

Operate Smarter with Prescriptive Analytics

Complex industrial processes make it challenging to be both market driven and sustain profitable operations. Manufacturers must adjust their production methodology to introduce a greater variety of higher value products and shorter production runs. They need to produce more, run efficiently and improve product quality to the limits of available equipment. For this, they must achieve maximum uptime and more efficient transitions with less waste. In addition, manufacturers are facing stronger public demand to reduce their environmental impact and operate within regulated emissions limits. Rockwell Automation's FactoryTalk® Analytics™ Pavilion8® Model Predictive Control (MPC) technology is an intelligence layer on top of automation systems that continuously drives the plant to achieve multiple business objectives—cost reductions, decreased emissions, consistent quality and production increases—in real time.

The FactoryTalk Analytics Pavilion8 software's flexible hybrid modeling capabilities incorporate all available process knowledge to deliver the most accurate, highest fidelity models possible. It uniquely provides a single solution that can handle both nonlinear and linear processes simultaneously, driving improved results across a wide range of process technologies. Our MPC technology continuously assesses current and predicted operational data, compares them to desired results and drives new control targets to reduce process variability, operate within equipment constraints and improve performance.

Greater Model Accuracy

FactoryTalk Analytics Pavilion8 software offers hybrid modeling based on empirical data, first principles equations, operator knowledge or using any combination of these. Soft Sensors® can integrate with FactoryTalk Analytics Pavilion8 software providing timely in-process measurements to increase accuracy of control actions. In addition, our patented Extrapolated Gain Constrained Neural Networks (EGCNN) deliver model accuracy beyond the historic operating ranges. All this expedites deployment, minimizes the need to adjust models as process range is extended and maximizes the value delivered.

Tighter Operational Control

The FactoryTalk Analytics Pavilion8 MPC solution incorporates changing process dynamics over wide process operating ranges. Its parametric model representation provides a compact, computationally efficient controller model without sacrificing accuracy. This improves plant performance across wider operating regions, provides tighter operating range control and significantly increases flexibility across changing grades including more rapid new product introduction.

BENEFITS

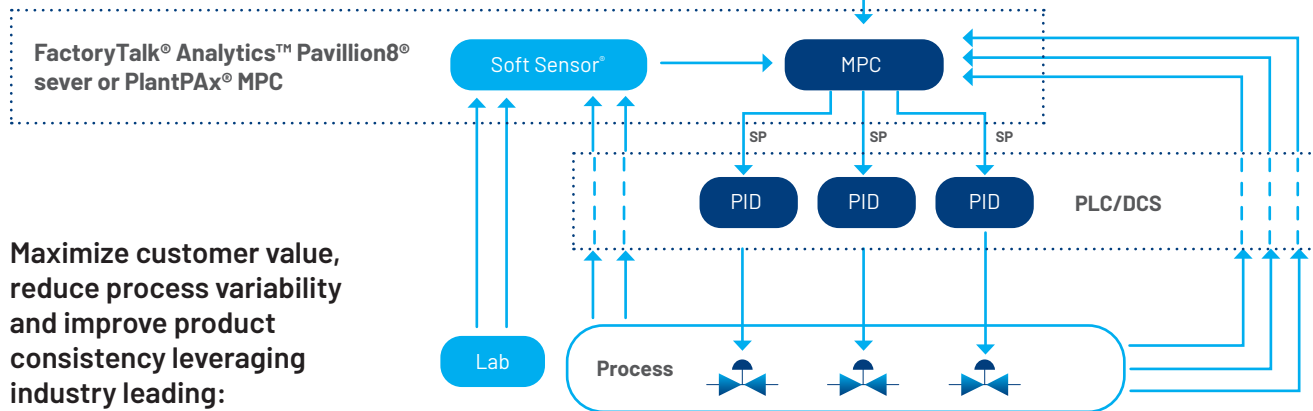
- Reduce costs
- Operate efficiently
- Decrease emissions
- Improve quality
- Drive sustainability
- Increase production

CAPABILITIES

- Continuously drives plant to achieve multiple business objectives in real-time
- Hybrid modeling
- Provides a single solution that can handle both nonlinear and linear processes simultaneously
- Continuously assesses current and predicted operational data
- Drives new control targets to reduce process variability, operate within equipment constraints and improve performance
- Robust, reliable, closed loop run time solutions



Elevating Operators and Continuously Driving Value



Maximize customer value,
reduce process variability
and improve product
consistency leveraging
industry leading:

- Model Predictive Control
- Hybrid modeling
- Robust, reliable, closed loop run-time solutions

TO LEARN MORE
visit factorytalkanalyticspavilion8.com

Higher Controller Performance

With FactoryTalk Analytics Pavilion8 MPC, you can maintain a contextual history of control actions and improve troubleshooting via controller replay capability. The embedded controller performance metrics track and present performance. This enables accelerated and effective sustainability that allows quick identification and resolution of model mismatch or tuning parameter errors for improved controller performance. It also helps achieve predictable, sustainable performance through continuous controller monitoring.

**“The MPC Solution performs as well as your best operator, 24 hours per day,
7 days a week resulting in the highest quality product – consistently.”**

Geoff Rome – Automation & Utilities Manager

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