CSL
CUTHBERT STEWART LTD

An assured new approach to projects

It takes confidence and trust to deviate from a tried and tested project plan. Change from normal operating approaches can carry risk, but with a well thought out and collaborative approach, a lot of value can be gained.

Sometimes an opportunity can present itself during the workflow of an engineering project that can drastically improve timelines and reduce expected costs. One Auckland based engineering company discovered such an opportunity when sourcing Siemens equipment to be used in a control panel upgrade for a large bottling plant.

Auckland based industrial automation specialists, Arahant Services has maintained and serviced the bottling plant's automation system since 2021. Arahant was selected because of its teams' hard-to-come-by experience with the plant's aging processes and systems.

Primarily tasked with maintaining the existing infrastructure, Arahant devised a clever upgrade pathway that would enable the plant to modernise with new technology and innovation without posing any risk or impact to operational stability.

Arahant's industrial automation expert, Sushant Kadole says that the plant processes over 500,000 bottles per day, making business continuity a priority.

"Our automation engineers quickly recognised that the plant's infrastructure had become operationally unreliable and that upgrades were necessary to increase production, provide scalability for the future and above all, minimise risks to the operation," he says.

The upgrade strategy that Arahant designed had progressed to delivering a new process control panel that would control 26 conveyors, which presented the key challenge of engineering the newer, faster process automation technology to operate seamlessly with the older equipment.

"A lot of our time needed to be dedicated to the integration of the new and old technologies, and while sourcing Siemens equipment we were provided with an opportunity to drastically reduce the time and resources required to manufacture the panel as well as enhance the overall outcome through CSL's TechLab," says Kadole.

Innovative Collaboration

Cuthbert Stewart Ltd (CSL) opened its Techlab Engineering Centre in 2023 to provide added value and engineering support to its system integrator partners and customers.

Techlab's engineering manager, Michael Wright says that what began as a product selection and delivery discussion evolved into a full-blown project collaboration that delivered an excellent outcome for Arahant and its customer.

"The control panel houses a Siemens S7-1500 PLC, 26 Siemens G120C VSD's, is monitored through Siemens WinCC and engineered with TIA Portal - Siemens innovative Totally Integrated Automation engineering framework.

"While reviewing the EPLAN design schematic with Arahant's experts we discovered that other products from →

FEATURED IN THIS PROJECT:

SIEMENS Weidmüller BELDEN RITTAL KATKO TechLab

our solution offering were a perfect fit and would deliver performance advantages and support the integration process for Arahants automation experts," he says.

CSL worked with Arahant to specify a Rittal TS 8 cabinet due to its versatility and significant space advantage, along with the Rittal RiLine 60 busbar system enabling real configuration flexibility.

Sushant Kadole says that CSL's solution offering and the product knowledge of its Techlab engineering team meant that further advantages and synergies could be delivered into the panel.

"Working with Techlab made equipment selection easy and delivered clear advantages over a conventional approach, but it was when we learned of the panel manufacturing support on offer that we gained some real efficiencies," he says.

Arahant partnered with CSL to have the control panel built in TechLab's state-of-the-art workshop by its engineers and take advantage of the innovative technologies and tooling that TechLab is becoming recognised for.

The Rittal EPLAN schematics for the panel were imported into TechLab's Perforex upright milling machine that delivered fast and precise hole drilling, thread-tapping and cut outs required on the enclosure. All panel wires were measured and precision cut, ferruled, and labelled for the panel, on the Weidmuller semi-automated wire processing centre.

The completed wire bundles then seamlessly flow to the EPLAN Smart Wiring workstation for efficient panel wiring utilising a digital twin wire-to-screen process.

"TechLab's Perforex machine is a game changer. It was able to precision cut and drill every hole required in only 45 minutes. This process, done conventionally, would normally take up to two days. Every wire in the panel was cut to precision and expertly terminated and installed, and TechLab's labelling service delivered a much more polished result. We are delighted with the outcome and our customer will be too," he says.

Enhanced Outcomes

During this collaboration other advantages came to light, particularly as a result of bringing together people with differing areas of expertise.

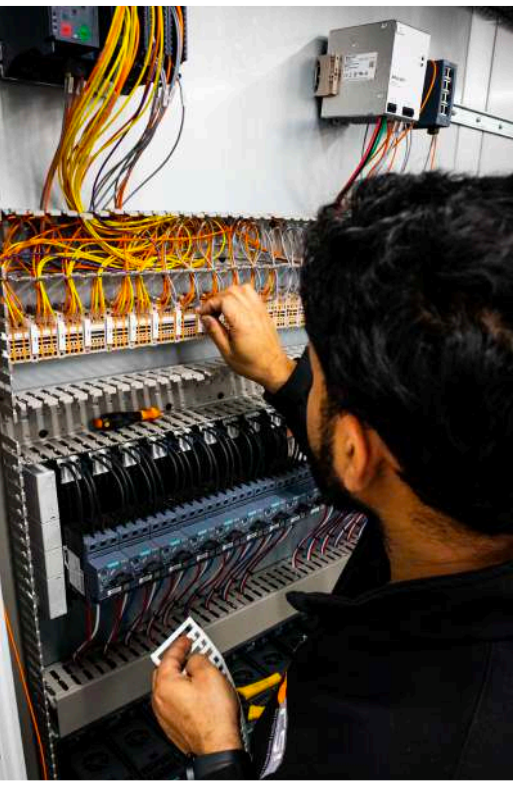
Michael Wright says that beyond the electrical design and manufacturing of the panel, other considerations were recognised and understood by his team.

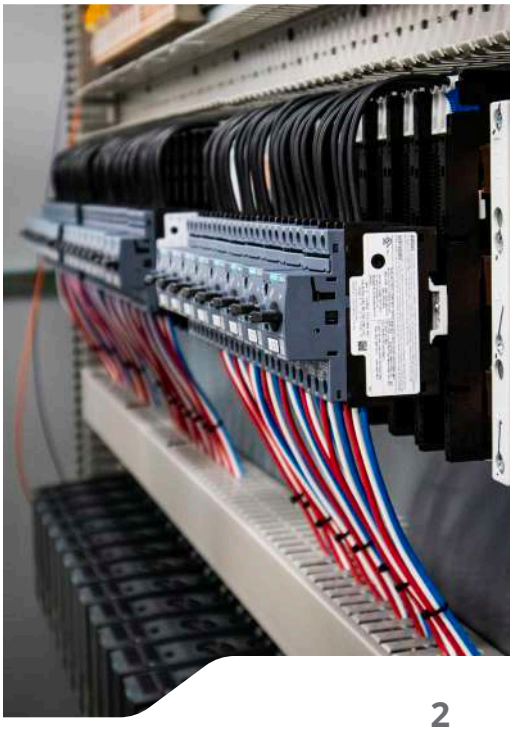
"The panel needed a protective rain hood and a re-access manhole to ensure safe and long-term deployment in this particular location. It was rewarding to work with Arahant's team in designing the solutions and producing them in TechLab," he says.

Wright's team designed a rain hood for the panel in Siemens state of the art 3D design software; SolidEdge. The hood can be lifted to reveal a watertight manhole enabling quick and easy access to the panel and controls for maintenance and service.

The hood was designed by the TechLab team, then cut, folded and welded before being powder coated and installed to perfectly fit with the Rittal TS 8 cabinet.

CSL Managing Director Phil Elliott says that this innovative approach to the project sums up what TechLab was designed for.





"We are delighted that we could enhance the scope of this project for Arahant and help enhance the final outcome for their customer. Beyond our standard TechLab services such as product sourcing, panel preparation, wiring and labelling; the design and manufacture of the rain hood was a unique challenge and really proved that the best way to get a great outcome is to pool expertise and collaborate with our system integrator partners," he says.

CSL created Techlab to enhance the value of its world-class product portfolio for its customers and the members of its System Integrator Partner programme. Elliott points out that TechLab helping to introduce innovation and efficiency enhances CSL's partners' ability to approach and price projects.

Sushant Kadole echoes Elliott's views, saying that TechLab allows Arahant to say yes to bigger or more tight-timeline jobs with confidence.

"Knowing that we have access to TechLab and its capabilities, resources and expertise provides a new dimension to our project approach. It's not only the access to products and tools such as the Perforex machine and labelling, it extends to knowing that our project management and contractor coordination efforts will be less demanding and ultimately lead to quicker delivery of polished and fit-for-purpose solutions to our customers," he says.

Made for the industry

TechLab is proving that with collaboration and the pooling of knowledge and expertise, tried and trusted project approaches can evolve with positive results.

Beyond the advanced workshop environment and cutting-edge technology and tools, TechLab is also delivering valuable training across the electrical, automation and engineering sectors.

"We maintain a comprehensive training programme that brings world-leading experts from our global brands such as Siemens, Rittal, Fluke, Weidmuller and Belden to New Zealand. This presents great opportunities for anyone motivated to increase their skills and knowledge," says Phil Elliott.

It's not just the established industry that gets value from TechLab. CSL also recognises the importance of opening its doors to the next generation of electricians and engineers and supporting our industry at a grass-roots level.

"We welcomed three electrical apprentices from ETCO to TechLab for two weeks during this project. It was rewarding to see their enthusiasm as they were exposed to the latest products, practices and methodologies. This is absolutely something that we are eager to see more of," says Michael Wright.

Sushant Kadole says that the choice to adjust his normal project approach and work with TechLab wasn't a decision taken lightly, but he is very satisfied with the results and the care that the CSL team showed in minimising risk and adding value.

"CSL's Rod Englund was the first person to suggest that I look at the advantages TechLab had to offer. I was willing to explore the opportunity and then every step of the way and with each new person introduced to the project, my confidence grew. Now TechLab's services will be a consideration in many of our projects moving forward," says Kadole.

CSL welcomes anyone interested in learning about the latest automation tools, technologies techniques and methodologies and how they can add value to projects, to come and take a look.

"We built this for the industry and it's very rewarding to see a project like Arahant's flourish with our help. Our doors are open for anyone interested in delivering increased value and innovation to their customers. Get in touch with us to arrange your tour of TechLab and maybe even finish with a cold brew in our state of the art BrewLab innovation centre," says Phil Elliott. ■