

Metso control performance services



Optimized
process controls
for optimum
performance

A positive impact on the entire plant



Set performance goals and KPIs



Fast identification of areas having the greatest production impact



Establish performance goals and KPIs

Metso experts will provide key performance indicators (KPI) and set an initial performance benchmark. This helps you to quickly and easily measure the performance of your process controls.

Measure and report on performance and profitability

We monitor performance over time, and identify the controls that have a negative impact on process performance. Using this in-depth information, we provide regular reports identifying control issues and potential solutions, track the results of corrective actions and highlight progress against the agreed KPIs.

Getting to the core of the problem

PlantTriage software quickly identifies poor controls. Our experts assess the likely root cause and, where necessary, visit your site for verification. We then recommend corrective actions which can include repair, upgrade, a new control strategy, or optimizing the control's response.

Prioritized corrective action

We prioritize corrective actions to the areas that have the most significant impact on

production efficiency, where economic value is greatest, and where you will get the fastest payback.

Corrective actions can be carried out by Metso's service team

Alternatively, we can work with your suppliers to ensure the appropriate repairs, upgrades, or control strategy changes have been implemented. The impact of the corrective actions is always verified by continuous monitoring of control performance.

Ongoing performance improvement

We identify appropriate corrective actions and controller tuning to ensure an optimal control response. We identify potential parameter changes, simulate the controls to test the impact of the change and, when verified, work with you to implement the changes in the live system.

Controls are tuned to meet the demands of your process, whether that means improving stability, reducing variation, or increasing speed of response. We also suggest setpoint moves that capture the business value from these improved controls.

Platform

- Site evaluation
- PlantTriage software
- Hardware
- Installation
- Training

Surge

- Detailed unit evaluation
- Diagnosis
- Corrective actions
- Value documentation

Sustain

- Continuous improvement
- Diagnose and correct new issues
- Identify additional surges



Identify root causes and corrective actions

Continuous performance improvement

Concrete results, fast payback

KPIs Optimized control systems can deliver significant improvements in:

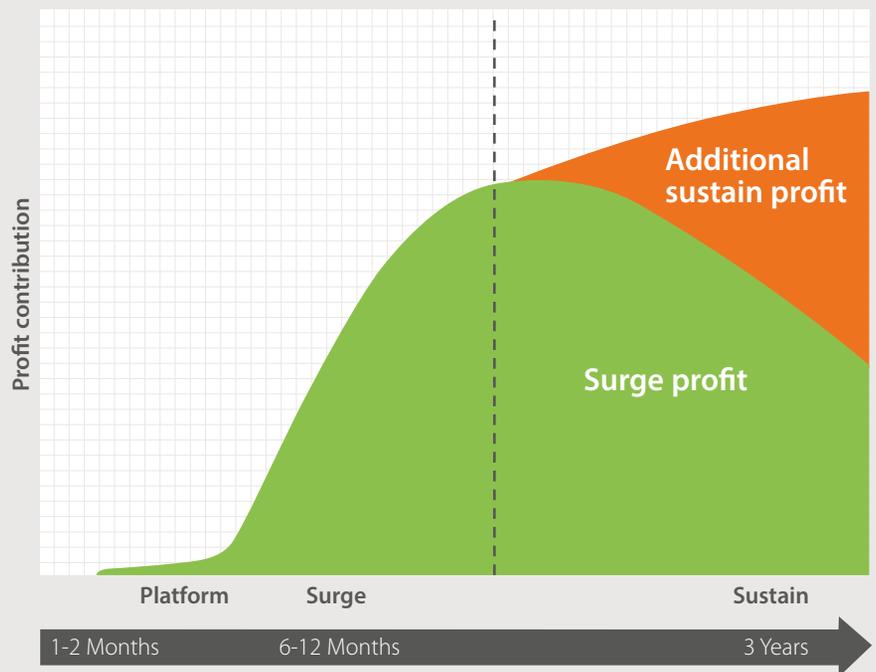
- Manufacturing efficiency
- Production output
- End-product quality
- Waste management
- Energy and raw material costs

Although the goals are clear, they can be difficult to achieve due to:

- Too much process data
- Limited manpower
- Skill shortages
- Too many day-to-day tasks to handle

Metso offers a complete control performance optimization package:

- Access to world-class expertise
- Award-winning smart tools (PlantTriage)
- Optimization activities focused on controls providing the greatest return
- Identifies the root cause of control issues
- Prioritize corrective actions
- Regular reports and automatic notifications
- Track record of controls optimization



Customer case with proven results



Addressing rising energy costs

Vale S.A. Brazil

Challenge

- Improve energy efficiency in production lines
- Reduce disturbance upsets to production lines
- Identify problem control loops
- Choose KPIs to measure performance on different types of loops and control objectives
- Use KPIs to benchmark performance at different sites



The Metso Solution

- Install monitoring tool on 500 control loops
- Train staff
- Analyze and diagnose performance issues identified
- Document problem and resolution method
- Integrate process into routine maintenance



Results

- Furnace general thermal balance improvement = 2.73% reduction in natural gas (Plant V)
- Gas pressure control = 3.69% reduction in natural gas (Plant VI)
- Temperature control = 1.35% reduction in natural gas (Plant VII)
- PID controllers' tuning and the consequent reduction of the average control error of the loops at each unit operation
- Decrease in the operations' response time to disturbances in the process

A photograph of an industrial facility at night, featuring several tall, cylindrical towers and a large, domed structure, all illuminated by bright lights. The scene is dark, with the lights creating a strong contrast and highlighting the complex piping and structural elements of the plant.

Typical control performance

- 10%-35% of control loops are in manual
- 30% of control valves have problems
- 1.5M to 5.3M in under utilized assets by running in manual in a 1000 loop site
- Are you focusing on the right field devices?
- 30% of control loops are tuned incorrectly, increasing variability in the process
- A tremendous amount of money can be saved by understanding the control loop interactions and implementing corrective action



Metso Inc., metso.com/solutions/control-performance