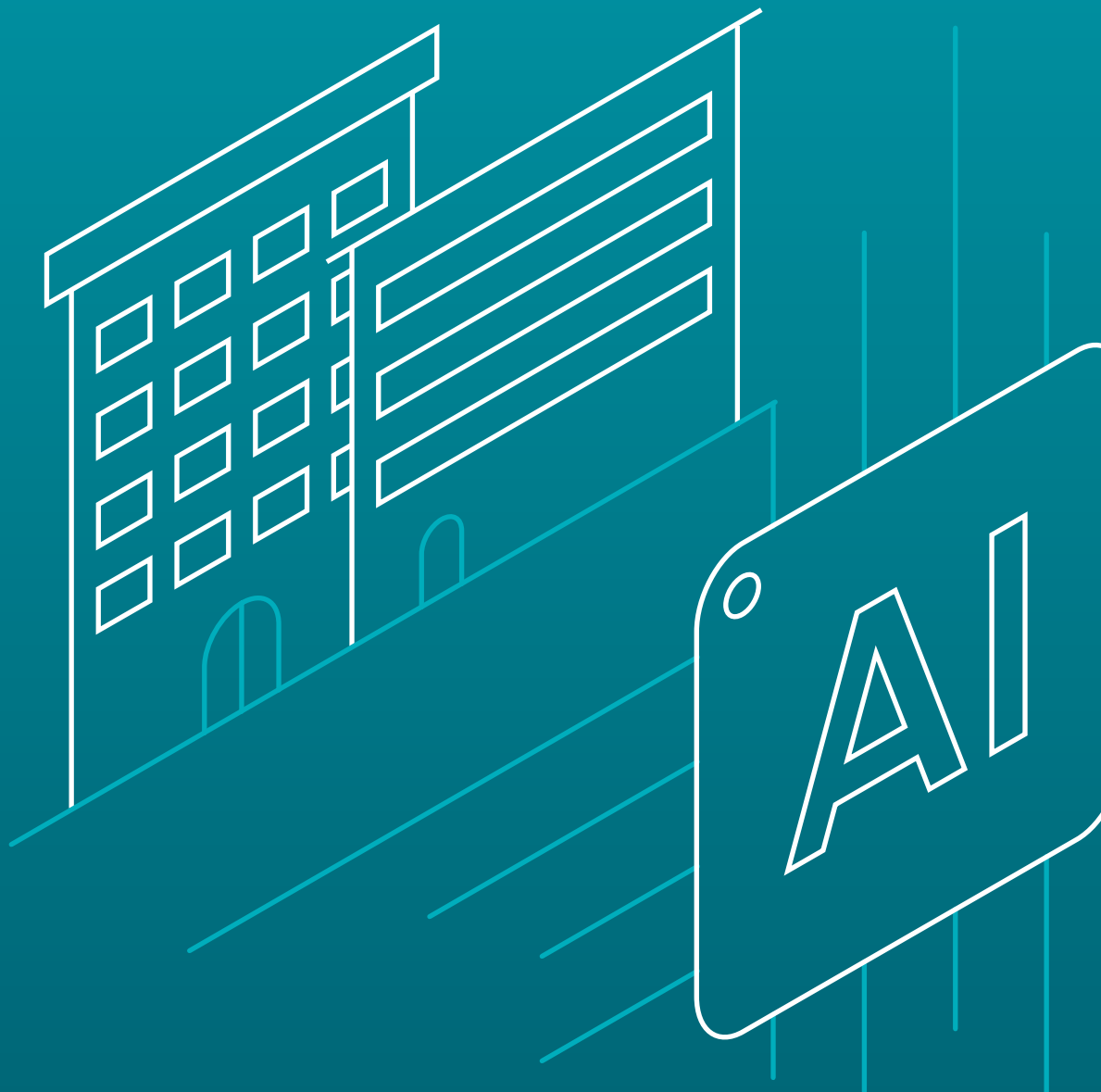


How to Get Started With AI in FM



SFG20

DRIVING FACILITIES EXCELLENCE



SFG20, the industry standard for building maintenance, have teamed up with [Chris Adams](#), Chartered Engineer and Director of IoFMT Professional Services Limited to bring you this e-book which covers all angles of AI in the built sector.



What is AI?

When we reflect on Artificial Intelligence (AI), we find that even the act of defining what it is can open a spectrum of interconnected topics, questions and debates from computer science to philosophy and ethics.

For buildings, we can consider a global standard as our starting point for explanation.

Artificial Intelligence (AI), as defined in ISO/IEC 22989, refers to deliberately designed systems that leverage data and algorithms to perform tasks traditionally requiring human intelligence and decisions aimed at achieving defined objectives with desired results.

With AI defined, we can start to break down the definition into three categories:

ANI (Artificial Narrow Intelligence)

- Not equivalent to human intelligence, often referred to as weak AI.
- Numbers and symbols are processed without genuine understanding.
- Narrowly focused to solve specific problems and specialised tasks.
- Represents the AI systems in use today (e.g. chatbots, image recognition).

AGI (Artificial General Intelligence)

- Generally comparable to human intelligence, referred to as strong AI.
- Gives the potential to demonstrate true understanding and reasoning skills.
- Genuinely capable of diverse tasks and adapting knowledge to achieve goals.
- Remains hypothetical as we do not yet know if AGI will be technically achievable.

ASI (Artificial Superintelligence)

- Surpasses human intelligence.
- Suggests a form of understanding and thinking beyond natural intelligence.
- Solves complex problems, processes multiple tasks and innovates beyond human capacity.
- Remains within the realm of speculation.

Why AI Matters Now for Facility Management (Even if Your Stakeholders Don't Think So)

The way that we are communicating and capturing information is changing, and there's no denying the fact that AI has brought about a paradigm shift in facility management (FM).

While some stakeholders may dismiss AI, FM professionals know the reality: competing demands, staff shortages and skill gaps are all making maintaining compliance, saving money and delivering efficiency harder than ever.

A common buy-in blocker for AI is the fear that it will fully replace rather than enhance practices. In most cases, instead of fully taking over, AI can assist teams in helping to remove repetitive work and give professionals back time to focus on higher-value decisions.

Ignoring AI isn't about avoiding technology; it's about missing out on opportunities to stay competitive in a sector where margins and regulations are tightening.



The benefits of using AI in FM are wide and ever-expanding. When used correctly, AI can:

Save Money

AI can be used to minimise maintenance costs by decreasing unplanned downtime and optimising energy consumption.

Plus, as AI provides real-time data analysis and insights that can help facility managers make more informed operational decisions, this can reduce the likelihood of costly errors in judgment.

Free Up Time

We all want to work smarter, not harder, and AI can help you to do exactly that, for example by automating repetitive tasks.

AI software tools can assist with and/or automate many traditionally manual tasks, speeding up repetitive processes and helping to standardise data.

In the long term, this can save you and your team both time and effort which can be used in more strategic, high-impact areas.

Maximise Asset Lifespan

AI-powered solutions can extend asset lifecycles by predicting potential failures before they occur.

AI can also recommend the best timing for maintenance (not applicable for statutory requirements) which in turn can prevent both over-maintenance (which can cause unnecessary wear and costs) and under-maintenance (which can lead to premature failure).

Bring More Reliable Reporting & Analytics

AI in FM is an incredibly helpful tool for collecting, analysing and simplifying the vast array of information involved with managing maintenance and the associated responsibilities, including diagnosing problems.

In the past, data had to be sorted manually, with decisions often being made without clear, evidence-backed reasoning.

Now, through machine-learning AI, data reporting and analytics can be achieved faster and more reliably than ever before, lowering the risk of human error.

Machine-learning AI is able to interpret data from various sources including sensors and real-time user inputs to identify patterns and make intelligent, personalised predictions about building management needs e.g. previous patterns of equipment failure.

As this type of AI continuously learns and adapts, this means that its accuracy will only improve over time.

However, it's important to remember that AI won't always be correct, and that overreliance on it can become a problem if you're not careful.



AI and Data – Why Your Data Matters for Using AI

Generally speaking, AI is only as good as the information you give it. So, if it receives poor quality data, you can only expect it to produce outputs of similar poor quality.

In FM, asset registers are often incomplete, inconsistent, or fragmented across different systems. This is why so many professionals struggle with planning and compliance.

The good news is that AI doesn't always require perfect datasets to be useful. Emerging tools can interpret, structure and work with imperfect data, meaning you can make the most of the data you already have.

For example, SFG20's AI-powered software module, SFG20 Mobiliser, can map the assets in your asset register to the relevant SFG20 maintenance schedules, regardless of the quality of data in your asset register or if your data is stored in multiple places.

This is because the tool has been built for reality, not perfection – it can work with any asset register, no matter how poor the data, whether you have 50 assets or 50,000.

MOBILISER



If you are struggling with inaccurate and inconsistent data, SFG20's Professional Services team can step in to help you to improve the quality of the data held within your asset register.

They can offer end-to-end support from cleaning up your data to assigning compliant maintenance tasks to your assets up to 95% faster compared to manual mapping.

“ In a government estate with 100 boiler rooms, SFG20 Professional Services mapped all equipment to the relevant SFG20 schedules. The manual process took 3 weeks but with SFG20 Mobiliser, it was completed in just 1 hour.”

Mike Talbot,
Chief Technology Officer at SFG20

Key Use Cases for AI in FM

Within Facility Management, Property Management, Real Estate and the Built Environment, AI is not about replacing people with robots.

It's about empowering teams with trusted information that turns complexity into clarity to give actionable, valuable results.

However, humans very much remain the driver – they just have more information to make better decisions.

Like a car, AI can support Facility Managers by providing them with better analytics about metrics such as their speed and direction.

Let's consider some of the drivers for change in real estate, facility management and the built environment and how we can apply AI to support or solve these problems.

| Driver for Change (non-exhaustive list) | Value Outcome Summary |
|---|---|
| Asset (Building) Value | Strengthen long-term valuation and investment confidence through data-driven insights that can reduce risk and enhance asset performance. |
| Indoor Air Quality and Productivity | Improve occupant wellbeing and comfort that can result in a healthier workplace with measurable gains in productivity. |
| Operational Efficiency and Cost Savings | Streamline facility operations by reducing waste, lowering energy use and automating repetitive tasks which can lead to consistent cost reductions. |
| Resilience and Risk Management | Enhance organisational resilience by predicting failures and assessing hazards to support compliance, reduce liability and disruption. |
| Skills and Training | Bridges the workforce skills gap by embedding AI-driven decision support and knowledge – sharing tools, enabling more effective staff development and performance. |
| Space and Occupancy Management – Hybrid Working | Optimises the use of workspaces through data on utilisation patterns to ensure efficiency layouts for moves and changes that can reduce cost and improve user experience in changing environments. |
| Sustainability, Net Zero Strategies and ESG Reporting | Provides accurate and granular measurement and reporting for environmental performance, supporting data-driven options for decarbonisation, regulatory compliance and alignment with global sustainability goals. |
| Tenant and Occupant Experience | Enhances satisfaction, wellbeing, and retention with a building that can respond and adapt to occupants' needs and requests delivering an efficient building service. |
| The Golden Thread | Creates a continuous, transparent digital record of building data across its lifecycle, ensuring accountability, compliance with regulations and trusted decision making. |

How to Get Started With AI - The Foundations

STEP

1

Plan

Understand What You Want to Achieve

Before looking at implementing AI, every organisation should ask themselves the question: what do we want to achieve?

Brainstorming sessions with key stakeholders can help to answer this question and ensure that AI is seen as part of a wider business strategy rather than just another IT initiative.

STEP

2

Document Processing AI: Input your Data

Digitise and Structure Information You Already Have

Once you've defined your goals, the next step is to bring together all of the information you already have.

Digitising these materials and bringing them into a consistent structure will help you to create "single source of truth" so that any AI use is based on reliable, accessible data.

Much of the valuable knowledge in facility management sits in varying sources such as O&M manuals, compliance certificates, inspection reports and more.

STEP

3

Machine Learning AI: Process your Data

Collect and Integrate Data

With structured data in place, machine learning models can begin to extract value.

The integration of historical records with live feeds can create a more complete picture of asset health and enable you to move away from over-reliance on reactive maintenance strategies.

This involves feeding IoT and BMS sensor data into machine learning with historical maintenance logs as well as manufacturer instructions and O&M data.

STEP

4

Large Language Model AI: Output your Data

Query Your Data and Generate Insights For Action

With data integrated and enriched, large language models (LLMs) can make it usable and actionable.

The ability to visualise, summarise and communicate results in tailored formats ensures that information is delivered at the right level of detail, frequency and clarity, supporting decision-making for your organisation, clients and stakeholders.

This involves enabling plain English queries across technical datasets and transforming complex IoT systems and BMS outputs into accessible insights.

STEP

5

Continuous Improvement: The Underpinning Principle

Plan, Do, Check, Act

AI in FM is an evolving process.

This way, a strong foundation can be built to support change.

It's why processes for continuous improvement and monitoring should be in place at the early stage.



AI in FM: Risk, Ethics and Compliance

Despite its clear benefits, the adoption of AI in building maintenance is not without challenges.

In some cases, integrating AI into existing infrastructure can be complex, requiring alignment with traditional safety protocols.

Moreover, data privacy and security may be of concern, particularly when AI systems process sensitive building or occupancy information to enhance risk detection.

Questions also remain around the accuracy and reliability of certain AI tools in safety-critical environments, especially within high-risk buildings.

“By understanding the problem to be solved and how it will bring value, as well as applying engineering principles with data standardisation combined with development pathways of competency, the risk of adopting AI can be suitably and sufficiently managed.”

Chris Adams,
Chartered Engineer and Director of IoFMT
Professional Services Limited

AI Governance in FM

Trust

AI systems in buildings must be developed, deployed and operated under robust oversight, so that they are:

- Transparent about their decisions
- Resilient, reliable and safe
- Unbiased and fair
- Secure and private
- Trackable with accountability

Standards that Provide Assurance

- ISO/IEC 22989: Artificial intelligence concepts and terminology
- ISO/IEC 42001: Artificial intelligence – Management system

AIMS: The Answer for FM

For Facility Management, the Artificial Intelligence Management System (AIMS) is emerging as the framework to ensure that governance, ethics, risk management and continuous improvement are not afterthoughts and embedded in every stage of the AI lifecycle.

ISO/IEC 42001, in combination with ISO/IEC 22989, provide a structured framework so that the adoption of AI doesn't become unmanaged or too risky – it provides the tools for a balance of innovation with governance and can help build trust with stakeholders.

Can AI Be Used to Create Maintenance Schedules?

Similar to training staff and hiring competent people, AI must be trained, targeted, and trusted – in other words, AI is not a silver bullet.

As legislation and regulations often lack specific guidance, using AI to create ready-to-go maintenance schedules is not a reliable long-term option.

SFG20 tested creating a maintenance schedule for an LI Fire Alarm system within a LLM (Large Language Model) and encountered a glaring error within seconds: the referenced standard the schedule was based on was out of date.

The problem here is that it could potentially put building occupants at risk and leave building owners exposed to legal consequences.

Through the experiment, SFG20 found that the schedule was oversimplified and vague in terms of which tasks are critical i.e. statutory/legal or not.

There was also no mention of task frequency and timings, with some task timings even incorrectly merged.

Overall, the schedule was basic with incorrect terminology throughout, as well as zero links to legislation.

It's why SFG20 will never use AI to author their maintenance schedules. This is done by SFG20's team of Technical Authors who are qualified and experienced engineers. They create and maintain all SFG20 maintenance schedules in line with the latest legislation, regulations and standards.

AI-produced schedules don't actually solve a problem - they can create more as you'll likely spend more time cross-referencing standards and fixing errors using your own judgement.

Ultimately, AI can unlock massive gains but only when built around standards like SFG20.

How is SFG20 Using AI?

From talking to the FM industry, SFG20 know that the data contained in asset registers is often imperfect and incomplete – making the process of identifying the correct maintenance for your assets complex, manual and extremely lengthy.

That's why SFG20 have created SFG20 Mobiliser, an AI-powered software module which can be used alongside Facilities-iQ, SFG20's smart digital platform which houses over 1,500 SFG20 maintenance schedules.

This software module can reduce the time it takes to identify the correct maintenance for your assets by up to 95%, significantly streamlining and automating the process of mapping assets to the relevant SFG20 schedules.

SFG20 Mobiliser is able to automatically map schedules to your assets via a sophisticated algorithm.

Better yet? You'll remain in complete control, validating or adjusting the AI's maintenance schedule suggestions as written by SFG20's human Technical Authors.

SFG20 Mobiliser ensures that the right maintenance tasks have been identified and assigned to each asset so that the correct, legally compliant work can be undertaken.

When used in conjunction with FM systems such as CAFM for example, this helps to support the Golden Thread of information.



Recent developments in AI create the opportunity to revolutionise how the FM industry approaches the process of building maintenance.

The biggest challenge for Facilities Managers is identifying what tasks must be performed on each asset in a building to preserve life, reduce costs and stay compliant with the law - frequently, the ways of doing this have been very expensive and time-consuming, leading to missed tasks, non-compliance and significant exposure to risk.

AI can now shoulder the load of these tasks and reduce the time taken from months to hours by understanding both the asset and the SFG20 schedules that apply, automatically creating a link in many cases and providing the key questions to ask where not enough information exists so that the entire process is streamlined and automated."

Mike Talbot,

Chief Technology Officer at SFG20

How is IoFMT Using AI?

IoFMT® Titan™



IoFMT® Titan™ is a flexible managed services platform powered by Microsoft, supported by IoFMT's chartered consultants and governed to ISO/IEC 27001 to drive your building's digital transformation and provide time back with technology.

From any data source, IoFMT's FM Data Review (which can be supported by SFG20 Mobiliser) consolidates and standardises your FM data, including processes for automation and integration of internal and external data sources.

With your data ready for digitalisation, you can select from their three powerful tools which are designed for every aspect of data management across the FM lifecycle.

Your IoFMT® Titan™ is then set up and deployed with training and support provided, enabling you to build a foundation of governance and trust with the ability to adapt to change – whatever that may be.

IoFMT® Inception™



Whether you're managing a single site or an entire estate, IoFMT® Inception™ helps you to capture, validate, and upload data in real time, ensuring accuracy, compliance, and operational efficiency. IoFMT's chartered consultancy service can support you with your data collection and standardisation.

- Lay the groundwork and build your digital foundation
- Designed for tablets with offline functionality for inspections (such as SFG20)
- Reduce time on administering inspections and maintenance
- Eliminate paper, spreadsheets and manual duplication
- Simplify compliance and operational workflows

IoFMT® Insight™



From estate-wide compliance tracking to floor-level layouts and visualisations, IoFMT® Insight™ turns complex data into clarity.

- See the truth with Intelligent Visibility
- Dynamic dashboards, chart, graphs and analytics
- Transform inspection, asset and any third-party data into actionable intelligence
- Track compliance, optimise performance and support confident decision-making.
- Offers both high-level dashboards and detailed drilldowns

IoFMT® IO™



IoFMT® IO™ is your AI engine - combining large language models, machine learning, automation and predictive analytics. It delivers reports, updates schedules and forecasts performance with speed, accuracy and reliability.

IoFMT® IO™ turns complex data into smarter decisions whilst giving you time back with technology.

- Accelerate decisions with AI
- AI-powered Virtual Agents - companions to IoFMT® Inception™ and IoFMT® Insight™
- Transforms inspection, asset, energy and estate data into predictive analytics with actionable insights
- Reduces downtime, supports compliance and drives efficiency
- Features three role-specific AI engines for Engineering, Energy and Estate Management

There is no denying that AI is transforming FM. However, every building is different, and the best results come from tailoring AI to your organisation's needs.

Speak to the teams at SFG20 and IoFMT via the contact details below to learn more about how their AI-driven tools and services can support your digital journey.

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Demo Facilities-iQ with one of our experts today



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