

Powering Responsible Energy Management with IoT Solutions

Industry: Retail, Banking

Product: SRG-3352

Introduction

More and more, companies across various vertical markets are putting into action plans to make their facilities more environmentally conscious in order to help meet promises and goals of reducing their impact on issues both big and small; from Global Climate Change, to mindfulness of local habitats. These plans offer an added benefit in not just helping to reduce the impact of people on our environment, but also helping to reduce the costs of operation through reducing resource usage and waste.



Many companies have chosen to leverage the benefits of the Internet of Things (IoT) to help monitor and track electricity usage in their facilities. By tracking usage, they can create plans to reduce energy where possible, saving both money and resources. On market in particular which is seeing widespread deployment of IoT monitoring is in retail spaces. Retail spaces often see fluctuation customer traffic, and thus fluctuations in demand for appliances like air conditioners which utilize a large amount of electricity.

Creating a consistent and smart energy usage plan for these retail spaces requires a level of accuracy that is not achieved with staff trying their best to serve customers and monitor the thermostat. Instead, an IoT system can be deployed to map, monitor and create usage plans for air conditioning and other electrical equipment.

A major cell phone service provider in Taiwan recently deployed an IoT system to their retail storefronts for just such a task. By connecting each store to a central monitoring system, they could easily monitor each location's energy usage and foot traffic, and adjust air conditioner usage accordingly, maintaining a comfortable environment while also reducing electricity usage. Deploying such a system creates several key challenges, so the company turned to AAEON and the SRG-3352 IoT gateway to build and power their project, not just to monitor, but also control electrical usage in each store.

Challenges

To meet the needs of the service provider and successfully connect their retail outlets, AAEON worked with the company to identify several key challenges and pain points. The company wished to connect multiple devices, including air conditioners and electric meters; they needed a system that allowed for both monitoring and control; and they wanted a platform which would integrate with their own backend software. The SRG-3352 was chosen as the best solution for meeting each of these challenges.

Broad I/O Support

The company wanted to connect multiple devices in each storefront, including air conditioner units and electric meters. The SRG-3352 provides a flexible I/O loadout with RS-485, USB and dual LAN ports to support a wide range of deployments. AAEON also provided the adapters necessary to connect the air conditioner units to the SRG-3352 via RS-485, helping to simplify the deployment process.

Communication and Control

The key to the company's deployment plan lies in not only monitoring the electrical usage of each store, but in controlling things like the air conditioners when foot traffic is light or heavy. The SRG-3352 provides the processing power and capabilities to facilitate the two-way communication needed in order to allow remote and automated control over connected devices.

Software Integration

The SRG-3352 is designed cloud-ready to work with the most popular cloud services, but also integrate with a client's custom service and software. AAEON services and support also helped speed up deployment of the company's IoT project by helping test and ensure smooth integration with their own platform and software.

AAEON Advantage

In addition to helping overcome the challenges put forth by the company's project, AAEON provided several key benefits delivering a greater advantage over other options. AAEON services helped to create a dashboard for remote management, delivered a web-based UI for local setup and control of devices, as well deliver a level of experience and expertise to ensure the project's success.

Remote Monitoring Software

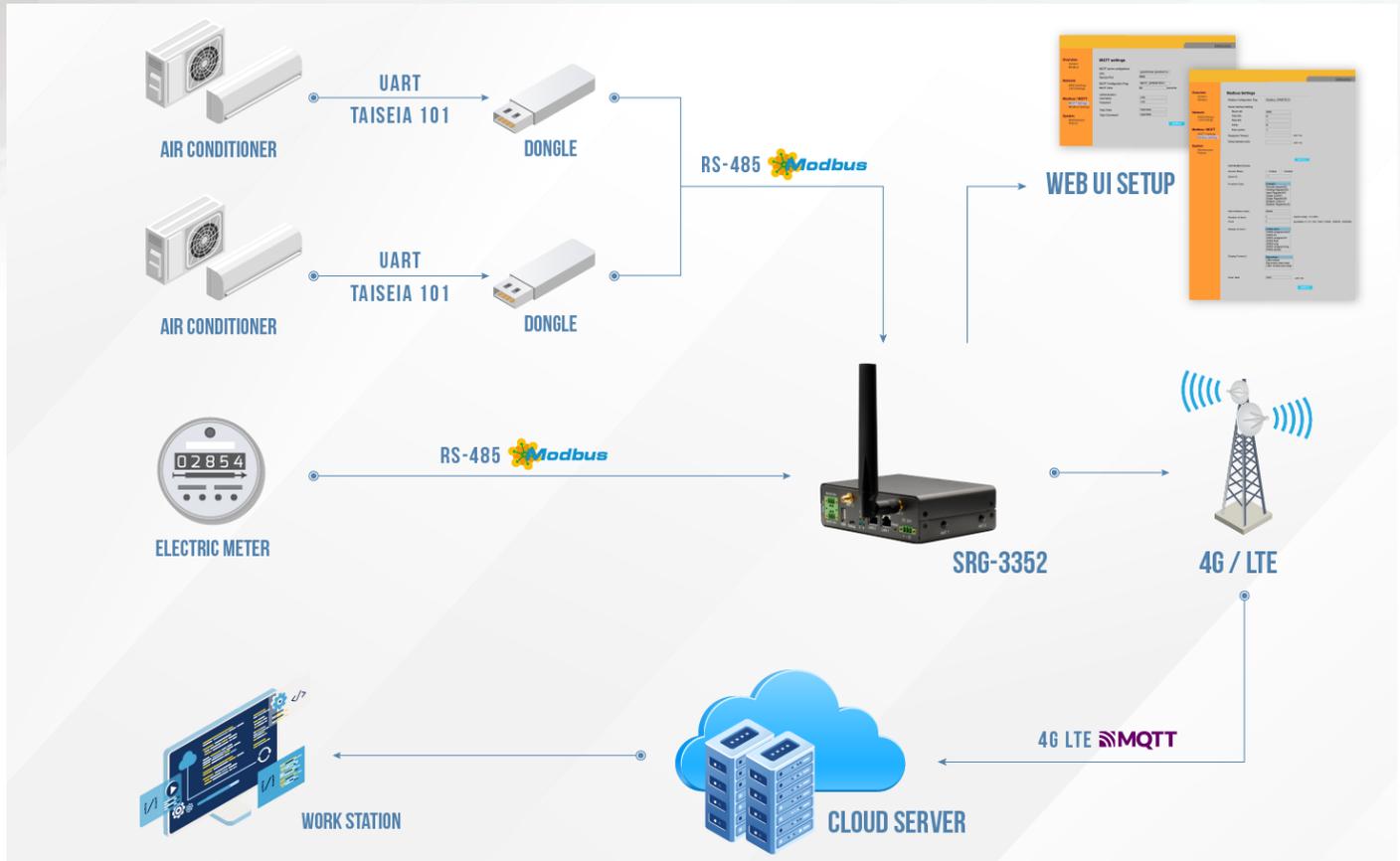
AAEON worked with the company to create a customized dashboard which integrated with their own back-end software, enabling both monitoring and control of connected air conditioner units and of the deployed SRG-3352 units themselves.

Web-Based Setup UI

AAEON also delivered a web-based user interface for setup and configuration on local networks. The UI allows the company's IT team to access the SRG-3352 on-site via the in-store Wi-Fi or LAN network and manage which devices the system is actively managing and controlling.

Industry Leading Expertise

One of the deciding factors in choosing AAEON is the industry leading experience and expertise offered by AAEON. Having successfully completed several IoT projects of varying scale and complexity, the company was assured AAEON would deliver the solution they needed on time and on budget.



Impact

Thanks to the SRG-3352 and the service and expertise of AAEON, the company was able to deploy their IoT system to monitor and manage electricity usage in their storefronts. With the system in place, they are able to track electricity usage throughout the day, combine the information with in store monitoring of foot traffic and create an automated control system which ensures each store remains comfortable while reducing electricity usage during periods of low customer volume.

This helps the company in two major ways, by helping to reduce their environmental footprint and meet commitments to more conscience practices; and helping to reduce the overall cost of each storefront through smart management of the largest sources of energy usage. These benefits are passed on to customers who may not see the system in action, but by shopping with the company they help these efforts succeed while also getting competitive pricing on the services and devices they wish to purchase.

Product

The SRG-3352 from AAEON is built to power reliable and cost-effective edge gateway operations, with low upfront cost and reduced maintenance requirements over time. Powered by the Arm[®] Cortex-A8 800 MHz RISC processor, the SRG-3352 delivers efficient computing for more energy conscience operations. The SRG-3352 has a low thermal output, allowing the system to operate in a wide range of temperatures from 0°C to 60°C without a loss in performance.

The SRG-3352 supports wireless communication through 3G/4G/LTE as well as NB-IoT to help reduce carrier costs. The SRG-3352 provides flexibility in connecting with edge nodes, supporting Wi-Fi and featuring two Gigabit Ethernet ports, USB 2.0 and RS-485 ports. Optional wall-mount and DIN rail kits ensure the SRG-3352 can be deployed anywhere it's needed. The SRG-3352 is also compatible with popular cloud services including AWS, Azure, and Arm Pelion, or can be configured to work with a customer's own cloud platform.

AAEON delivers experience and expertise designed to reduce development times, accelerate deployment and shorten time-to-market. From creating customized web-based user interfaces which provide monitoring and management of both system and devices, to providing software integration to ensure AAEON solutions are ready to work with existing or proprietary software systems from day one. AAEON can also work with local systems integrators and experts to ensure clients have every component, adapter, sensor and device they need to make their project a reality.

About AAEON

Established in 1992, AAEON is one of the leading designers and manufacturers of industrial IoT and AI Edge solutions. With continual innovation as a core value, AAEON provides reliable, high-quality computing platforms including industrial motherboards and systems, rugged tablets, embedded AI Edge systems, uCPE network appliances, and LoRaWAN/WWAN solutions. AAEON also provides industry-leading experience and knowledge to provide OEM/ODM services worldwide. AAEON also works closely with cities and governments to develop and deploy Smart City ecosystems, offering individual platforms and end-to-end solutions. AAEON works closely with premier chip designers to deliver stable, reliable platforms, and is recognized as an Associate member of the Intel[®] Internet of Things Solutions Alliance, as well as an NVIDIA[®] Preferred Partner. For an introduction to AAEON's expansive line of products and services, visit www.aaeon.com.

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