. Managers can feel safe that nothing is neglected, and analyze data over time to improve planning, purchasing and logistics.
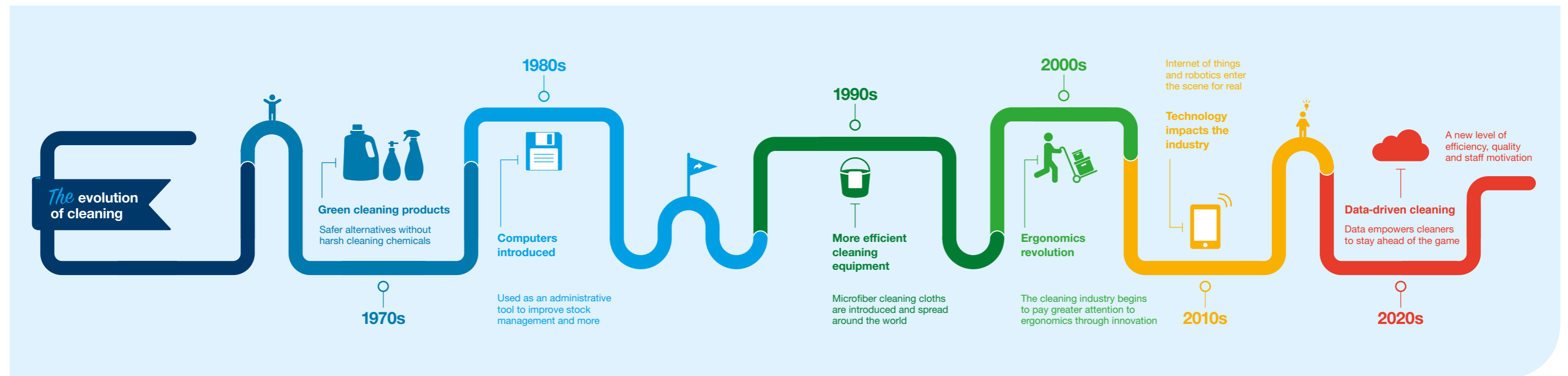
2
Boost staff engagement

Your people are your most important resource. Work feels meaningful when they know that every task matters, and better control means less stress and a more balanced working situation.

3
Set a new standard of customer satisfaction

Data-driven cleaning enables higher quality – no more empty dispensers and untidy areas. Instead it becomes possible to eliminate complaints and radically increase customer satisfaction.

The evolution of cleaning

1970s

Green cleaning products
Safer alternatives without harsh cleaning chemicals

1980s

Computers introduced
Used as an administrative tool to improve stock management and more

1990s

More efficient cleaning equipment
Microfiber cleaning cloths are introduced and spread around the world

2000s

Ergonomics revolution
The cleaning industry begins to pay greater attention to ergonomics through innovation

Internet of things and robotics enter the scene for real

Technology impacts the industry

2010s

2020s

A new level of efficiency, quality and staff motivation

Data-driven cleaning
Data empowers cleaners to stay ahead of the game

From man vs. machine to man + machine

In recent years, the cleaning industry has seen a boom of technology overall, such as automated cleaning robots. But the latest shift, toward data-driven cleaning, is not about replacing humans with machines – it's about them working together.

Machines can perform specific, well-defined tasks much more reliably than humans, like a robot vacuuming the same clearly delineated area over and over again or a sensor keeping track of exactly how many people visit a washroom at all times. In such cases, automation can free up valuable time for cleaners to focus on tasks that add more value.

However, machines are bad at handling uncertainty. You can't pre-program a response to an event that you didn't know was going to happen. Then you have to improvise, which requires judgment and intuition, quintessentially human skills. The more uncertainty a task involves, the harder it is to automate.

But that doesn't mean machines can't help in complex situations. Machines can gather and calculate vast amounts of reliable information nearly instantly, providing an invaluable aid to human decision making. Leading academics studying human-machine interaction, such as MIT and Duke University researcher Mary Cummings, emphasize this collaborative approach: "As a team, the human and computer are far more powerful than either alone, especially under uncertainty."*

Professional cleaners have to handle uncertainty all the time, especially in large, complex environments such as universities or airports. With technology providing information like which washrooms are getting traffic and which dispensers need refilling, cleaners get the overview they need to rapidly respond to shifting circumstances. Data-driven cleaning changes the entire logic of how cleaners can work, relieving them of the stress of not knowing what is needed. It allows cleaners to focus entirely on addressing existing cleaning needs and predicting future ones, rather than having to spend time and energy finding out what those needs are.

"People are what this industry is all about. Embracing new technology giving them the tools to do a more efficient job is key not only to raise productivity, but also to decrease stress levels and make the industry a more attractive employer overall."

Andreas Lill
General Director, European Federation of Cleaning Industries

A revolution on a global scale

Cleaning is not unique – data is driving change in almost every sector, improving efficiency by allowing better use of resources. Leading companies in the shipping industry have recently brought their fleets online, tracking both ships and containers. With data on exactly where they have empty containers and shipping needs, the companies have been able to streamline the refilling process to avoid unnecessary transports of empty containers. By using data to rationalize their empty container management, individual shipping industry actors are already reporting savings of over $100 million.*
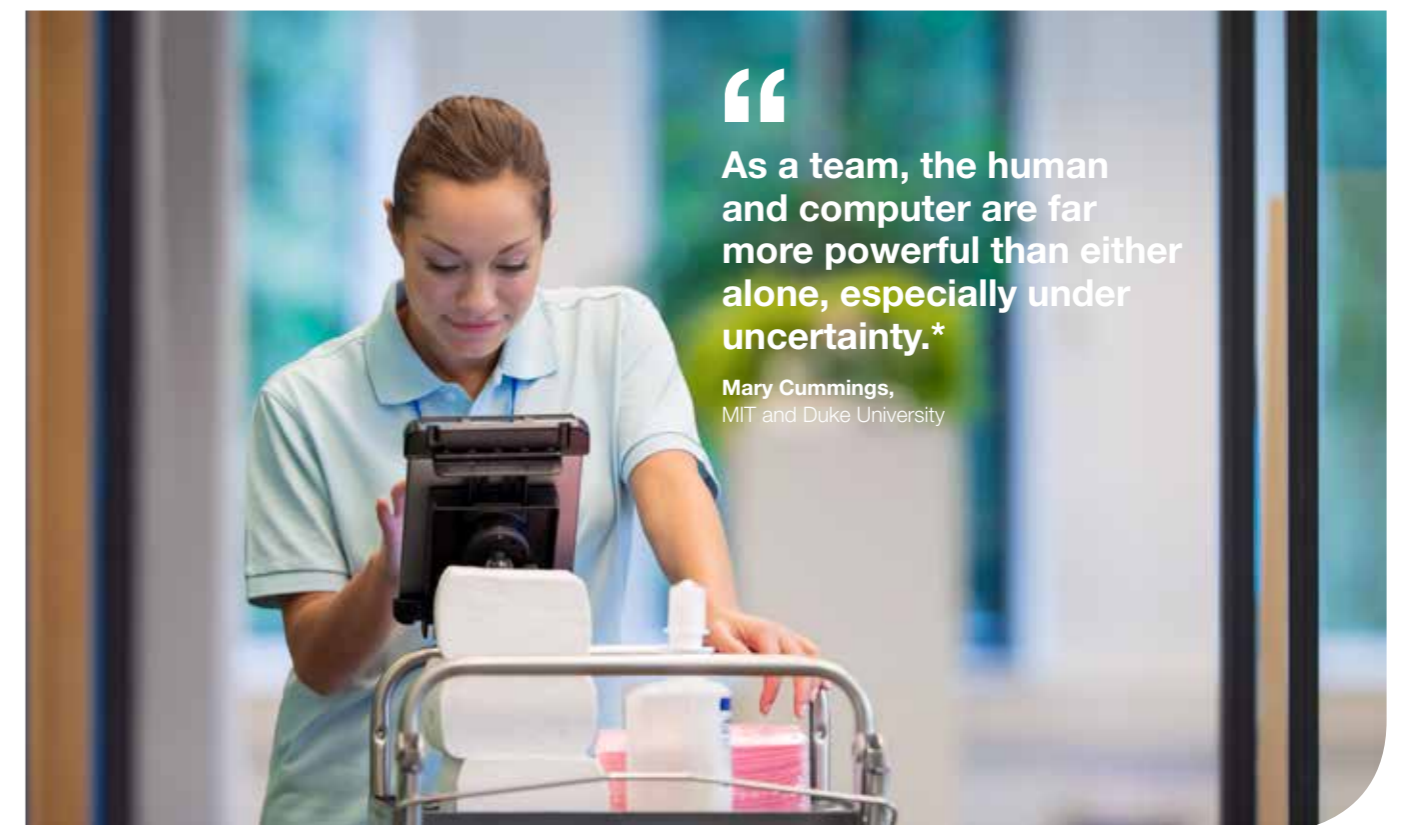
Buildings also stand to make massive efficiency gains using data. Seeing the potential, tech giants have entered the field with products such as smart thermostats. Smart thermostats automatically learn your temperature preferences and keep track of when you are away to avoid heating or cooling more than necessary. With buildings currently using about 40% of global energy**, these kinds of improvements make a real difference. As data becomes the driver of development in sector after sector, our societies are becoming more efficient as a whole.

$100m
savings
with data-driven container management*

"This is a major trend, taking place not only in the cleaning industry, but everywhere. New technology will allow cleaning companies to solve problems right when they appear – or even before they appear."

Andreas Lill
General Director, European Federation of Cleaning Industries

" As a team, the human and computer are far more powerful than either alone, especially under uncertainty.*

Mary Cummings,
MIT and Duke University

*From the article "Profits overboard", The Economist, 10 September 2016, http://www.economist.com/news/business/21706556-shipping-business-crisis-industry-leader-not-exempt-profits-overboard **According to the United Nations Environment Programme, http://web.unep.org/resourceefficiency/buildings

*From the article "Man versus Machine or Man + Machine" by Mary Cummings in IEEE Intelligent Systems 2014, vol. 29, no. 5.

The Dubai Mall

12,1
Million sq ft retail and entertainment space

3500
Average footfall on a weekday in each washroom

68
Washrooms, 487 cubicles and 417 washbasins

How other customers stay ahead of the game with data-driven cleaning using Tork EasyCube

- **IKSU,** the largest sports complex in Northern Europe, has completely eliminated complaints about empty dispensers

- **Gröna Lund** amusement park in Sweden has taken customer satisfaction with washrooms to an all-time high

- **CBRE** is using Tork EasyCube in IBM offices in the Netherlands and providing long-term cost savings and better customer experiences

- **Furuvik** zoo and amusement park in Sweden has used Tork EasyCube to plan where to invest in more washrooms based on data mapping visitor flows analyzed over time

Data-driven cleaning creates a world-class shopping experience

The Dubai Mall is one of the world's largest – and grandest – malls. Pressure is constant on facility management to maintain its spotless image. The mall is now shifting to data-driven cleaning with Tork EasyCube™. We talked to Andrea Deutschbein, Facility Management Director at The Dubai Mall, about the impact of data-driven cleaning on the business:

Why is cleaning so important?
We are more than a shopping mall, we are a global attraction with millions of visitors. Everyone who visits the mall uses the bathroom at least once. Smells or untidy impressions would have an immediate effect on everyone, and even the smallest imperfection can have a huge impact on our reputation.

What were your challenges before?
Synchronizing our cleaning efforts with visitor flows did not work as well as we wanted. Even if floors and other surfaces were spotlessly cleaned, we would still often get complaints about things like empty dispensers or paper on the floor.

"There hasn't been a single complaint about empty dispensers since Tork EasyCube was installed."

What have been the results from working with Tork EasyCube so far?
We are still in pilot mode but have already seen a variety of different benefits. It's a big relief that we can act immediately if any issue arises – before it risks becoming a complaint. There hasn't been a single complaint about empty dispensers since Tork EasyCube was installed. Thanks to the data from Tork EasyCube we can see which washrooms need attention and which don't. This means real impact on efficiency and manpower, as it frees up time for cleaners to use elsewhere.

How has your staff reacted to data-driven cleaning?
Once you begin working with the system you can't imagine going back to working without it. Our cleaners were already well trained and equipped before, but with the support of real-time data they can act with more confidence and precision, and their role is taken more seriously.

Practical tips
How to shift successfully to data-driven cleaning

Changing how you work can be a complicated process, so approaching it methodically is important. We've gathered some key insights from our customers across the world on how to ensure the shift is as efficient as possible – making it easier to reap the benefits of data-driven cleaning right away.

Evaluate challenges
What is crucial to the success of your business, and what areas need improvement? Evaluate your business to pin-point any issues you want to address.

Involve key stakeholders
Shifting to new ways of working affects all levels of your organization. Especially cleaners who will use the solution should be involved early on to secure easier implementation.

Choose the right partner
Find a credible partner with proven solutions that have had real business impact for other customers.

Request a demonstration
Make sure adequate time is dedicated to explaining the solution so that you and your teams are making full use of its potential, maximizing positive business impact.

Set specific goals
What do you want to accomplish with data-driven cleaning? Setting specific goals and prioritizing helps you focus initial efforts on what's most important.

**Support everybody in implementation**
Consider who is going to use the new solution in practice. For example, you might think everybody is comfortable using smartphones and tablets, but this is not always the case. Keep a close dialogue with users to ensure they get the right support throughout implementation.

Stay ahead of the game with Tork EasyCube

Tork EasyCube is a facility management software that empowers your team with data on cleaning needs, letting them see on a tablet exactly what's needed, when and where. The result is a whole new level of efficiency, staff engagement and customer satisfaction. Tork EasyCube already connects over 4000 devices for customers across Europe, North America and Oceania.

1
Sensors in dispensers and visitor counters measure refill levels and visitor numbers in real time
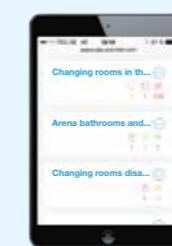
2
Real-time information in an easy-to-use application lets cleaners act on what's needed, when and where

3
Easy analytics and instant facility overview let managers stay in control, plan and follow up with less time and effort

Visit tork.xx/easycube to learn more and get in touch for a free consultation on how we can help your business.

How else can we help?
Get in touch to talk
about your business.

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