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Panasonic PanaCIM® Enterprise Edition Software Suite (Part 3)

PanaCIM® Enterprise Edition is a multi-level manufacturing execution system (MES) software solution for any size manufacturer. From the machine-level to the cloud-level, add new capabilities and automate processes across your entire enterprise and manufacturing operation.

With a modular system that can scale to support one machine or an installation of over 1,000, this Panasonic MES can integrate with any machine platform, business system, or location. And it helps you eliminate redundant manual process and decrease material labor costs.
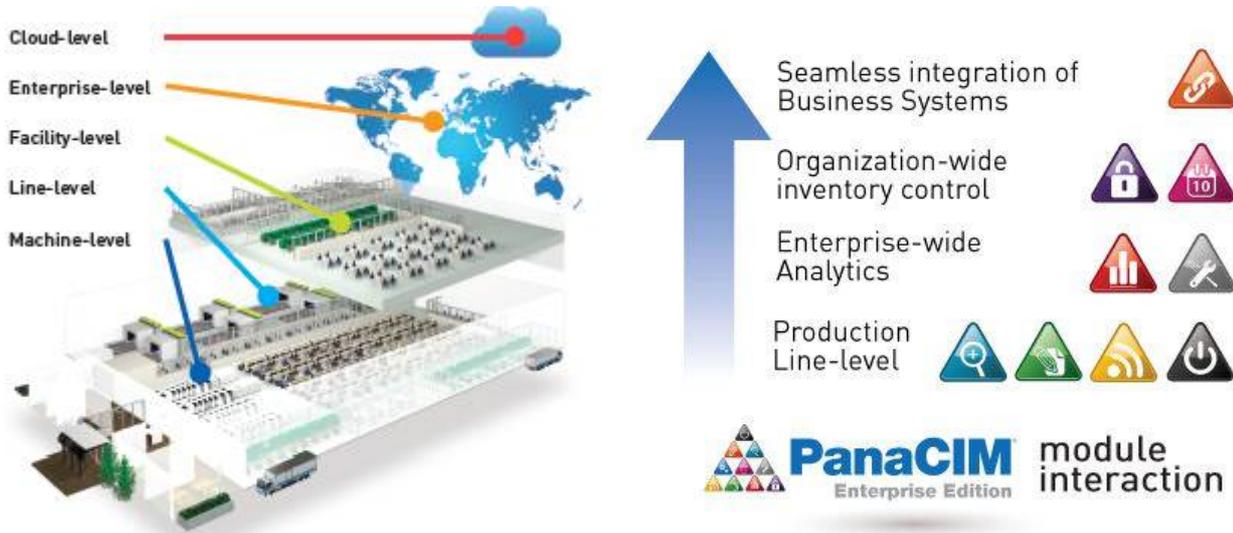
Easy-to-Use
Completely pre-configured and ready to go so it's easy to set up the system in any factory – especially in smaller installations that require digital data collection, yet do not have a dedicated IT staff.

Flexible
When production expands, it's painless to integrate more boxes, redeploy them elsewhere in the factory, or to take a line-level approach that allows continuous production in one area while upgrading in another. Layout options are very flexible and recovery is simple too.

Scalable
Building off the inherent modularity and scalability of PanaCIM Enterprise Edition makes this MES deployment solution relevant and cost-effective for any factory. Install the modules you need now; add on any time you need to down the road.

With this month edition of our newsletter we inform you about the three last modules related to the organization-wide inventory control and the integration of business systems like SAP, Oracle and others to the PanaCIM® software package:

1. Material Control
2. Production Planning
3. Enterprise Link

Should you have any questions or require further information about the modules and the functions described in the following, please do not hesitate to contact your local sales manager or software specialist.

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1. Material Control

The Material Control module manages information about your production operations' required materials including consumables and equipment resources. By viewing your factory as a collection of production zones and support areas, Material Control provides expanded coverage for material tracking beyond just your production line. These areas are uniquely named and bar-coded for integration within all applications of the Material Control module.

This module covers several functions including material movement, remaining quantity estimates, low component monitoring, and simplified material verification.

The module's 3 main applications are:

• Material Tracking and Inventory

• Material Allocation (optional)

• Moisture Sensitive Device Tracking and Control (optional)
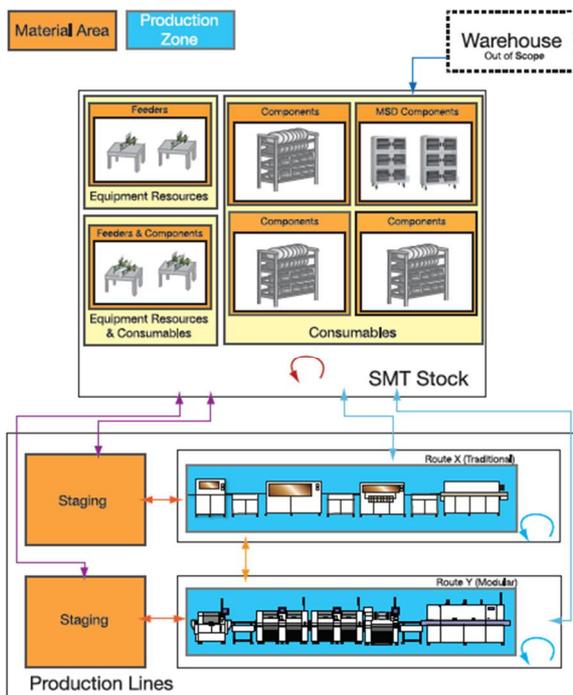
Material Tracking and Inventory

This tracks and updates the estimated current quantity of qualifying material items with information obtained from production machines and handheld scanners. This allows you to view the current material inventory of any PanaCIM® Enterprise Edition-defined location in real time.

• Manages consumable and equipment resource attribute definitions

• Monitors component levels approaching a user-defined exhaust for alerting and re-stocking before equipment has to stop

• Determines component remaining quantity estimate offline

• Locates material by any of their unique ID info

• Maintains feeder/component traceability and accurate inventory tracking through a unique ID check in

• Associates pickup errors with each material unique ID as they are moved between placement machines

• Compares production equipment relative performance for qualifying material item part numbers, vendors, and lots.

Material Control Allocation

Visibility for partial material items allows costs to be reduced because the minimal amount of material is pulled from the warehouse for a changeover. Materials are also reserved so others cannot use them until they are released.

• Identifies and uses existing materials on the production floor as part of a product changeover

• Searches for usable materials in user-specified locations

• Suggests component package items to meet the required quantity based on FIFO rules

• Streamlines material preparation by presenting material handlers with lists of exactly which materials to use in an upcoming changeover

Material Control MSD

The susceptibility of electronic devices to moisture poses significant quality and reliability concerns, especially for critical applications. This MSD function helps automate the often difficult moisture sensitive device tracking and control process.

• Tracks real time floor and shelf life (IPC J-033B)

• Monitors and displays each MSD component's remaining floor/shelf life with definable parameters

• Notifies of MSD component expiration via email

• Locks out expired MSD components during Material Verification module operations

• Reports MSD component location, operation, and elapsed lifetime and logs detailed MSD component transactions

MSD functions of Material Control available in production zones as well as supporting areas include: shelf life tracking, floor life tracking, inventory, status monitoring, notifications, and expiration.

MSD functions of Material Control available in supporting areas include: package, unpackage, and dry box check-in and check-out functions.

2. Production Planning
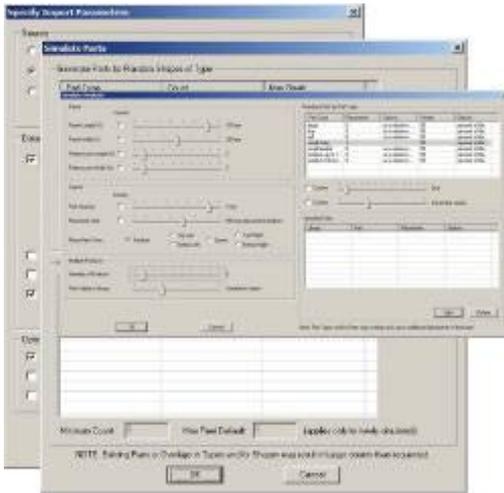
The Production Planning module helps make decisions on the acquisition, utilization and allocation of production resources to satisfy your customer's requirements efficiently.

Production Planning offers:

• Job Quoting – Accurately estimate production time and required resources to produce a product for quotation/bid purposes.

• Floor Configuration – Reorganize existing equipment in order to meet a production time goal and a particular product or products.

• Line Enhancement – Perform a cost/benefit analysis on adding equipment to an existing line.

The module's capacity analysis function assists in determining which existing production lines can best produce a particular product or group of products. This is designed to help circuit assembly professionals respond to challenging production planning questions; from determining which existing production line will most efficiently build a known product to investigating what line configuration is suitable for a new product, or group of products, whose details are unknown.

In order to answer questions about unknowns, the capacity analysis uses a number of simulation algorithms for the three main components of production: parts, products and production lines.

Production Planning is built on the same optimization engine used in production software so you can be certain that the results are as good as the information provided. If actual data is used, the results will be identical to the results obtained by using your equipment's actual production software. Using the capacity analysis off-line frees up your equipment to maximize productivity.

It installs and runs completely separate from the production software. Production software data can still be used as long as the installation is available on the same network for the user to browse.

Production Planning's features include:

• Importing and managing shapes, parts, products and production lines

• Simulating parts, products and production lines

• Estimating production time

• Comparing production time

• Comparing line configuration

Simulating parts

When simulating parts the user can indicate or define specific shapes and the minimum quantity of different parts for each shape. Shape definitions can include size range as well as specific attributes (such as polarized, leaded or tray fed). Each attribute is optional in the definition. The simulation uses minimum quantities to take into account existing parts that already exceed a particular quantity. Also, shape types may overlap with each other and/or specific user-selected shapes.
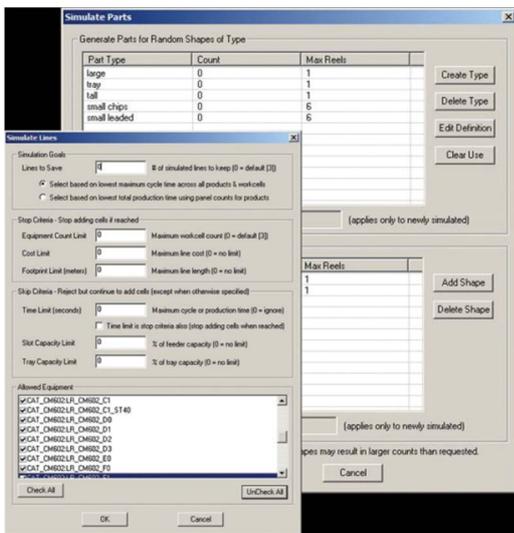
Simulating products

To simulate a product, users simply indicate the product properties, such as size, pattern count, arrangement and part spacing. Then for a part type or specific part, specify the exact number of placements per pattern or the placement ratios (such as 100x chips for every 1x tray) as well as the maximum number of placements per pattern. In either case you can adjust how varied the parts should be.

Simulating lines

For line simulation, users indicate which available equipment to use and how many lines to keep. The criteria to define a 'better' line either the peak cycle time among the given products and the cells in the line or the total cycle time based on the quantities specified for each product can be specified as well.

Specify limits on the generated lines based on the number of machines in the line or based on the cost or size of the line (both cost and size are user defined). Reject lines based on cycle time achieved, slot capacity used or tray capacity used.

3. Enterprise Link

The Enterprise Link allows you to connect valuable data available from your PanaCIM® Enterprise Edition MES with the other business systems in use at your factory. Export production data in a standardized format and in real time.
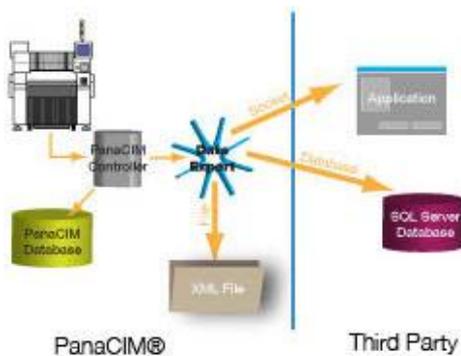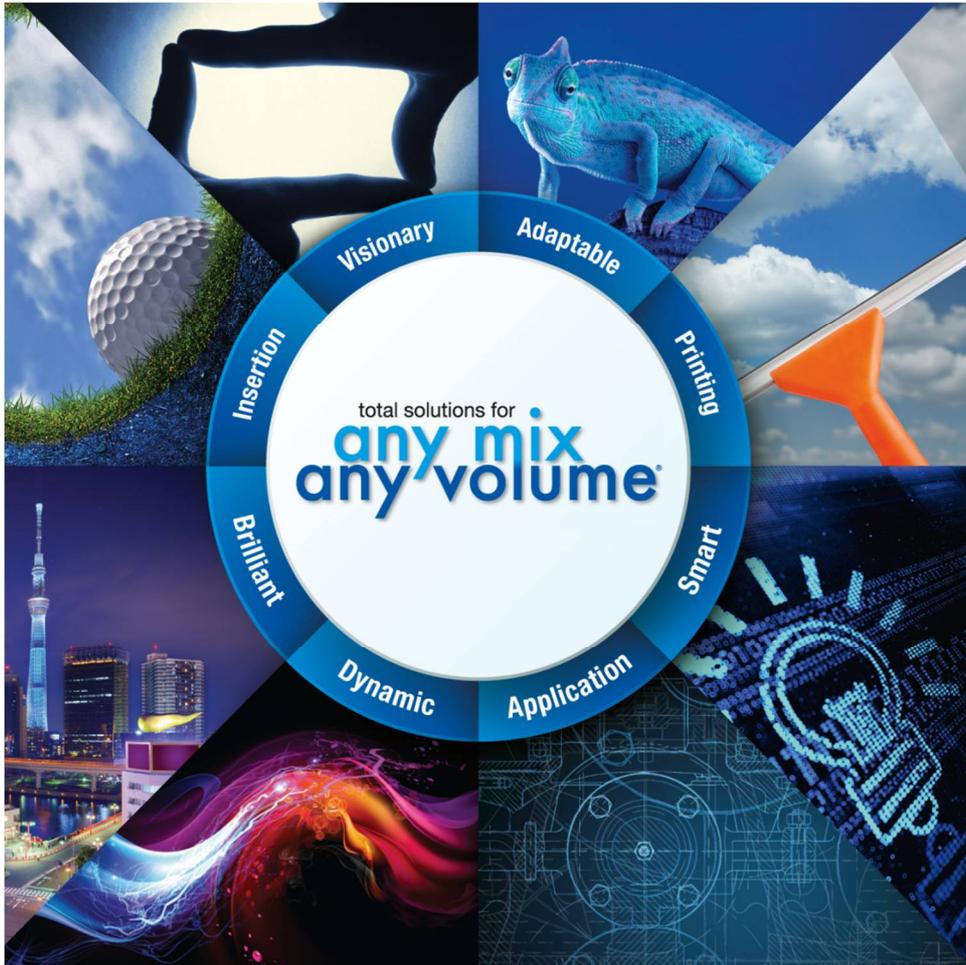

By seamlessly sharing data between these systems, the efficiency and productivity of your overall operation can be enhanced.

Enterprise Link can bridge manufacturing operations and the control level (i.e. MES) with 3rd party business planning systems such as MRP/ERP systems (SAP, Oracle, etc.).

The module exports in specific formats via several different real-time interfaces including XML file, socket, and database.

Examples of information that can be shared include:

• Traceability data to automatically update higher level traceability systems

• Component inventory or consumption data to update MRP with more accurate information

• Component loading information for tracking and inventory • Production count and completion information to update planning and scheduling systems

• Material detail information downloads to PanaCIM for simplifying floor level scans

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