

365mesh



CREATING ENERGY EFFICIENCY
for businesses across various
vertical industries

Creating energy efficiency for businesses across various verticals and industries.



Utilising Cisco products, we provided a local business with an innovative solution: using data to improve community services, reduce energy consumption and increase cost-savings.

Always looking for ways to improve their services and reduce wastage, a local business wanted to better understand their community's energy consumption.

Through the deployment of a Lora-WAN wireless IoT solution, multiple water and electricity meters were connected across an expansive area giving the business the ability to draw insights from the data/information usage. By accessing these detailed analytics, the business is now able to improve their services and streamline their community's energy consumption to generate cost-savings.

Tapping into technology

The business has realised productivity gains through gaining key insights into the community's water consumption, helping members becoming water savvy and looking at ways to reduce costs. This IoT solution can also be applied to other energy consumption areas.

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Over the last six years, we have worked closely with businesses across various vertical industries, delivering multiple projects, a sophisticated incident response and managed services.

It was only natural then that when the local business put out a tender looking for a suitable deployment of a Lora-WAN wireless solution to connect multiple water and electricity metres that has the ability to draw insights from the data/information usage, we were quick to provide a reliable, secure, and robust solution.

Integrating innovative solutions

Considering the best available options in the market to assist with connectivity and the business's other parameters and taking into consideration the expansiveness of the community area, we chose to integrate Cisco products, with our 365mesh, full stack end-to-end IoT solution to fulfil the business's requirements.

One of the business's main priorities is to continue to deliver local services valued by their communities, while considering ways to provide improvements to the area and its people. This includes looking at ways to understand energy usage better to create a more efficient way energy is consumed leading to cost savings.

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Providing a technical foundation

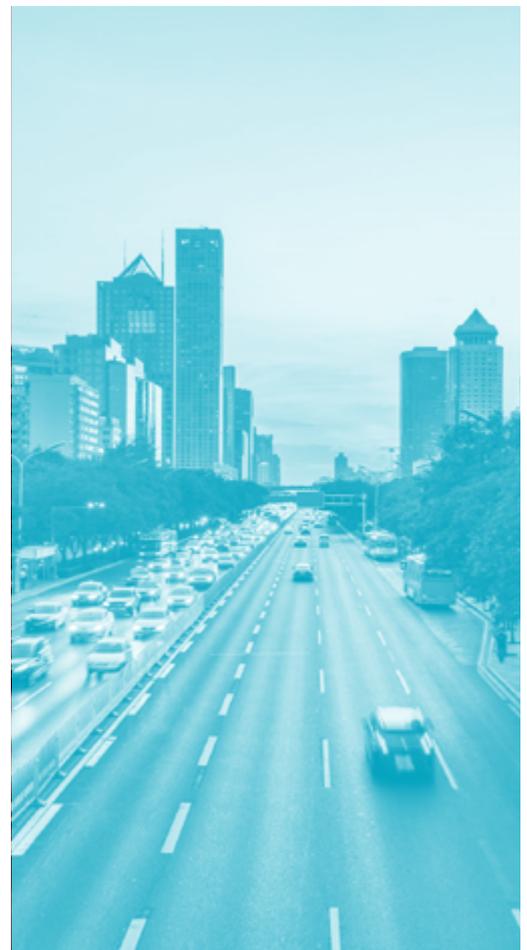
Businesses across various vertical industries within NSW were looking for a suitable Lora-WAN solution that could connect their electricity and water metres to better understand their energy consumption. This would allow them to look at ways to reduce energy consumption and wastage, while increasing cost-savings within the community.

We designed and deployed the LoRaWAN network and services using our 365mesh platform, our full stack end-to-end IoT solution. Specifically, we provided the technical foundation to allow the business to enable LoRaWAN-enabled water meters to wirelessly report water usage data.

One of the main requirements of the business was that the solution needed to have the ability to connect over 1,000 water metres so that comprehensive data from an expansive area could be utilised. As 365mesh has the ability to connect an unlimited number of sensors, the business can increase the number of water metres added to our solution to gain further insights or add additional other IoT solutions within their community areas to gain invaluable data and insights (such as pedestrian counting, vehicle counting and classification, and so on). The network coverage has been designed to ensure maximum penetration and redundancy giving the council reliable access to underground water meters and other devices, such as flow/level monitoring in wastewater manholes, alerting the business when abnormalities in water levels arise.

Once the water meters are connected, they then send the water reading information collected, hourly or daily (depending on the frequency requested by the council). The data from the LoRaWAN enabled sensor on the water meter is then collected by the Cisco IXM LoRaWAN gateway and securely sent to the 365mesh Cloud Platform.

As the 'data broker', the 365mesh Cloud is responsible for collecting the data from all the water meters. This is then manipulated to meet any back-end service that will be consuming that information, like our AI and Analytics engine. At the



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same time, anomaly detection algorithms are run on the data to pick up any potential sensor malfunction, which will automatically send an alert to the relevant business department to make them aware of any issues so that it can be fixed timeously. The data from the water meters is then handled by the 365mesh AI and Analytics engine, which is responsible for creating water usage analytics, as well as implementing custom AI model to predict water over usage, leakage detection and more.

All of this information is neatly displayed on our user-friendly dashboard, giving the council the ability to view the water usage information from each sensor. The 365mesh dashboard is highly configurable and fit for purpose. It also has the option of giving hierarchical access, to customise data visualisations to stakeholders and use cases, as well as the addition of sensors and new capabilities. The data collected can then be used by the council to provide their users with info to better manager their water usage and prevent leakage.

The 365mesh solution is robust and a highly secure and scalable platform, developed by following the most stringent hardware and software security best practices, with all data retained in-house within Australia (no access by a third-party application). What makes the 365mesh an ideal solution for the business is that it is end-to-end secure, integrable and scalable (has the ability to easily expand and grow as new sensors and features are added), easy to maintain and update (information displayed on the dashboard is done in real-time), 5 nines uptime (system is fully operations 99.9999% of the time – no downtime experienced since its establishment in 2016), has a dashboard that is user-friendly and allows for easy navigation.

This means that the business also has the ability to utilise other features of 365mesh if they wish to, such as our Smart CityDeck solution, a complete IoT solution giving councils and cities the ability to monitor and detect: air quality/fire detection, rainfall, water reservoir levels, pedestrian counting, vehicle counting and classification, energy consumption, waste management and more.

5 nines uptime

365mesh cloud platform - an end-to-end secure, integrable and scalable solution.

A smart and secure solution

By helping to bring the strategic vision of the council to life, 365mesh provided the business with a network infrastructure that was smart and secure, giving them the ability to increase the number of sensors and IoT solutions within community spaces.

The business has realised productivity gains through gaining key insights into the community's water consumption, helping members becoming water savvy and looking at ways to reduce costs. This can also be applied to other energy consumption areas, should the business wish to utilise this IoT feature.

By providing a robust IoT solution, with a modern, intelligent, and resilient security component, has ensured that the council's data and information are well protected. Given the success of the project, the business has the option of extending this solution into other community spaces to give further insight and information to improve community areas.

The business will continue to receive support and managed services, which will aid them in ensuring all network and in-frastructure remains up to date and provide their staff with innovative and top-of-the-line processes and systems.

Features



Waste Monitoring



Traffic Monitoring



Traffic Flow Monitoring



Safety and Security



People counting



Person Fall Detection



Illegal Dumping Detection and Alerting



Infrastructure health monitoring



Noise Monitoring



Algae Detection and Control



Smart Lighting



Temperature

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