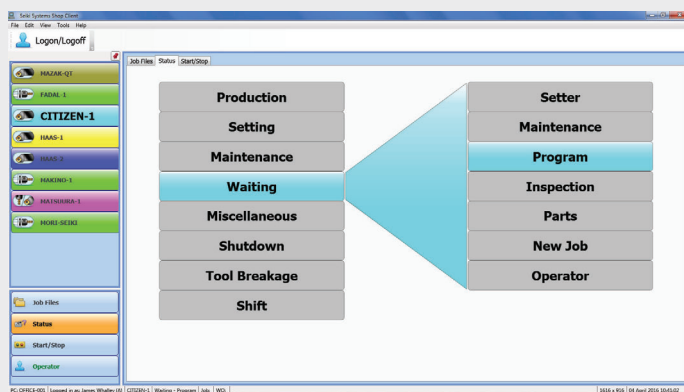# SEIKI SYSTEMS

Seiki Monitoring

Seiki Systems has over 25 years experience in the development and provision of real time manufacturing execution and production control systems that provide an immediate, visual and dynamic picture of the 'plan to make' production process – your strategic and operational manufacturing management solution. We specialise in software that is designed to maximise the efficiency of production equipment and plant resources by addressing the complete works order lifecycle, from top floor to shop floor. The Seiki solution comprises of a suite of modular software including real-time scheduling, DNC and paperless manufacturing, SFDC and machine monitoring, WIP tracking, performance analysis and reporting and industrial touch screen PCs.

Managing Manufacturing Process Performance

The collection of live and accurate data is a key element to achieving consistently high quality and efficiency. It enables you to quickly identify, evaluate and respond to important events whilst increasing equipment availability and reliability. It can also be used to protect your previous investments as well as inform future purchasing decisions. Whilst traditional paper based methods can be used to collect and collate manufacturing data, they are often based on historical records and are likely to be inaccurate. Seiki Monitoring provides you with the ability to manually or automatically record the status of your manufacturing resources and report on machine performance, both in real time and historically.

"With each passing day we had a growing insight into machine activity and inactivity which we could analyse by shift, operator, and stoppage code. It wasn't long before we had enough visual information to drill down into to know where the biggest areas of efficiency gain could be most quickly achieved." Phil Goy, Siddall & Hilton Products

Machine Event Data Collection

Automatic and manual collection of productive and non-productive events occurring on CNC and manual machine tools can be both captured and selected using Seiki Monitoring software. Each operation and status change can be derived automatically (e.g. cycle start or alarm condition) via digital signals received from the machine tool, providing continuous recording of production times. The machine operator is also able to manually enter operating conditions and status changes using a simple HMI, offering a selection of 64 user defined activities on the local shop floor terminal, providing a record of the time and reasons for lost productivity. All machine activities are recorded with a date and time stamp, as well the duration of each event in a Log Book. The results can then be viewed as an event list or exported for evaluation and further analysis to identify reasons for inefficiency and lost productivity. The data can also be used to help reduce maintenance costs. Note: The addition of Seiki Jobpack enables configured job folders containing the manufacturing data stored on the remote server (NC programs, drawings, tool lists, etc) to be directly accessed on the shop floor terminal by the machine operator.

Seiki Monitoring benefits include:

- Simple, accurate and reliable data collection of machine activities
- Eliminates inaccurate and time consuming manual methods
- Enables users to identify potential problems and take a proactive approach to maximising throughput
- Supports unmanned operations with live status and alert warnings 24/7
- Maximise the utilisation of your existing resources and base decisions for investment on real data
- Real time access to shop floor information

Resource Alarm Status Alert

In addition to viewing resource activity remotely, alarm status alerts can be configured to pass an alarm condition message to supervisory personnel via HTTP to external system such as MS Outlook, SMS, pager, etc. The main business benefit of an alert system is increased manufacturing uptime by facilitating an immediate response to any machine activities that can ultimately have a negative effect on your overall productivity. The system can support your 24/7 machining, providing confidence that unmanned operations are fully supervised.
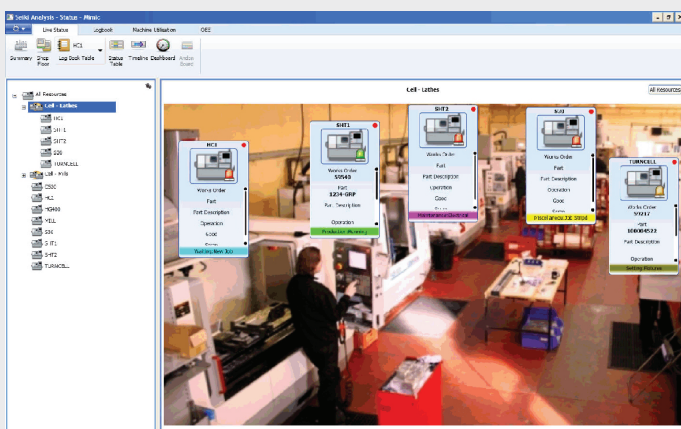
Real Time Visibility

Having overall visibility of the production process facilitates the control and flexibility required to focus on being responsive to customer demands and adding value through the production process. The Seiki Factory View software can be configured to provide a dynamic real time view of the shop environment that is accessible from anywhere on the LAN/WAN.

Offering a number of viewing options, such as drawing, line diagram or photograph of the shop floor as a background screen to create a realistic view of the shop floor layout, Seiki Factory View enables you to quickly identify the live status of each individual monitored resource as it is updated on the terminal by the Operator.

The simple colour coding of each individual resource icon indicates which of the core 8 monitoring status options is currently selected, e.g. in production, shut down or waiting. From this screen it is also possible to drill down into a cell or individual resource to view additional job information pertaining to the current job. Seiki Factory Status can extend this real time information availability, facilitating company wide communication to deliver essential manufacturing data directly to management or supervisory personnel anywhere in your organisation.

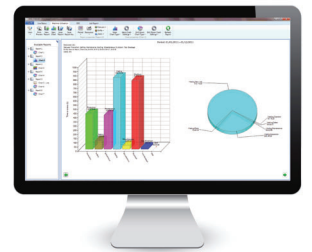**Remote live views of individual machine status and activity**

Machine Utilisation Analysis

Seiki machine utilisation software acts upon a central data repository to generate reports comprising of relevant management information based on real time data collection. This information can then be used to inform strategies to optimise machine uptime, throughput and ROI. Identifying the reasons for lost productivity can help to reduce costs and improve manufacturing efficiency.

The system provides detailed analysis of the productivity of each machine, together with non-productive reasons, displaying the results in pie chart, bar chart and text table format. The information includes accumulative % and total hours for each event that has occurred during the selected period and for those requiring a more detailed analysis, an event listing displays each works order in sequence and duration. Individual events or groups of events can also be displayed chronologically and analysed for trends in production to enable corrective action to be taken if required or for evidence of productivity improvements.

Giving internal stakeholders access to real time, actionable data direct from the shop floor will enable them to make informed decisions and take action to resolve downtime issues that could be costing you money. This level of visibility can lead to measurable business improvements and supports lean initiatives by reducing time spent searching for reasons for lost productivity and actively working to resolve/prevent the identified causes.

Seiki Monitoring features include:

- Automatic and/or manual data collection
- User definable statuses
- Remote live views of individual machine activity
- Highly configurable
- Graphical display of machine utilisation and productivity trends
- Export data as .csv, .bmp or HTML format for easy distribution
- Digital I/O connectivity with optional DPRNT support
- Automatic generation of alarm condition alerts

Seiki Monitoring is available as a stand alone solution or as an integral part of Seiki NMS. The modularity of Seiki software provides you with a flexible solution and progressive upgrade path. Our aim is to work with you to secure your return on investment and support your business as it grows. We offer a complete service including planning, installation, implementation, customisation, training and after sales support.