

# Case Studies



## For Innovators, System Integrators and Solution Providers.

Enabling the true value of digital connectivity

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# Welcome to MobiusFlow.

## Introduction

MobiusFlow is a scalable and affordable middleware solution designed by engineers for engineers, innovators, system integrators, and solution providers, unlocking the full power of digital connectivity. Streamline your commissioning and configuration workflow, reduce overheads and improve efficiencies to maximise profits, take on more advanced projects and expand your market reach.

MobiusFlow is an advanced solution that connects, controls, and communicates with thousands of sensors, monitoring, and control devices and by doing so, it delivers actionable insights and automated responses, empowering both you and your customers to harness the true benefits of digital IoT connectivity.



## Message from our CEO

Our commitment is in our name, taken from the Mobius Loop – meaning continuous improvement with no boundaries - this is exactly how we have developed and deployed the platform over the last 17+ years and how we will continue to evolve into the future.

MobiusFlow's versatile Data Point Management System, combined with the ability to connect data, normalize it, provide control, and communicate to a wide range of destinations makes it the perfect component to your solutions and provides your customers with a future proof and scalable digital ecosystem.

Embedded in our name also lies the commitment to you, your projects and to your clients to provide a first class experience and our unwavering support for your success. We don't believe in "we can't do that" and will work with you to ensure that your customers' requirements are met and more importantly supported into the future.

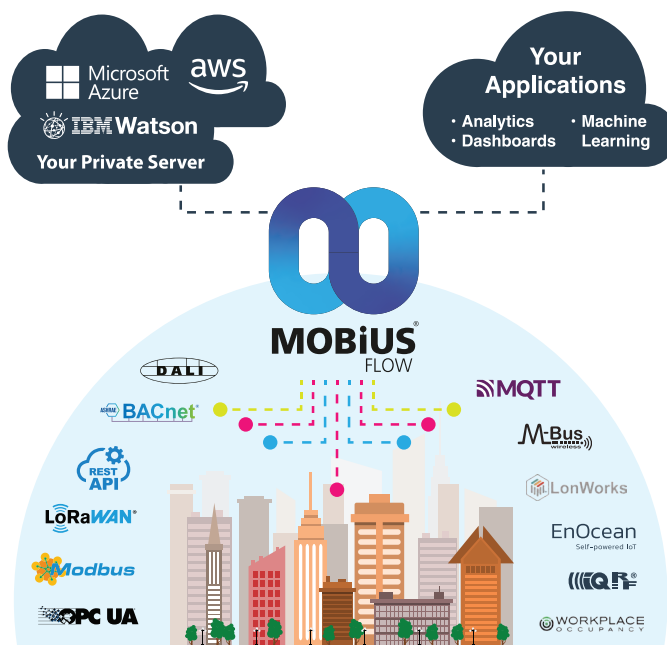
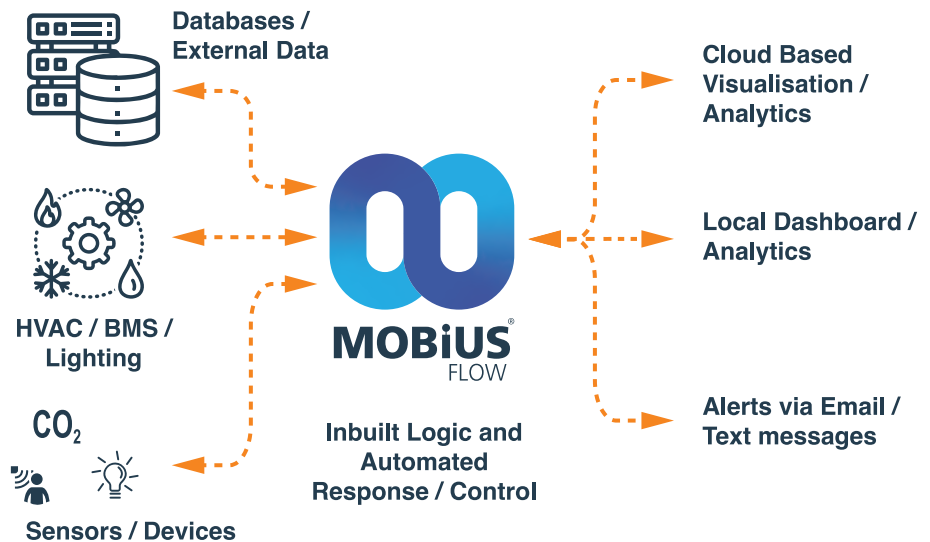
A blue ink signature of Shawn Pedersen, consisting of a stylized, cursive 'S' followed by a few loops.

**Shawn Pedersen**  
Chief Executive Officer

# A core component to your solutions.

Drive innovation, reduce costs and improve efficiencies with MobiusFlow and capitalise on the opportunities for connected data and automated device control using actionable insights. From initial concept through to full scale global deployment, MobiusFlow minimises risk and reduces time to market.

Contained within MobiusFlow is logic, local control and device drivers which can handle the data in both directions - simultaneously sending data for analytics to dashboards or third party software locally or in the cloud, delivering instructions to control devices based on the response from those analytics.



Once a flow has been tested and approved using simulated data (if required), the solution can be deployed, scaled and reused over and over like a 'cookie cutter' to ensure a return on your investment quickly. Adding devices and solutions in the future is a breeze and enables your sales team to upsell and expand their target marketing with more products, technology and solutions without encouraging a 'rip and replace' mentality.

Case Study:

# Helping local council act on climate change: Identifying a baseline for future improvements.

Carbon emissions

Net Zero

Asset Monitoring

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## Case Study:

# Our Local Government customers are facing challenges with reducing their carbon emissions.

## Overview

One of them in Southern England has harnessed and deployed the power of MobiusFlow to capture a true measure of their carbon usage and finding ways to reduce energy consumption. We are happy to share their success story here.

## Brief

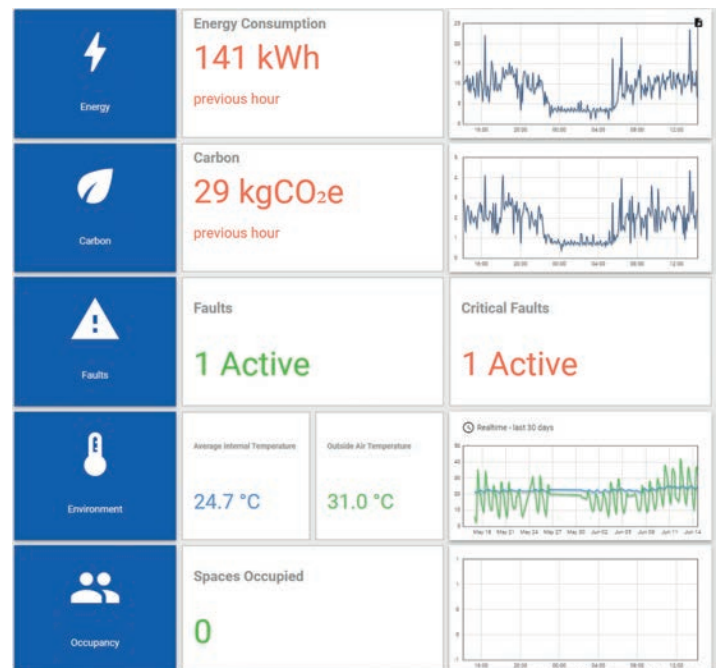
- Define a baseline for current usage and values to help identify specific areas of high energy consumption and carbon emissions.
- Investigate and implement low cost, no cost solutions to refine the baseline.
- Develop long term strategy to help contribute to the goals of the Climate Local initiative.

## Solution

MobiusFlow connected and collated data from new and existing systems, as well as two-way control of devices to help build a detailed picture of their current footprint. Occupancy, carbon emissions, fault alerts, room temperature and energy consumption of their office buildings, swimming pools and other public facilities were all connected to provide an accurate digital picture of their current environmental impact.

## Collected Data:

Water, Gas, Electricity and Electricity Generation meters were all connected via MobiusFlow physical gateway and the readings were divided by usage



(lighting, plants, heating etc.) This was all then pushed to MobiusFlow in the cloud to be compared to other data sources and sensors such as Occupancy, Temperature, Alarms and Faults which were then used to calculate the equivalent carbon output.

## Future Proofing

Having established a baseline and pushing live real-time data to third party visualisation tools in the cloud, the council can now run MobiusFlow alongside their existing building management systems, HVAC controls, and add further sensors and devices to unlock further savings based on their findings. This means that the council can avoid committing to a large, expensive system before they have all the information they need.

Case Study:

# Luton Airport-Based Airline: People Counting System for Enhanced Facility Management and Real-Time Access Control.

Facilities Management

Asset Monitoring

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## Case Study:

# People Counting System Elevates Facility Management and Instigates Real-Time Access Control.

## Overview

A Luton Airport-based airline had the need to oversee and visualize people counting data across multiple restroom areas. The airline sought to monitor this data for insights into usage patterns for cleaning schedules, with the additional requirement of having real-time indicators for Entry Allowed or No Entry Allowed.

## Challenge

The airline followed a regular cleaning schedule, but lacked visual indicators for bathroom users. To streamline cleaning schedules, they required remote monitoring across multiple bathrooms.

## Solution

One of our approved system integrators configured a multi-protocol solution including PoE people counters positioned at the entrance to each bathroom with EnOcean protocol illuminated door signs, which changed colour (green/red) depending on the people count parameters set by the airline. If levels increased outside the high parameter, alerts are sent to the facilities management team. All data was processed and at the edge using **MobiusFlow**, with all requested data sent to dashboard for live data views, analysis and reporting.



## Solution Included:

- MobiusFlow IoT Edge Gateway
- MobiusFlow EnOcean PoE Connector
- MobiusFlow Cloud
- PoE People Counters
- EnOcean RGB Illuminated Indicator Door Sign
- Dashboard and Visualisation

## Success

The airline has now streamlined its cleaning schedules with adaptable rosters, offering users real-time updates through smart display screens. Additionally, the organization consistently transmits edge-processed data to **MobiusFlow**, allowing for live data views, comprehensive analysis, and efficient reporting.

Case Study:

# Enhancing Campus Efficiency: Canadian Public College Seeks Comprehensive People Counting Solutions.

Facilities Management

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## Case Study:

# Canadian Public College - Smart University



## Overview

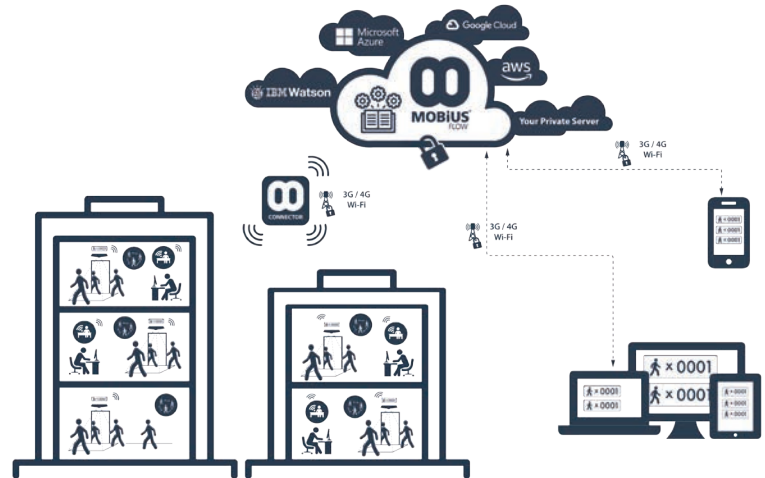
A Canadian public college sought to implement people counting solutions in various areas such as lecture rooms, laboratories, staff offices, canteens, washrooms, and desired insights into the overall occupancy per floor and building. Additionally, the client expressed interest in monitoring waste bin levels campus-wide. They also aimed to track washroom usage for an adaptable cleaning schedule, allowing cleaners to check in and out during cleaning tasks. The requirement specified that all data should be transmitted via an API to integrate seamlessly with their existing application.

## Challenge

The college aimed to leverage their Cloud Thingsboard application while incorporating camera-based people counters. However, they preferred not to send the data directly to the Cloud. Additionally, they already had pre-installed waste bin sensors, but the data couldn't be directly transmitted to the client's Thingsboard application.

## Solution

Our approved system integrator devised a solution wherein the client deployed two MobiusFlow IoT Edge Gateways on-site, connected to Power over Ethernet (PoE) people counting sensors utilizing video technology. To address the client's preference of not transmitting video-based data via the Cloud, these devices were linked to on-premise gateways. These gateways normalized and anonymized the data before sending it to MobiusFlow Cloud.



The Cloud gateway played a pivotal role in aggregating data from the two Edge gateways and pulling waste bin data from a third-party application. Subsequently, all pertinent data was transmitted to the existing Thingsboard application.

## Solution Included:

- MobiusFlow IoT Edge Gateway
- MobiusFlow Cloud
- PoE People Counters
- Pulling data from 3rd party waste bin level fill monitoring platform
- Pulling data from client security access system
- Sending data to client Thingsboard Application

## Success

The Canadian College can now understand usage across their campus, create better cleaning schedules and inform their services teams when to empty the waste bins. All aspects are part of a secure solution, allowing the client to utilize their pre-existing Thingsboard application as requested.

Case Study:

# Safety Enhanced: Ferry operator seeks hands-free wireless door monitoring solution for efficient and weather-resilient Inspections.

Health and Safety

Asset Monitoring

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## Case Study:

# Enhancing Efficiency With Car Ferry Deck & Door Monitoring

## Overview

For a Ferry operator based in the South of England, door checks on each journey were required to ensure the safety of the crew and passengers. However, they wanted to upgrade their manual inspections to a more efficient hands-free process. To do so, the business needed a wireless door monitoring solution with sensors suitable for exposure to outdoor elements.

## Challenge

The doors on the car decks were open to the elements including freezing temperatures, rain, snow, and salt water. Additionally, the devices required need to be wireless as well as offer the ability to report the open / closed status of each door as live data.

## Solution

Our approved system integrator engineered a device specifically for this client's remote data monitoring solution. It was comprised of an analogue door contact and wireless EnOcean transmitter to provide a live binary status back to a 4G MobiusFlow gateway, visualising the data on a dashboard with scheduled reports also set up.



## Solution Included:

- MobiusFlow IoT Edge Gateway
- EnOcean PoE Connector
- MobiusFlow Cloud
- MobiusFlow View Application

## Success

The ferry provider is now able to remotely live check all doors from onboard the ferry and also back at the base office. By employing a wireless door monitoring setup using MobiusFlow and wireless door sensors, the company is able to complete the necessary inspections during operation, and the automated reports allow the admin team to provide regular updates upon request.

Case Study:

# Assisted Living with IBM

**Watson:** Using a non-intrusive system of sensors, machine learning and automatic data communication.

Facilities Management

Health and Safety

Asset Monitoring

Enabling the true value of digital connectivity

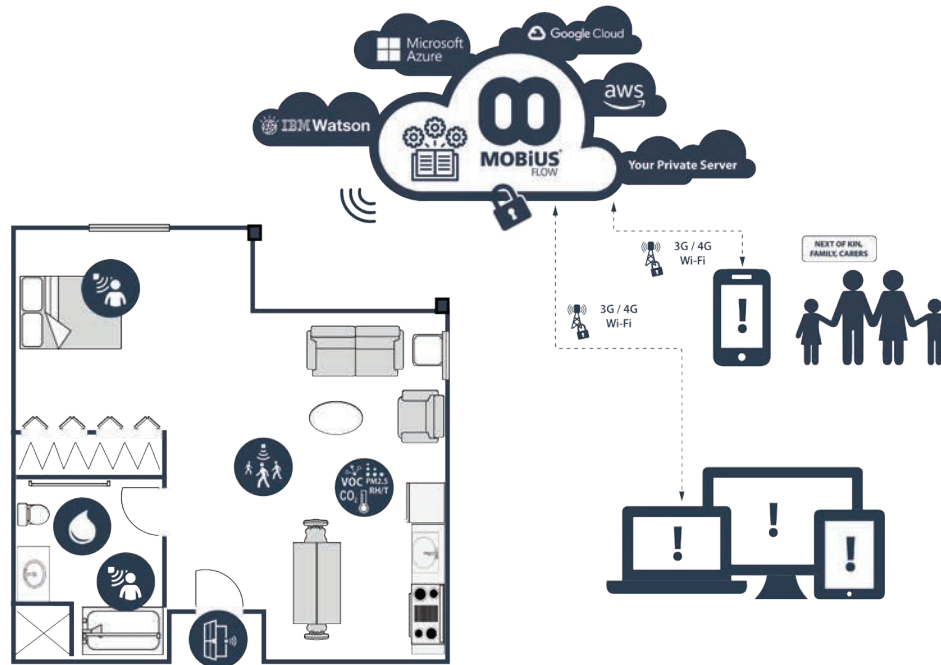
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## Case Study:

# Assisted Living and Machine Learning



## Overview

Using a non-intrusive system of sensors, IBM Watson machine learning and automatic data communication, a partner application flags exceptions to routines and habits, such as whether your client has got out of bed, is sitting in a chair, has boiled the kettle and so on. It has been developed specifically to promote independent, home living for the elderly, infirm, those living with Alzheimer's or dementia and to enable early release from hospital for other clients where monitoring is required.

## Challenge

IBM and their partner needed to source 3G/4G and Ethernet IoT gateways with the capability to send sensor data to IBM Watson. There was a need to capture data from a range of energy harvesting sensors in an individual's home and send the relevant information to IBM's Watson platform.

## Solution

Our approved system integrator built a gateway specific to the needs of IBM, using our MobiusFlow software to create tailored flows and API connections into the IBM Watson platform.

## Solution Included:

- MobiusFlow Edge 3G/4G or Ethernet IoT Gateway
- Window and Door open/close sensors
- Room occupancy detection (PIRs)
- Temperature and Humidity sensors
- Call / Alert Button
- Bed Pressure Sensor

## Success

IBM were able to define a repeatable solution that can be pre-commissioned before being installed in a client's home, allowing minimal disruption to the client.

# Expand your IoT solutions with **MobiusFlow**<sup>®</sup>

The advanced middleware solution that connects, controls and communicates with a huge range of sensors and devices.



## Why should you join our expanding reseller and system integrator network?

- Choose the best device for the job, wired or wireless, NOT be limited to a specific manufacturer, system or protocol and add new ones when available.
- Scalable and time-saving, build a solution once, then reuse it over and over.
- Data filtering, optimization and logic based decision capabilities.
- Built by engineers for engineers.
- Can function as a digital twin for testing scenarios using simulated data.
- Proof of concept through to large scale deployments.
- Accommodates legacy systems for upselling to new and existing customers.
- API integration.
- FREE online training courses.
- Approved reseller program.

Join us in enabling the true value of digital connectivity

If you would like to explore this further then please visit [www.MobiusFlow.com](http://www.MobiusFlow.com) for more information.





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