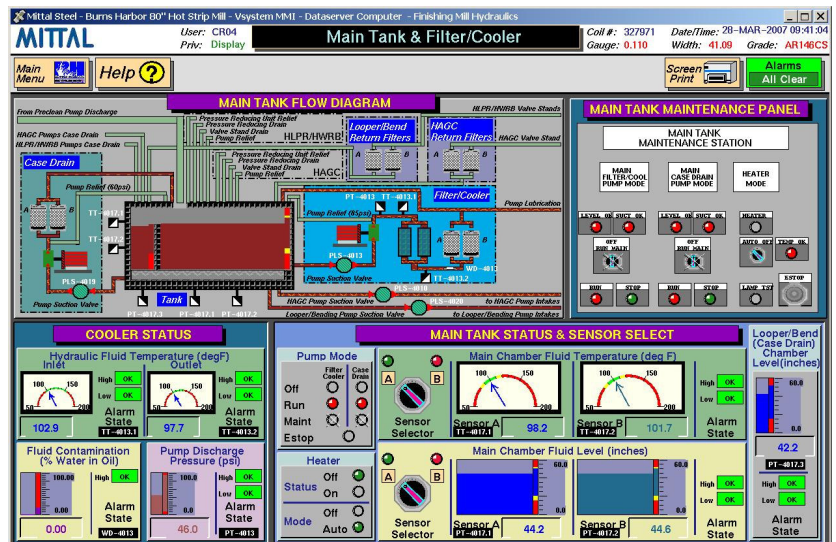# Vista Control Systems®

Vsystem

More than the average HMI: Vsystem is an integrated set of tools

Vista Control System's Vsystem is a general-purpose SCADA/HMI toolbox, easily tailored for process automation, SCADA systems, and simulation and training systems. Some of the major benefits of using Vsystem:

Vsystem Benefits

- Choose the computers and operating systems best suited to the job. Mix operating systems as you wish. Use trusted systems for mission-critical requirements, popular systems for operator stations, and deterministic systems for hard real-time functions.

- Monitor and store all data, no matter what the frequency or type, including operator interactions if required.

- Design the control and monitoring visuals you need, easily and flexibly.

- Diagnose and correct problems and improve process and product by collecting and storing data that records the entire process and the state of the production equipment. You can completely monitor your process and the SCADA/HMI system.

- Monitor the state of mechanical equipment at high data input rates, if required, in order to optimize operations and avoid disruptive mechanical failures.

- Add in video frames from the local and remote sites. Display and record pictures correlated with all data.

- Reduce development and maintenance costs. Vsystem gives you an integrated set of applications for historian, real-time, and HMI—no complications of interfaces between different products.

- Improve productivity and quality, replay recorded data for operator training and/or human factors study "out of the box."

- Easily implement a simulation or training system by adding a computer model of the process to a copy of the live system.

- Extend the system with new versions of Vsystem without updating older versions. In multi-computer systems, update Vsystem one computer at a time. All versions inter-communicate on the network.

- Easily adapt the system to meet your specific needs now and in the future. Vsystem's ease of use and flexibility gives users all the documented software interfaces needed to incorporate application-specific algorithms and code as well as standard packages like Microsoft Office and report writers.

- Extend the system as needed with simple, transparent, "out of the box" TCP/IP communications.

- Get help when you need it. Vista Control Systems prides itself on the quality and rapid response of its support team. Talk to the experts to get your problems resolved quickly.

- Use the high performance of Vsystem to greatly improve troubleshooting and build models using historical data techniques that represent the actual process, and thus far better control the process. This is possible because data is read and processed at process frequencies.

Black Box Recorders and Historians

We had a problem—what happened?

Too often production has a glitch and the data record in the computer does not help with tracking down the problem. All the data show is the effect—not the cause. As a result, the plant technicians and engineers are left guessing. Of course, this cause could be associated with any aspect of the plant and the materials being fed to the plant. With no data to point to the cause, the chances of avoiding the event happening again are rather small. Without data you can't correct the cause of the problem because you can't find it.

Without all the data, where do I look?

In order to correlate cause and effect, you need to be able to examine all the possible scenarios. If some things can happen in milliseconds, then they must be monitored in milliseconds or faster in order to record all possible events. If a PLC has a cycle time of a millisecond, and the outputs are not being monitored at least at the same rate, a glitch caused by a PLC program error could be missed, wasting time and productivity. With the glitch captured, the problem can be quickly tracked and fixed.

How do we improve our process?

With full monitoring and control, the production process can be studied and optimized—making better product faster! Sometimes better product "happens," and with all the data available to examine, this positive event can be understood and repeated— making the product more valuable and helping the bottom line. You can also examine experiments in process changes to help develop more understanding of the process and lead to improvements.

What about our equipment? How's it doing?

This same monitoring can alert the operators and maintenance people to impending problems and thus avoid catastrophic shutdowns and associated costs.

Why is Vsystem so good at this?

Simple—most data historians are designed for process summary data to look at long-term trends. Vista Control System's Vsystem includes a high-performance historian, which provides the capability to automatically manage potentially large disk files. An engineering historian need only keep the high-definition data available for a pre-set time. If there is something to study, the plant personnel have that time to extract the required data to a separate file for study. Of course, the engineering data can be kept as long as needed. Naturally, an engineering historian can also meet the needs of the summary historian.

So, how does Vsystem from Vista Control Systems help?

Because Vsystem has always been designed and implemented for performance, it can handle the data required, achieving the goal. Total rates of data collection in excess of 8 million values per second are possible with the appropriate computer and I/O hardware. In addition, Vsystem can achieve much higher effective rates by compression techniques. Because one installation of Vsystem can actually be configured with multiple historians (the limit is hundreds), it can be used effectively for many purposes independently, including the summary historian function. As an added bonus, Vsystem includes all the other tools to build the overall system and it fully runs on trusted systems such as OpenVMS, UNIX, and Linux as well as Windows.

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