

Case Study: Chemical Plant Integration

Chemical plant with 10K square feet of clean rooms experiences no downtime during transition.



Integration Partner

VACE Pte Ltd

Technology Used

Reliable Controls RC Studio

S4 Open: BACnet-N2 Router

About the Customer

Mitsubishi Chemicals Infonics Pte Ltd was established in 1995 in Singapore. The company prides itself on being the first in

ASEAN to undertake the production of Optical Disc Storage Media and Organic Photoconductor Drums in one plant, located in Singapore. Mitsubishi Chemicals Infonics is the Technology Center of Mitsubishi Kagaku Media, a leader in the optical data-storage media industry; and is a subsidiary of Mitsubishi Chemical Corporation. The core business includes the manufacture and sales of high end Recordable Optical Storage disc. Part of the manufacturing process of this high caliber disk requires a “clean room” with controlled environmental conditions and cannot be interrupted once the process begins.

Project Requirements

The project team from VACE technology was given the opportunity to devise a plan to solve a building automation issue. Mitsubishi needed better control of their clean room environments, and better visibility to the status of the rooms that was not possible with their aging Metasys® equipment. These improvements were needed in order to maintain the product quality they are known for and to keep the manufacturing yields at an optimum level. The combination of the experience of the VACE team with the Johnson Controls Metasys system, and the detailed understanding of their process control requirements in the Mitsubishi manufacturing plant, made it easy for the customer to entrust the project to VACE.

VACE executive Mr See explained the customer’s requirements, “After many years of being locked into the proprietary Metasys system, the customer was relieved to be introduced to Reliable Controls, an open system which operates on BACnet and Modbus. Reliable technology opened the possibility of interfacing to their power meters, machines that operate on Modbus and future integration with BACnet devices. With their budget constraints, utilizing a combination of integration with the S4 N2 to BACnet router and upgrading a portion of the building with Reliable Controls technology made the project viable.”

Case Study: Chemical Plant Integration

Chemical plant with 10K square feet of clean rooms experiences no downtime during transition.

The S4 Group Integration Partner VACE Technology took the challenge to devise a plan to solve Mitsubishi's building automation issue. The combination of the of the VACE team experience with Johnson Controls Metasys® system, and their detailed understanding of the process control requirements in the Mitsubishi manufacturing plant, made it easy for Mitsubishi to entrust the project to VACE. The financial commitment to completely replace the Metasys® equipment with open technology almost caused them to decide to defer upgrading their building until VACE proposed this innovative solution.

Installation

The Mitsubishi Chemical Infonics Pte Ltd factory in Singapore has 10K square feet of clean rooms. The factory had 2 wings with 1 Johnson Controls Metasys® NCU in each wing and 70 DX9100/DC9100 controllers in both wings combined. VACE executive Mr. See explained Mitsubishi's requirements. "After many years of being locked into the proprietary Metasys® system, the customer was relieved to be introduced to Reliable Controls, an open system that operates on BACnet and Modbus. Reliable technology opened the possibility of interfacing to their power meters, machines that operate on Modbus and future integration with BACnet devices." With their budget constraints, utilizing a combination of integration with the S4 Open: BACnet-N2 Router and upgrading a portion of the building with Reliable Controls technology made the project viable.

VACE executed the project in 2 phases, one wing at a time. For the first phase, VACE replaced one NCU and 40 DX9100/DC9100 with Reliable Controls controllers. They implemented RC Studio as the web based user interface. The owner had significant budget constraints so for phase 2 they replaced the other wing NCU with the S4 Open: BACnet-N2 Router, which allowed them to utilize the balance of 30 DX-9100/DC-9100 controllers as a part of the solution. The previous RC Studio installation provided the user interface for this wing. The field controllers were working fine so the integration process was completed with no down time and no lost productivity. In the future, Mitsubishi will have the choice of maintaining the Metasys® DX-9100/DC-9100 field devices as long as that approach is cost effective. At the point in time that this is no longer practical, these devices also will be converted to Reliable Controls technology.

Using the S4 Technology

Mr See had this to say about his relationship with The S4 Group, Inc., "Before we came to know S4 we were considering using the CW Industries framework which has N2 to OPC integration solution. However, after we tried the S4 Open BACnet-N2 Router and with the excellent support of our project manager Sam, we were convinced that the S4 Group, Inc. provided an easier and a better solution to integrate with Reliable Controls on BACnet. We will use them again in the future."

Case Study: Chemical Plant Integration

Chemical plant with 10K square feet of clean rooms experiences no downtime during transition.

Customer Satisfaction

The customer is very satisfied with the way the project went and especially with the smooth transition, and cost effectiveness of utilizing the S4 Open: BACnet-N2 Router for integration of the legacy Metasys® field devices to the Reliable Controls system. The owners are very happy that the changes were done with minimum downtime and without any technical issues. The migration was smooth and easy to Reliable Controls. The project moved Mitsubishi to an Open environment while solving technical, support, and business relationship issues and building a strong long-term mutually beneficial partnership with VACE.

About VACE Pte Ltd Singapore

Specialize in providing comprehensive ranges of products and systems for monitor and control the mechanical / HVAC / Electrical / Lighting equipment found in most of the commercial buildings. They offer products and solutions for monitoring and controlling anything from simple temperature, humidity and pressure controls to web based Building Automation Systems. VACE provides services from initial design, project management to programming, installation, testing and commissioning, maintenance and service. The mission of the company is to provide energy efficiency products that are open systems enabling and improve comfort for buildings.

With the S4 line of open products VACE provides customers an alternative solution to “opening up” more legacy systems.

Authorized Reliable Controls Distributor

Reliable Controls, a Building Automation System, which is operated on standard industrial BACnet protocol. A scalable and flexible system that allows you to expand as you grow and has a flexibility to serve multiple simultaneous operators from numerous points of secure access.

Mr. Gian MC

Experience: more than 20 years in Building Automation Industries (10 years in Johnson Controls and 10 years as system integrator for Invensys, Reliable Controls, PLC and others)

Mr. See CM

Experience: more than 20 years in Building Automation Industries (7 years in Landis & Gyr, 2 years in Johnson Controls and 10 years as system integrator for Invensys, Reliable Controls, PLC and others)

Mr. Sam Tan

Experience: 20 years in Building Automation Industries (8 years in Johnson Controls, 2 years Honeywell, 2 years Invensys and 8 years as system integrator for Invensys, Reliable Controls, PLC and others)