

## RELIABILITY

### Control Loop Reliability Program

Process efficiency and production reliability are the largest source of lost revenue for the majority of plant operations. More than 75% of physical assets are under process control, however, 60-70% of all control loops underperform and contribute to preventable losses. Many control loops demonstrate excessive process variability and some studies have shown that 40-50% of control loops are in manual control. The main reasons for this include poor loop health, tuning and control strategy design.

Spartan's LoopCheck™ audits and the Top 50™ Control Loop program deliver sustainable improvements in process reliability and performance. Our systematic methodology critically ranks the importance of control loop assets, identifies the linkages and effect on process reliability or performance, integrates technology for control loop health assessment and provides the expertise to execute plans for corrective action.

### People

Spartan's control experts work with your plant reliability improvement teams to fully understand and assess your plant's processes. We augment your teams with a full range of services designed to help define and manage your reliability program.

### Process

Spartan's Top 50™ Control Loop methodology provides a framework and work process for sustainable process reliability improvements. Our LoopCheck™ audit provides an easy way to get started and identify areas for immediate improvements.

### Technology

DeltaV™ InSight provides a complete suite of control performance tools to help manage loop health assessment, tuning and reporting.

*Spartan supports your reliability groups in several areas by providing trained experts who function as an integral part of your team. Spartan also provides cost-effective remote solutions if your economics dictate this approach.*

### The Challenge

Plant operations lose millions of dollars in revenue each year due to underperforming control loops.

### The Solution

Through the application of Spartan's Top 50™ Control Loop reliability program, our customer realized significant improvements in reliability and energy efficiency resulting in nearly \$5 million in annual savings.

## RELIABILITY

Modernization and lifecycle management	> Review, planning and execution of automation platform architecture, field devices and evolving technology
Commissioning and start-up support	> Original equipment manufacturer (OEM) expertise and best practices using the latest technology for complete facility and field applications
Regulatory compliance	> Meter verification for measurement, accounting and reporting plan (MARP) and custody transfer applications, safety valve repair interval assessment, emergency shutdown (ESD) partial stroke testing, wireless solutions
Operator training systems	> Customized training simulations providing realistic scenarios for operator training and risk management for operations
SIS lifecycle services	> Consultative SIS services in support of your IEC 61511 conformance
Alarm management	> Comprehensive and structured approach to managing process alarming performance, conforming to industry standards, including EEMUA 191 and ISA 18.2 and leveraging AlarmCheck™
Control systems reliability	> Diagnostic services to evaluate and report on control system health
Control loop reliability	> Loop health assessments, LoopCheck™, auditing and tuning
Network services	> Process and plant network consulting and design, security and firewalls, network management
Machinery reliability services	> Reliability program development including condition-based monitoring of rotating and reciprocating assets
Valve and instrument reliability service	> Reliability program development including the use of AMS device manager for condition-based monitoring
Application training	> applied technology expert training for specific industry process needs