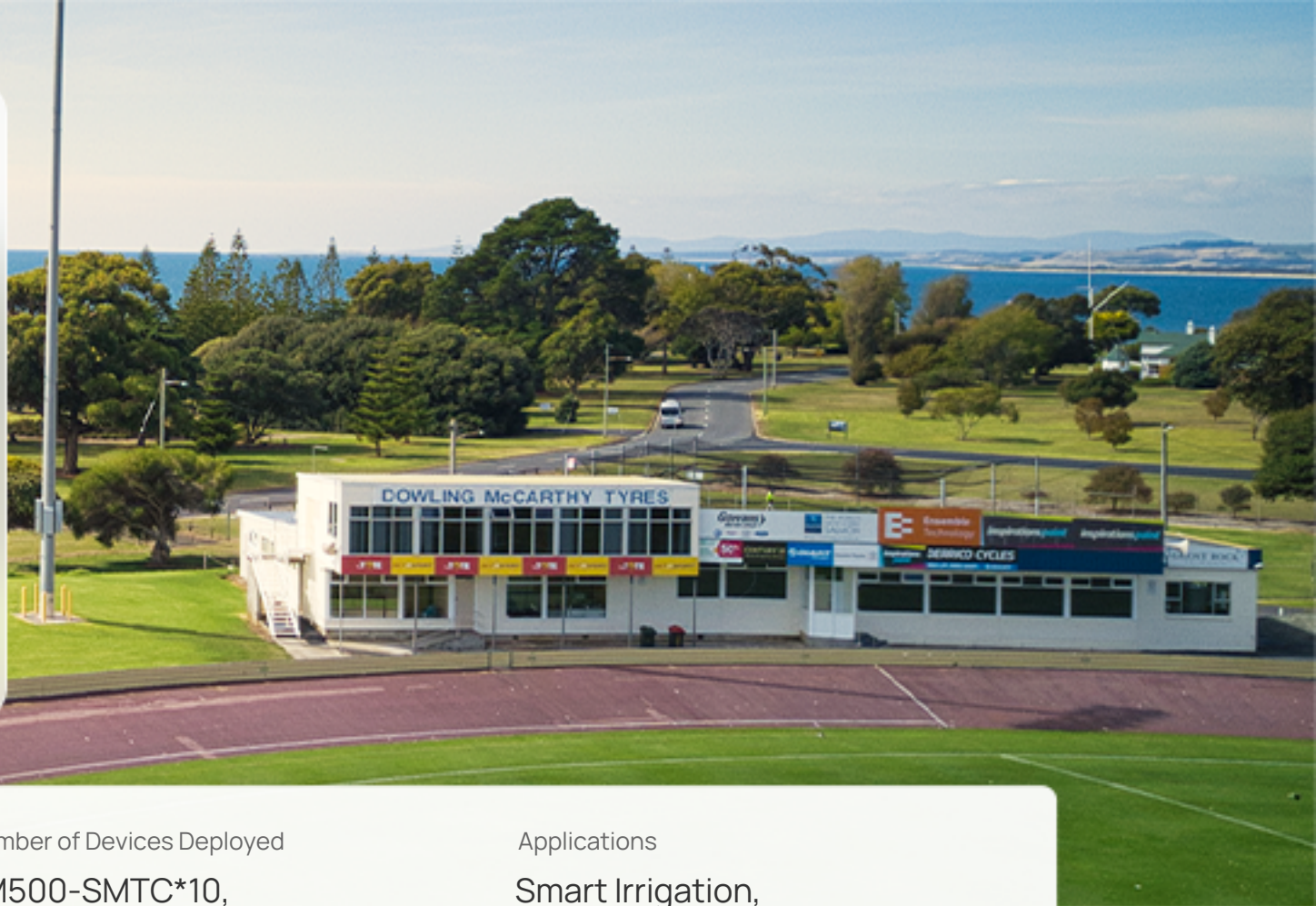


Inspiring Pilot Project: Transforming Into Smart Irrigation across 10 Parks and Sports Grounds

Through Centralized System, Optimize Water Usage and Enhances the Overall Management and Beauty of Devonport's Public Spaces

Location: Cambridge 7170, Australia



Milesight Partner Indicium Dynamics	Location Cambridge 7170, Australia	Number of Devices Deployed EM500-SMTC*10, UG67*4, UC300*2	Applications Smart Irrigation, Smart Agriculture
--	---------------------------------------	---	--

Background

Devonport, known as the Gateway to Tasmania, is a vibrant city situated along the Mersey River in central north Tasmania, Australia. With a population of about 26,000, it serves as a major entry point for tourists arriving on the Spirit of Tasmania. The city is undergoing a transformation under the Living City Master Plan, aiming to develop new retail, business, and waterfront precincts to highlight its tourism, arts, food, and services.

In alignment with this vision, the Council, led by Deputy General Manager Jeffrey Griffith, has initiated a smart irrigation project to optimize the city's irrigation practices using IoT and automation. This project leverages advanced technology to efficiently manage the irrigation of community parks and ovals, ensuring sustainable water usage, reducing operational costs, and maintaining lush, green spaces. The smart irrigation system integrates soil moisture sensors, weather data, and automated controls to deliver precise watering based on real-time environmental conditions. This innovative approach not only conserves water but also enhances the overall management and beauty of Devonport's public spaces.

Also, the project has several data requirements, including:

- ✓ The solution needed to seamlessly incorporate a diverse array of IoT sensors and devices to monitor various environmental and operational metrics within public spaces.
- ✓ It was essential for the system to automatically initiate work orders based on data from IoT devices, ensuring efficient maintenance and management of public amenities.
- ✓ Reliable and timely data collection was crucial to provide accurate, actionable insights for improving public space management and visitor experiences.
- ✓ The platform required compatibility with the council's current systems to leverage and augment their existing operational workflows with new data insights.



Challenges



Lack of Real-Time Data

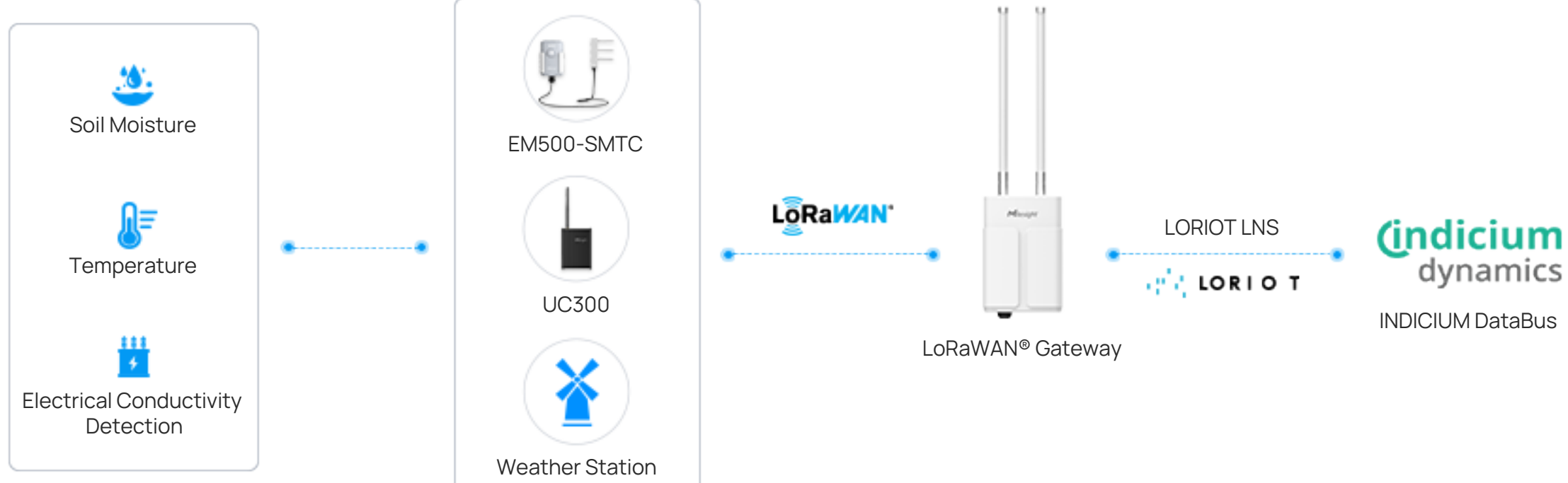
Prior to this project, the irrigation of sports grounds and green spaces in Devonport relied on an isolated control system with fixed timing schedules. This method failed to account for real-time environmental factors such as rainfall, soil moisture, or temperature, leading to issues like overwatering, underwatering, inefficient water use, high water costs, and potential damage to green spaces.



Redundant Manual Inspections

Additionally, the existing hardware required manual programming, necessitating annual site visits to reprogram the devices and change batteries, further increasing operational challenges and costs.

Solution



The council sought an accurate, low-maintenance solution to reduce water consumption costs that ensured these green spaces remained vibrant and usable for visitors. The initial pilot focused on a variety of sensors and a LoRaWAN network and investigated the potential of integrating the data insights with existing council systems such as Technology One, the council's business management system, for automated task management. To meet with the council's needs, our partner, Indicium Dynamics, presented and installed Milesight wireless LoRaWAN devices and solutions. The project upgraded irrigation systems across 10 parks and sports grounds in Devonport municipality. At each site, Indicium installed Milesight EM500-SMTC Soil Moisture, Temperature, and Electrical Conductivity Sensor and Milesight UC300 IoT Controllers for existing irrigation systems. The UG67 gateways were deployed at strategic locations around the city to provide LoRaWAN coverage. These were connected to Indicium's statewide LoRaWAN network that they run on LORIoT.



The EM500-SMTC sensors were deployed in sports fields, with the probes buried at a 5cm depth, and the Node installed inside a pipe underground. This approach allowed it to be installed in the middle of the sports fields without protruding into the playing space. The EM500-SMTC sensors and a Weather station were connect to the Indicium DataBus using LoRaWAN network via Milesight UG67 Outdoor LoRaWAN Gateway in Devonport City.

The INDICIUM DataBus collected and visualized data from soil moisture sensors and the weather station to calculate soil moisture deficits. When moisture levels hit a threshold, the DataBus sent a control signal to the irrigation controllers to stop watering. This system ensured efficient irrigation based on real-time conditions. The UC300 controllers were used to provide control signals into the irrigation control systems. The control signals were generated in the INDICIUM DataBus based on data from weather stations and soil moisture probes. The UC300 controllers were configured output control signals and manage timers for the disabled irrigation window. The data is analyzed, and a control signal is sent via the DataBus to the Milesight UC300 which controls irrigation activity via an IF-THEN command system.



Results

Water Conservation

Significant reduction in water wastage.

Centralized Monitoring

Provides a unified view of irrigation needs across all sites.

Enhanced Operational Efficiency

Eliminates manual control based on environmental data, reducing the need for crews to drive around for interventions.

Contribute to Cost Savings & Reduced Maintenance Costs

With IoT solutions, it is now able to optimize water usage. In the long run, it is helpful to decrease costs and have less crews to drive around for interventions.

Environmental Sustainability

Promotes eco-friendly practices by conserving natural resources. Also, enhances the appearance and usability of public spaces, benefiting the community.

Improved Plant Health & Community Satisfaction

Ensures optimal watering, enhancing plant and turf health.

Data-Driven Decisions

Provides valuable data for better planning and management.

Ability to Scale

Easy expansion and integration with additional sites or new technologies.



Why Choose Milesight

Good Form Factor

Small, easy to mount and deploy, fully self-contained and weatherproof, suitable for subterranean installation.

Ease of Configuration

Simple setup process.

LoRaWAN® Enabled

Ensures long-range, low-power wireless communication.

Good Battery Life

Long-lasting performance, reducing the need for frequent maintenance.

NFC App Interface

Allows for easy interaction and configuration via an NFC app.

Partner

About Indicium Dynamics



In 2016, Indicium Dynamics embarked on a mission to transform the way organisations collect, analyse, and communicate their data. The vision was simple yet powerful: make data management more intuitive and efficient, a vision born from the founder, Mike's, decade-long journey in the technology sector. Frustrated by the limitations of existing data management platforms, he sought a better way.

The name Indicium is inspired by the Latin word for "information," which reflects our commitment to turning data into meaning. We specialise in providing comprehensive IoT and Data Management solutions, working closely with our clients to transform their data management aspirations into reality.

As we evolved, the potential of data to create real-world impact became increasingly apparent. Our focus naturally started to shift towards transforming data into insights that help our clients create meaningful impact – in other words, "Measuring What Matters" in order to empower decision-making that enables decision-makers to create a real-world positive impact on people, place and the planet.

This newfound awareness inspired a core guiding principle that we were already living but hadn't yet articulated: a firm commitment to sustainability. Sustainability is not only something we enable for others but a principle we strive to live by within our own organisation.

At Indicium Dynamics, we're wholeheartedly committed to partnering with organisations across all industries who share our passion for harnessing data's power to drive sustainability. Together, we're on a mission to leave a lasting, positive impact on our world. Join us in this journey to make data matter for a better future.