

# Loop Scout<sup>®</sup>

## Loop and Alarm Performance Management Service



Designed primarily for the I/E Technician and non-PhD Control Engineer, Honeywell's Loop Scout service monitors control systems, detects and prioritizes problems, proactively notifies appropriate personnel to take action, and intelligently diagnoses and resolves root causes.

Today's business environment requires that you do more than just produce as usual. You need to respond to complex global pressures where your competitors make production improvements with less staff and without additional capital investment year after year. Essential technologies like distributed control systems are a given. However, proactively monitoring and managing the performance of those systems empowers your resources to remain competitive.

Loop Scout uses a workflow approach to optimize and maintain control system performance. This approach augments intuitive control loop, alarm, and system diagnostics with notification, reporting, and resolution tools focused on empowering your existing staff to systematically increase plant profitability and reduce operating costs.

**Day-to-Day Operations**—Loop Scout compliments your existing reactive break-fix workflow by proactively finding and resolving the high opportunity problems that currently do not receive the appropriate level of attention.

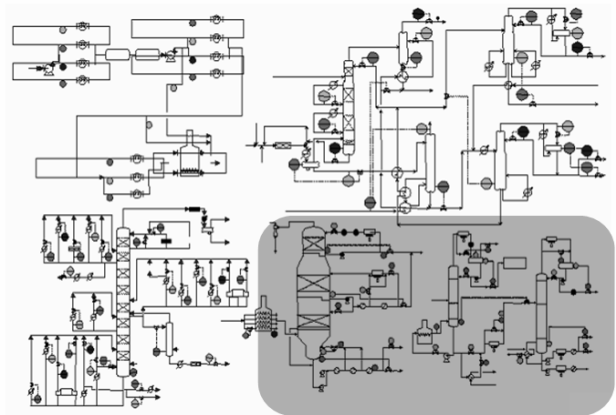
**“Loop Scout contributed to a 2.3% increase in refrigerant production at our facility—valued at \$1.7 million per year.”**

- John McIlwain, Honeywell Specialty Materials

### Service Highlights (All Inclusive)

- Remote delivery options
- Expert Guidance™ intelligently walks users from root cause analysis to resolution
- OperTune™ delivers powerful, closed-loop PID auto-tuning results
- Alarm Scout™ for integrated alarm monitoring, reporting, and notification

- Industry benchmarking against Honeywell's database of 150,000+ control loops and Engineering Equipment and Materials Users Association (EMMUA) alarm guidelines



Loop Scout Quickly Identifies and Prioritizes Problem Plant Areas

**Maintenance & Turnarounds**—Loop Scout avoids unnecessary valve maintenance and positioner upgrades by addressing valve performance using software-enabled, reliability-centered maintenance methodologies.

**“We have reduced maintenance expenses significantly in some mills by saving up to 75% in unnecessary control valve repairs and PM's.”**

- Leoncio Estevez-Reyes, Weyerhaeuser Corporate

**Abnormal Situations**—Loop Scout improves plant control and enables better alarm management that minimizes the impact of abnormal events and avoids plant incidents.

“Thought you might be interested in an example of an event that was prevented. We had no explosion, we had no incident, but what if ...

– E-mail from a Loop Scout Service Customer

Additional service benefits are provided through regular interaction with intuitive data displays, on-demand reports, and expert consulting.

**Troubleshooting**—Loop Scout accelerates problem-solving and resolution efforts by summarizing loop interactions, system events, historical performance, and configuration information.

**Project Planning and Execution**—Loop Scout provides objective guidance and baseline metrics for control system upgrades, advanced process control implementation, and process changes.

**Loop Management Overview**

Control system performance deteriorates and remains far below its potential primarily because plant staff is stretched too thin to regularly and effectively focus on this area. The key to managing control loops is not just fixing the problems, it is finding the problems that impact process economics in the first place, and then deciding the best way to prioritize investigation and repair efforts.

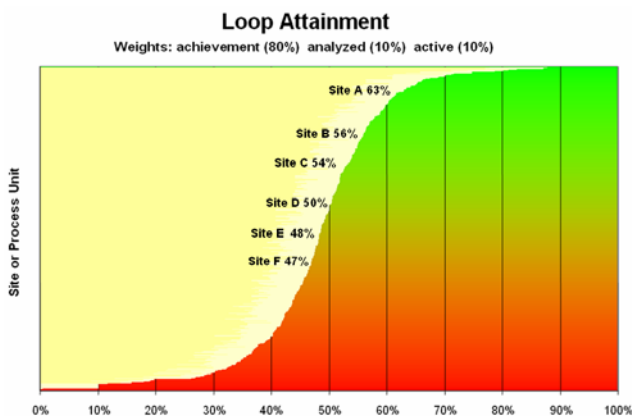
commercially available loop management solution with patented, non-invasive valve stiction detection (U.S. Patent No. 6745107). This unique capability alone has helped hundreds of users address sticky valves and optimally plan turn-arounds. Expect more of the same from the Loop Scout team that uses a continuous evolution approach to technology discovery and refinement driven by best practice workflows among hundreds of customers.

Loop Scout is also a powerful enabler of productivity improvement programs. For example, the figure above illustrates how Loop Scout is being used to drive six sigma automation programs across multiple chemical manufacturing sites to drive increases in process performance.

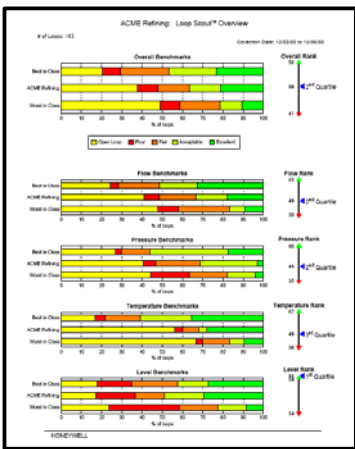
**Loop Performance Benchmark**

The Loop Scout Benchmark is the first step in systematically identifying and resolving control loop performance issues in your facility. The benchmark report ranks the overall performance of your regulatory control loops and provides drill down information categorized by DCS unit and loop type.

Using our database of over 150,000 control loops, the Loop Performance Benchmark analyzes your control data and provides you with an overview analysis including graphs and distributions that depict your plant’s control performance relative to best- in-class and worst- in-class criteria. Quartile ranks by process unit and loop type are also provided.



Loop Scout KPI's Drive Corporate Improvement Programs



Loop Performance Benchmark

Honeywell pioneered modern control performance assessment with the introduction of Loop Scout in 1998. Derived from the breakthrough research by Lane Desborough, Honeywell’s technology leadership has continued to evolve with the only



Loop Scout's Field Proven, Loop Management Workflow Delivers Repeatable and Maintainable Results

**Sort and Filter, Loop Scout Detail, and Common Oscillations Report**

The Loop Scout workflow approach starts with prioritization and leads to root cause analysis and resolution of high impact problems. This best practice workflow evolved from Honeywell's consultative workshops with hundreds of I/E technicians and control engineers.

In many cases, Loop Scout's Sort and Filter browser is sufficient to identify and prioritize common plant issues. From the Sort and Filter display, users can quickly apply filters and user-defined sorts to identify and prioritize sticking valves, poorly performing control loops, oversized or undersized valves, loops in manual, and much more.

For more complex analysis, users can drill down to loop detail reports that provide key performance metrics, data plots, and performance history on individual control loops. This information allows the user to diagnose root causes of control problems and begin identifying remedial actions.

In addition to the loop detail reports, a comprehensive common oscillation report is also provided that summarizes loop interaction information by identifying families of control loops that are cycling at the same frequency. Using intuitive hyperlink navigation, users can quickly jump between the various displays and reports to quickly diagnose control loop problems.



Loop Scout Offers Intuitive Drill Down Analysis Displays

**Loop Scout Expert Guidance**

The Expert Guidance tool is a powerful feature of Loop Scout that is designed to walk users through root cause problem analysis and provide advice on remedial action.

Once a problem loop has been isolated, the Expert Guidance tool can be launched to recommend actions to improve loop performance. In some cases, the recommended action may be as simple as re-tuning the loop. However, in other cases, the tool requests additional information to better identify appropriate resolution actions. For example, if the valve performance is suspect, the Expert Guidance interface walks the user through a manual valve test to validate this condition. If loop interactions are likely, the interface helps the user systematically identify other loops that might actually be the source of the identified problem.

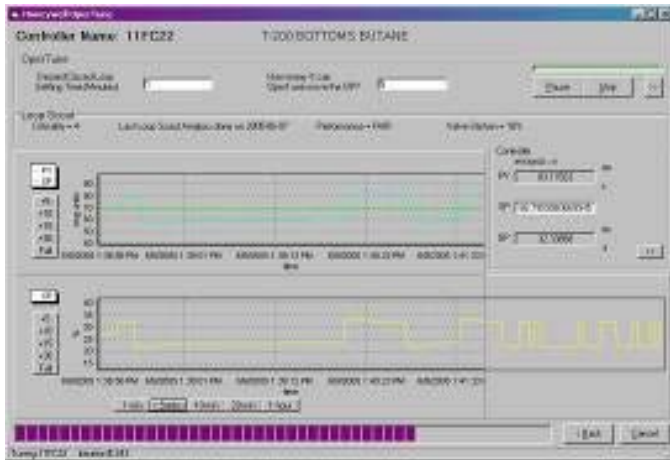


Expert Guidance Interface Delivers Knowledge

The responsibility for control loop management often belongs to the I/E technician who might not have the technical background to interpret complex statistics and plots associated with regulatory loop analysis. Loop Scout Expert Guidance is designed to allow non-expert users to get the same benefits as technical users.

## OperTune

OperTune is Honeywell's latest closed-loop PID auto-tuning technology. Based on the most modern concepts of robust control theory, OperTune offers powerful PID tuning capabilities in a manner that is easy to use and minimally invasive to the process.



OperTune Offers Robust Loop Tuning Capabilities

During the auto-tuning process, the control loop maintains automatic control while OperTune simply inserts a test signal on top of the controller output signal. After the test is complete, a range of recommended tuning parameters is provided.

For Honeywell Experion users, OperTune is a standard system feature with tightly integrated system displays and hyperlinks. For non-Experion users, OperTune is a standard service feature of Loop Scout and is provided as part of the service offering.

## Alarm Scout Overview

According to the Abnormal Situation Management® (ASM®) Consortium, a well-engineered alarm system is critical to minimizing the impact and number of incidents that occur within a plant. Honeywell's Alarm Scout is now included as an integrated component of Loop Scout to offer powerful alarm monitoring, assessment, and notification capabilities. Designed to quickly deliver results while introducing alarm improvement concepts into your facility, Alarm Scout is the logical starting point in the implementation of Honeywell's more comprehensive alarm management and operator productivity solutions.

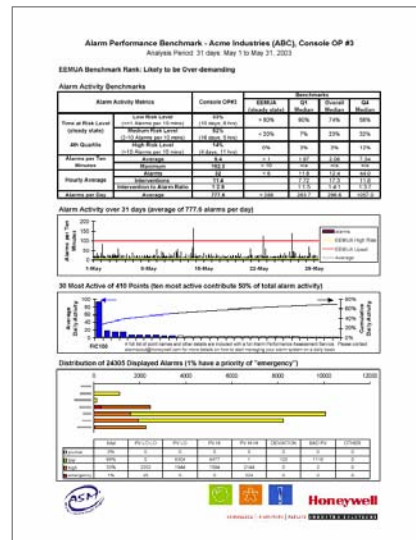
## Alarm Performance Benchmark

The Alarm Performance Benchmark is the first step of Honeywell's alarm improvement process pioneered through the ASM Consortium. The benchmark report ranks your console

alarm performance against effective alarm management guidelines to provide insight into worst acting alarms, alarm flooding, and other alarm performance areas.

Using the EMMUA Guidelines, Honeywell's Alarm Performance Benchmark analyzes alarm system data and provides a status report including tables and graphs that depict alarm performance in the context of EMMUA Publication 191 Alarm System Guidelines.

As part of the assessment process, a follow-up consultation can be scheduled with a Honeywell expert to review your results using effective alarm management practices to help you understand, prioritize, and justify alarm improvement activities.



Alarm Performance Benchmark Report

## Alarm and Event Reporting

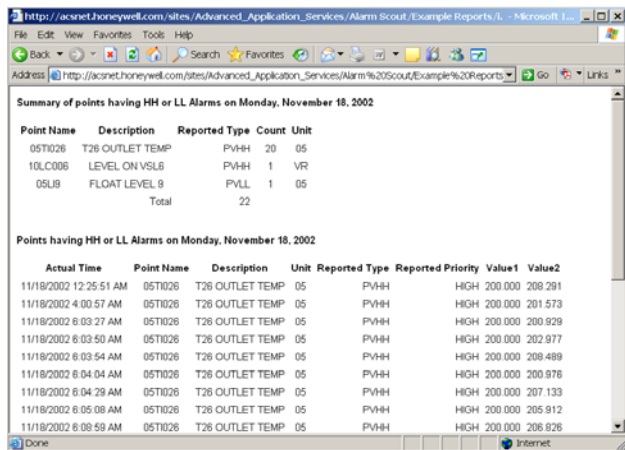
Alarm improvement programs are recognized as an important part of plant activities focused at minimizing the number and impact of abnormal situations. The Loop Scout service provides a broad range of alarm and event monitoring capabilities designed to introduce and optimize alarm management workflows across your facility.

Loop Scout is the perfect tool for measuring and reporting the extent of your alarm and control system event activity on a regular basis. Loop Scout automatically collects performance data on your system alarms and events. Scheduled e-mail reports are then sent to key stakeholders on a daily, weekly, or monthly basis to support a continuous improvement workflow.

Loop Scout provides a wide range of pre-configured reports aimed at improving the overall safety and reliability of your operating environment. Standard reports fall into the following categories: Safety, Control System and Maintenance.

**Safety**

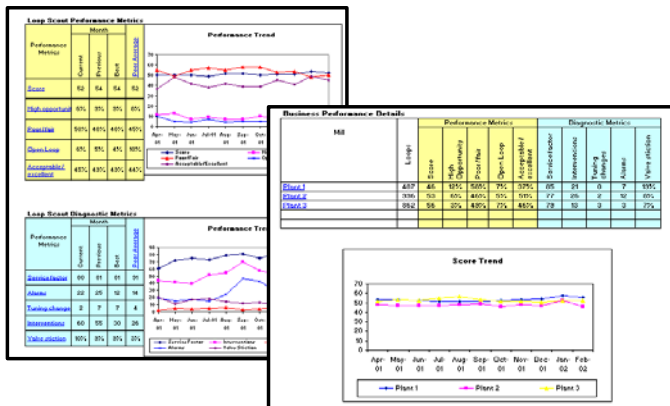
Safety-related reports monitor control system alarms and events as they relate to plant health, safety, and environment. Examples include alarm change reports, EMMUA alarm benchmarks, environmental reporting, disabled alarms, and more.



High-High (HH) or Low-Low (LL) Alarm Summary Report

**Control System**

Control System reports monitor control loop events, operator interventions, and system configuration changes. Examples include mode change reports, tuning changes, process historian impacts, disabled alarms, and more.



Loop Scout Enables Historical Performance Tracking

**Maintenance**

Maintenance reports track system maintenance issues that should be investigated by control system engineers and/or DCS technicians. Examples include cable and HPM faults, BADPV reports, engineering configuration reports, and more.

**Integrated Business Reports**

Loop Scout fully integrates alarm information within its standard web-based loop management user displays. In addition, a Loop Scout number of higher-level consolidated reports can be generated that combine both control performance and alarm and event data over longer periods of time. These reports provide an excellent overview of control system and alarm performance for reporting and tracking improvements at the business unit level.

**Remote Service**

Loop Scout remote service is delivered through a centralized server in Honeywell's Process Solutions headquarters. Data is automatically collected and securely transported to Honeywell for analysis on a regularly scheduled basis. Once the analysis is complete, reports and notifications are securely transported back to the site. Once the data is collected, this entire round-trip process occurs in a matter of minutes.

The remote service configuration has a number of advantages with respect to application maintainability, reliability, and lowest total installed cost of ownership. For example, the latest version is always running on the centralized server, while system maintenance and user account management is handled by Honeywell personnel. In addition, monthly consultative workshops with Honeywell experts are provided to annual remote service subscribers.

**Getting Started**

Trial Loop and Alarm Management Assessments are available to production sites to evaluate Loop Scout service. This service applies to both Honeywell systems as well as open system platforms through OPC connectivity. Schedule yours today by calling your local Honeywell Service Representative, or, if you prefer, you may schedule it yourself at [www.loopsout.com](http://www.loopsout.com) to begin maximizing your production performance and process reliability.

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### **More Information**

For more information on Honeywell's Loop and Alarm Performance Management Service, visit [www.honeywell.com/ps](http://www.honeywell.com/ps) or contact your Honeywell account manager.

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