

What's new in Opcenter Execution Process 4.1

Enabling process-driven manufacturing through a scalable approach

Benefits

- Provides visibility and synchronization of all manufacturing operations
- Facilitates native orchestration of heterogeneous activities
- Delivers full traceability of operations and materials
- Enables the scheduling of operations and resources through the integration with Opcenter APS
- Facilitates sampling and quality control integrated with Opcenter RD&L
- Supports multiple versions of SIMATIC BATCH software
- Provides manufacturing data to Opcenter Intelligence for data analytics and reporting
- Supports integration with enterprise systems via Opcenter Connect MOM

Summary

Opcenter™ Execution Process software is the Siemens manufacturing execution system (MES) for the consumer packaged goods, food and beverage and chemical 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.

Opcenter Execution Process 4.1 introduces a new native integration with Opcenter Advanced Planning and Scheduling (APS) software. The configuration manual provides step-by-step instructions to easily set up the integration between the two systems. Once they're connected, Opcenter Execution Process will send to Opcenter APS the list of operations together with their estimated duration, and the available resources for scheduling. The planner can perform the scheduling in Opcenter APS, taking advantage of intelligent built-in rules, leveraging experience or new information to manually interact with the schedule and make any necessary changes. Once the planner is satisfied and the schedule is saved, Opcenter APS will send to Opcenter Execution Process the scheduled

operations with planned start/end times and planned execution equipment. Production coordinators and operators can visualize the list of operations sorted by planned start time and follow the schedule accordingly. Once the operation is started, its production tasks can be automatically assigned to the equipment scheduled by Opcenter APS.

This new release continues the improvement of the recipe management capabilities by enabling the binding and handling of parameters by equipment. The operation parameter setpoints and thresholds can be defined with different values associated to the production equipment. During the execution of the operation, the system can be configured to download the right setpoints and thresholds according to the equipment actually being used for production, which may have been scheduled by Opcenter APS, defined by a production coordinator or selected by a shop floor operator. For example, a mixing operation can be performed in multiple mixers according to their availability. The mixers may have different hardware specifications, and therefore require a different number of rotations per minute to achieve the same result. With these new enhancements, the speed parameter can be defined in the operation multiple times, with different setpoints and thresholds bound to different mixers. This flexibility enables process engineers to decrease the number of operations necessary to account for equipment variations. In this example, the system loads the correct value of the speed parameter according to the mixer selected by the shop floor operator. Once the equipment has been used,

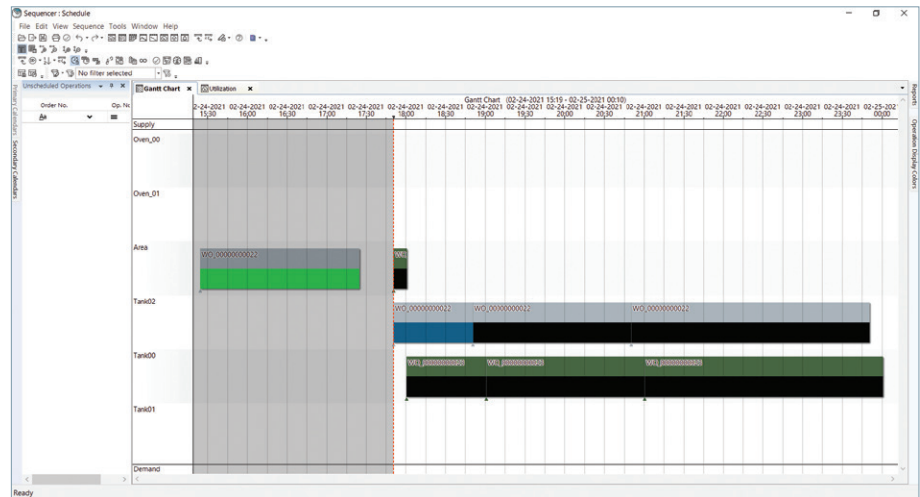
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it is also possible to push back to the operation the actual value of a given parameter, which may be different from the expected target value. This facilitates the tracking and reporting of key process parameters, which will have their target and actual values stored in the operation.

This release also provides additional traces covering many production entities and activities. The dedicated user interfaces that allow the visualization of these traces have been improved to show all messages correlated with the selected entity. For example, when viewing the production history of a given work order, the user will now find not only the traces of the modifications done to the selected work order, but also all the traces recorded in the context of the work order, such as equipment allocation, material preparations, consumptions, movements, and production declarations.

The native integration with Opcenter Research, Development and Laboratory (RD&L) is improved in the context of quality execution and offline testing. By leveraging the powerful info cards provided by Opcenter RD&L, laboratory personnel can write comments and instructions and define quantities and setpoints using rich user interface controls to store information in a sample analysis that will be transmitted to Opcenter Execution Process and converted into task parameter values, which can be displayed to the shop floor operator or used in the design of complex business processes for quality control and rework activities.

The new production task enables process engineers to include production declarations in manufacturing workflows. The task provides many configuration options, and the corresponding



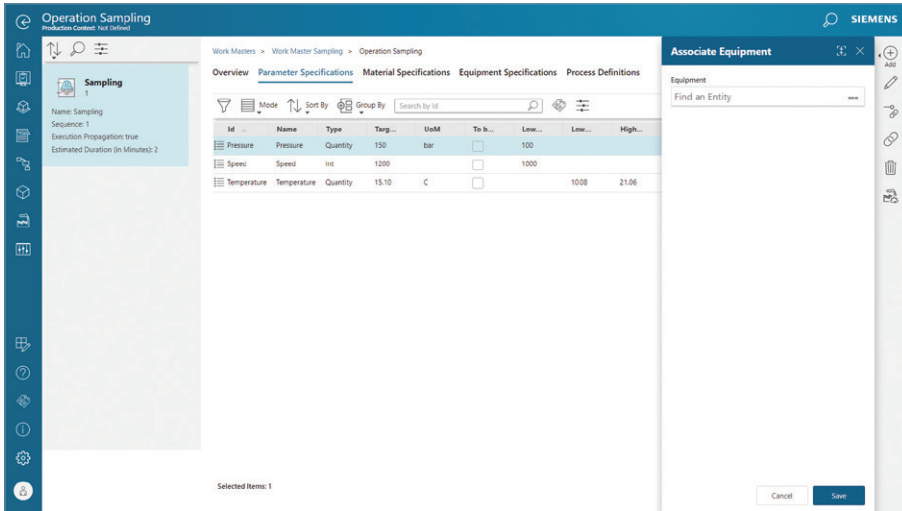
functional transaction is responsible for creating and tracking the produced material tracking unit of semi-finished or finished goods. The produced quantity can be obtained by manual operator input, by use of a work instruction, or by reading an automation tag, or even taken directly from the operation material requirements in the case of production of theoretical quantity as-is. The traceability and genealogy of the involved material tracking units is confirmed and the consumed materials are automatically linked to the produced good. Additionally, a label can be automatically printed to identify the newly created material tracking unit.

Lastly, the revamped product overview documentation provides a brief and functional overview of Opcenter Execution Process. This document is the ideal starting point for learning and understanding product capabilities. It is recommended for salespersons, project managers and new system integrators who want to familiarize themselves with the overall structures and functionalities provided in Opcenter Execution Process.

Features

Scheduling and dispatching enhancements

- Native integration with Opcenter APS
- Send operations and resources from Opcenter Execution Process to Opcenter APS
- Scheduling performed in Opcenter APS considering run-time data such as ongoing operations and equipment usage
- Send scheduling from Opcenter APS to Opcenter Execution Process, with operations' planned start times and equipment
- In Opcenter Execution Process, follow the schedule by sorting operations by planned start time
- Automatically assign tasks to the equipment scheduled by Opcenter APS

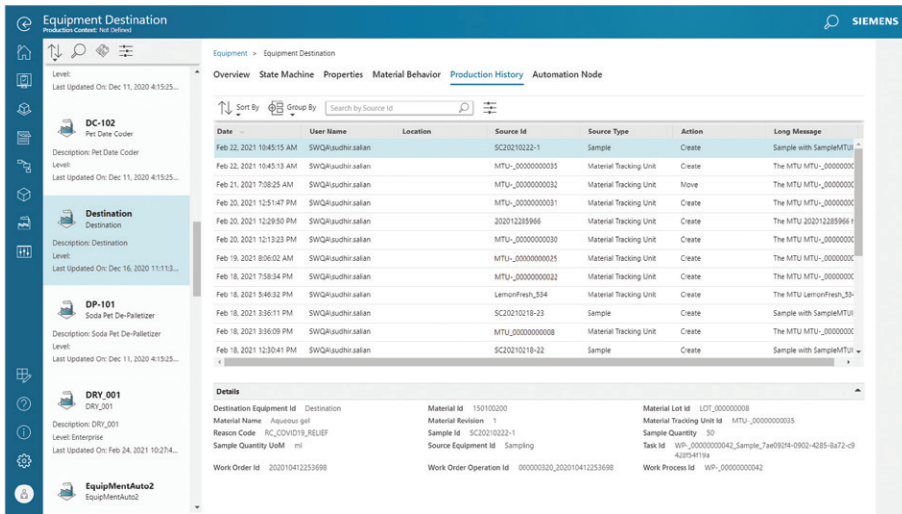


Recipe management enhancements

- Parameter binding and handling by equipment enables definition of set-points depending on the equipment chosen during execution
- Simplified operation engineering, easy to create and re-use templates
- Material name visibility on work master and work order

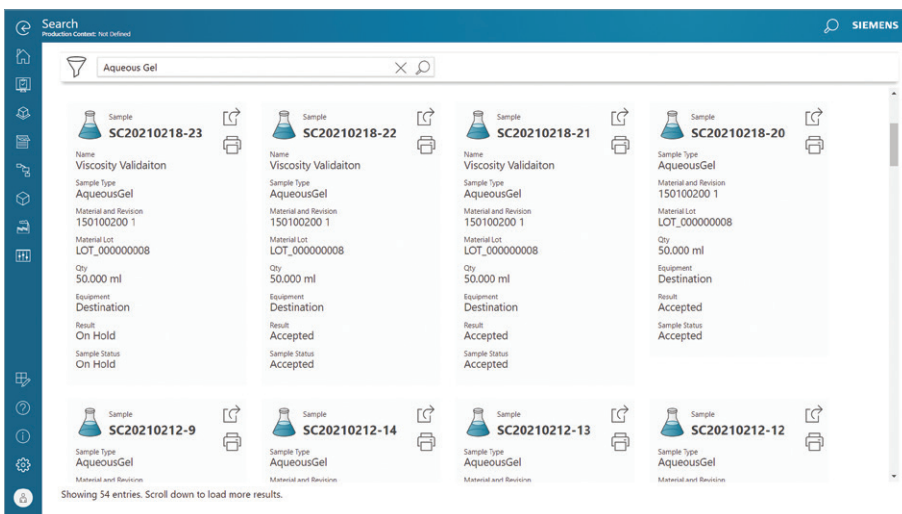
Traceability enhancements

- Additional traces covering all runtime entities: orders, work orders, operations, material lots, material tracking units, samples, equipment and more
- Improved visualization of traces in the production history tabs
- New configuration key to easily activate/deactivate tracing



Quality execution enhancements

- Enhanced info field integration with additional types allows users to create info cards with rich user interface controls in Opcenter RD&L and send their values to Opcenter Execution Process task parameters matching their types, which can be used in the engineering of complex business processes covering quality control and rework
- Sample status synchronization between Opcenter RD&L and Opcenter Execution Process, which enables building business workflows for quality control and rework based on status

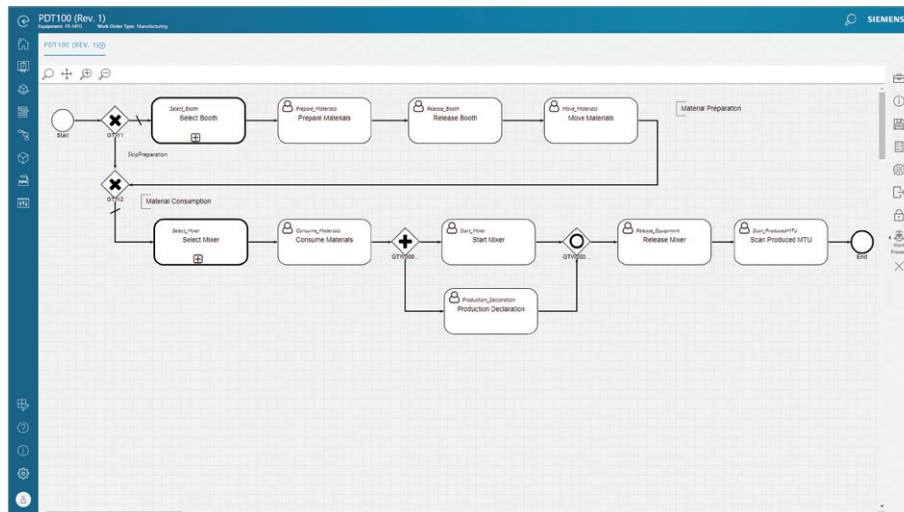


Batch integration enhancements

- Compatibility with SIMATIC BATCH 9.1
- Extended technical documentation describes synchronous commands to retrieve SIMATIC BATCH engineering data – use of custom event-driven mechanism is no longer necessary
- Supportability improvements

New production declaration

- New production declaration task and functional transaction enables generation of semi-finished or finished goods in the execution of work processes
- Full traceability and genealogy of produced materials
- Produced quantity can be obtained from manual input, from the automation layer, or from predefined material requirement (theoretical quantity)
- Automatically prints labels of the produced material tracking units
- Tagging of consumed or produced materials allows for quick comparison between requirements and actuals



New product overview documentation

- Functional overview describing the product briefly
- Ideal starting point and content for anyone wanting to learn about the product

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