

THE IMPORTANCE OF ONLINE CONDITION MONITORING FOR THE PROCESS INDUSTRY

ADWIN SYSTEMS HELP PREVENT PROCESS CONTROL SYSTEM DELAYS & SHUTDOWNS



In the process industry, online condition monitoring of production-critical machines is becoming increasingly important with the rise of the Internet of Things. As a result, manufacturers are gradually replacing their redundant equipment with modern, PC-based data acquisition technology which enables predictable maintenance and scheduled production downtimes.

REMOTE DATA ACQUISITION & VISUALIZATION

To achieve this approach, factories and plants need a remote stand-alone system capable of continuous data acquisition and evaluation. Additionally, in the event of alarm limit violations (such as excessive motor current, vibration etc.), the measurement system has to react immediately and generate a warning signal. Another important requirement is connection to the production and office networks and to the [process control](#) system.

Designed specifically for high-speed measurement, real-time signal processing and control, [ADwin data acquisition systems](#) are flexible, expandable and easy to program using a real-time development tool. It's equally easy to transfer machine and process characteristics over to an ADwin system.

The ADwin system can be connected to the process control system by analog and digital signals or by using serial interfaces and fieldbus systems. Via Ethernet and a graphical user interface, the current machine state can be visualized on various PCs in the company network. The information can then be displayed e.g. by a traffic light indicator or as a line chart.



CONTINUOUS EVALUATION OF COMPLEX LIMITING VALUES

Machine and plant limit values can all be adjusted in the graphical user interface on the PC. Multiple machine states can be controlled and visualized using just one user interface. Recording in standalone mode fully-independently from the PC, the ADwin system performs:

- Pre- and post-trigger functions
- Synchronized data acquisition (angular and chronological)
- Evaluation of limit values and alarming capability
- Data reduction by online calculation of condensed parameters

MACHINE DIAGNOSIS & EARLY FAILURE DETECTION

ADwin's continuous online condition monitoring of production-critical equipment already delivers important data right after start-up. The integration of real-time monitoring into the production process shows users how specific operating conditions are really affecting their machines' operating characteristics. ADwin is also an ideal way to instantly evaluate compliance with specific process parameters (temperature, current/voltage, etc.).

During a production run, any sudden changes of machine condition in correlation to operating parameters can be immediately recognized and acted upon. Users can also display condensed parameters or traffic light indicators to enable quick interaction of service teams.

Most importantly, maintenance work and downtimes can be scheduled and carried out in time to help avoid process delays and shutdowns. This benefit results in long-term ROI.

For more information on [ADwin Data Acquisition Systems](#), online condition monitoring or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at **(800) 956-4437** or www.DataLoggerInc.com.