![Poster/advertisement cover page. EcoStruxure™ Innovation At Every Level logo top left. Large green text "RELIABLE" over an image of two workers in high-visibility clothing operating a large valve wheel at a water facility.]

EcoStruxure™
Innovation At Every Level

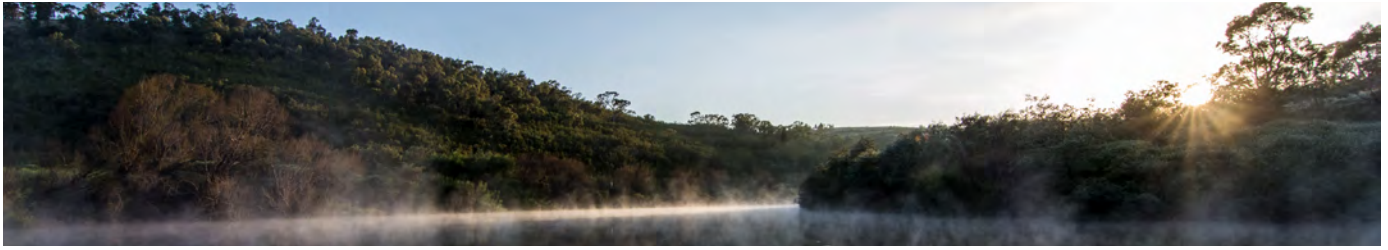# RELIABLE

Better customer experience for Shoalhaven Water

Shoalhaven Water – New South Wales, Australia

EcoStruxure™ Geo SCADA Expert and Trio radio upgrade leads to better visibility, shorter downtimes and greater water security for Shoalhaven Water customers.

se.com/au/ecostruxure

Life Is On | Schneider Electric

SCADA solution results in greater up-times for water network

Covering an area of approximately 5,000km^2, Shoalhaven Water is a large regional utility on the New South Wales South Coast. Tied to the Shoalhaven City Council, the utility is responsible for the delivery of potable water with the majority from four large water treatment plants in both the north and the south, as well as numerous water reservoirs and dams, water pumping stations, valves and dosing systems. Overall, they treat and distribute approximately 45 million litres of potable water each day.

The Challenge

Looking to upgrade its existing SCADA system, Shoalhaven Water began a lengthy Expressions of Interest (EOI) process, asking the industry for their best options for the upgrade. They were looking for a solution that would modernise their systems, as well as give them a more standardised and uniform interface to enable operators to more easily carry out maintenance and troubleshoot problems across all assets.

Part of the EOI process included splitting the project into three areas: system integration of hardware and SCADA upgrade; supply of hardware; and installation. SAFEgroup Automation, a Schneider Electric Master Alliance system integrator partner, was awarded the system integration and supply portions of the project, with installation awarded to Downer EDI.

The Solution

Working closely with SAFEgroup Automation system integrators, Shoalhaven Water mapped out a clear plan to deliver Schneider Electric telemetry hardware and SCADA software enhancements to remote sites. The solution is based on Schneider Electric's EcoStruxure™ architecture, connecting products under an overarching software to provide efficiencies and easier-to-use interface.

SAFEgroup Automation recommended an upgrade of the SCADA system to EcoStruxure Geo SCADA Expert, an open, flexible and scalable software for telemetry and remote SCADA solutions. It is optimised for managing remote assets spread across geographically dispersed infrastructure – perfect for Shoalhaven Water's needs. The system allows users to build templates for devices, such as a standard site template for both water and sewer sites, and then create instances of these templates for deployment.

Goal

Upgrade the aging infrastructure to include remote capabilities.

Story

Shoalhaven Water benefits from remote management and preventative maintenance.

Solution

EcoStruxure architecture

- EcoStruxure™ Geo SCADA Expert
- Trio™ QR radios
- Trio™ QB radios

Results

Proactive maintenance capabilities

- Reduced maintenance costs
- Streamlined reporting
- More stable and reliable water services for customers

Life Is On | Schneider Electric

This methodology reduces engineering time and effort and can reduce workloads by 90%, compared to a traditional HMI/SCADA system deployment. As a result of using this methodology, the installation was able to move quickly, with 2-3 sites completed each day, and well over 60% of the telemetry installation completed in the first year of the three-year project. This standardisation also meant that the configuration of new telemetry hardware in preparation for installations was significantly streamlined, assisting the rapid deployment of the SCADA upgrade.

An upgrade of the telemetry radio network saw the implementation of more than 350 Schneider Electric Trio QR radios, which provide both Ethernet and serial communications for complex and demanding applications in point-to-point and point-to-multiple-point telemetry and remote SCADA systems. These work in conjunction with 15 Schneider Electric Trio QB radios which are ideal for deployment at base and repeater sites.

The connected radios alert Shoalhaven Water to problems in the system such as incorrect water pressure, water levels, flows, pump activity and more. This allows them to better manage their assets and offer more reliable services for their customers.

Proactive maintenance

Previously for their 1200+ low pressure sewer sites, Shoalhaven Water had to rely on their customers to call them if they heard a fault alarm going off. This notification often took place out of business hours when residents returned home after work. In areas where a large portion of the homes are holiday rentals, and therefore people aren't around as much, the delay could often be much longer. The new remote access system means that Shoalhaven Water receives notifications immediately. Having access to these alerts also means the work is able to be completed during normal office hours, saving the company money. For the team, being able to access the system remotely, including on their

mobile devices, means they can respond faster to any fault events as they occur. This has allowed team members to work from home easily and productively.

Emergency management and additional reporting

Geo SCADA Expert provides Shoalhaven Water with mapping functions and can overlay Geographic Information System (GIS) mapping, as well as weather data from the Bureau of Meteorology (BoM). This works particularly well for storm events where localised flooding may occur. This emergency management piece is also displayed at Shoalhaven's local Emergency Management Centre so that people can see where potential problems may occur.

At the treatment plants, operators have the ability to input their manual testing data to get a complete picture of the system in one interface. Having all this information in one place means that when Shoalhaven Water needs to do their yearly reporting for the EPA, for example, they can now

"(Geo SCADA Expert) is efficient, reliable and its capabilities are outstanding."

— Adam Drenoyanis,
Unit Manager,
Digital Control Systems.
Shoalhaven Water

Life Is On | Schneider Electric

simply generate that report directly through Geo SCADA Expert. Previously, this reporting would have been a time-consuming manual process, requiring someone to collate details from several spreadsheets.

The Outcome

The rollout of the Shoalhaven Water upgrade is progressing well, with EcoStruxure Geo SCADA Expert significantly improving day-to-day operations for field staff, emergency response, as well as management decision-making and forecasting.

Adam Drenoyanis, Unit Manager, Digital Control Systems for Shoalhaven Water, recognises the positive role Master Alliance system integrators from SAFEgroup Automation have played throughout the upgrade and modernisation project to date.

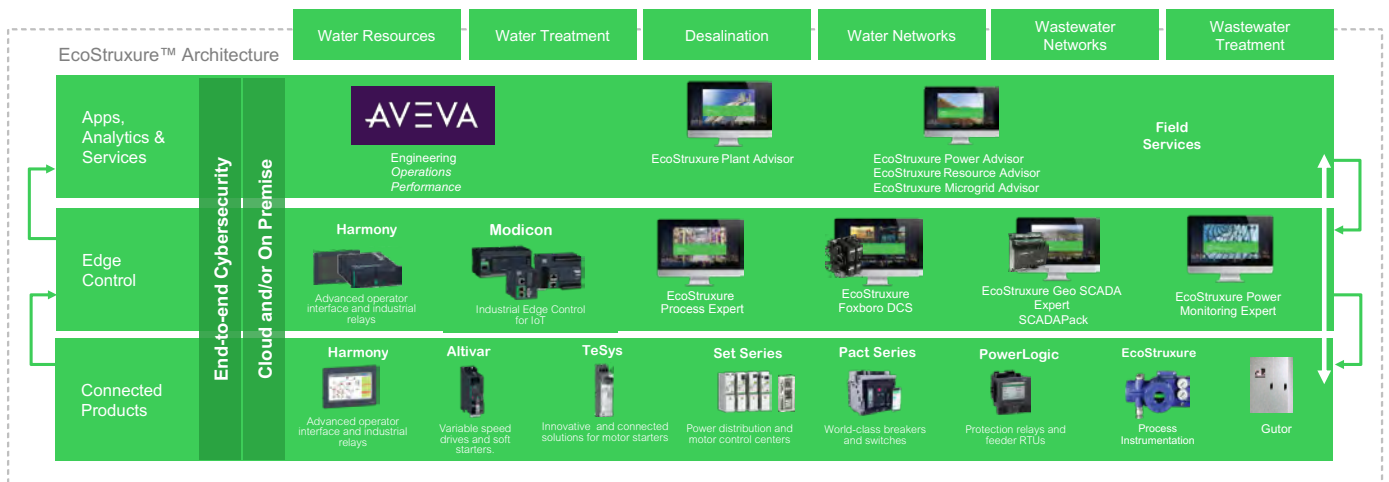"SAFEgroup Automation has consistently come in ahead of time, and we are around 20% under budget," Drenoyanis says. "This has allowed us to implement many more solutions than were in the original scope."

Drenoyanis says he is very pleased with the Schneider Electric solution, and is particularly impressed with Geo SCADA Expert.

"It is efficient, reliable and its capabilities are outstanding," Adam says. "It has really increased our work flexibility, as well as opening the door for us to operate in more efficient and streamlined ways. Bringing everything into the one system is so helpful, and particularly for our emergency response, being able to see everything on the one screen allows us to manage what is happening and where any potential problems may be."

The success of the project has meant that Shoalhaven Water is investigating other areas where upgrading to Schneider Electric hardware will let them seamlessly tap into the Geo SCADA Expert software.

AVEVA and the AVEVA logo are a trademark or registered trademark of AVEVA Group plc in the U.S. and other countries.

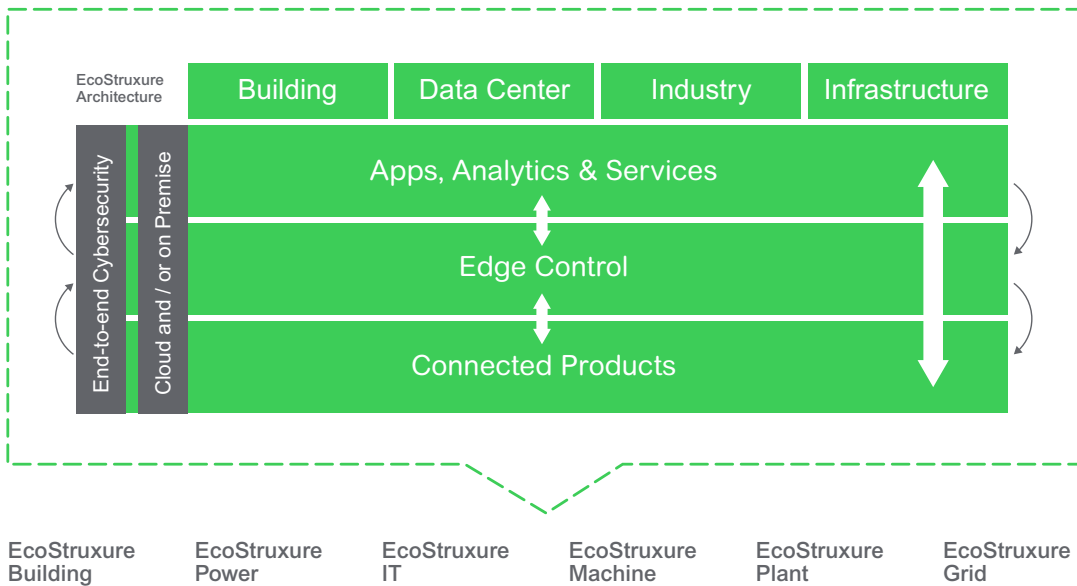Life Is On | Schneider Electric

Eco Struxure™
Innovation At Every Level

IoT-enabled solutions that drive operational and energy efficiency

EcoStruxure is our open, interoperable, IoT-enabled system architecture and platform. EcoStruxure delivers enhanced value around safety, reliability, efficiency, sustainability, and connectivity for our customers. EcoStruxure leverages advancements in IoT, mobility, sensing, cloud, analytics, and cybersecurity to deliver Innovation at Every Level.

This includes Connected Products, Edge Control, and Apps, Analytics & Services which are supported by Customer Lifecycle Software. EcoStruxure has been deployed in almost 500,000 sites with the support of 20,000+ developers, 650,000 service providers and partners, 3,000 utilities and connects over 2 million assets under management.

One EcoStruxure architecture, serving 4 End Markets with 6 Domains of Expertise

EcoStruxure Architecture	Building	Data Center	Industry	Infrastructure

End-to-end Cybersecurity | Cloud and / or on Premise

Apps, Analytics & Services

Edge Control

Connected Products

EcoStruxure Building | EcoStruxure Power | EcoStruxure IT | EcoStruxure Machine | EcoStruxure Plant | EcoStruxure Grid

Connected Products

The Internet of Things starts with the best things. Our IoT-enabled best-in-class connected products include breakers, drives, UPSs, relays, sensors, and more. Devices with embedded intelligence drive better decision-making throughout operations.

Edge Control

Mission-critical scenarios can be unpredictable, so control of devices at the edge of the IoT network is a must. This essential capability provides real-time solutions that enable local control at the edge, protecting safety and uptime.

Apps, Analytics & Services

Interoperability is imperative to supporting the diverse hardware and systems in building, data center, industry, and grid environments. EcoStruxure enables a breadth of agnostic Applications, Analytics, & Services for seamless enterprise integration.

Find out more about EcoStruxure

se.com/au/ecostruxure

Life Is On | Schneider Electric

Learn More

EcoStruxure for
Water & Wastewater

WaterForce Customer Story

EcoStruxure Geo SCADA Expert

Industry System Integrators

SMART SCADA for Wastewater
Treatment Plants

Contact us to start your journey

Life Is On | Schneider Electric