



JMP Solutions

Industrial Technology Partner to the Fortune 1000



Process and Control Loop Performance Audit

PID and Control Loop Performance Monitoring and Tuning

Loop Performance Audit



CONTROL LOOP AUDIT, MONITORING AND TUNING SOLUTIONS

Most manufacturing sites and facilities have highly sophisticated process and control infrastructures which can be broken down into hundreds, if not thousands, of individual loops. These control loops are the building blocks that create the foundation for a co-operative plant-wide control network. Their health and efficiency are directly related to the overall effectiveness of your equipment and ultimately the efficiency, productivity and process safety of your operations and in many cases the quality of your output.

Individual issues throughout multiple loops compound to yield an exponential negative effect on your overall process while particularly problematic ones represent a "weakest link" scenario from which a number of issues can stem. Outages and downtime due to equipment strain and even disaster level scenarios can be results of unattended or neglected control loops and the resulting compatibility and interaction issues. Understanding the issues and developing an actionable corrective action plan is a clear path to process optimization and increased efficiency.

Loop Performance Audit



The Problem

The critical nature of control loops and the role that they play in the higher-level process are often ignored. As such optimization and maintenance of these loops often goes unattended and they fall into the status-quo of performing "good-enough".



The Right Solution

JMP's process and project management expertise in conjunction with Control Station's proven PlantESP interface, provides a best-in-class experience to thoroughly audit your process to assess and isolate issues while capitalizing on opportunities.

At JMP we focus on understanding your process as a whole and developing solutions that are based around your unique needs and prioritized business outcomes. Whether your goals are to increase productivity and uptime or to reduce cycle time and energy consumption, our team works collaboratively with yours in order to develop a process improvement solution that is completely in line with your goals.

Through our partnership with Control Station we are able to gain an intimate understanding of the finest details of your process through the use of their proprietary PlantESP analytics software. PlantESP is a highly powerful loop analysis platform which develops a baseline of your current process upon which it models and provides recommendations for loop tuning, interaction-based and

mechanical process improvements. Our extensive system integration and project management expertise provide peace-of-mind ensuring a collaborative and smooth implementation process.

The underlying question is; do you know how your PID loops are performing and how they are impacting your process capabilities and your operational potential? Our guess is probably not, but we are here to help you answer those questions and develop a roadmap to a solution that will allow you to reach your full potential.



The JMP Difference: What sets us apart.



OPERATIONAL DISCIPLINE

Customer satisfaction is our absolute first priority and this is reflected in our daily operating rhythms. Customer issues are addressed daily by each employee through to the executive team. Transparent NPS surveys publicly rank our performance unedited.



THE JMP PROMISE

At JMP we promise an extraordinary customer experience delivered through exceptional communication, guaranteed performance and radical commitment across the scope of the project and beyond with continued support.



PROJECT EXECUTION METHODOLOGIES

We execute with excellence every time, all the time. Our proven project management process is meticulously focused around all aspects of change, risk and quality and safety management with stage-gate analysis at all critical points.



What we say,
we do. Every
time. All the
time.



LEARN MORE ABOUT OUR PROCESS AUTOMATION CAPABILITIES



High Level PlantESP Overview

JMP utilizes Control Station's proprietary PlantESP technology as the data acquisition and analysis platform of our audit. PlantESP proactively monitors control loop performance on a plant-wide basis. It provides advanced analytics of mechanical, tuning and interaction parameters, while using minimal resources beyond your facility's existing process data and bandwidth.



Supports all DCS/ PLC manufacturers



Utilizes existing data historian



Uses easy to understand KPIs



Targets and identifies issues



Root cause analysis tools



PlantESP is a powerful process control analytics software platform focused on PID and control loop performance monitoring and tuning. By identifying performance issues, isolating root causes and recommending corrective actions, PlantESP is a comprehensive process improvement tool which delivers actionable data and quantifiable results.



Requirements



Plant

We will require read only access to historical plant data and insight into process objective / requirement narrative.

We can support all manufacturers of DCS / PLC.



Historian

Historian tags will have to be available including:

- Process Variable
- Controller Output
- Set-Point
- Controller Mode
- Enable/ In Service Tag
- PID Terms

We can support all Historian OEMs



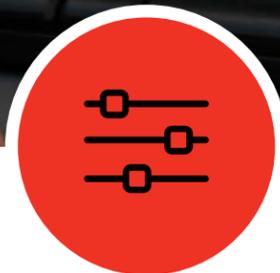
Server

JMP will provide a pre-configured server loaded with PlantESP. Alternatively, we can assist with configuration of your own server provided by you.

JMP and Control Station will work with you collaboratively to provide data analysis.



Comprehensive Loop Audit Deliverables



By engaging in a plant-wide loop audit you will be gaining insight into what makes your plant tick. JMP can combine this information with your overall maintenance requirements to provide a holistic program with a clear listing of optimization opportunities. Quantifiable benefits of optimized regulatory control include:

- Reduced energy consumption (5 - 15%)
- Increased production throughput (2 - 5%)
- Reduced waste and production-related defects (25 - 50%)
- Increased production yield (5 - 15%)

Control System Review

In order to develop a baseline and fully understand the strengths and weaknesses in your control architecture, JMP will perform an evaluation of your existing controller programs to make sure that the PlantESP deployment configuration is tailored to your unique needs. Typically, 20% of PID controllers are incorrectly configured and without a pre-deployment exploration these loops would not be able to be optimized or in many cases even diagnosed properly. We ensure that all loops are available to PlantESP analysis giving you the most comprehensive overview of your process.

PlantESP Installation

After we have developed the baseline from our initial process review, JMP will deploy the PlantESP analytical engine in order to initiate the data collection period. The system will run in the background for 30 days without any interruption to your process, during which time it will begin generating meaningful and quantifiable data. It will collect process data and analyze a comprehensive range of meaningful and actionable metrics including: 1) General loop inefficiency, noise and variability parameters, 2) Identification of mechanical components that exhibit sub-optimal performance characteristics, 3) Tuning opportunities to optimize overly conservative or aggressive loops, and 4) Interaction issues where loops are not interacting co-operatively or in synergy.

Final Report

Approximately 6 weeks from the initiation of your PlantESP data acquisition and analysis process you will receive a detailed report that highlights the primary "bad actors" that are most negatively impacting your path towards process optimization. This will not only include a breakdown of loops in need of tuning, mechanical asset health and process related issues but a prioritized report defining which loops and components are experiencing the worst oscillation, worst stiction, etc. Cost savings and ROI details will be defined for each recommendation.

Plan of Action Moving Forward

Our support doesn't end with providing a report, rather we work alongside you and your team in order to develop an implementation plan in order to make the recommendations actionable. We will collaboratively develop a scalable plan that works for your unique requirements, ranging from basic control system configuration and loop tuning to full maintenance programs designed to continually monitor and optimize the performance of your operation. JMP's maintenance and optimization programs enhance the value of your existing maintenance program and reduces your Total Cost of Ownership (TCO). Leveraging PlantESP automated analysis and reporting, we gain reliable and extra sensory perception of your plant's performance on a consistent basis

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