Opcenter™ Execution Process software is the Siemens Digital Industries Software manufacturing execution system (MES) used for the consumer-packaged goods, food and beverage, and chemical industries. Using Opcenter Execution Process 4.4 (Opcenter EX PR 4.4) can help you increase traceability, manage orders more efficiently, and monitor production in real time – based on a state-of-the-art platform and application approach.

Opcenter EX PR 4.4 and other solutions mentioned in this document are part of the Xcelerator portfolio, the comprehensive and integrated portfolio of software and services from Siemens Digital Industries Software. Opcenter EX PR 4.4 implements vertical integration use cases and leverages the power of a complete Siemens solution from programmable logic controllers (PLCs) to MES. The production history traces are configurable and enriched with new details, including a snapshot of the equipment settings involved in each trace.

**Benefits**
- Enable the design and rollout of global manufacturing templates
- Translate business processes into codeless business logic with an open engineering and execution platform
- Synchronize business with manufacturing, including integrating automation and batch execution
- Deliver just-in-time and intuitive execution support for complex shop floor operations and seamless user experience for production operators

**Summary**
Opcenter™ Execution Process software is the Siemens Digital Industries Software manufacturing execution system (MES) used for the consumer-packaged goods, food and beverage, and chemical industries. Using Opcenter Execution Process 4.4 (Opcenter EX PR 4.4) can help you increase traceability, manage orders more efficiently, and monitor production in real time – based on a state-of-the-art platform and application approach.

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**Benefits continued**

- Integrate quality tests in shop floor processes, including lot quality control and information exchange with laboratory personnel
- Facilitate advanced planning and scheduling of operations and resources

Additional features to manage material hazards and risks are available to complement weighing and dispensing flows as well as the standard support for scales connected via the Open Platform Communications United Architecture (OPC UA) protocol.

This release provides artifacts that help speed up the integration with shop floor systems such as PLCs through standardized messages and handshake protocols with predefined contracts ready to use. This includes documenting end-to-end solutions for faster and easier implementation of manufacturing use cases.

The improvements in the production history records bring full traceability of the value changes occurring during the execution of the workorders. It is now possible to visualize the old and new values of every change including different traceability options for optimal configuration. Using Opcenter EX PR 4.4 helps you enrich the traceability of manufacturing with details about the equipment used in each transaction. You can visualize this snapshot of the equipment properties and attributes in the improved user interface (UI). It serves as an important source of information for root cause analysis (RCA).
Managing the hazards and risks associated with material manipulation is essential to protect human health and the environment. Opcenter EX PR 4.4 allows you to acknowledge the hazard information, require personal protective equipment (PPE) and read the safety instructions before handling the materials.

You can use Opcenter Execution Process with the SIMATIC® suite WinCC Open Architecture (SIMATIC WinCC OA) to provide a robust data acquisition engine and produce time series data enriched with the manufacturing context you can set using Opcenter Execution Process. You can integrate this software by implementing user interfaces to visualize process parameter trends in different levels, such as workorder, workorder operation and equipment.

### Features

#### Standardizing shop floor integration
- Out-of-the-box artifacts to help speed up the integration with the shop floor systems
- Standardized handshake protocols with predefined contracts ready to use
- Documented end-to-end solutions for faster and easier implementation of integration use cases

### Full traceability of changes and history
- Traceability of the value changes occurring during the production execution
- Visualization of the old and new values with every change trace
- Tracing of the properties and attributes of all pieces of equipment involved in each transaction
- Configurable traceability of the actual values obtained for the critical product and process parameters
- Different configuration options to trace specific entity types in the production execution domain

#### Material hazard and safety management
- Managing hazards and risks associated with material manipulation
- Configuration of PPE required to handle the materials
- The operator can consult and acknowledge the material hazard information, required PPE and safety instructions

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**Material Movement Flow**

**PLC → MES without answer**

1. **SEQ = 100**
2. **Call Handshake composite cmd**
3. **Inbound Messages repository**
4. **Persist Message**
5. **Platform Automation Write → ACK = 100 (SEQ)**
6. **Business logic of the use case according the MessageType**
7. **MessageType = MaterialTransaction**
8. **Movement Recording**

**Automation Gateway (IOWA)**

- **PLC**
- **TIA Portal libraries**

**The handshake communication is the same for all the PLC → MES Async use cases**
Standardized approach integrating OPC UA scales
- New tag-based contract with predefined objects ready for configuration
- Improved user interface to automatically switch communication channels
- Documentation to guide and facilitate the integration of the scale

Integration with SIMATIC WinCC Open Architecture
- Facilitates the implementation of a historian solution
- Provides manufacturing data contextualization to the archived values
- Enables the visualization of parameter trends in different levels such as workorders, operations and pieces of equipment

Best practices for antivirus configuration
- New guidelines with detailed best practices on antivirus configuration
- Follow the guidelines to remove the risk of false positive hits from wrongly configured antivirus
- Apply the guidelines to ensure that the antivirus software activity does not affect the run time performances of Opcenter Execution Process

Technological improvements
- Significant improvements in the deployment performance for faster system updates
- Signal management: scalability and robustness improvements
- Update or reload multiple apps and extension apps at once
- Improved performance to create and orchestrate tasks