



Transforming facilities management with the Internet of Things

mpro5 is a digital transformation solution that improves operational effectiveness, ensures process compliance and drives productivity gains and cost savings for businesses. But what does that mean in practice? How can a smart digital solution improve your everyday operations and make you more productive?

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3 Introduction



If you are reading this guide, you are probably striving to provide clean, safe and effectively maintained facilities. You aspire to use cutting edge technology that can enhance compliance, continuously monitor conditions and empower your teams to work smarter, not harder. You want a solution that can demonstrate compliance with SLAs, evidence the hard work you do for your customers and help you win new business.

The Internet of Things (IoT) has the potential to help you maintain even higher standards of service while improving productivity and generating cost savings, but it can be daunting if you don't know how it works or where to start.

This guide aims to demystify IoT, show it in action and present the many benefits it can offer you.

4 So, what is IoT?

IoT physically links sites, buildings and assets to a digital network through embedded sensors which measure and collect data. These sensors measure simple conditions that can be used to infer, for example, room usage (such as bathrooms or meeting rooms), air quality, the condition of assets and even water safety.

5 So, what is IoT?



A better view

In the short-term, IoT combined with a smart works management platform enables your teams to work reactively, addressing the most urgent jobs first while also knowing what is still left to complete.

In the long-term this added visibility and understanding of your operations will empower you to improve your processes and in turn deliver more for your clients.

It can also make essential but typically time-consuming processes, such as legionella checks, simple and continuous with minimal manual intervention.

Having a network of sensors that work in real-time gives you continuous visibility of your service and quality levels, the condition of estates and assets and the areas that need attention, all at the press of a button.

To leverage the power of this network, you need a digital transformation platform that provides smart analytics, turning sensor data into easily digestible business information and automating remedial and routine works.

6 The benefits of smart operations



Operational efficiency

IoT speeds up compliance processes, reduces manual intervention and allows you to deploy teams reactively where they are needed most.

IoT data can be used to benchmark your current performance and test the efficacy of operational changes.

One client of ours was able to increase the efficiency of their cleaning by

40% ↑

Productivity gains

The additional visibility gained from sensors is invaluable, empowering you to make informed and effective decisions about how to improve operations and create more agile and reactive teams.

Cost savings

Making your teams more efficient and productive will drive cost savings, as will reduced man hours, administration time and printing.

Data collected on assets, including their lifespan and condition, can even inform planned preventative maintenance (PPM) to reduce costs and avoid major faults.

Another client reduced the number of aborted jobs (which incur fines) by

80% ↓

7 The benefits of smart operations



Ensures process compliance

IoT can be used to monitor key systems and services both to ensure and to demonstrate compliance with SLAs and health and safety requirements.

Automated alerting means your teams can react to problems and maintain high standards of service and safety across your sites.

Alert suppression is also key, as it ensures you only receive relevant updates on a situation, cutting out the extra noise.



Dynamic data and unification

Implementing IoT should be part of a wider move towards full digitization.

Connecting all parts of your business through a digital platform will allow you to leverage IoT data far more effectively. It gives you the flexibility to compare information in novel ways and extract further insights.

In short, it empowers you to work smarter not harder.

8 Smart facilities

Here are just some of the many compelling use cases for IoT in buildings, all of which simplify operations, provide valuable insight and improve productivity.



Dynamic cleaning

IoT sensors that detect movement or proximity can be attached to doors to infer room usage. Combined with call buttons, this enables your teams to work reactively rather than to a rigid schedule, cleaning the places that need attention and saving time on those that don't.

With the right platform interpreting the readings, you can adjust your thresholds and test the frequency of your cleans, balancing your audit scores against efficiency.



Simplify vital safety checks

Legionella compliance is a vital process for any site. Pipes need to be actively monitored to reduce waterborne pathogen risks. A typical check might occur once a month and usually requires a visit from an engineer to perform the check.

IoT sensors can monitor the water temperature in pipes in real-time, reducing the number of external visits to just once a year.

More than hot air

Monitoring and maintaining HVAC systems can be a complex task with multiple assets to manage.

IoT sensors can measure temperature or power draw on individual assets and alert your maintenance teams when a fault has occurred or is about to.

Some digital platforms can even automatically tell other units in the same area to output at a higher level, maintaining the target temperature until the faulty asset can be fixed.

Call services

Call buttons are a versatile and useful addition to any IoT network that provide a direct connection between your end-customers and your teams. They can be installed near to assets such as coffee machines or dishwashers to report faults, or by meeting rooms to notify the need for a spot clean, for example.

With a smart analytics platform in place, alert suppression means that only the first alert will be sent through until your teams confirm they have completed the job, removing the problem of buttons being repeatedly pressed for the same issue.

10 Smart facilities

Let there be light

Lux levels can be monitored by light sensors, or you can manage the state of an individual fitting by measuring its power usage. Automated alerts can be sent out if a light or fitting is broken and long-term analysis will enable you to implement more effective PPM.

Crowd control

Whether it's peak time in a London train station, a busy office building, or a buzzing retail space, being able to control the flow of people and avoid over-crowding is necessary to improve the customer experience and keep people safe.

Sensors and cameras can be used to track the movement, flow and number of people using your building, so you can intervene or create solutions for better spaces.

But wait, there is more, including:



Wind speed atop tall buildings



Desk occupancy



Face mask detection



Air quality



Fridge/freezer temperature

11 Ensure ROI from your IoT

Ultimately, buying into IoT must generate a substantial ROI for your business. Here are five things to consider as part of your implementation strategy that can keep costs low while still fulfilling your objectives. A good technology partner will be able to advise you on all these aspects and more.

1

Align sensors with the use case and your goals

Your IoT strategy should focus on achieving specific goals that are directly beneficial to your operations.

Try to buy only sensors that have specific purposes: do you really need an air quality sensor that measures five different gases if you only need to see carbon dioxide levels?

However, if it is important for you to measure five types of gas, one sensor may be sufficient and is usually cheaper than a separate sensor for each reading.

2

Data driven

IoT is about collecting data that you can action through immediate intervention or in longer-term analysis. Leaving sensors passively aggregating data without actioning this information will not bring you any additional value.

You need to work out how IoT will fit into your current data hierarchy and consider how this structure might be altered to leverage and accommodate the new input. Having a fully digital and unified platform for all your works management, data and compliance will allow you to get full value from any IoT you install.

12 Ensure ROI from your IoT

3

Choose the right transmission technology for sensors and hubs

The costs associated with connectivity can be significant, so it is worth evaluating your options to get the right network first-time.



WiFi

High bandwidth and low latency that's ideal for video-streaming.

It can be expensive: you will need many hubs to cover a large area. It can also be tricky to configure.



LoRaWAN

An increasingly popular IoT transmission technology that lets you send messages further (in theory) and does not require cellular or internet coverage.

Relatively new but cost-effective and particularly useful in areas without cellular coverage.



Cellular

More reliable. Long range, low power draw. The most popular connectivity solution due to its security and reliability.

Does not have the same speed or capacity as WiFi.



A diverse network

Many businesses adopt a mixed approach to their IoT network to better protect it against faults – if either the internet or your cellular coverage goes down, having a back-up system can minimise down-time.

13 Ensure ROI from your IoT



4

Consider data frequency

This may seem like a minor issue, but a high upload rate can cause costs to quickly stack up due to increased power consumption, processing and storage requirements.

To combat this, consider the efficiency and use case of your network: do you need to know every 10 seconds if a fridge is at the correct temperature? You might do if you transport or store pharmaceuticals, but every 15 minutes will do if you're storing food.

5

Check installation costs

IoT implementation isn't only about the hardware and software costs. Installation prices can vary greatly, as can the cost of any additional network set-up. There are several questions to ask before you can estimate the cost of installation.

Do the sensors need a specialist to install them or are they plug and play? Does the mounting come with the sensors, or is there an extra cost? Is the mounting robust enough to deter theft or prevent damage to the sensor?

14 Take the next step



mpro5 digitally transforms works via a smart digital solution, which collates and actions all your IoT data. This enables businesses to improve operational effectiveness, ensure process compliance and drive productivity gains and cost-savings.

By unifying cloud, mobile and smart technologies, we enable the quick implementation of tailored, digital processes. We turn complex jobs, workflows and scheduling into simple, effective and compliant processes and delivers a high quality and consistent customer-focused service.

Find out more

Having worked closely with many FM companies and facilities teams including Compass Group, Mitie, Incentive QAS and the NHS, we are experts in digital transformation. Our team will help you define, implement and manage IoT networks via our innovative and configurable **mpro5** platform.

For more information, visit:
[**mpro5.com**](https://mpro5.com)