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What's new in Siemens Opcenter Execution Process 3.1

Enabling process-driven manufacturing by taking a scalable approach

Benefits

- Provides visibility into, and synchronization with all manufacturing operations
- Facilitates native orchestration of heterogeneous activities
- Delivers full traceability of operations and materials
- Integrates sampling and quality control with manufacturing
- Supports multiple versions of SIMATIC BATCH
- Offers a scalable, modular and extensible solution

Summary

Siemens Opcenter™ software Execution Process (formerly known as SIMATIC IT Unified Architecture Process Industries) is a manufacturing execution system (MES) for the consumer-packaged goods, food and beverage and chemical industries. The solution has been developed to cover the entire value chain, from receiving incoming material to distributing produced goods, including quality control, product planning and scheduling as well as reporting, trends and advanced analysis. Siemens Opcenter Execution Process can help you increase traceability, manage orders more efficiently and monitor production in real time.

This release delivers powerful new features and enhancements to facilitate managing equipment capacity and allocation, as well as integrated quality control that provides sampling, analysis and evaluation of quality results seamlessly tied to manufacturing events.

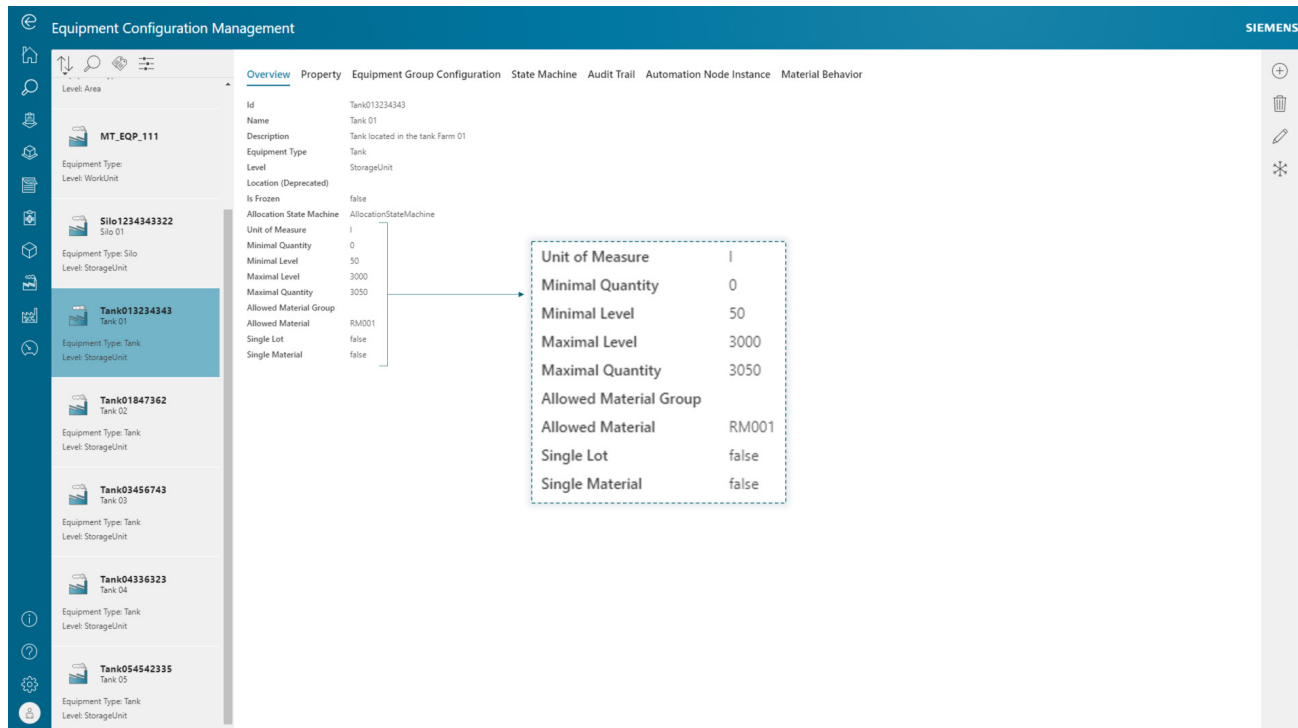
The new predefined equipment properties allow you to determine the minimum and maximum capacity of tanks and silos. You can also easily define which material or group of materials can be processed on the equipment, as well as content restraints such as a single lot or single material.

The enhanced operator cockpit is highly customizable, supporting different views depending on the type of work order being executed. It is now possible to add custom user interface (UI) components inside the operator cockpit, displaying relevant key performance indicators (KPIs) and counters for different work centers and work order types.

A new UI displays material requirements and a list of materials that were consumed or produced (actuals) for a given work order operation. The information is aggregated in a single nested table and available for supervisors and operators, facilitating the follow-up of consumed and produced materials. Additionally, the full history of material tracking units is displayed together with the genealogy graph.

In process-driven manufacturing operations, users are often required to interact with the system to select resources for production activities. For example, selecting a truck for inbound process, a piece of equipment for production or a lot for quality control.

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This release provides a search task function with a touch-enabled UI that supports configurable queries based on out-of-the-box search providers. When added in a workflow, the search task will output the object selected by the operator, making it available for the next tasks that can read the object properties and proceed with their own business logic.

Additionally, custom search providers can be added with custom queries and objects; for example, a custom search provider can return documents and standard operational procedures from a SharePoint site and make them available for selection by operators on the shop floor during the execution of the production process.

Our new wait task can pause workflow execution until a predefined condition is met in runtime. It can be used, for example, to hold outbound process of finished goods pending laboratory analysis of previously collected samples. The event-driven mechanism can even wait for data coming from external systems to unblock workflow execution.

Enhanced integration with Siemens SIMATIC BATCH enriched with parameters drives the batch creation from Siemens Opcenter Execution Process, improves formula selection at runtime and provides the possibility to set the order category, batch name and order identification (ID) to be used for batch creation.

Siemens Opcenter Execution Process 3.1 provides a development guide for system integrators and developers. It provides examples of use cases and detailed instructions about the integration of the standard features and how to extend them.

Finally, the mobile-ready user interface for tablets and iPads allows operators the flexibility to work intuitively as they move around the shop floor.

Features

Predefined equipment properties to manage capacity, availability and usage constraints

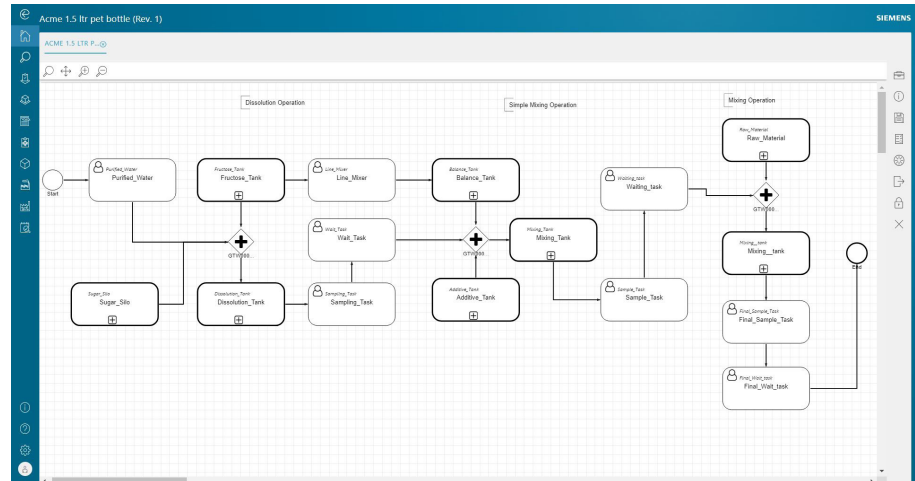
- Define minimal and maximal quantities and levels
- Specify which material or group of materials can be processed in the equipment
- Restrict equipment usage on a single lot or material

Equipment allocation and release

- Manage the equipment allocation lifecycle
- Design workflows with automatic or manual allocation and release of equipment to work orders
- Virtual binding of equipment properties and runtime task parameters, updated upon task completion

Sampling and quality control

- Create and trace material samples
- Send samples for analysis in any lab information management system (LIMS) using Siemens Opcenter Connect, formerly Manufacturing Interoperability
- Sample analysis results can be retrieved from LIMS
- Evaluation of quality analysis results seamlessly tied to manufacturing processes
- Design workflows to control lot usage decision, manufacturing rework, additional quality controls and batch review procedures



Enhanced operator cockpit, which is easy to customize

- Chose and shape the UI components that are to be displayed to shop floor operators
- Implement different UI views based on work order type
- Improved user interfaces with additional task and operation details and better performance

Work order operation visibility

- Visualize material requirements and actuals in a single nested table
- View material tracking unit detailed history of consumption and production
- Avoid the possibility to duplicate material requirement sequences in the same work order operation

SB Parameter Name	Alias Name	SB Data Type	Data Type	Set Point	Parameter Value	SB UoM	SB Material
PP (1)							
P (4)							
RP_additives	RP_additives	Input material	String			kg	
RP_powder	RP_powder	Input material	String			l	
RP_powder1	RP_powder1	Input material	String			kg	
RP_solvent	RP_solvent	Input material	String			l	
PO (1)							

ID	Type	Value	Unit of Measure	Direction	Read Only
BatchId	String			Output	<input type="checkbox"/>
BatchName	String			Input	<input type="checkbox"/>
FormulaName	String			Input	<input type="checkbox"/>
FormulaVersion	String			Input	<input type="checkbox"/>
OrderCategory	String			Input	<input type="checkbox"/>
OrderId	String			Input	<input type="checkbox"/>

Search task

- Operator-oriented task to support any entity selection in runtime
- Configurable queries based on out-of-the-box search providers
- Custom search providers can be added with custom queries and objects

Wait task

- Pause a workflow execution until a predefined condition is met
- Can be used to put manufacturing processes on hold, pending laboratory analysis of previously collected samples
- Unblock a workflow with data coming from external systems with an event-driven mechanism

SIMATIC BATCH integration enhancements

- Improved task definition with new parameters to drive the batch creation
- Improved formula selection at runtime
- Set the order category, batch name and order ID to be used for batch creation

Material movement and transformation enhancements

- Follow-up of quantity threshold and possible inconsistencies
- Retrieve connected equipment based on equipment flow
- Custom equipment movement behaviors with custom business logic can be integrated

The development guide

- Detailed instructions on how to integrate Siemens Opcenter Execution Process features
- Use cases ready to implement, extending and customizing existing functionalities
- Contains technical procedures and the UI reference guide

Mobile user experience

- Support of Android tablets and iPads (see technical specifications for details)

Improved traceability

- Additional user-friendly log messages available in the UI, helpful for diagnosis, history and traceability
- Centralizes all logs and traces from standard and custom apps in a single UI

Siemens Digital Industries Software
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