

# Managing Automation System Health: Early Detection Prevents Costly Disruption

*“Without the right resources and expertise on site, small system issues often become major process headaches.”*

## What if...

- You could offload manual preventative maintenance tasks by automating them?
- You had a comprehensive 24/7 monitoring service that alerted you proactively of potential system issues before they became costly unplanned disruptions?
- You had a local dashboard that provided a comprehensive real-time view into your system’s health diagnostics?

Your control system is tasked with operating and controlling the process for decades. In order to support this, you must keep it “healthy”, but what is system health and how do you monitor it? There are numerous technologies and manually tracking system diagnostics can lead to information overload. Moreover, distributed control systems have critical components in remote locations making it difficult to perform even the most basic checks.

Proper system maintenance and administration is difficult because it requires understanding many disparate technologies such as process control, networking, security, and computer operating systems. Finding personnel qualified to service these different technologies can be difficult. When these resources do exist, they are often overloaded and can only react to issues rather than preventing them.

## UNPLANNED DOWNTIME

Even a single component failure can cause reduced functionality, unplanned downtime, or even production losses. As much as 5% production capacity is lost every year as a result of unplanned shutdowns.<sup>1</sup>

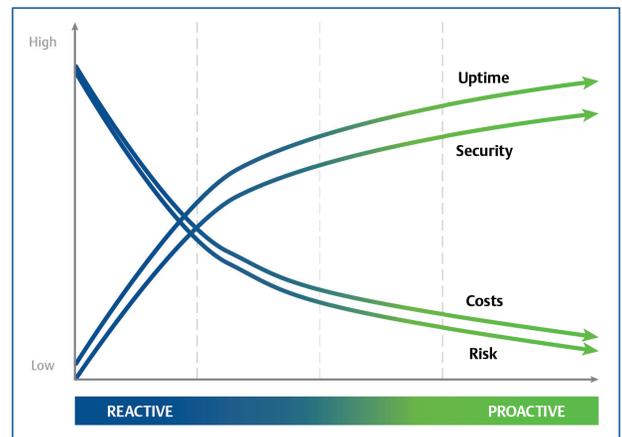
## HIGHER MAINTENANCE COSTS

It costs approximately 50% more to repair a failed asset than if the problem had been addressed prior to failure.<sup>2</sup> Even a small system with only 10 nodes has hundreds of diagnostics to track, each of which could be a leading indicator of component failure. Automating your system diagnostic monitoring frees up your valuable engineering hours.

## INTERMITTENT ISSUES

Even the best manual monitoring cannot achieve 24/7/365 coverage. This means underlying health warnings are missed on nights, weekends, and holidays.

*SHM shifts your approach to system diagnostics from reactive to proactive, delivering top-quartile best practices by continuously monitoring control system health. This proactive posture can lead to increased uptime with low maintenance costs.*



<sup>1</sup> Asdza Nadleehe, “Engineering & Maintenance: Prevention Is Better Than Cure,” Oil & Gas IQ, October 2011

<sup>2</sup> U.S. National Response Center

# DELTA V SYSTEM HEALTH MONITORING SERVICE

## IMPROVE SYSTEM AVAILABILITY

Experience earlier issue detection and quicker resolution, resulting in reduced equipment failures, data loss and downtime. DeltaV System Health Monitoring Service connects local system health data with Emerson's expertise to diagnose the root causes of problems and quickly notify you of any detected health conditions along with providing recommended actions to mitigate the issue.

## PROACTIVE MEANS PRODUCTIVE

System Health Monitoring allows DeltaV System owners to proactively manage maintenance and administration of site control system infrastructure. By automating manual monitoring of a system's health parameters, your resources can focus on delivering quality product and bottom-line results; spending less time reacting to system issues, and more time focusing on process management and operations.

## CONNECTED TO THE EXPERTS

Emerson's System Health Monitoring solution dramatically enhances the ability of a site to maintain and administer their entire control system. Leverage Emerson's subject matter expertise to reduce your workload:

- Pre-customized health check templates with thresholds tailored for your DeltaV applications and products.
- Eliminate system diagnostic troubleshooting with actionable recommendations
- A global network of certified engineers to perform on-site resolution.

**Monitor** — A local device continuously scans system health diagnostics from controllers and workstations, to network components and applications. When a health condition is detected, the local System Health Monitoring appliance alerts Emerson.

**Diagnose** — Symptoms are diagnosed with expertise from Product Engineers and KBAs to identify possible root causes.

**Alert** — Guardian alert notifications promptly inform local personnel. Anyone with a Guardian account can be enabled to receive the alerts.

**Respond** — Actionable recommendations enable troubleshooting efficiency. Our service flexibility can support existing site maintenance work practices, and enables collaboration between local Emerson offices, partners and customers.

**Resolve** — Local resolution triggers an automatic closure of the call. The Guardian web portal provides historical details and tracks the status of your system's SHM calls.

*“Although the system had flagged the issue, we unknowingly operated critical loops in simplex mode. Months later, the active controller was accidentally unseated and we lost 4 hours of production.”*



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