

Major U.S. Refiner Improves Process Performance with Experion R300



“Experion R300 has proven to be an extremely robust and reliable control system. We are very happy with how this system has been running and operators are even asking us to move other units over to Experion R300 – that’s a pretty good indication of success.”

Automation Manager, Major U.S. Refinery

Benefits

A major U.S. refinery has successfully upgraded to Honeywell’s Experion® Process Knowledge System (PKS) R300. The refinery has been running Experion R300 on process since the fall of 2006.

Significant results include:

- Solid process performance: System robustness and reliability of the Experion R300 system with C300 controller and Series C I/O have proven to be solid since installation.
- Fast project implementation: Experion R300 installation and commissioning went very well - intuitive installation and engineering tools helped bring units online with no impact to operations.
- Faster access to process information: Access and analysis of process data has increased through Experion’s advanced Human Machine Interface (HMI).
- Improved alarm management: Experion R300 is helping to modernize the refinery’s central control room and support improvements in alarm management and HMI techniques.
- Reduced installation and maintenance costs: Series C I/O provides more advanced process I/O with a smaller footprint.
- Better asset management: Up to 70 percent of I/O is using FOUNDATION Fieldbus technology enabling greater access to field data.
- Increased productivity: Experion R300 has been well received by operators, enabling better access to process information and improved decision making.



Experion R300 is helping customers improve process performance.

Challenge

A U.S.-based refiner recently added two new refinery units, a gas treating unit along with a gasoline hydrotreater unit. In preparation for the new units, plant staff realized they had an opportunity to look at newer technology to see what could be done to improve operations and optimize production results.

“We wanted to find a control and automation solution that would allow us to benefit from the latest technology advancements in process automation,” said the refinery’s automation manager.

Solution

The refiner reviewed a variety of options and decided to go with Honeywell’s Experion R300 to gain the benefits of best-in-class control and automation technology. Honeywell worked in partnership with the refiner to design, develop and deliver a control and automation solution that met its particular needs.

“Experion R300 is letting us get more out of our control system. It opens up opportunity to make improvements in the areas of asset management, safety management and operator performance,” said a senior control engineer at the refinery.

With Experion, the refinery is using Honeywell’s Series C I/O, which is slanted at an 18-degree angle to minimize the control room footprint. This new design directs heat flow evenly through the cabinet, improving product lifecycle and reducing energy costs. An integrated two-tier terminal block provides easy access for wiring installation and maintenance.

A new Control Firewall ensures system availability by protecting the control layer from Ethernet message flooding and denial-of-service attacks. Only messages dedicated to control are passed down to the controller, preventing it from either slowing down or shutting down completely.

The refiner also installed a Fieldbus Interface Module (FIM) which continues Honeywell’s tradition of delivering a scalable and cost-effective Fieldbus integration solution. The Series C FIM provides four H1 link interfaces, doubling the link channels and reducing the number of FIMs required. The networked module resides on Honeywell’s patented Fault Tolerant Ethernet network for increased robustness and reliability.

“With Experion R300, we benefit from a smaller technology footprint, plus we are getting a lot more process information from the systems – this is helping us to perform faster and more advanced trending on process operations,” said a control engineer at the refinery.

The refinery is utilizing Experion to help improve alarm management to ensure that operators avoid receiving too many alarms or the wrong alarms.

“Experion R300 gives us a lot more flexibility to eliminate unnecessary alarms and consolidate others. It’s allowing us to rethink what we have done in the past and to make improvements that maximize safety,” said the senior control engineer.

Project implementation went very well with fast installation and commissioning. Units were brought online with no impact to operations. Added the control engineer, “The project support and training received from Honeywell was excellent.”

“We are very happy with the reliability of Experion R300. The functionality and flexibility is far greater than previous technology, and system configuration has been a smooth process. From the network to the controller to the computers to the work stations, it is a very robust system,” concluded the automation manager. “This means a lot to us – when you can go home at night and you know it is a redundant, solid system.”

More Information

For more information on Honeywell’s Experion PKS, visit www.honeywell.com/ps or contact your Honeywell account manager.

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