GF Machining Solutions

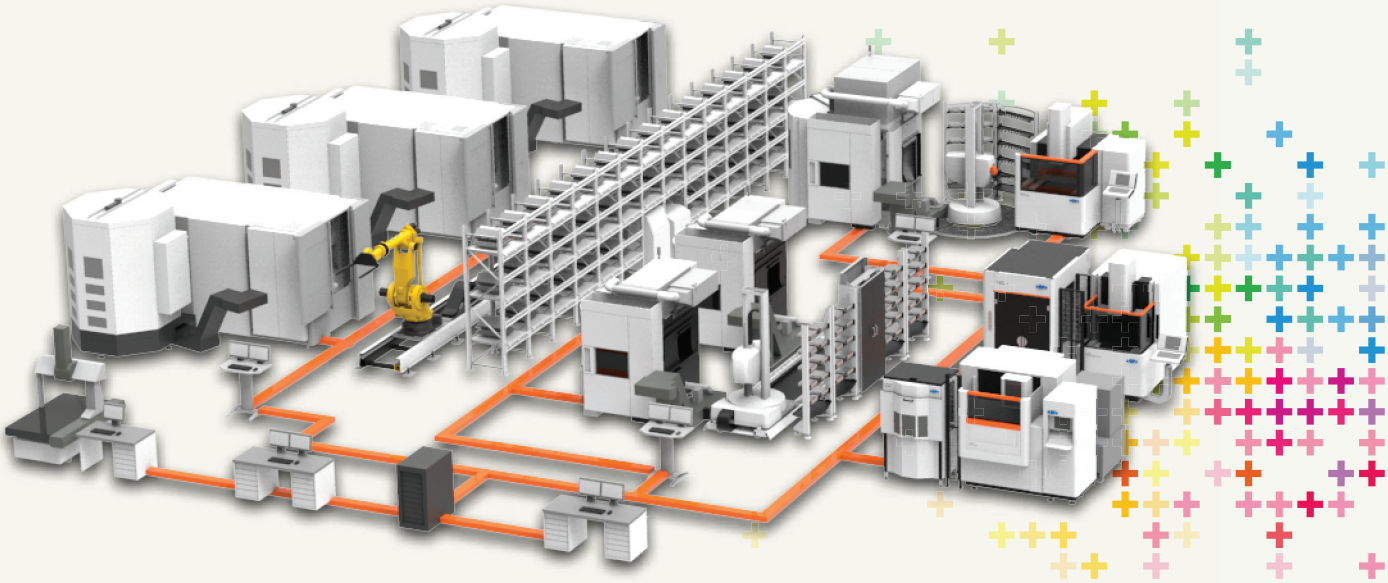
System 3R

WSM – WorkShopManager

Swedish design and quality

Contents

WorkFlow	5
Preparation	6
Execution	8
Monitoring	10
GF Machining Solutions	11

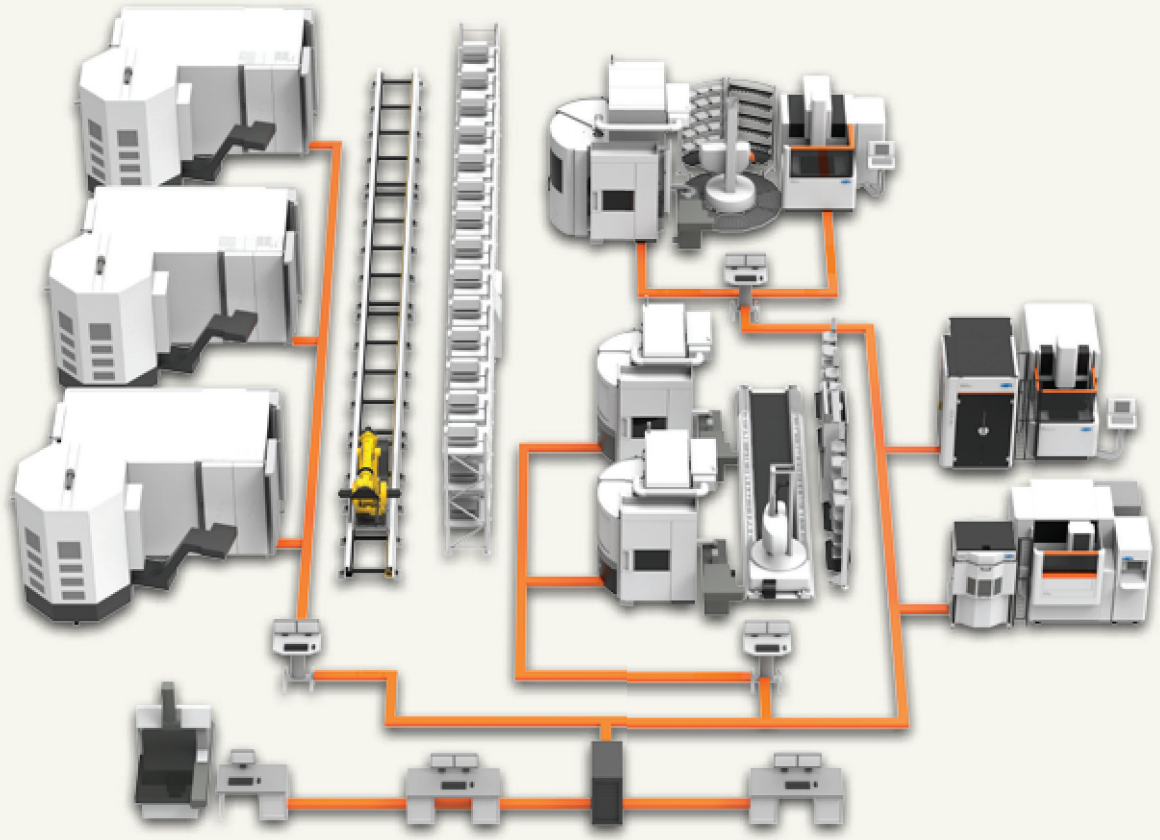


Integration is the key to unlocking the full potential of your workshop

- User-friendly – necessary data are entered quickly and in a structured manner
- Quick, precise overview of the entire process chain
- Increased flexibility – the order of priority can be changed at any time
- Simpler, safer preparation of automatic cells. Information about workpieces, magazine positions, offset values and NC programs is always available.
- The risk of errors due to the human factor is minimised.
- Generates shorter lead times
- Increased process security.

WSM – WorkShopManger

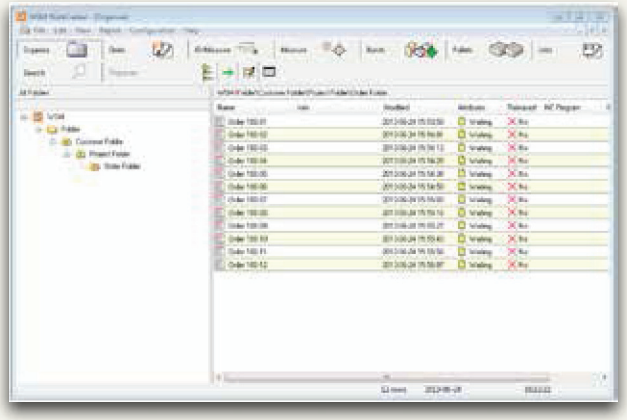
Seamless integration of all your machining applications



- Bring all your production technologies together in one process chain
- Keep your production running with standardized procedures
- Manage your automation processes
- Grows with your demand
- Designed for your future – adding new machines and options is no problem
- Central database for the entire factory.

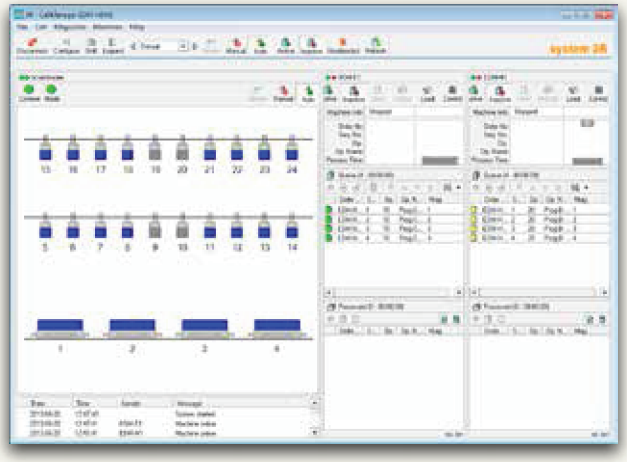
Workflow

The user-friendly procedure in WorkShopManager can be summarized in three stages:



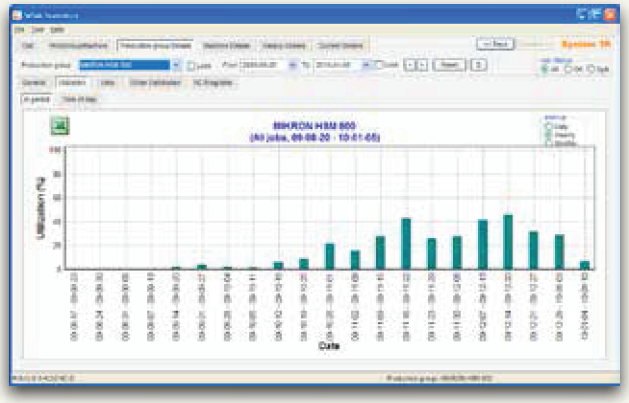
Preparation – WorkCenter

- Create an order
- Assign operations and NC programs
- Retrieve offset values
- Release the order for production.



Execution – CellManager

- Manages the pallet ID codes and magazine positions
- Creates priority lists
- Automatically starts available jobs in the order of the priority list
- Updates the information in the database with the status and machining times of individual orders.



Monitoring – CellMonitor

- Display status of all cells
- Display status of individual machines and processes

Preparation – WorkCenter

- Retrieve and analyze cell utilization data
- Retrieve and analyze order data.

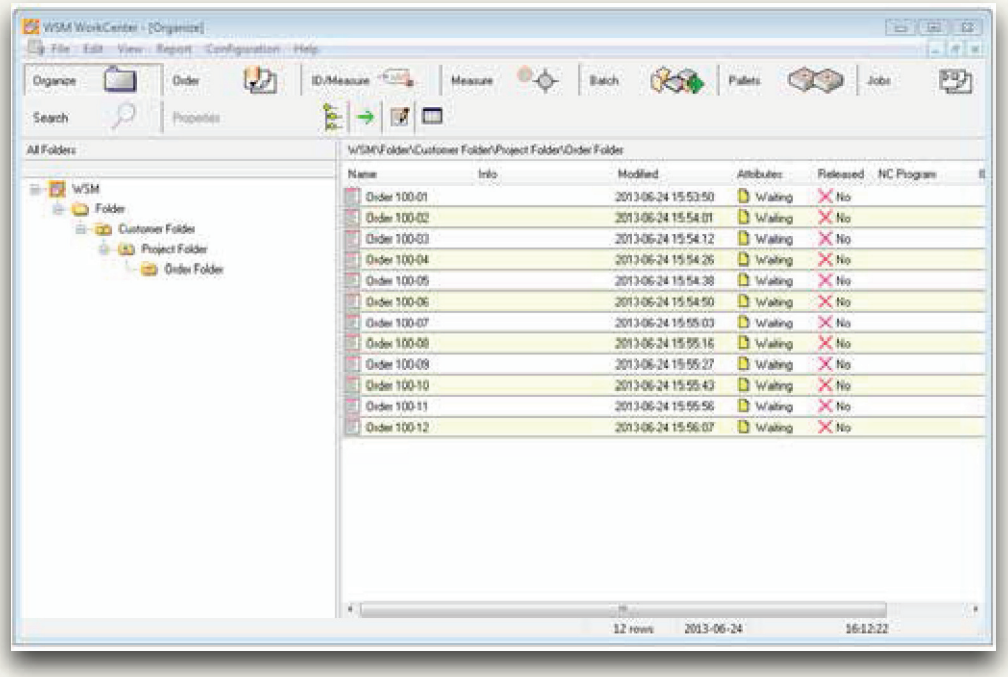
WorkCenter

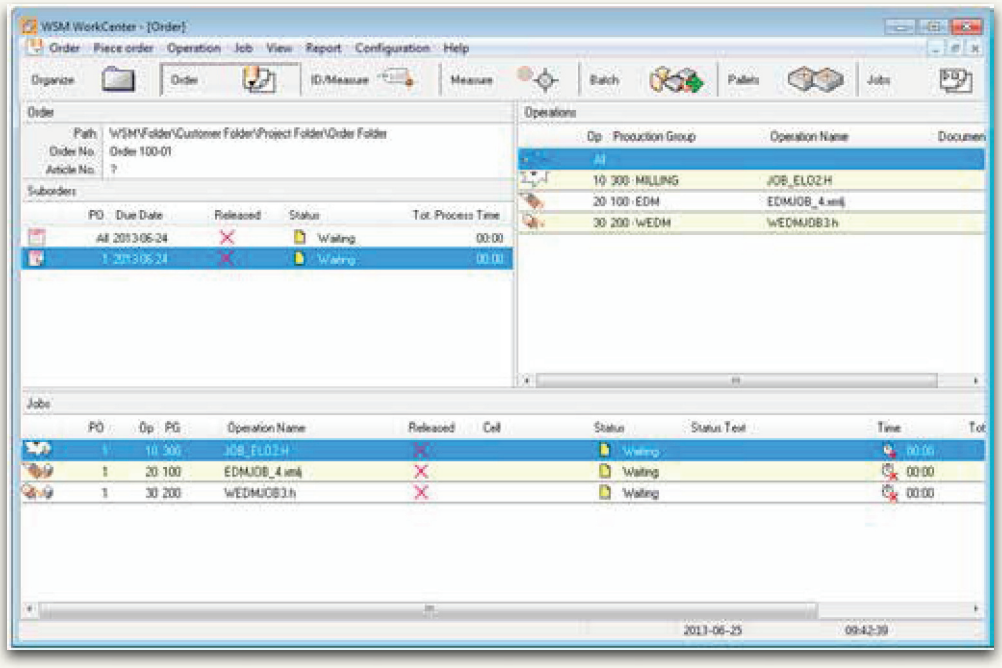
Preparation

All information about the machining's are created in WorkCenter and stored in the central database.
A manufacturing order exists of:

- Operation list for one or several machining's
- NC programs for the operations
- Documents linked to the operations
- Pallet identity
- Offset values

WorkCenter does not produce its own data; it compiles information for every machining operation.





Documents

Documents – machining instructions, reports, images, etc. – can be linked to every operation.

- No searching for information
- The information is linked to the right machining operation.

Linked orders

Linking electrode manufacturing with the EDM operation minimises the risk of mistakes.

- The right electrode for the right EDM operation
- High process safety.

Identification system

An RFID transponder is the link between the manufacturing order and the object on the database.

- Ensures correct machining operation
- Enables tracking of work pieces and electrodes.

CMM integration

- Integration to the most common measuring machines
- Reduces the risk of data entry errors.

BatchBuilder – Execution

- Creating a complete machining execution of several individual orders.
- Generates a main program with associated subprograms
- Transferred to the machine and executed – from the beginning to the end.

Preparation – WorkCenter

- Create an order
- Assign operations and NC programs
- Retrieve offset values
- Release the order for production.

Reporting

- Export of reports such as machining time per part.

Option – planning system integration

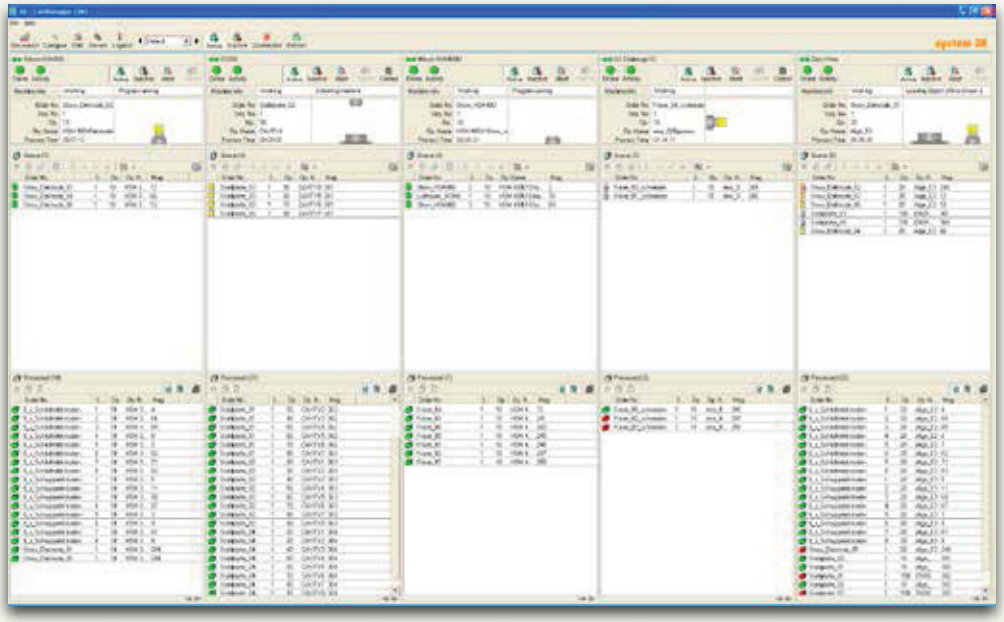
- Import data to WorkCenter
- Execute the machining's
- Export data to planning system.

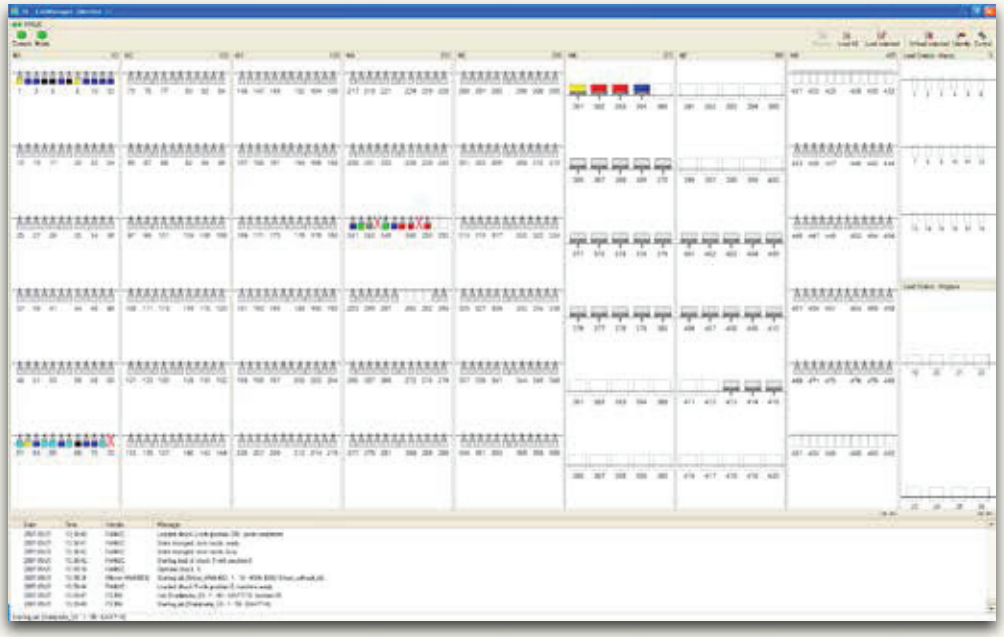
CellManager

Execution

CellManager manages the entire robot cell, handling all necessary data automatically.
The cell is controlled entirely from the screen.

- Starts the robot's ID cycle.
- Manages the pallet ID codes and magazine positions.
- Displays the magazine content graphically.
- Creates priority lists.
- Automatically starts available jobs in the order of the priority list.
- Updates the information in the database with the status and machining times of individual orders.





Manually loaded machines

- Chaotic loading of a pallets on table chucks
- Manual scanning of the pallets
- CellManager creates a priority list
- The job sequence can be changed while the machine is working
- Job data is stored in the database.

Robot-loaded machines

- Chaotic loading of the magazines
- Automatic scanning of the magazine
- CellManager creates a priority list
- The job sequence can be changed while machine is working
- Job data is stored in the database
- The pallets can be removed from the magazine and new can be loaded while the machine is working.

Easy to change priorities

The order of priority of jobs can be changed while the machine is working.

Easy to insert new jobs

Finished work pieces can be removed from the magazine and new pallets loaded, while the machine is working.

Option – Cutter Tool Monitoring (CTM)

- Checks that all cutting tools that are needed for the milling operations are available before machining starts.

Option – automatic electrode selection (AES)

- Automatically chooses the best electrode for the machining operation.
- Used to limit the number of electrodes when producing identical workpieces.

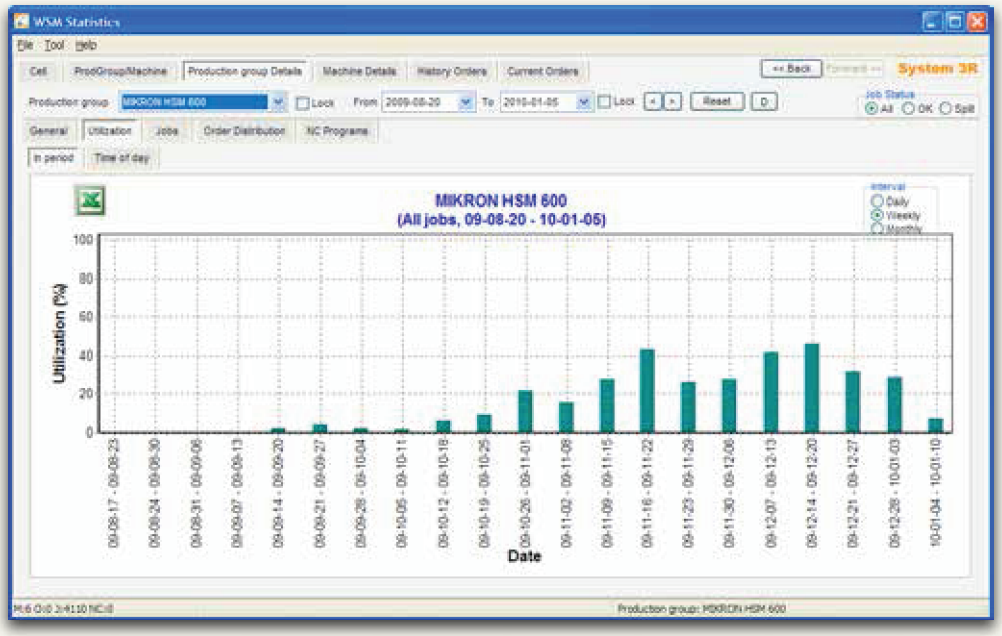
Option – Alarm Server

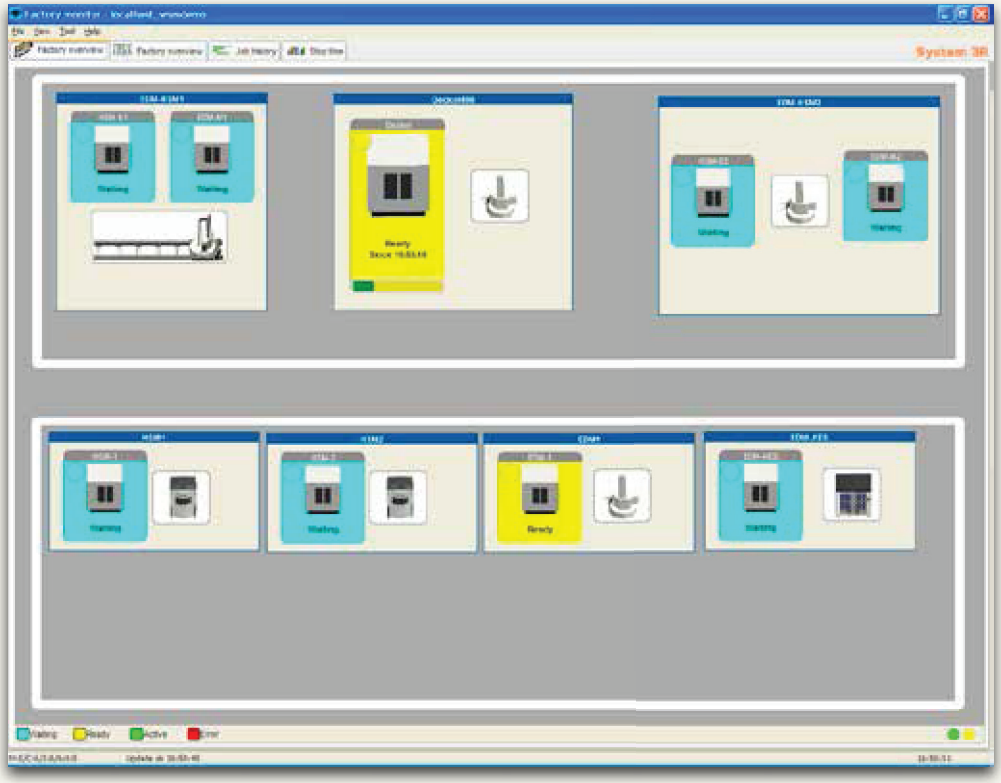
Alarm messages from the machine and the robot can be transferred via e-mail or SMS.

CellMonitor

Monitoring

Job status and machining times are recorded and stored in the database. Reports such as machining time per workpiece can be generated and transferred to a planning system.





GF Machining Solutions

Milling

High-Speed and High-Performance Milling Centers. In terms of cutting speed, HSM centers are 10 times faster than conventional milling machines. Greater accuracy and a better surface finish are also achieved. This means that even tempered materials can be machined to a condition where they are largely ready to use. One essential advantage of HSM is that with systematic integration, the process chain can be significantly shortened. HSM has developed alongside EDM into one of the key technologies in mold and tool making.

EDM

Electric Discharge Machines. EDM can be used to machine conductive materials of any hardness (for example steel or titanium) to an accuracy of up to one-thousandth of a millimeter with no mechanical action. By virtue of these properties, EDM is one of the key technologies in mold and tool making. There are two distinct processes — wire-cutting EDM and die-sinking EDM.

Laser

Laser texturing. Laser texturing supplements and extends the technologies offered by GF Machining Solutions. With our laser technology we enable you to produce texturizing, engraving, microstructuring, marking and labeling of 2D geometries right through to complex 3D geometries. Laser texturing, compared to conventional surface treatment using manual etching processes, offers economic, ecological and design advantages.

Automation

Tooling, Automation, Software. Tooling for fixing workpieces and tools; automation systems and system software for configuring machine tools and recording and exchanging data with the various system components and design advantages.

Customer Services

Operations, Machine and Business Support. Customer Services provides with three levels of support all kind of services for GF Machining Solutions machines. Operations Support offers the complete range of original wear parts and certified consumables including wires, filters, electrodes, resin and many other materials. Machine Support contains all services connected with spare parts, technical support and preventive services. Business Support offers business solutions tailored to the customer's specific needs.

GF Machining Solutions

At a glance

We enable our customers to run their businesses efficiently and effectively by offering innovative Milling, EDM, Laser and Automation solutions. A comprehensive package of Customer Services completes our proposition.

www.gfms.com

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