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Facility Management Is Drowning in Data And Technologies Keep Adding Water

How to choose or build FM tools that help draw insights, not drown in data

Key insights

Data Overload: The Digital Deluge

<1%

of all collected data is ever analyzed, a figure that shrinks as the rate of data collection continues to explode.

Source

40%

of a data analyst's workday is dedicated to preparing and vetting data before it can be used for strategic decision-making.

Source

70%

of executives state their teams have access to the data they need, yet only 43% believe those same teams know how to use that data effectively.

Source

Facility Management: The Digitalization Dilemma

75%

of Facility Managers now work in IoT-enabled buildings.

Source

39.6%

of all facilities planned to increase their investment in management software in 2024, signaling a significant push toward digitalization.

Source

up to 30%

of unused floor space can be eliminated in offices that utilize hot-desking analytics.

Source

Introduction

The promise of the digital age for Facility Management (FM) was one of crystal clarity. Big Data, IoT, and AI were supposed to grant managers near-omniscient control over their domains, optimizing everything from energy consumption to maintenance schedules. Yet, for many, this data-driven dream has turned into a daily struggle against a tidal wave of information.

Technologies designed to help are often part of the problem.

Manufacturers of smart devices and vendors of complex systems, focused on their complex core technology, frequently overlook the crucial step: how people will actually interact with it. They provide dashboards overflowing with raw data, systems that don't talk to each other, and interfaces that often lack an intuitive design.

The result?

Facility managers aren't just managing buildings; they're trying to stay afloat in a sea of data, armed with tools that are adding more water instead of bailing it out.

When Buildings Became Ecosystems

As digital transformation becomes the operational standard in the FM industry, 75% of Facility Managers now work in IoT-enabled buildings - each one a vast, interconnected ecosystem. IoT sensors continuously monitor temperature, pressure, vibration, and occupancy, feeding real-time data into **Building Management Systems (BMS).**

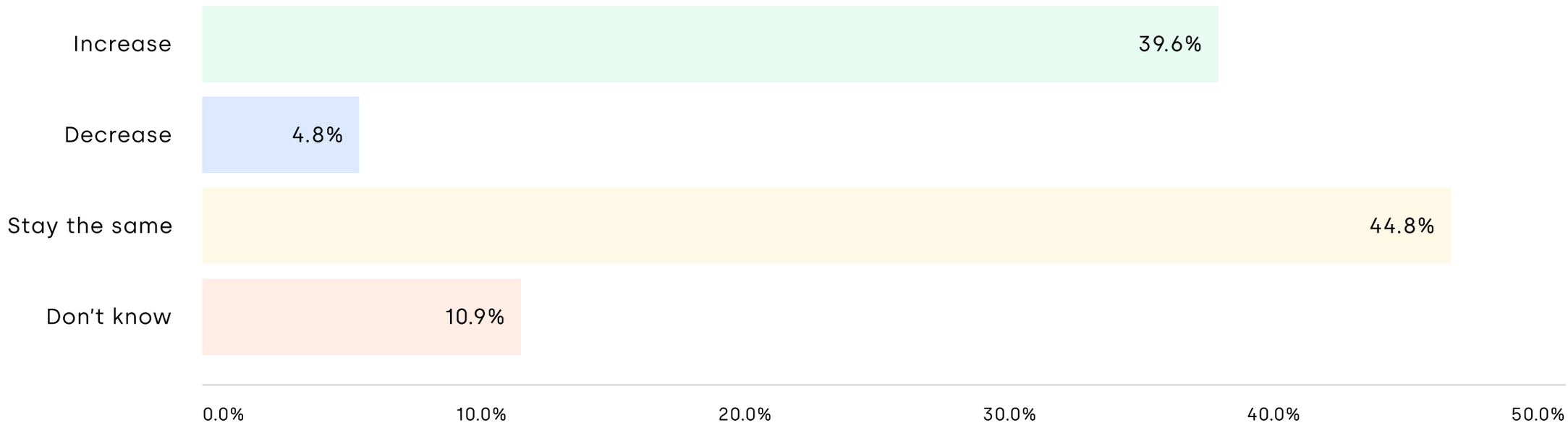
This rapid technological adoption isn't just for show; it's born out of necessity.

Facility Management teams face a perfect storm of challenges: a staggering 42.6% report being **understaffed**, while a skills gap widens as seasoned professionals retire without enough new talent to fill their roles. With limited training budgets, technology is often seen as the only lifeline. The bottom-line impact justifies the investment, with benefits ranging from optimizing energy use - potentially eliminating $200 billion in waste annually - to enhancing space utilization and even reducing passenger wait times at airports by 35% through data-driven redesigns.

Tech giant NVIDIA piloted a system in its 500,000-square-foot building that reports energy data 8,000 times per second. The goal is a building where "the automation will be automated", with machine learning and AI platforms optimizing operations on the fly without human intervention.

Technologies allow managers to move from a reactive stance - fixing things as they break - to a proactive one, enabling predictive maintenance, optimizing resource allocation, and enhancing decision-making. The ability to harness these diverse data streams is what separates industry leaders from those struggling to keep up with evolving stakeholder expectations and sustainability demands.

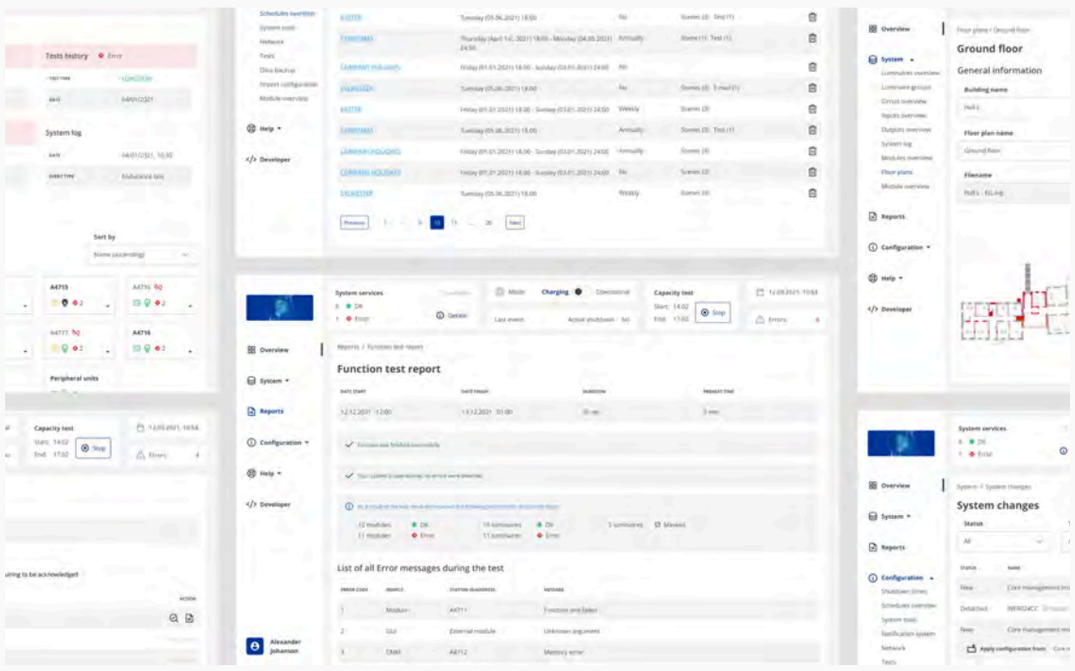
Q8: How do you expect your investment in FM software to change this year?



Source: The State of Facilities Management Technology

Case study

Cutting Inspection Times by 70% for Lighting Systems



RP Group is a German industry leader with 53 patents for emergency and safety lighting. One of their core innovations **CC24, a central battery system that enables remote diagnostics, real-time monitoring, and automated reporting, require**d an advanced digital layer.

A backend-heavy web platform was developed for managers and installers to control and monitor emergency lighting in office buildings and public facilities. This web interface became the **"command center**" for the CC24 system. Through clear dashboards and an intuitive structure, it makes it easy to manage complex lighting systems across entire buildings - without adding its own complexity for the user.

Since the system manages critical infrastructure, ensuring the highest level of security was a key aspect of the project so we:

- Implemented stringent cybersecurity measures, recognizing their critical role for emergency lighting systems, especially during evacuations.
- Conducted multi-stage security tests, including vulnerability scanning and penetration testing, to assess the system's resilience against real-world threats.
- Documented all results in a detailed report, which allowed for proactive risk mitigation and compliance

The impact on operational efficiency is significant. The final solution can **speed up mandatory inspections in large facilities by up to 70%**, giving users both confidence and clarity.

See the full case study ↗

Understanding Analysis Paralysis

For all its promise, the influx of data has created a paradox: **more information often leads to less clarity** and slower, more confused decision-making. While the cost of storing data has plummeted - from $437.500 per gigabyte in 1980 to less than $0.02 today - our ability to make sense of it has not kept pace. This has led to a state of "**analysis paralysis**", a significant challenge for businesses across the globe and verticals where over-analyzing information prevents a final decision from being made, effectively stalling progress.

The problem isn't a lack of data; it's a lack of insightful analysis and actionable intelligence.

The disconnect stems from several deep-rooted issues:

Poor Data Literacy

Organizations need to foster data literacy, which Gartner predicts will be a key enabler to driving business outcomes.

The Overreliance on Flawed Tech

While data provides powerful insights, it should not completely replace human judgment. The most effective approach balances advanced analytics with the contextual understanding that only experienced professionals can provide.

Fragmented Systems

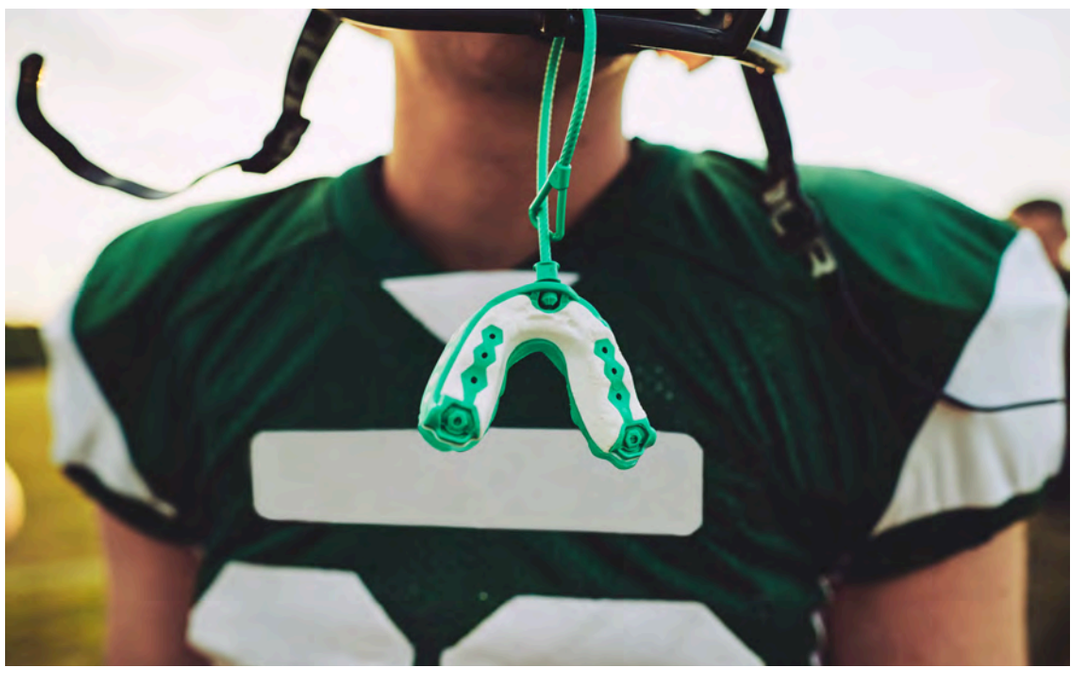
Often, crucial data is scattered across systems that don't communicate with each other - a CMMS here, a BMS there, and IoT platforms everywhere else. This lack of integration makes it impossible to get a holistic view of facility performance.

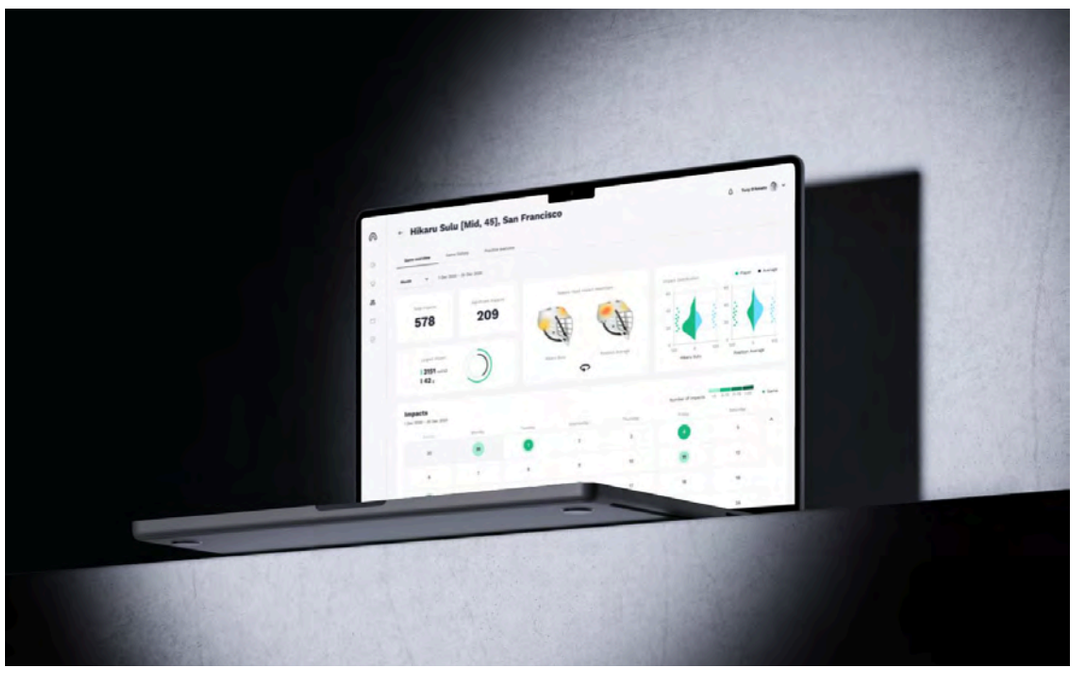
The Usability Challenge in Digital Tools

Technology providers are rightly focused on their core innovations, like hardware or algorithms. This can mean the final app's usability isn't given the same attention, resulting in tools that are powerful but not always practical for the diverse facilities.

Case study

Accelerating Data Analysis by 4x with Web Platform





Biocore, a provider of biomechanics consulting and research services delivers innovations to enhance athlete health and safety. For a project involving advanced **mouthguard sensors** that measure impact forces, Biocore's experts needed to focus on their core technology.

To do so, they sought a software partner to build the corresponding data analysis platform. The primary challenge was to effectively process vast amounts of raw data from these sensors, a task previously hindered by manual input and a lack of specialized visualization tools.

To address this, a bespoke software solution was developed with the following key elements:

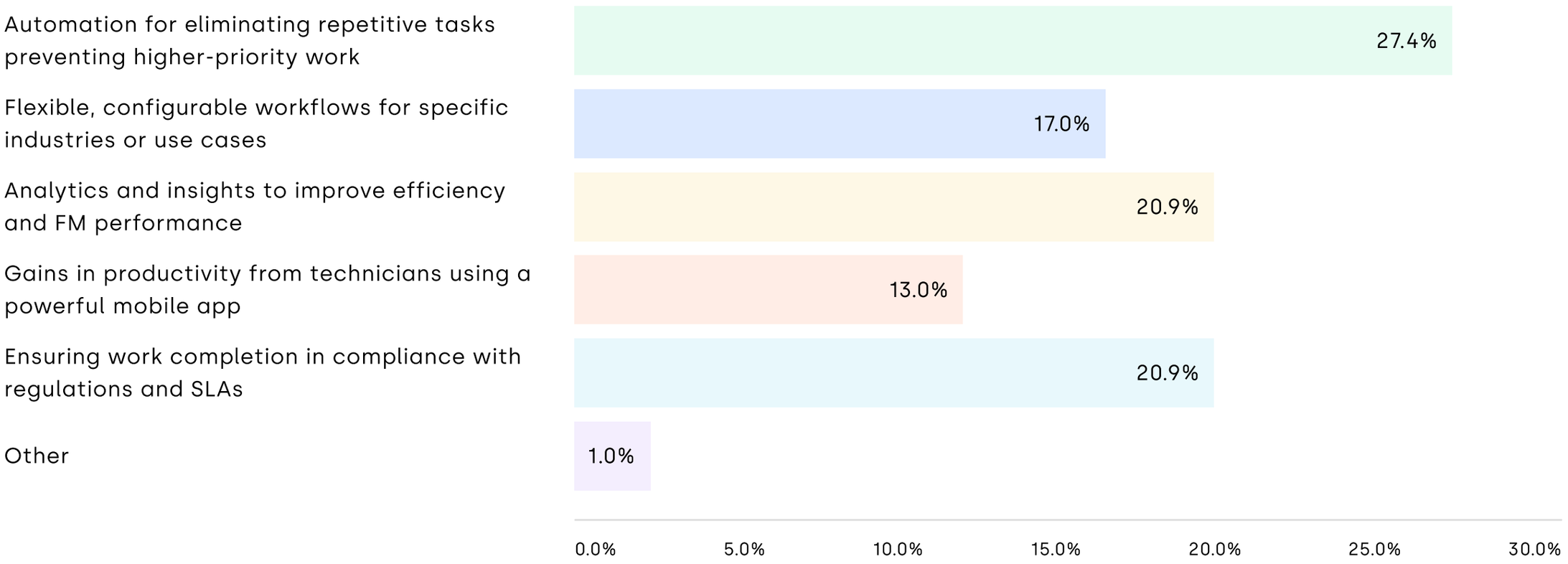
- A platform adjusted to the specific workflow of the engineers and centered on advanced, interactive data visualizations, such as 3D heatmaps and violin plots.
- It included a dedicated view for sensor data verification, enabling users to identify and correct faulty readings to ensure data accuracy before any further analysis.
- The platform consolidated all sensor readings and corresponding video analysis into a single interface, which eliminated the need for slow, manual data input.

The primary outcome was a significant increase in efficiency. The platform enabled engineers to analyze athlete impact data 4x faster than their previous methods allowed.

Explore the full case study ↗

Tools for Actionable Facility Management

Q4: What top outcomes do you expect from your work order management software?

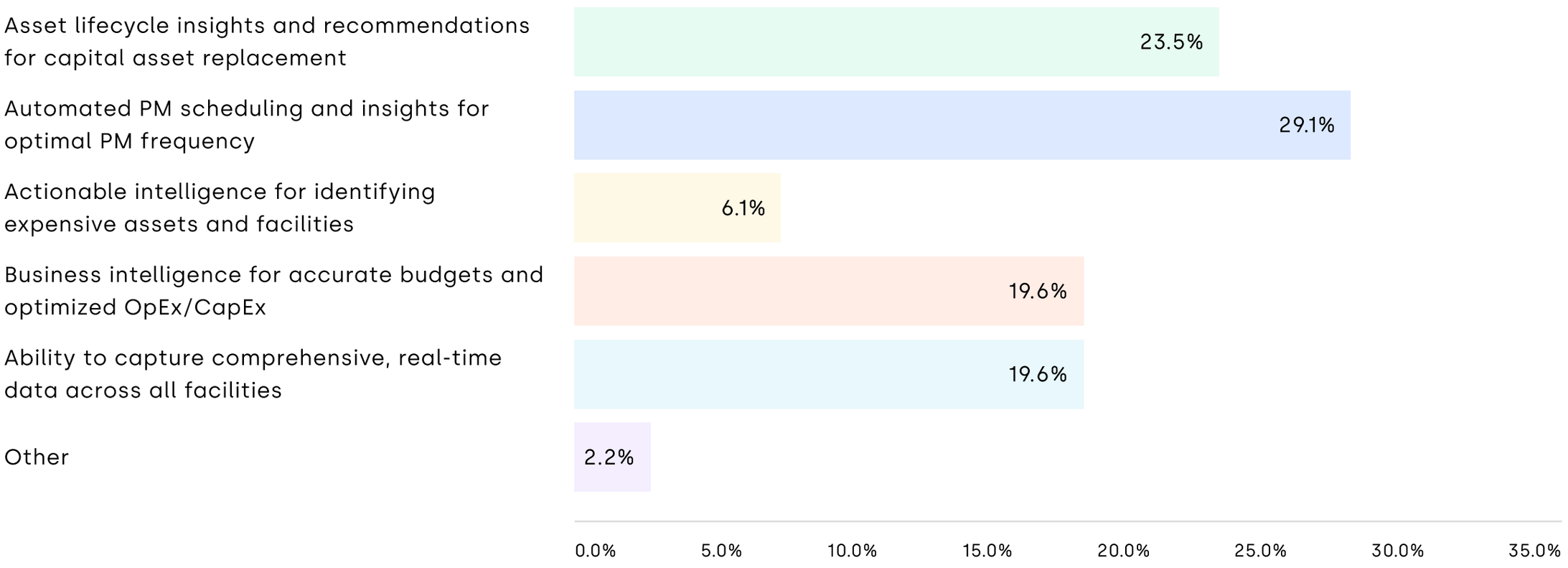


Source: The State of Facilities Management Technology

The solution to data overload **isn't less technology, but more usable technology** - specifically, software designed with the end-user at its core. Whether it's a web platform for analyzing sensor data or a mobile app for on-site inspections, the right tool translates raw data into actionable intelligence.

That's what users also in FM expect - no matter if from software for work order or asset management - **clear and simple analytics of data** to make more informed decisions and improve efficiency.

Q9: What top outcomes do you expect from your asset management software?



Source: The State of Facilities Management Technology

Tools for Actionable Facility Management

Visualizing Facility Data

An effective tool is built on a foundation of deep user research, understanding the specific workflows and decision-making processes of the people who will use it every day. It should be guided by principles that turn data into a strategic asset:

1

Interactive Dashboards

Dynamic panels with configurable widgets for KPIs, charts, and alerts. Allows users to move from a building overview to a single device in just one click.

2

Advanced Data Visualization

Visualizes data like temperature or occupancy with heatmaps. Color-coded intensity makes anomalies instantly visible and turns raw data into quick insights.

3

Drill-down and Filtering

Start from a high-level dashboard and drill down to specific device data. Filtering options help isolate systems, floors, or timeframes for focused analysis.

4

Trend & Anomaly Analysis

Line, bar, and area charts show changes over time and help find correlations. The system highlights outliers with quick links to investigate the root cause.

5

Predictive Insights

Displays predicted equipment failures or maintenance needs as clear timelines or traffic-light indicators, enabling proactive, data-driven maintenance.

6

Automation with Human Oversight

Automates repetitive tasks like reporting but leaves room for human interpretation. The system suggests actions, but the manager makes the final decision.

Tools for Actionable Facility Management

7

Simplified Reporting

Automatically generates PDF or web reports with charts and recommendations. Exportable visuals are crucial for clear communication with managementt

8

Role-Based Access Control

Provides different access levels and permissions. A manager, technician, and owner see different data and have different capabilities within the application.

9

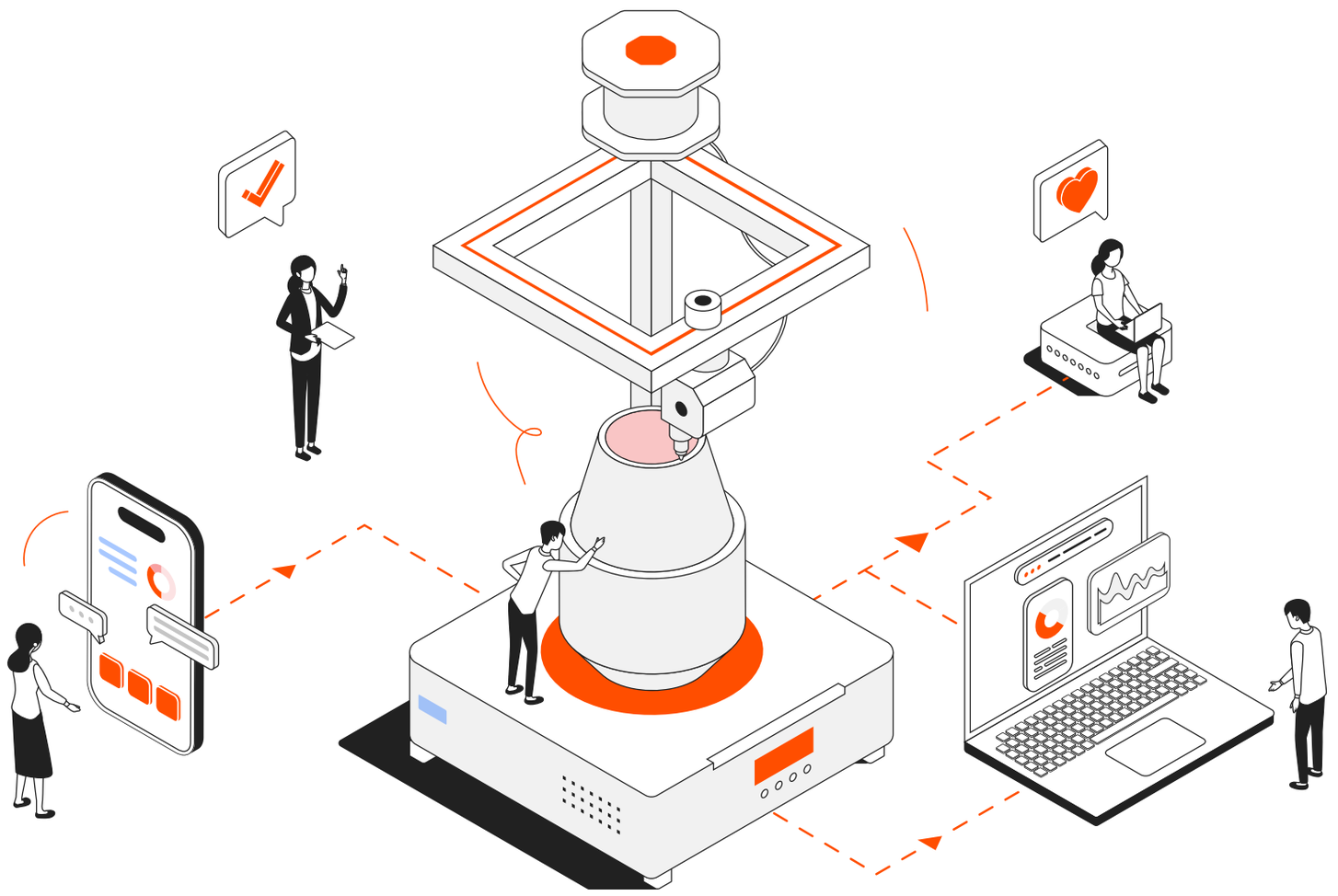
Robust Security & Integration

Guarantees data security to meet legal and insurance requirements. Integrates with existing systems like BMS or CMMS for a single source of truth.

10

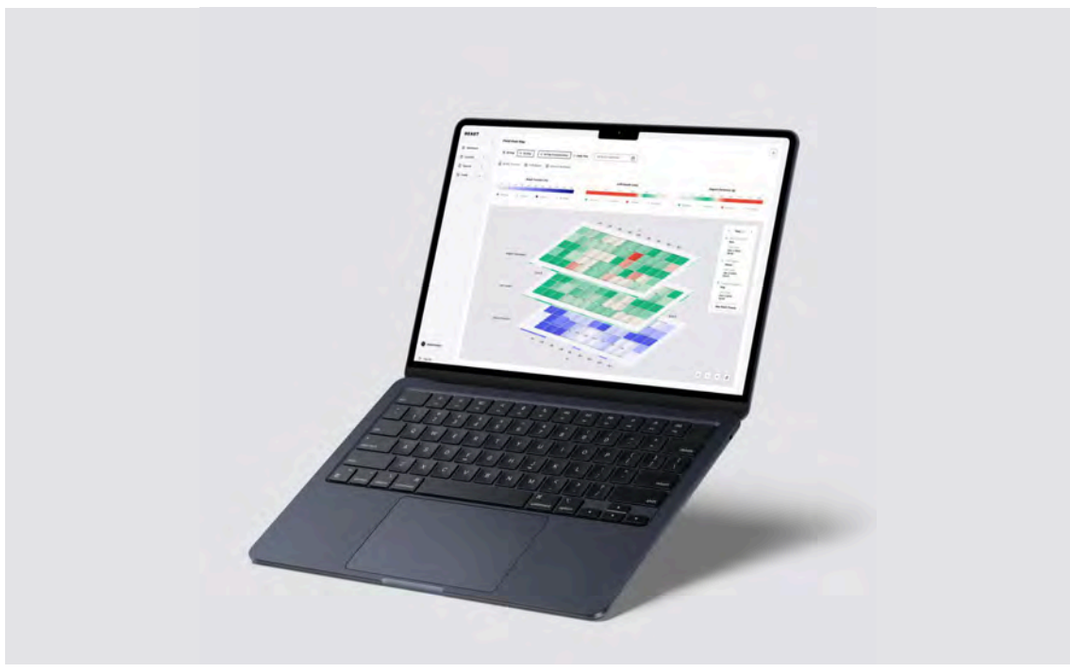
Continuous Improvement Through User Feedback

Built on a foundation of user testing and continuously refined based on feedback to ensure the tool evolves with the needs of the facility and its managers.



Case study

Transforming Management of High-Quality Green Space



For facilities like professional sports stadiums, golf courses, premium-level hotels, residential complexes, venues, and office buildings, **the quality of the green space is critical.** Modern systems promise to automate much of the work of Groundskeepers, using sensor data to control everything from irrigation systems to robotic mowers and guide the selection of appropriate care.

A prime example is the BEAST - a machine used in professional sports to provide athletic field managers with details about the safety and performance aspects of their pitches. While the hardware delivered critical data, Groundskeepers needed a digital solution to gain actionable insights, hindering their operational needs.

The software development process was entirely focused on the end-user:

- The project's foundation was a deep discovery phase, including workshops and interviews directly with Field Managers to understand their daily challenges and goals.
- The resulting web application focused on translating complex sensor data into readable and useful visualizations, such as trend charts and heatmaps.
- The heatmap feature proved particularly valuable, allowing managers to instantly identify and report hard areas of the playing surface to coaches and staff.

The final product is a prime example of continuous improvement - a tool co-created with users to transform machine data into practical intelligence for optimizing sports surfaces.

Explore the full case study ↗

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Whether you manage unique facilities or create technology for them, we can help you turn data into clarity.

Let's build a user-facing app that really simplifies FM daily work.

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