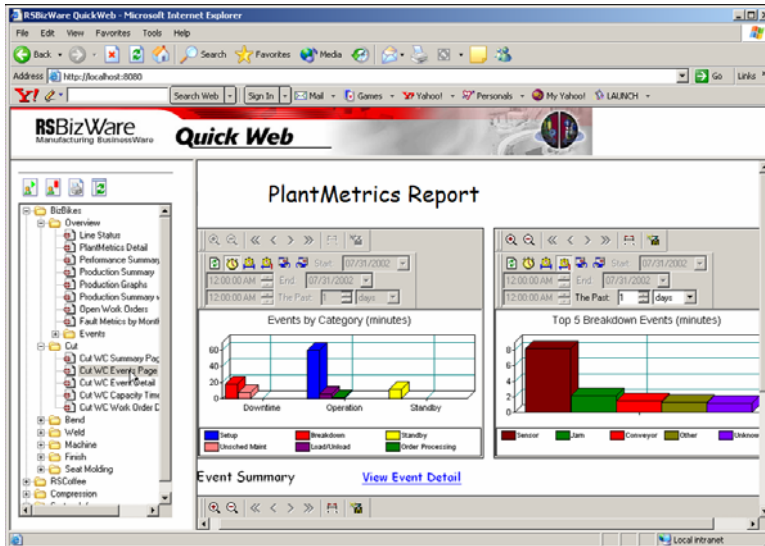


Control Masters Application Case Study

Data Collection



Technologies

Networking
Data Management & Archiving

Services Provided

Microsoft Windows 2000 Networking
Rockwell Plantmetrics Implementation
Consulting

Software Utilized

Rockwell Plantmetrics
Microsoft Windows 2000 Server
Microsoft SQL Server

Project Description

Rockwell Softwares Plantmetrics was implemented at this plant to provide production and efficiency reporting on four Cold Draw Machines and one Saw. These machines are controlled by AB SLC 5/05 PLC's and utilize Panelview HMI's.

Prior to the Plantmetrics installation, production and efficiency reports were manually filled out by plant personnel. Collecting accurate information was difficult and could be prone to errors due to this information being hand written and in relying on the operators to track their downtime and reason for downtime manually.

The first step in implementation was to install Ethernet communications to the AB SLC 5/05 PLC's and the Windows 2000 Server that was to be used to collect data for Plantmetrics. Because this plant is located several hours away, it was decided to connect the plant floor Ethernet network to the company WAN. This allows for secure remote communications to the Plantmetrics server and PLCs through VPN and Windows Terminal Services or PCAnywhere. By allowing this type of communications, the entire Plantmetrics implementation from installation of the Plantmetrics software through configuration and final testing and reporting was accomplished without ever visiting the physical facility. This also allows for future troubleshooting and modifications/upgrades to be performed immediately without having to visit the facility.

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With this implementation, only the default Plantmetrics Key Process Indicators (OEE, Availability% , Performance %, Quality %, Part Counts, etc.) were to be used to generate reports. Custom data collection and custom reporting will be part of a future enhancement to the system.

Once Plantmetrics was installed and functioning properly, a hierarchy of the plant layout was configured and all of the required information to be collected was generated through the Plantmetrics Production Manager for the Key Process Indicators of each machine.

Machine availability time is used in many of the internal calculations of Plantmetrics. These parameters can be configured through shift schedules, based on the real world schedule of the plant, or specific PLC points can be configured to denote when these machines are available. Since machine availability could be different than the real world plant shift schedule, it was decided to use PLC generated points for this project.

Downtime category and reason lists were initially developed as part of the PLC logic required for this project. Plantmetrics provides the ability to import these lists which saves a great deal of time during configuration and insures that each machine was working with the identical information.

A total of 3 reports were designed and configured for this project. An Overall Production Report, a Total Parts Produced Report and a Downtime Reason Report. Each of these included elements unique to this company such company logos and company information. Each report contained all of the machines data that was being collected and was sorted by Date, Shift and Work Order #. Custom report objects were configured that used predefined elements from Plantmetrics as well as custom elements that were calculated from the collected data.

Reports were scheduled to be automatically generated, printed and saved to the hard drive on a per shift basis. All reports are available from any computer connected to the network and can be viewed through Internet Explorer or the Plantmetrics Production Client. The time period can be varied to cover any period of time that the user would like.

For this project, Plantmetrics provides an easy, customizable and comprehensive data collection system. Replacing manually collected data and hand written reports with a completely automated data collection and reporting system has eliminated many variables and provides accurate and timely production and efficiency information.