

CONNECTIVITY

Building the world's best nutritional business

MATAURA VALLEY MILK – New Zealand

How EcoStruxure™ Plant is improving
safety, efficiency, and productivity
with an easy-to-use solution.

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Life Is On

Schneider
Electric



Building the world's best nutritional business is the ambitious goal that New Zealand dairy company Mataura Valley Milk set out to achieve in August 2016.

Nearly three years later, the company's milk production plant is an impressive accomplishment that comfortably justifies its early ambition. Employing over 80 staff and partnered with over 20 dairy farmers, Mataura Valley Milk is now benchmarking innovation and performance for other milk plants.

Situated in McNab, north of Gore at the bottom of New Zealand's South Island, the state-of-the-art facility was delivered on-time and within budget, an impressive achievement for a greenfield project.

"To achieve our goal, we knew that choosing only the best people, partners, and infrastructure was crucial," says Brent Robinson, Mataura Valley Milk's Projects Manager.

"The success of the project was a consequence of meticulous planning and strategy. We sought out and hired the most skilled staff; we chose construction partners with proven expertise; we purchased best-in-class plant and equipment; and we partnered with industry-leading suppliers and fabricators."

Schneider Electric was one such expert partner that delivered its EcoStruxure solution, tailored to Mataura Valley Milk's strict requirements for a fully connected and integrated facility with real-time visibility of every process.

Connectivity

At Mataura Valley Milk's core is its dedication to customers. This demands the ability to quickly adapt and tailor products to their requirements.

"We must have agility around what we produce with no sacrifice of quality. Producing nutritional products is a complex, high-reward approach so the plant must be nimble and our expertise unmatched. To confidently make these decisions, visibility and trust in our data is crucial" says Robinson.

Schneider Electric's EcoStruxure Plant solution delivers and provides context to live, real-time data on every process at the plant through AVEVA's System Platform, Batch Management and Manufacturing Execution System (MES) software. In short, Mataura Valley employees receive any data they require immediately and know they can trust it.

Goal

Mataura Valley Milk wanted to build the world's best nutritional business that could quickly tailor production to specific customer requirements while guaranteeing the delivery of best-in-class quality products.

Story

Mataura Valley Milk's first operating season proved that the plant can consistently manufacture world-class nutritional products with microbial results well below standard requirements. Over 3,300 Aerobic Plate Count tests were performed during the 2018/19 season to identify colony forming units per gram (cfu/g). Mataura Valley Milk's highest recorded result was a mere 190 cfu/g, with the accepted limit being 5,000 cfu/g, believed to be a first for New Zealand and indicating that the plant's critical hygiene areas and processes benchmark performance worldwide.

Solution

Schneider Electric specified a robust EcoStruxure Plant and Power solution that delivers connectivity across all layers of the operation, minimises energy usage, guarantees power quality, and provides real-time data so that transparency and integrity are maintained across the supply chain, from farm ingredients to manufactured products.

Results

A connected and scalable backbone that enables Mataura Valley Milk to seize market opportunities, secure in the quality of its product and the reliability of its infrastructure. The company can remain innovative, agile, and versatile by confidently making decisions based on live data it knows can be trusted.

“We’re able to track and trace every ingredient on its journey from the farm and through the facility. This track-and-trace approach provides complete transparency and trust for our suppliers and customers. This visibility also contributes to our innovation programme and delivers great value in terms of R&D and process efficiencies. Data can’t be useful without precision and the Schneider solution gives us all the connectivity and accuracy we need.

“The EcoStruxure solution delivers connectivity to all our business layers. It proves itself to us every day as we interrogate data in the MES. We’re able to fault find and resolve issues immediately, receive alerts on any irregular findings throughout the plant, test and introduce process efficiencies quickly, and positively affect our final product.” says Robinson.

An end-to-end solution

Maintaining the integrity of vital data requires a robust and reliable hardware solution.

Mataura Valley Milk deployed Schneider Electric products across the plant, from the switchgear in the offices to variable speed drives, programmable logic controllers, active harmonic filters, and power monitoring, according to Mataura Valley Milk’s Engineering Manager, Scott Waddell.

The equipment list includes over 200 Altivar Process variable speed drives, 14 AccuSine harmonic filters to ensure power quality and minimise power factor correction, air circuit breakers to reliably protect staff and equipment, and TeSys U motor controls to optimise machine efficiency.

The real-time data visibility and connectivity are delivered by Modicon M580 Ethernet programmable automation controllers, part of EcoStruxure’s Edge Control layer.

Ultimately, Schneider Electric’s EcoStruxure solution provides Mataura Valley Milk with an open and connected system architecture that enhances the efficiency, reliability, safety, sustainability, and connectivity of its infrastructure.

Waddell says, “Standardising on Schneider equipment gives us confidence around our power supply and the integrity of our operations. It’s not just the reliability of their equipment but also the support and expertise we get from Schneider. We’re able to see our real-time energy usage, and AVEVA’s System Platform provides context to our data, enabling fine-tuning of our power usage and carbon footprint.”

“Schneider Electric’s EcoStruxure Plant solution delivers connectivity to all our business layers. It proves itself to us every day as we interrogate data in the MES.

- Brent Robinson,
Mataura Valley Milk
Project Manager





A strong backbone

Mataura Valley Milk's aim of building the world's best nutritional plant is not a target but a goal that continuously moves forward as the company raises the bar on production methods and product quality.

This journey enables the company to continuously innovate and strategize for the future. Increases to site capacity are already underway as are accreditations for its products to be distributed in both China and the USA.

"It's all based on a good backbone. From the moment we drilled under the Mataura River to run the high voltage supply cables that secure power to the site, to when the first products left our warehouse, we've been looking at how we can broaden our offer, maintain maximum quality, and produce more," says Waddell.

"Along the way, we've proven that our approach was sound, and this is evidenced in our commercial performance as well as our compliance and audit results. We've successfully progressed through AsureQuality's five performance-based verification audit levels without being held back at any stage, which justifies our audit processes and validates the effort that our staff and partners – like Schneider Electric – have put into the operation.

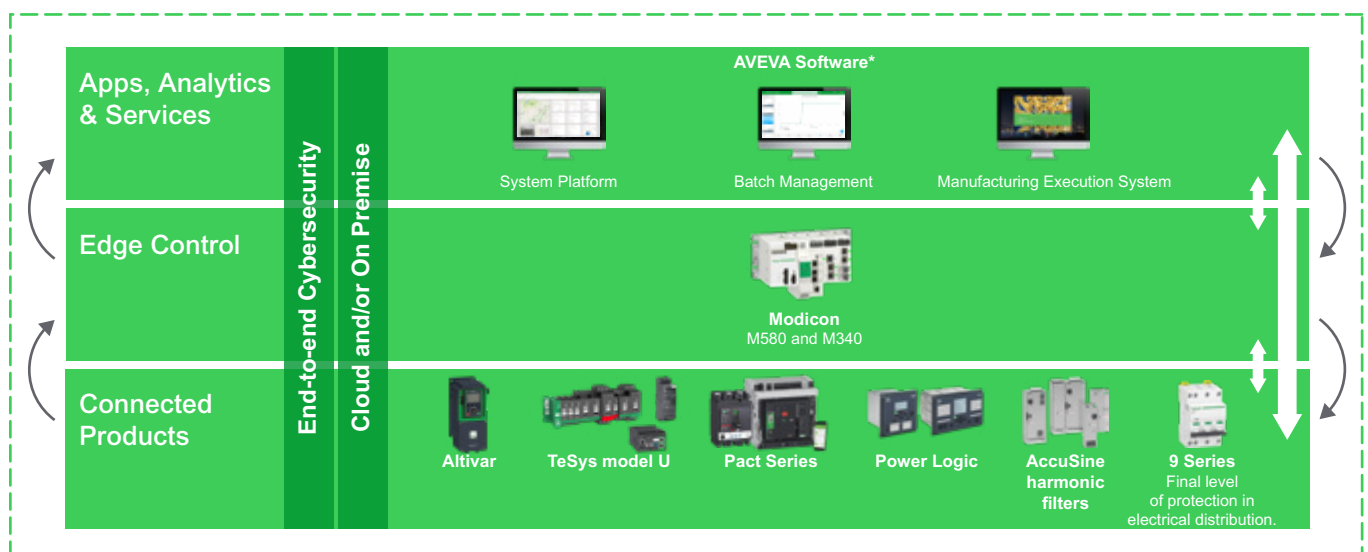
"The trust and confidence we bring to the table extends all the way through from our suppliers to our customers' customers. We're very proud of our short past and excited about our long future," Waddell concluded.

20%

faster time to market

EcoStruxure™
Innovation At Every Level

Plant & Power



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EcoStruxure™
Architecture

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Innovation At Every Level

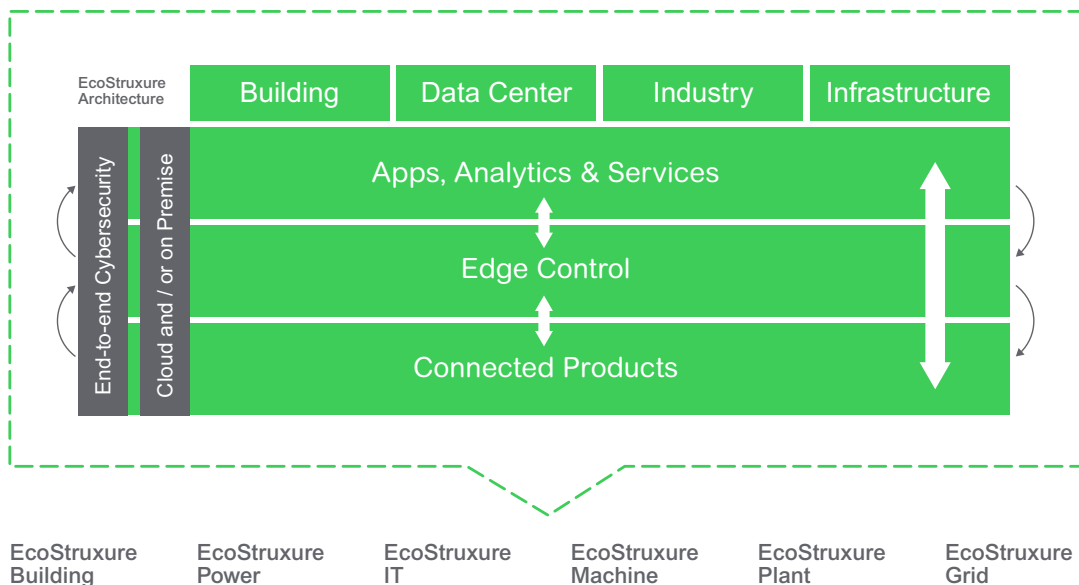
IoT-enabled solutions that drive operational and energy efficiency

EcoStruxure is Schneider Electric's 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 including Connected Products, Edge Control, and Apps, Analytics & Services. EcoStruxure™ has been deployed in 480,000+ sites, with the support of 20,000+ system integrators and developers, connecting over 1.6 million assets under management through 40+ digital services.

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



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.

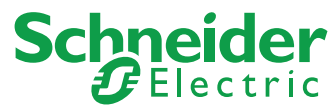
Apps, Analytics & Services

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.

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