Rethink What You Should Expect

From Your Distributed Control System

Today, process industry professionals face difficult challenges. How can we adhere to increasingly tighter compliance requirements while competing for market share in today’s globalized economy? How can we meet the continuous demand for new sources of productivity and margin growth while using the same automation approach and control system strategy we have been using for decades? A modern Distributed Control System (DCS) is designed to help you address these challenges.

Typically, automation is accomplished by a mixture of diverse systems and tools specifically developed for the tasks they control based on limitations of the technology that is available. Process plants use one system for process control, another for discrete control, and yet another for power control. For example, specific functions in a plant with high speed, discrete logic might be controlled using dedicated Programmable Logic Controllers (PLCs). While DCSs are used when multiple controllers and multiple points of access need to be connected and accessible throughout the plant. The main process area in a facility is typically automated using a dedicated DCS. Integration of the DCS with the automation systems used in the balance of plant is often costly and engineering intensive. Maintaining multiple disparate automation systems is straining operations and support resources, restricting flexibility and responsiveness.

What is needed is a modern approach—one that delivers all of the core capabilities of a DCS to address the requirements of process control, but is built on contemporary technology that easily integrates with other automation systems, operators’ activities, and critical business systems. A modern DCS is built using plant-wide control technologies. Today, process control, discrete control, power control and safety control no longer have to be a choice of separate technologies.

Today, facility owners can choose to implement a plant-wide control system. A DCS has specific requirements, such as the capability to handle thousands of I/O with a highly reliable architecture, known performance, and a deep set of process control programming functions. With a modern DCS, common technologies are applied in a prescribed way to meet these requirements. These same automation technologies can be designed and configured to automate all other control functions throughout the plant.
In today's competitive world, facility owners need to rethink what to expect from their DCS.

They need to choose a modern DCS that:

1. Enables plant-wide control and optimization for lower total cost of ownership
2. Provides system scalability and modularity for engineering flexibility and faster time to market
3. Is open to enabling new technologies which improve operation and integration with the Enterprise
4. Can be delivered and maintained by a support eco-system — whether the system vendor, local distributor, system integrator, or OEM — chosen by the manufacturer

The PlantPAx® system is the Modern DCS from Rockwell Automation® that delivers all of these capabilities.

For more information, download the full whitepaper here.

PlantPAx Success Story

Elsaco provides more efficient and greener solution thanks to PlantPAx® from Rockwell Automation®

Leading Romanian thermal systems engineering company revitalizes centralized district heating plant in Northern Romanian city

Background

S.C. Elsaco Electronic S.R.L., one of Romania’s leading companies offering services for developing, consulting on and implementing thermal systems was recently called in to modernize and enhance the control solutions deployed at a centralized district heating (DH) plant in a city in Northern Romania.

The district plant needed modernization for a number of reasons; primarily to address EU legislation relating to pollution, but also to increase efficiency in order to make the centralized heating source more attractive to consumers.

In order to address these two major challenges – and to answer a number of additional issues relating to process control and monitoring – Elsaco proposed a solution based on the PlantPAx® Process Automation System from Rockwell Automation.

Challenge

“Our primary objective was to supply two new 4.4 MW combined heat and power (CHP) engines,” explains Ioan Saramet, Technical Manager SCADA and Software Division at Elsaco. “We also had to supply two 52 MW hot water boilers — all within a re-dimensioned system that matched capacity more closely and that was able to remain efficient as demand and consumption varied.”

The various plant solutions made up an entirely new infrastructure, but still faced potential issues relating to multiple control solutions – all of which had to be integrated into one control suite. PlantPAx was selected because it satisfied all of the requirements offered by Elsaco to its customer as well as delivering a central control solution.

Solution

The PlantPAx process automation system is used to control the whole plant, including the equipment with its own control system, in this instance they are commanded and supervised from central dispatch center. Even the equipment that PlantPAx does not control directly – such as equipment that can only be started locally using manual checklists – PlantPAx is still able to monitor it.

The installation uses the PlantPAx Historian module, primarily for reporting purposes – in order to calculate critical data such as consumption and efficiencies.

Results

According to Saramet: “The overall solution gives the customer what they required in terms of a lower-emission greener plant.” By installing CHP engines they are now able to produce heat and electricity, which is delivered and sold to customers in the local area. With this CHP solution the efficiency is over 80% – they are able to decrease overall cost because heating and producing electricity in combination is far more efficient.

“The overall solution gives the customer what they required in terms of a lower-emission greener plant.”

Read the full success story
Product and Service Highlights

**Bulletin 937 Intrinsic Safety Modules**

Bulletin 937 Intrinsic Safety Modules enable electrical signals to be safely carried into a hazardous area. These Modules connect intrinsically safe rated equipment—such as transmitters, solenoids, proximity sensors and encapsulated assemblies—with control systems. An intrinsic safety approach can be more cost-effective than other hazardous location protection/mitigation strategies in Class I, Division 1 (Zones 0 and 1) locations.

Intrinsic safety is based on the principle of preventing an effective source of ignition even in the event of a fault condition, such as a short circuit. The electrical energy in an intrinsically safe circuit is kept well below the minimum ignition energy required for each hazardous area. Intrinsic safety circuits do not require expensive inert gas purging/pressurization or “explosion-proof”/containment strategies for hazardous locations.

These modules are available with optional Power Rail system that drastically reduces wiring and provides efficient troubleshooting help with collective error messaging feature. These Modules provide a wide range of functionality in hazardous location applications in industries such as oil and gas, chemical/petrochemical and others. Select modules are available with HART protocol support. The Bulletin 937 product family consists of Zener Barriers, Galvanic Isolators, and Galvanic Converters.

**Bulletin 1756 ControlLogix® Hart I/O Modules**

Highway Addressable Remote Transducer (HART) input and output modules provide your process automation system with full analog capability and the benefit of HART protocol. The modules offer 8 or 16 channels of analog input or output data with accompanying HART digital information.

If you have a process application that contains HART field devices, the ControlLogix HART modules enable you to leverage your existing instrumentation investment by allowing you to:

- Connect directly to HART devices without external HART multiplexers or extra wiring
- Manage HART devices individually that are connected directly to the modules
- Simplify commissioning, operation and maintenance with increased insight to device status

Our new Bulletin 1756 HART Isolated I/O modules, 1756-IF8IH, -OF8IH, offer convenience, value and flexibility to meet your I/O needs when HART protocol is required. These modules provide the standard functionality of the HART I/O modules with the benefits of channel-to-channel isolation, fast HART data update rate and easier field device configuration via the Add-on Profile (AOP).

**Educational Tools Now Available**

**PlantPAx Process Automation System Brochure**

PlantPAx® is the modern distributed control system from Rockwell Automation. It has all the core capabilities expected in a world-class distributed control system (DCS) while enabling plant-wide control and optimization. In addition, it provides:

- Scalability and modular architectures to match exact requirements
- Open, information-enabled and secure architectures
- Flexibility in delivery and support of the system

It’s time to rethink what a distributed control system can do.

Learn more about our PlantPAx capabilities and how Rockwell Automation can help you address your key market challenges and achieve a competitive advantage.

Download our new brochure
Partner Highlights

**Rockwell Automation partners sweep Control Engineering System Integrators of the Year Awards**

Control Engineering has recognized Rockwell Automation partners Maverick Technologies, Polytron, and Malisko Engineering with 2015 System Integrator of the Year awards.

Judges from CFE Media, publisher of Control Engineering, selected the following PartnerNetwork™ members for the System Integrator of the Year award in three categories:

- **Maverick Technologies** (more than $17 million in annual revenue)
- **Polytron** ($10-$17 million annual revenue)
- **Malisko Engineering** (up to $10 million annual revenue)

All three of these companies are part of our Recognized System Integrator/Solution Partner program, and Polytron is one of our first Machinery Safety Partners.

The companies were selected for demonstrating superior technical expertise, business skills and customer satisfaction by addressing a series of questions and by providing detailed accounts of their business strategy, customer-facing service and industry leadership.

Our **System Integrator program** educates and produces qualified partners who can help our customers address production challenges by advising on and delivering the best solution with the lowest amount of risk.

Read the Control Engineering story: 2015 System Integrator of the Year awards

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**Global Events 2015**

**February 10 – 12, 2015**

**Tire Technology Expo 2015** – Cologne, Germany

**March 10 – 12, 2015**

**CFIA 2015** – Rennes, France

**May 4 – 7, 2015**

**Offshore Technology Conference (OTC)** – Houston, Texas, USA

**May 31 – June 5, 2015**

**RSTechED 2015** – San Diego, CA, USA

**June 15 – 19, 2015**

**ACHEMA** – Frankfurt, Germany