Process performance

Controls and optimizes all major plant units, regardless of industry

Optimizing industrial complex process’, automatically, is easier than you think: Introducing – ABB Industrial Software – process performance suite of solutions

TRENDS

- Net Zero
- Artificial Intelligence
- Machine learning
- Sustainability
- Autonomous operation

STABLE FOUNDATION

Given: 200 PID loops all tuned at once. Then: Within six months, 50 of these loops will degrade in performance.

DID YOU KNOW?

ROI ranging from 1-6 months typically

Up to 50% coal reduced due to alternative fuels

ARC reports sees advanced process control growing at above 6% / year – meaning industry competition is adopting

HOW ADVANCED PROCESS CONTROL IMPROVES PERFORMANCE

COMMON CHALLENGES

Minimize
- CO₂
- Water
- Process variability
- Variability in product quality
- Variability in chemical & reagents
- Unstable Process
- Bridge knowledge gap

Increase
- Yield
- Profitability
- Yield and profitability
- Minimize chemicals & reagents
- Minimize chemicals & reagents

Reduce
- Coal
- Alternative fuel
- Process visibility
- Inference modeling platform (IMP)
- Inferentials built using ML for hard to measure & infrequent lab sampled assays
- Real-time monitoring

TIPS TO MAXIMIZE PROCESS PERFORMANCE

Leverage AI/ML technologies through:
- Inferential modeling using Machine Learning
- Model Predictive Control (MPC)
- Fuzzy Logic Control

Improve process visibility:
- Sensor validation using Inferential Modelling Platform (IMP)
- Inferential built using ML for hard to measure & infrequent lab sampled assays
- Real-time monitoring

Customer success & service:
- Performance reporting
- Fine tuning
- Ongoing operator training

ABB PROCESS PERFORMANCE FEATURES

Intuitive optimization user options:
- Maximize to limit (e.g., fresh feed)
- Minimize to limit (e.g., chemicals, Energy consumption)
- Target Setpoints (e.g., density, product quality)
- Integration with 3rd party control systems
- Integrated directly inside ABB’s 800xA Control System

TYPICAL BENEFITS

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Expected high range</th>
<th>Expected low range</th>
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<tbody>
<tr>
<td>STABLE FOUNDATION</td>
<td>Loop Performance Degradation</td>
<td>Before Advanced Process Control</td>
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<tr>
<td>100</td>
<td>50</td>
<td>0</td>
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UNSURE WHERE TO START?

01 Schedule a plant fingerprint
02 Implement
03 Subscribe to sustain the savings