

Edina off-shore platform optimises performance while meeting safety regulations

Fores Engineering Srl implements PlantPAx, the integrated control and safety solution from Rockwell Automation

Solutions

A PlantPAx Process Control and Safety System from Rockwell Automation was installed, leveraging:

- Redundancy & Hot Backup
- Historic Trending
- Remote connection through Terminal Services
- Trusted TMR SIL 3 safety controller

Results

- Seamless integration between offshore and onshore systems
- Performance enhancement
- Significantly reduced design, commissioning and start up costs due to domain and system knowledge across all parties
- Reduced training needs
- Reduced spare-parts inventory
- Regulatory compliance due to SIL3 hardware

PlantPAx
Process Automation System



Background

The Izabela field is a GAS extraction and production plant, located off Croatia in the Adriatic Sea. The site comprises two offshore platforms, Izabela South and North, coupled to an onshore Central Control Room (CCR), located in Pula, Croatia.

The platforms are operated by Edina, a joint-venture company. One shareholder is Edison Gas, an Italian company, and the other is INA, a Croatian company.

The facility's role is to treat gas that is to be distributed in Italy, using existing pipelines that connect the onshore treatment plants to the offshore platforms.

Rockwell Automation and Fores Engineering Srl (Italian Recognised System Integrator) were selected by Edina to implement a control system and an Emergency Shut Down and Fire & Gas (ESD/F&G) solution for the offshore platforms and the onshore CCR.

The key objective of the installation was to create a user-friendly, Integrated Control and Safety System (ICSS) that provides the highest availability and reliability according to IEC 61511 SIL3 rules, while capitalising on Edison's Maintenance Service experience.

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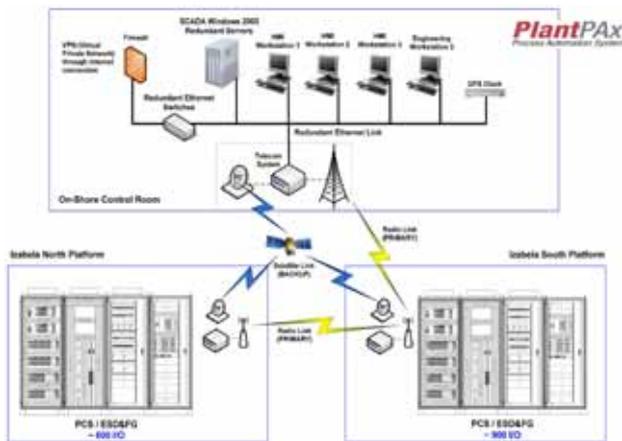
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Challenge

Edina's mandatory requirement was the installation of an ICSS on both offshore platforms and in the onshore CCR Operator stations. The aim was to obtain maximum production flexibility, while capitalising on the experiences gained by Edison in the last two to three years on the VEGA offshore platform (South of Italy), which uses Triple Modular Redundant (TMR) solutions from Rockwell Automation.

The integration of the complete ICSS installed on both platforms and onshore Control Room is achieved through a radio link and a satellite backup link.



Solution

The design and installation of the solution was handled by Fores Engineering Srl. With help from Rockwell Automation Process Safety specialists, Fores installed a PlantPAX Process Control System in the onshore Operator stations site with remote access to the two offshore platforms.

The CCR has three operator work stations and an engineering work station with redundancy and hot backup. The control system hardware comprised an Allen-Bradley ControlLogix PAC in Hot Backup, with I/O, serial link and ControlNet cards, alongside Ethernet Cards and switches.

The safety system comprised a Trusted SIL 3 in Hot Backup, with I/O and remote communication cards and Ethernet cards and switches. The SCADA/HMI is formed of three operator stations, an engineering work station, a redundant server for data acquisition, a historian server for data warehousing, a terminal server for WAN connection and a GPS clock for time synchronisation. Finally, PlantPAX formed the basis for the complete visualization and management solution coupled to the radio and satellite links.

Results

The expected results of the new system include a reduction in maintenance and operational costs while maintaining production capacity.

The ease of use of the PlantPAX system with TMR has also provided engineering and commissioning savings.

The ICSS system has now been operational for a year and is performing very well with no performance loss and with noticeably less maintenance work.

Running costs have also been reduced. Starting from the early phase of the project, costs have been saved by a number of factors.

- 1) The engineering and design phases were undertaken without any serious issues, due to the system knowledge of both the customer and the integrator.
- 2) Information exchange with EDINA has had no technical impact, since Edison personnel already knew the Trusted solution and other Rockwell Automation products.
- 3) Fores's experience in developing and installing several control systems over the last ten years meant that the commissioning and start-up phase timescales were reduced.
- 4) In depth training was not a requirement due to existing system knowledge.
- 5) Spare part inventory can be kept at a very cost effective level.

According to Pasquale Troianiello, Automation Systems Unit Manager at Fores Engineering Srl: "In my line of work I am of the opinion that the complete automation systems provided by Rockwell Automation are some of the most flexible on the market."

Sergio Manzari, the Proposal Manager at Fores Engineering Srl, adds: "When our customers request a process control strategy and system, we will often turn to PlantPAX due to its flexibility and its ability to address a multitude of scenarios. We also see fewer maintenance issues; indeed, our experience indicates that hardware and software issues do not arise."

Additional Information

www.rockwellautomation.com

The results mentioned above are specific to Edina's use of Rockwell Automation products and services in conjunction with other products. Specific results may vary for other customers.

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Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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