

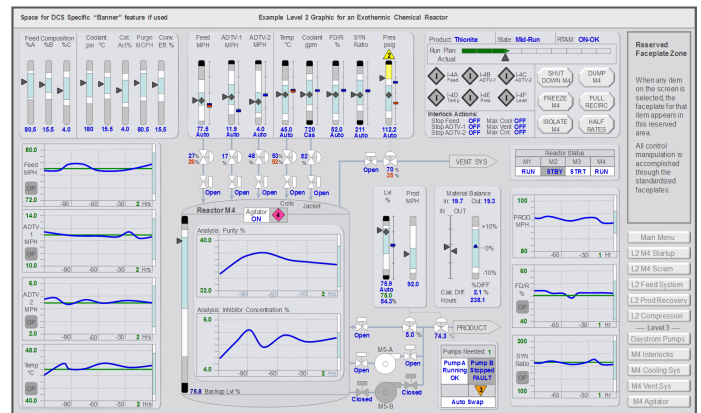


High Performance HMI™

High Performance Human-Machine Interface (HMI) improves operator situational awareness, resulting in quicker decision making and reduced variability in operations.

The Challenge

For more than 30 years, industrial processes have been controlled through computerized schematic representations of the plant. Often in today's plants, displays contain poorly designed graphics with poorly presented numeric data, which in turn causes inefficiencies in plant operations. Poor HMIs are cited as contributing factors to major industrial accidents.



Key Benefits:

- Optimizes operator awareness of process states
- Enables immediate detection of abnormal conditions
- Assists in rapid decision making
- Displays key performance indicators and process trends

The PAS Solution

For processes to be effective, operators must be effective. PAS provides operators with the right tools to effectively run the process, detect abnormal situations, and respond quickly. Applying High Performance Human-Machine Interface (HMI) principles increases operators' situational awareness, resulting in quicker decision making and more accurate operations.

PAS High Performance graphics convert raw data into actionable information. This is accomplished by using color to effectively draw the operator's attention to abnormal conditions, leveraging multiple visualization methods, and emphasizing easily-scanned analog depictions.

PAS High Performance Object Libraries and comprehensive methodology for designing effective, high-performing displays provides operators with information needed to control the process and respond to deviations rapidly and effectively.

High Performance HMI

Seven Steps to High Performance HMIs

Based on extensive HMI design and implementation experience, PAS uses a seven-step methodology for designing effective, high-performing displays providing operators with information needed to assess process states and to respond quickly and safely.

The seven-step methodology is comprised of the following:

1. Develop an HMI Philosophy and style guide
2. Assess and benchmark existing graphics against the HMI Philosophy
3. Determine specific performance and goal objectives for controlling the process
4. Determine the control manipulations required to achieve the objectives
5. Design and build high performance graphics using the design principles from the style guide
6. Install, commission, and train the operators
7. Control, maintain, and periodically reassess the HMI performance



Oil & Gas Refining
Metals & Mining Chemicals
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About PAS

PAS is the leading global solution provider of ICS cybersecurity, process safety, and asset reliability in the energy, power, and process industries.

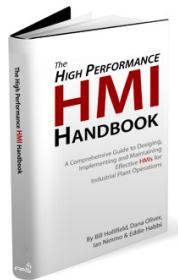
Our comprehensive portfolio includes solutions for industrial control system cybersecurity, automation asset management, and operations management which includes alarm management, IPL assurance, high performance HMI, boundary management and control loop performance management.

Contact Us

PAS Headquarters
13100 Space Center Blvd.
Suite 500
Houston, TX 77059

Phone: +1.281.286.6565
Fax: +1.281.286.6767

Website: www.pas.com
Email: sales@pas.com



Details on the seven-step methodology can be found in the technical book by PAS, “The High Performance HMI Handbook.” Additional information is provided in two white papers available on www.pas.com.

High Performance HMI Services

For more than two decades, PAS has designed Human Machine Interfaces and defined HMI best practices. PAS has delivered High Performance HMI projects on a wide range of processes and control systems and trained hundreds of engineers, operators, and technicians on design and implementation. PAS High-Performance HMI services include:

- Philosophy and Style Guide Development
- HMI Assessment and Benchmarking
- Design, Development, and Implementation
- Training

Graphic Object Libraries

The PAS packaged High Performance Object Libraries incorporate the industry-leading principles described in “The High Performance HMI Handbook.” The libraries include common process schematic symbols, instrument renderings, and navigation interfaces. Object libraries for the various control systems include the same basic shapes and attribute characteristics, and are designed to work similarly regardless of the control system type deploying HMI graphics, including systems from disparate vendors.

For information on our High Performance HMI services, email sales@pas.com or visit www.pas.com/contactus.