

Shell Chemicals Canada Ltd.

The Company

Shell Chemicals Canada Ltd. (www.shell.com/chemicals) is a chemicals manufacturing operating company of the Royal Dutch/Shell Group, one of the largest petrochemical operations in the world. Shell Chemicals Canada manufactures styrene at its Scotford plant in Fort Saskatchewan, Alberta. The facility's styrene monomer capacity is approximately 450,000 metric tons per year.

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Process Engineer
Shell Chemicals
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A Need for Faster, More Predictive Monitoring Capabilities

Shell Chemicals installed the CATSCAN® program to complement their existing tools. Shell is using the combined toolkit to monitor catalyst performance, improve accuracy on catalyst life predictions and determine the effects of operating conditions on catalyst performance.

Although the company has a catalyst monitoring system in place, the combined toolkit has already enhanced Shell's ability to detect potential problems quickly and generate rolling catalyst life forecasts – with minimal data processing time.

Benefits At-A-Glance

- Day-to-day comparisons of actual-to-plan catalyst performance
- Enhanced customer support for faster problem identification and resolution
- Ability to predict the effect of proposed operating changes on catalyst life
- Balancing operating performance with the rate of catalyst life decline

Valuable Insight

In 2002, Shell installed the CATSCAN performance monitoring solution from Pavilion Technologies and CRI Catalyst Company. CATSCAN is a PC-based online performance monitoring system that links real-time DCS data to advanced predictive modeling and simulation tools. The system monitors and analyzes all key operating variables, providing instant feedback on catalyst performance and predictions of catalyst life.

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Clear Business Advantages – Today and Tomorrow

Day-to-day catalyst performance analysis CATSCAN provides Shell with real-time operating data and, more important, data in a normalized form. This allows the company to look at catalyst performance data not only as a long-term trend, but also on a day-to-day basis.

Enhanced support CATSCAN will also provide Shell a unique way to access the knowledge of its expert support team at CRI Catalyst. The CATSCAN system enables online support that lets CRI securely view real-time operating data – speeding analysis and recommendations. “Due to CRI’s experience with catalyst performance and monitoring, and with their knowledge of the CATSCAN program, this may enable them to detect potential problems before we would,” says Kimberly Berg, process engineer at Shell. “Once online dial-up access to CATSCAN is available, CRI will be able to view the data and provide support immediately.”

“What-if” flexibility Shell also intends to take advantage of CATSCAN’s ability to foresee performance under diverse operating conditions. CATSCAN can predict the outcome of a variety of scenarios before any changes are made in the plant. This will allow Shell to determine the optimal conditions under which to operate its reactors to achieve desired performance and production – critical capabilities in a changing market.

Catalyst decline-rate management “We expect the most significant advantage of CATSCAN to be improvements in the management of catalyst life decline rate,” adds Berg. “Throughout the cycle, by managing the decline rate and running under optimal operating conditions, Shell should also see a positive effect on production yield.

“CATSCAN is a powerful tool that can be used for optimizing catalyst performance,” concludes Berg. “It provides a major benefit to catalyst users by providing real-time normalized and operating data with minimal data processing. In addition, it will give CRI the capability to look at our data and offer support and advice on a continuous basis.”

All systems GO.



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