

Amey – Microsoft IoT Case Study

Facility Management Company uses IoT and Azure to gain valuable predictive data

“Optimum asset management and environmental control are always difficult. Thanks to this project we’ve gained a comprehensive view of the BMS set-up and asset utilisation across the account.”

Mikolaj Klaskala, Account Manager, Amey Utilities & FM

Amey is at the forefront of delivering the services we use every day - from roads, railways and schools to waste disposal, airports and the energy and water used in our homes. Nearly every person in the UK will benefit from at least one Amey service.

As Amey looks after a vast estate, the company was interested in getting a view across all the buildings they manage.

MAKING THE MOST OF THEIR ASSETS

With long-term contracts in place, Amey wanted to move beyond simply managing properties to agreed service levels. The company knew that with IoT, they could optimise operations such as service availability, energy consumption and on-going maintenance costs.

Many of the building management systems (BMS) in place were providing data in some areas but not in others and often there was no feedback into the system to correct improper configurations.

Amey knew existing BMSs could offer more insights with the use of IoT-based analytic solutions and that the deployment of additional sensors could add value to legacy operational systems.

USING ADVANCED ANALYTICS TO IDENTIFY GAPS

CGI was a key IT framework partner of Amey and had been engaging with their innovation teams around data analytics.

CGI created a proof of value (POV) project using existing data sources in Bristol Magistrates Court. What this POV showed was how much information was already available, but not necessarily being utilised. From the analysed data, CGI could identify gaps such as which areas of the building would benefit from additional environmental sensors and where energy was potentially being wasted. They were also able to demonstrate the performance of the current system and its configuration and suggest ways to improve efficiency. The solution was developed on Azure, utilising AAD, Azure Service Bus, and Embedded Power BI. CGI also tested IoT Hub as a means of data egress to enable near real-time data flow.

AMEY

Amey works with public and regulated sector customers to help create better places to live, work and travel.

Results:

- Predictive data
- Near real time analytics
- Profitable business insights
- Improved operational efficiencies

Industry: Public and regulated sector

Country: United Kingdom

Number of Users: N/A

Technology Environment:

- Microsoft Azure
- Azure Active Directory
- Azure Service Bus
- Power BI
- IoT Hub

MOVING TO A MORE PREDICTIVE MAINTENANCE MODEL

The purpose of the proof of value project was to show how data from existing BMSs could be used to provide insights on the utilisation of assets.

Rather than immediately adding more data sensors, the POV used existing sources to pinpoint where and if additional environmental monitoring in areas such as lighting, humidity, temperature and sound may be needed.

This approach to analytics will enable Amey to intervene in a more appropriate way in the future to improve energy consumption and the management of their properties. It will also help them move to a more predictive maintenance model as information generated can provide a source of benchmarking for more proactive contract management across the business.

“In future, systems will never fail as Amey will be able to monitor and maintain them before they get to a failure point. The result is the better management of their engineering resource as they can schedule it in a cost-efficient way.”

John Hicklin, Principal Consultant (UK), Global Lead IoT at CGI

OPTIMISING THE MAINTENANCE OF ASSETS

Amey holds long-term contracts (some up to 20 to 30 years) with numerous companies and, in many cases, is responsible for maintaining their clients' assets.

By monitoring lots of different buildings, Amey can gain insights from across their estate and learn what makes a reasonable benchmark. This information will not only help them predictively manage buildings - it will enable them to negotiate more effective long-term contracts.

The combined insights garnered from their buildings will lead to new benchmarks, which in turn will mean future contracts are commercially better for Amey and their clients.

“This project gives us the ability to compare and analyse a number of parameters and helps with the balanced asset utilisation lifecycle management. This enables Amey to make strategic and cost-effective asset replacement decisions, minimising the risk of failure.”

Mikolaj Klaskala, Account Manager, Amey Utilities & FM

MAKING PROFITABLE LONG TERM INVESTMENTS

Amey wants to be able to make longer term investments around its assets. In future, they will be able to do this as building data will be available in a useable format in near real-time to anyone in the business who needs it, not just maintenance operators.

“A solution based on our proof of value would enable Amey to move to a predictive and preventative maintenance model.”

John Hicklin, UK IoT Lead at CGI

Making data available throughout the company

“Previously data was only available on a single graphic to one operator. We can give the whole business multi-level views in near real-time. We've eliminated the silos and given useable data to everyone from service engineers to senior managers.”

John Hicklin, UK Internet of Things (IoT) Lead at CGI