Opcenter™ Execution Process software is the Siemens manufacturing execution system (MES) for the process and consumer packaged goods industries. Opcenter Execution Process can help you increase traceability, manage orders more efficiently and monitor production in real-time – all based on a state-of-the-art platform and application approach.

This new release brings valuable engineering enhancements to facilitate the design and management of recipes and parameters. Using the new parameter catalog, process engineers can centralize parameter management in a single page, re-using the parameters across various engineering entities such as work masters, work master operations and process definitions. The parameters defined at the work master and work order level have new advanced features such as scalable limits, tolerances and target values that can be retrieved directly from the parameter catalog, making it ideal for the management of cross-operation parameters. The new parameter binding approach is based on identifier and type, making it easier to handle parameters between engineering entities, since it is no longer necessary to define a hard link. The work master design is facilitated by the ability to copy an existing operation from a different work master, with the option to choose which specifications to copy, including parameters, materials and equipment.

The new production history application provides a new user interface (UI) to visualize, search and filter production traces, which provide information about what happened, when and where it happened and who performed each transaction. The user can create sets of filters to quickly visualize trace messages related to a certain entity, action, period, location or person. It is even possible to perform advanced searches on contextual data associated to the trace messages. The traceability model and application programming interface (API) are available for system integrators to generate custom traces and related contextual information.

In this release, the native integration with Opcenter Research, Development and Laboratory (RD&L) software is further enhanced with the capability to exchange information via info cards and work instructions. It is now possible, for example, to send sample context information from Opcenter Execution Process to Opcenter RD&L, which is particularly useful in offline testing where the sample is taken by an operator and sent to the laboratory for analysis. In this case the new integration can be used to show the sample in Opcenter RD&L with an info card containing information coming from Opcenter Execution Process such as work order details, material code, lot number and much more. Once the sample analysis...
What’s new in Opcenter Execution Process 4.0

is completed, laboratory personnel can write instructions, comments and even setpoints in an info card that will be sent back to Opcenter Execution Process and visualized by the shop floor operator in a well-designed work instruction. The parameter setpoints defined by the laboratory personnel can be retrieved in the production workflows and pushed down into the automation layer if necessary.

Material issuing tasks have been improved with new configurable controls such as the capability to force a specific sequence of materials consumption, following the sequence specified by the operation material requirements, helping to avoid operational errors in complex mixing processes. These enhancements also provide configurable controls for handling unplanned materials directly at the production line, either allowing or blocking the operator from consuming materials that are not listed in the operation requirements. The system also now provides automatic calculation of required quantities for materials managed in volumetric units. The density factor (used for the quantity conversion into a mass unit) can be defined globally at the material definition, and it can be expressed in a lot property, overriding the value defined at material definition.

In this release, the native SIMATIC BATCH integration is much more efficient in several operations. The recipe decoupling enables the capability to design the batch master recipe even while a related batch is running on the shop floor. It also allows for zero overhead at the master recipe release operation, and messages are managed without any delay during process cell updates. The database initialization is also much faster, taking mere seconds, even in environments with huge amounts of data.

Features

Parameters catalog
- Centralized parameter management
- Re-use parameters across various engineering entities (work masters, work master operations, process definitions)

Advanced work master/work order parameter management
- Useful for managing cross-operation parameters
- Including scalable limits, tolerances and target values
- Add parameters directly from the catalog for optimal re-use

Easy parameter binding
- Automatic parameter binding based on ID and type across engineering entities, loose coupling
- At runtime the system automatically initializes workflow parameters with values coming from either the work order or operation
- At the completion of a workflow, the actual parameter values are pushed back to the work order or operation
- The new binding method can be activated/deactivated by configuration

Re-use of existing work master operations
- Copy an operation from an existing work master
- Choose which specifications to copy, including parameters, materials and equipment
- View the associated process definitions from the work master operation page

Traceability
- Traced messages contain information about what, where, when and who performed the transaction
- Traces also contain extendable contextual information
- New application to view, search and filter traces
- New history tabs showing traces of production entities
- New traceability model and API available for system integrators
Opcenter RD&L and Opcenter Execution Process information exchange

- Use Opcenter RD&L info cards and Opcenter Execution Process work instructions to share information between shop floor and laboratory operators
- Send sample context information to the laboratory (e.g. work order details)
- Send back analysis reports to the shop floor, including parameters that can be used in the production workflow

Enhancements for material preparation and consumption

- Configurable handling of unplanned materials during task execution
- Enforce the consumption of materials in a specified sequence
- Define the material density and the system will automatically calculate the required quantities
- View material requirements and actuals in the task details

Enhancements for integrating SIMATIC BATCH

- Recipe decoupling, no overhead at master recipe release
- Master recipe can be engineered while the batch is running
- Much faster batch data initialization and parameter setting

Label printing

- Define label templates of production entities
- Associate a printer to a piece of equipment, production line or workstation
- Use event-based rules to automatically print labels at runtime operations (for example, sample creation, material tracking unit (MTU) preparation)
- Select an MTU, equipment or sample and click on the print button to print a new label
- Reprint labels from the print history page