

HONEYWELL PROVIDES STATE-OF-THE-ART ICSS SOLUTION TO REPSOL SINES STORAGE DEPOT

Case Study

OVERVIEW

Repsol Portuguesa was looking for an Integrated Control and Safety System (ICSS) to improve ease and engineering and reduce operational and maintenance costs for its new storage depot in Portugal. Honeywell was quick to provide the ideal solution to meet this challenge.

BACKGROUND

Repsol is a global multi-energy provider that strives to drive the evolution towards a low-emissions energy model. With this ambition in mind, we are the first energy company to make the commitment to reach net zero emissions by 2050, which is aligned with the climate objectives set out by the Paris Agreement and the UN Sustainable Development Goals Present throughout the entire value chain, Repsol markets its products in over 90 countries. In Portugal, since 1990, Repsol operates in the Industrial, Commercial and Renewables areas. With presence in all the country Districts via its 500 service stations servicing mobility, residential and business customers with energy products and services. The Repsol Sines storage farm project bought an additional storage capacity of 100 million liters of Diesel and Biofuel for Repsol. Located south of Lisbon, near

the local Sines Refinery (reception) and Pipeline (dispatch), this depot is going to provide finished products (Diesel and Biofuel) for the Lisbon metropolitan area.

SOLUTION

Honeywell provided an Integrated Control and Safety system using Experion® PKS, with a joint engineering Control Data Access (CDA) database and protocol. Integration with the Repsol Polimeros complex and the third party Pipeline was achieved through a SCADA Interface using Modbus TCP. Many other third-party subsystems were integrated through Modbus TCP, such as the Truck Loading System, Tank Level Supervision and Motorized Valves (Rotork).

Honeywell provided a redundant common supervisory Integrated Control and Safety System (ICSS) and successful integration with 3rd party subsystems.

Due to the complete integrated DCS/ ESD/F&G solutions provided, Repsol operators can now supervise and control the full depot under one system, from reception to dispatch. All the Fire Alarm Panels, field devices (smoke and heat detectors), and Gas & Flame detectors are integrated into the complete Experion PKS system on site.



CHALLENGES

For the Repsol Sines Storage Depot, Repsol Portuguesa required a state of the art system with an ICSS comprising Distributed Control System (DCS), Emergency Shutdown (ESD), and Fire and Gas (F&G) solutions. Furthermore, the company was looking to achieve the lowest Total Cost of Ownership (TCO) while maintaining high Safety Integrity Levels (SIL) – up to SIL 3 for the ESD and F&G components.

A key requirement was integration with Repsol Polimeros (the adjacent Petrochemical complex), as well as integration with various 3rd party systems and the local product transport partner, a third-party Pipeline.

Having a single repository database also enables easier and more efficient process and maintenance reporting.

One of the main reasons Repsol chose Honeywell is the Experion PKS high flexibility and availability.

The Honeywell solution's flexibility is reflected by its integration capabilities through SCADA interface, the possibility to integrate many vendors, and its expandability throughout the project execution. Other advantages are its redundancy on all levels and the Safety Systems ESD / F&G maintaining SIL 3 safety integrity level for high availability and for the safety of the plant assets, personnel, and the environment.

The fact that Honeywell has a fully-fledged operational engineering facility with staging area within close proximity of the Repsol Sines Depot with highly skilled Field Service Engineers also helped earn the customer's trust, providing added value to this project and a leading edge in the competitive pursuit.

Honeywell has a large installed base in the Sines industrial area and particularly at Repsol Polimeros – which benefits from the latest Experion System. Furthermore, the third party Pipeline is operated with an Experion SCADA Control System. The fact that these customers were also using Experion system enabled a lower cost of integration.

For Honeywell this is the first CDA integration project in Portugal. With this integrated approach, Honeywell was able to offer a comprehensive best-in-class ICSS solution, including the ESD and F&G systems for protecting the infrastructure at the Repsol Sines Depot. Moreover, this integrated solution enables a rapid and coherent operational response to potential emergency situations, ensuring the safety of personnel and maximum uptime for the plant. It thus provides optimized risk reduction and operational performance.

Detailed products provided:

- Experion Control and Supervisory System with C300 Controller for DCS; Safety Manager SIL 3 PLC for ESD and F&G.

Integration with various 3rd party packages was done through Modbus TCP.

Honeywell core services for project design, system engineering, HMI Graphics, FDS, DDS, FAT, IFAT (integration with ROTOK systems), site supply, installation and supervision, SAT, test and plant start-up support were also provided for this project.

SUMMARY

The seamlessly integrated Honeywell solution complies with all the industry codes and standards, and the common platform improved ease of engineering

and reduced operational and maintenance costs. The impeccable integration with DCS, ESD, and F&G through a safe and secure network helps ensure safe landing in the event of an emergency and improved overall system performance, enhanced system diagnostics, and reduces engineering costs. Moreover, it ensures lifetime compatibility and support for the installed system on site.

HONEYWELL SOLUTION – OVERVIEW

Experion® Process Knowledge System (PKS) integrates an advanced automation platform and innovative software applications to improve users' business performance and peace of mind. Unifying people with process, business and asset management, this Distributed Control System (DCS) helps process manufacturers increase profitability and productivity. It's the only automation system that focuses on people – making the most of the knowledge they hold.

By integrating disparate data across facilities, making the most of resources and people, and feeding it all into a unified automation system, users can achieve an operation that's more proactive, efficient and responsive.

For More Information

Learn more about how Experion® Process Knowledge System (PKS) or visit our website, www.honeywellprocess.com or contact your Honeywell account manager.

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