Kaohsiung City Gets Smarter with IoT Connectivity

Chunghwa System Integration selects Allied Telesis for smarter IoT connectivity in Kaohsiung City.

Customer: Chunghwa System Integration Co., Ltd.,

Industry: Information Technology

Location: Taiwan

> Allied Telesis is the only vendor that has integrated OpenFlow in an industrial switch. Further, both legacy and OpenFlow-managed ports can co-exist on the same switch, so deployment and operational flexibility is guaranteed.

Mr Bowen Huang

Department Manager, Chunghwa System Integration

Population
2,770,000

Area
2948 km²

Population Density
941 people/km²

Climate
Tropical Monsoon

Kaohsiung is a large, modern metropolis in southern Taiwan. The second largest city in Taiwan, it boasts mountains, ocean, rivers and ports, as well as a rich culture and beautiful city-scape.

Building a Smarter City

Taiwan is at the forefront of technology, so when the time came for Kaohsiung City to change its network infrastructure, it wasn't just better management and reliability they were looking for. Building smarter cities by utilizing Internet of Things (IoT) technologies is a major goal for all today's modern countries. The cities of tomorrow will use Software-Defined Networking (SDN) to build smart applications that unlock value and reduce cost.

Kaohsiung City needed a future-proof solution, and SDN enables intent-based networking using programmability to ensure flexible and centralized management. The city wanted to install smart street lighting: as well as providing illumination, smart street lights incorporate nine other applications, including security cameras, vehicle identification, air quality and road-flooding sensors, electronic billboards for public notifications, a WiFi hotspot, and more.
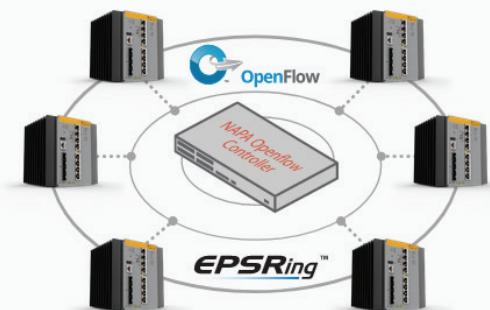
In harsh outdoor environments such as this, network devices must be not just reliable but also built to withstand fluctuating environmental and weather conditions.

Leading the Way with SDN

Chunghwa System Integration knew just the right company to go with. Allied Telesis is leading the market with products that use the OpenFlow protocol to enable SDN communication and management.

Allied Telesis ruggedized IE300 Series Industrial Ethernet Layer 3 Switches were designed specifically for enduring performance in harsh environments. These high-performing, cost-effective switches meet the most stringent requirements of today's industrial networks, delivering the performance and reliability demanded in the IoT age. With the added ability to provide electrical power for integrated digital services, the IE300 was the perfect fit for Kaohsiung City, ensuring a future-proof network.

Working in conjunction with the IE300, an Allied Telesis Ethernet Protection Switched Ring (EPSRing™) provides high-performance connectivity with near-hitless failover for this large city-wide deployment.

Allied Telesis Network Infrastructure Benefits

- Allied Telesis is the only vendor supporting OpenFlow on Industrial switches.

- OpenFlow and legacy managed ports can operate together on the same switch.

- EPSRing™ enables a high-speed resilient management backbone.

From Strategy to Success

The new industrial-grade network covers the entire city and supports the multi-functional new smart street lights. It is stable, high-performing, and very easy to manage from the central SDN controller, saving the city both time and money.

As well as automating parking management, constantly monitoring the environment, and keeping citizens safe, the network provides a cutting-edge, seamless digital information experience. These new technologies are transforming daily life for the people of Kaohsiung.

Automated Process Streamlines Repairs

There are around 9,000 street light faults reported per annum in Kaohsiung City. With the new smart street lights automatically reporting any faults, issues are proactively fixed before anyone even notices, greatly reducing fault calls and the amount of administration required to maintain traffic infrastructure in this busy city.

Kaohsiung Looks to the Future

This intelligent city has some more big plans in store. Phase 2 of the smart light project will roll out more Smart street lights, and add additional features, like 5G mobile connectivity and much more.

Kaohsiung is looking to implement Vista Manager EX and the Autonomous Management Framework (AMF). AMF provides network automation to reduce and simplify management, while Vista provides powerful graphical tools to intelligently monitor and manage the entire solution, allowing Kaoshiung City to offer continuing innovative services to improve modern city living.