CASE STUDY

Modernization of SCADA system for smart water management in the Valparaíso Region, Chile

Digital transformation in the water sector with vNode: innovation, connectivity, efficiency and continuous improvement in water management and control.

PARTNER: IDRICA

CUSTOMER: COMPANY THAT PROVIDES DRINKING WATER AND SEWERAGE SERVICE IN THE VALPARAÍSO REGION.

Vester Business

Project

Thanks to the collaboration between Vester Business and Idrica, **the SCADA system modernization project with vNode has revolutionized water management.** Now, with advanced connectivity and efficient supervision through the implementation of the Xylem Vue powered by GoAigua platform, developed by Idrica, the Valparaiso drinking water and sewerage company can operate more reliably and effectively, ensuring an optimal water supply for the community.

End Customer

The end customer is a sanitation company that provides drinking water supply and sanitation services in the Valparaíso region, Chile. In addition, it owns Aguas del Valle, which offers similar services in the Coquimbo region. With a focus on operational efficiency and technological innovation, this company ensures the safe and reliable supply of water for its customers.

Integrator Partner

Idrica is the leading company specializing in water cycle management that unlocks the value of water technology to accelerate digital transformation in utilities. With a team of more than 300 experts, this innovative company leverages data management and analytics to simplify water cycle management around the world.

Solution

vNode, the end-to-end solution installed and configured by Idrica, stood out as the core of the SCADA system modernization at the end customer. With its ability to manage multiple devices and protocols, vNode facilitated the integration of more than 900 PLCs, ensuring reliable connectivity and efficient monitoring of the end customer's water assets.

Products used:

- vNode IoT Gateway
- Platform Xylem Vue powered by GoAigua

"vNode has been a key element in the modernization of our client's SCADA system. Their ability to manage a large number of devices and data has allowed us to improve the operational efficiency and reliability of our water supply network, providing a quality service to the community of Chile."

– Francisco Romero, Project Manager, Idrica

Objectives

- Modernize the end customer's SCADA system to improve operational efficiency and reliability in water management.
- Optimize connectivity between the SCADA platform and control devices, such as PLCs, to facilitate remote monitoring and control of water assets.
- Strengthen cybersecurity and data protection in the monitoring and control system of the end customer, guaranteeing the integrity and confidentiality of the information.
- Improve emergency response capacity and decision-making by implementing advanced real-time monitoring and remote control tools.

Main challenges

- Integrate more than 900 PLCs into the Xylem Vue powered by GoAigua platform, ensuring smooth and reliable communication between devices and the central system.
- Overcome the technical challenges associated with data migration and upgrading control infrastructure, minimizing the impact on existing operations.
- Ensure compatibility and interoperability between the new SCADA platform and the end customer's pre-existing systems, avoiding interruptions in data flow and asset monitoring.
- Ensure the stability and security of the SCADA system, especially with regard to protection against cyberattacks and the integrity of data critical to the end customer's operation.

Results

Successful implementation of the modernized SCADA platform in the end customer, **allowing a more efficient and reliable management of water assets.**

Strengthening cybersecurity and data protection in the monitoring and control system of the end customer, guaranteeing the integrity and confidentiality of the information.

Significant improvement in connectivity and monitoring of more than 900 PLCs, facilitating remote monitoring and control of water systems.

Optimization of the end customer's operational processes, **allowing a more agile and effective management of operations** related to water supply and sanitation.

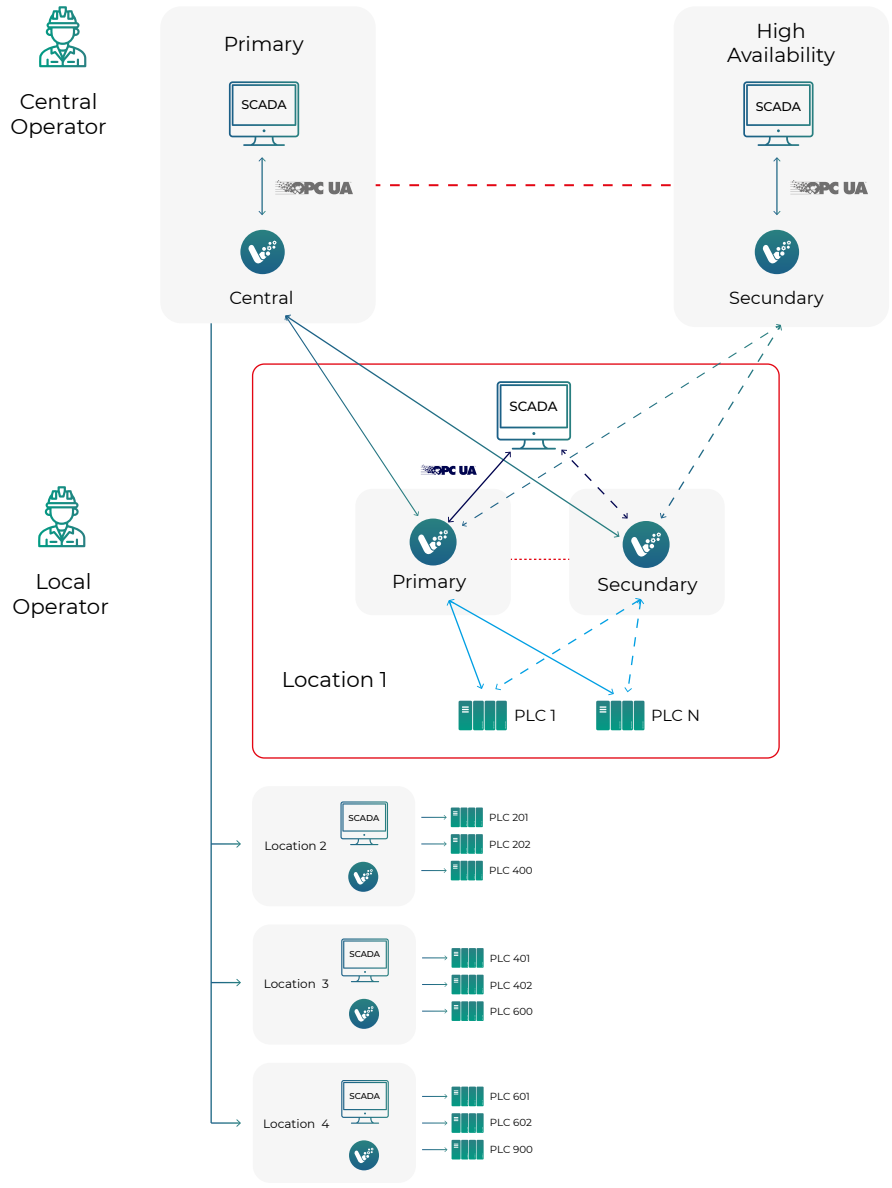
Background

The project arises from the end customer's need to modernize its SCADA platform to adapt to technological advances and improve operational efficiency.

After a thorough evaluation of suppliers, Idrica was selected as the ideal partner to carry out the upgrade, thanks to its expertise in technological solutions for the water sector and its ability to offer an advanced and reliable platform such as vNode.

Solution

The modernization project of the client's SCADA system, led by Idrica, is based on the implementation of a comprehensive and robust solution to optimize water management in the Valparaíso region, Chile. In terms of data movement, the project's architecture is centered around the vNode platform, a highly scalable and versatile tool designed to manage large volumes of data in industrial environments.



Solution

The solution is based on the integration of more than 900 PLCs and control devices into Idrica's SCADA platform, using the Modbus protocol to ensure smooth and reliable communication between equipment distributed throughout the customer's network.

Interoperability between vNode and the customer's pre-existing systems is achieved through careful planning and configuration, thus minimizing any disruption to the data flow and operation of the system.

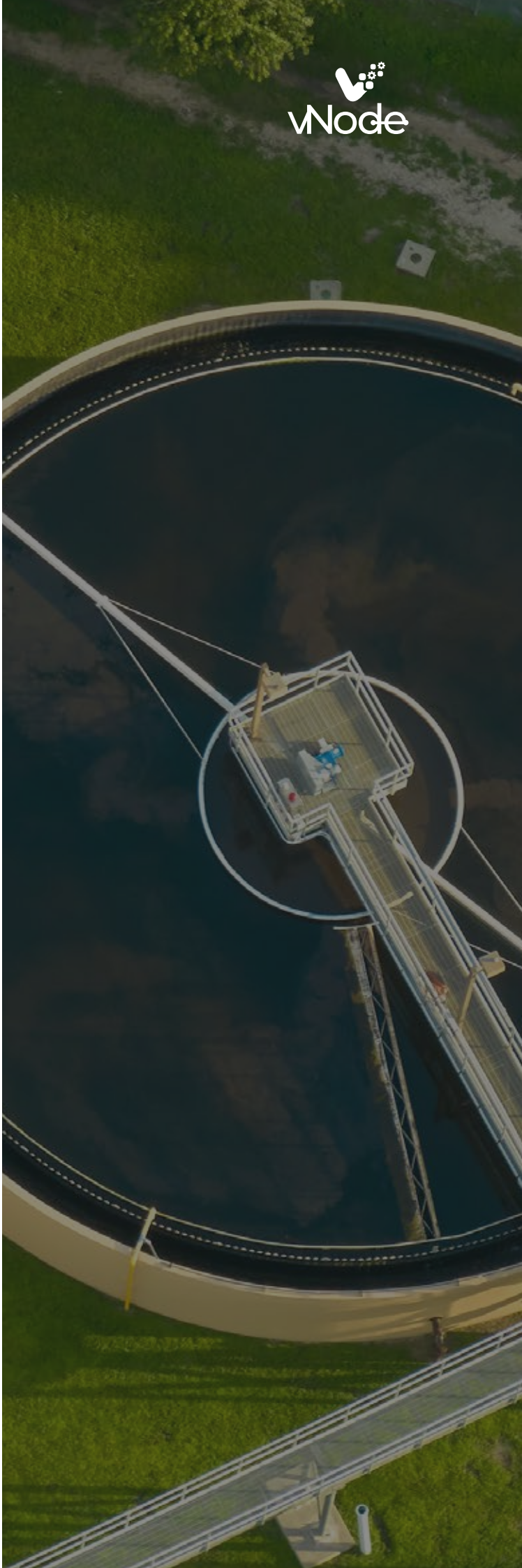
Solution

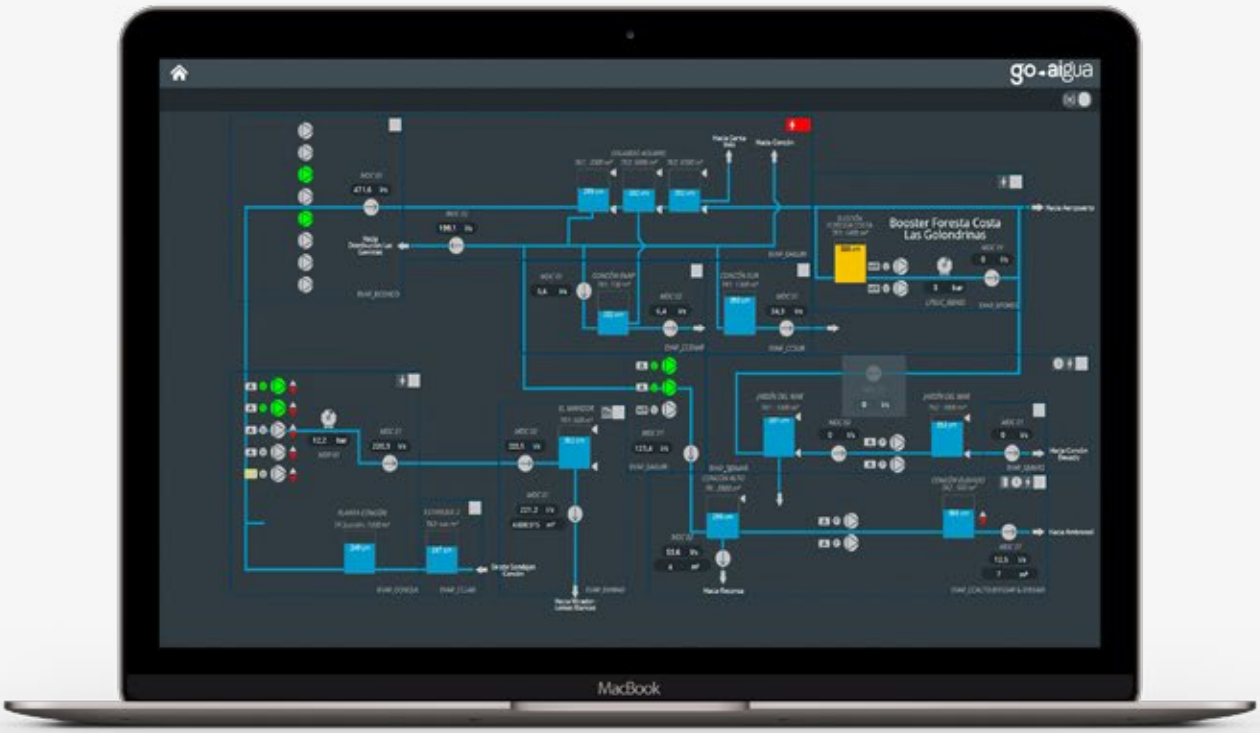
In addition, the solution offers an advanced and highly customizable user interface, which allows operators to visualize and control the end customer's water assets efficiently and effectively. Emergency response capacity is significantly improved thanks to advanced monitoring and remote control tools, which allow operators to take quick and effective corrective actions in the event of incidents.

vNode IoT Gateway

- OPC UA Server
- Modbus Client
- Derived Tags
- Redundancy Agent

Download vNode

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IDRICA

Idrica is a global company based in Chile, specialized in technological solutions for sanitation and water companies. Its focus is on providing advanced technology platforms to address challenges in water management, such as operational efficiency, cybersecurity, and connectivity. With experience in projects at national and international level, Idrica stands out for its ability to offer innovative and reliable solutions in the water sector. Its platform, Xylem Vue powered by GoAigua, integrates data and systems to improve decision-making and operational management in water utilities and municipalities globally.

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