

TOYO starts DX-PLANT[®] service for Ethylene Plant of Maruzen Petrochemical Co., Ltd.

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Toyo Engineering Corporation

Toyo Engineering Corporation (TOYO, President and CEO, Haruo Nagamatsu) signed an agreement for DX-PLANT[®] subscription service with Maruzen Petrochemical Co., Ltd. (MPC). This is the first application of DX-PLANT[®] to an ethylene plant.

DX-PLANT[®] is a service platform created on cloud system to realize optimization and improvement of plant operation and maintenance. TOYO and MPC signed an MoU in 2019, aiming at optimizing efficiency of MPC's ethylene plant operation and verifying DX-PLANT[®] technology, and jointly built the solutions. TOYO and MPC will continue the verification, and TOYO will apply the verified technology for other plants.

TOYO will contribute to customer's profitability throughout the plant life cycle, as a total solution provider.

Solutions overview

Operation Optimization of Charge Gas Compressor *1	<p>■ Compressor Performance Monitoring</p> <p>Accurate estimation of compressor power and its efficiency by real-time process simulation which outputs the gas composition and flow balance changing upon the operating conditions. This solution supports customer's operation and realize the following benefits:</p> <ol style="list-style-type: none"> 1) Increase of production through optimized operation with maximized compressor load 2) Less operating cost by optimized timing of wash oil injection <p>■ Anomaly detection, prediction and root cause analysis</p> <p>This solution detects early signs of compressor's anomalies by analyzing real-time operation data, and show users the result of root cause analysis and suggestion of the countermeasures.</p>
RL-Tracker [®]	<p>■ Estimation and prediction of radiant coil TMT*2 to support optimized planning of Cracking Furnace Operation</p> <p>RL-Tracker[®], having the TMT estimation model, supports customer's optimized planning of cracking furnace operation through case study of TMT prediction by inputting future operating conditions.</p>
Dashboard to Visualize Plant Operation	<p>■ Integrated with the analysis data by solutions above, plant operation data is summarized and visualized on the cloud platform, and DX-PLANT[®] users can monitor the plant operation with various devices regardless of the location.</p> <p>■ TOYO can design and propose useful dashboards suitable for user's daily operation to promote efficient decision making.</p>

*1 TOYO collaborates with Mitsubishi Heavy Industries Compressor (MCO). MCO's application contributes accurate estimation of compressor performance and implementation of anomaly detection, prediction and roots cause analysis.

*2 Tube Metal Temperature: In ethylene plant, decoking is performed to remove the coke accumulated in the tubes of cracking furnace before radiant coil TMT reaches at a certain value.

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