



Opcenter Intelligence 2401.0001

Reference Manual

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# 1 Concepts you need to know about

The following concepts are considered prerequisites to understanding how to work with a manufacturing data warehouse:

- [Data Warehouse Schemas](#)

## 1.1 Data Warehouse Schemas

A schema in a data warehouse refers to the organization of data as a representation of how the database is constructed. Each schema can contain one or more tables and views. The manufacturing data warehouse contains the following schemas:

- bm20
- bm20localized
- bm20load
- localizedbm20load
- deletedbm20load

The schemas to be taken into consideration to the purpose of creating reports or dashboards are bm20 and localizedBm20.

### bm20 schema

Contains a table for each entity of the model. Each table has the same name as the entity. The tables contain the main data retrieved from the sources.

#### Main columns of the bm20 table

Each table of the data warehouse has a standard structure, which is made up of the following columns:

Column Name	Description
<entity name>Id	(e.g. EquipmentId) Surrogate key of the table (auto-increment integer defined by the system)
<entity name>SiteId	(e.g. EquipmentSiteId) Id of the site associated with the source that has generated data. The SiteId and Key pair forms the natural key of the row.
<entity name>Key	(e.g. EquipmentKey) Unique key of the row of the data on the source. The SiteId and Key pair forms the natural key of the row.
RowInserted	Date when the row has been inserted in the table.
RowUpdated	Date when the row has been updated in the table.

### localizedBm20 schema

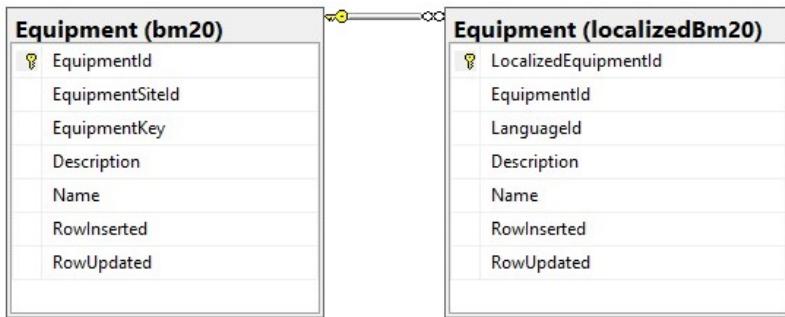
Some entities of the model can be localized. An entity can be localized when it contains a number of attributes that can be translated into a different language, for example the name or the description.

## Data Warehouse Schemas

If the attributes of a specific data source have been localized, this schema will also show the attributes in the languages supported by that source.

In this schema, a table exists for each entity that can be localized. The table has the same name as the entity. The example below shows the localizedBm20 table for the Equipment entity.

### Example of localizedBm20 schema



## load schemas

The following schemas:

- bm20load
- localizedbm20load
- deletedbm20load

are not relevant to the purpose of creating reports or dashboards. For each entity of the model, they contain the reading contracts to move data from the source to the data warehouse. They are present on the data warehouse because it can also be the source of another data warehouse.

## Schemas for internal use

The following schemas are for internal use and therefore should not be taken into consideration:

- configuration
- control
- deletedBm20
- failedBm20
- bm20archive

## 2 Data Sources Configuration

The data source configuration is based on functionalities, which are the functions that the user is configuring regardless of how they are implemented and which vary according to the selected source.

Opcenter Intelligence supports different sources, which can be divided into the following groups as shown in the pie menu.

- [Opcenter EX Sources](#)
- [Opcenter IN Sources](#)
- [Opcenter QL Sources](#)
- [Opcenter IPL Source](#)
- [SIMATIC IT UA Sources](#)
- [CEP Core Sources](#)
- [QMS Sources](#)
- [SIMATIC IT Sources](#)
- [Third-Party Sources](#)

Data Warehouse Schemas



## 3 Opcenter Execution Sources

The following products are included in Opcenter Execution sources:

- [Opcenter Execution Core SQL Server](#)
- [Opcenter Execution Core Oracle](#)
- [Opcenter Execution Discrete SQL Server](#)
- [Opcenter Execution Electronics SQL Server](#)
- [Opcenter Execution Pharma](#)
- [Opcenter Execution Process](#)
- [Opcenter Execution Foundation OEE](#)

### 3.1 Opcenter Execution Core SQL Server

In the following linked pages you can find the possible associations between functionalities and models for these Opcenter Execution Core SQL Server data sources:

- [Opcenter Execution Core 8.0 to 8.6 SQL Server Functionalities](#)
- [Opcenter Execution Core 8.7 or higher SQL Server Functionalities](#)

#### 3.1.1 Opcenter Execution Core 8.0 to 8.6 SQL Server Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Execution Core (Opcenter EX CR) 8.0 to 8.6** as a SQL Server data source. Opcenter Execution Core supports both Microsoft SQL Server and Oracle database management systems.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Location Management](#)
- [Material Management](#)
- [Production Execution](#)
- [Quality APC](#)

#### 3.1.2 Opcenter Execution Core 8.7 or higher SQL Server Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Execution Core (Opcenter EX CR) 8.7 or higher** as a SQL Server data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Completed WIP](#)
- [Container Management](#)
- [Defect and Non Conformance](#)
- [Device History](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Equipment Performance](#)
- [Labor Management](#)
- [Location Management](#)

- [Material Management](#)
- [Operational Performance and Quality](#)
- [Product and Material Traceability](#)
- [Production Execution](#)
- [Quality APC](#)

## 3.2 Opcenter Execution Core Oracle

In the following linked pages you can find the possible associations between functionalities and models for these Opcenter Execution Core Oracle data sources:

- [Opcenter Execution Core 8.0 to 8.6 Oracle Functionalities](#)
- [Opcenter Execution Core 8.7 or higher Oracle Functionalities](#)

### 3.2.1 Opcenter Execution Core 8.0 to 8.6 Oracle Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Execution Core (Opcenter EX CR) 8.0 to 8.6** as an Oracle data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Location Management](#)
- [Material Management](#)
- [Production Execution](#)
- [Quality APC](#)

### 3.2.2 Opcenter Execution Core 8.7 or higher Oracle Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Execution Core (Opcenter EX CR) 8.7 or higher** as Oracle data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Completed WIP](#)
- [Container Management](#)
- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Equipment Performance](#)
- [Labor Management](#)
- [Location Management](#)
- [Material Management](#)
- [Operational Performance and Quality](#)
- [Production Execution](#)
- [Quality APC](#)

### 3.3 Opcenter Execution Discrete SQL Server Functionalities

In the following linked pages you can find the possible associations between functionalities and models for these SQL Server data sources:

- **Opcenter Execution Discrete (Opcenter EX DS) 3.0**
- **Opcenter Execution Discrete (Opcenter EX DS) 3.1 - 3.2 - 3.3**
- **Opcenter Execution Discrete (Opcenter EX DS) 4.0**
- **Opcenter Execution Discrete (Opcenter EX DS) 4.1 - 4.2 - 4.3**
- **Opcenter Execution Discrete (Opcenter EX DS) 4.4 or higher**

**i** If you are upgrading from Opcenter Execution Discrete 3.x or 4.0 to Opcenter Execution Discrete 4.1 or higher, you must execute the procedure to migrate the EquipmentKey in Opcenter Execution Discrete described in *Opcenter Intelligence User Manual* under the *How to Perform Advanced Operations > How to Manage the Update of a Data Source Product Version* chapter. This migration procedure must be executed only when a customer using Opcenter EX DS 3.x or 4.0 upgrades to Opcenter EX DS 4.1 or higher and Opcenter Intelligence 2401.0001.

**⚠** If you are using Opcenter Execution Discrete 2301.0001 or higher as a data source, when more than one equipment hierarchy has been configured, only the equipment hierarchy flagged as default is loaded into the Manufacturing Data Warehouse by Opcenter Intelligence. If only one equipment hierarchy exists in Opcenter EX DS, it is loaded into the MDW.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Certification Management](#) (available starting from Opcenter EX DS 4.4)
- [Defect and Non Conformance](#)
- [Equipment Management](#)
- [Equipment Performance](#)
- [Labor Management](#)
- [Labor Performance](#)
- [Location Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)
- [Quality APC](#)

### 3.4 Opcenter Execution Electronics SQL Server Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Execution Electronics 8.9 or higher** as a SQL Server data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Completed WIP](#)
- [Container Management](#)
- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Equipment Performance](#)
- [Labor Management](#)

- [Location Management](#)
- [Material Management](#)
- [Operational Performance and Quality](#)
- [Product and Material Traceability](#)
- [Production Execution](#)
- [Quality APC](#)

## 3.5 Opcenter Execution Pharma Oracle Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Execution Pharma (Opcenter EX PH) 2211 or higher** as an Oracle data source. A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Container Management](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Location Management](#)
- [Material Management](#)
- [Production Execution](#)
- [Production Scheduling](#)

## 3.6 Opcenter Execution Process Functionalities

In the following linked pages you can find the possible associations between functionalities and models for these Opcenter Execution Process data sources:

- [Opcenter Execution Process \(Opcenter EX PR\) 3.x](#)
- [Opcenter Execution Process \(Opcenter EX PR\) 4.0 or higher](#)

### 3.6.1 Opcenter Execution Process 3.x

In the following linked pages you can find the possible associations between functionalities and models for **Opcenter Execution Process 3.x** data sources.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Equipment Management](#)
- [Location Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)

### 3.6.2 Opcenter Execution Process 4.0 or higher

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Execution Process 4.0 or higher** data source.

**⚠** If you are using Opcenter Execution Process 2301.0001 or higher as a data source, when more than one equipment hierarchy has been configured, only the equipment hierarchy flagged as default is loaded into the Manufacturing Data Warehouse by Opcenter Intelligence. If only one equipment hierarchy exists in Opcenter EX PR, it is loaded into the MDW.

**⚠** Data related to the **Sampling Management** functionality are not available among the measures that can be selected in Smart Views.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Equipment Management](#)
- [Labor Management](#)
- [Location Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)
- [Sampling Management](#)
- [Quality APC](#)

**⚠** Select the **Sampling Management** functionality only if you are sure you have selected the **Sampling App** in Opcenter EX PR.

## 3.7 Opcenter Execution Foundation OEE Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Execution Foundation OEE 2207 or higher** data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Context Management](#)
- [Downtime Management](#)
- [Equipment Capacity](#)
- [Equipment Management](#)
- [Equipment Performance](#)

## 4 Opcenter Intelligence Sources

The following products are included in Opcenter Intelligence sources:

- [Intelligence Analytical Model](#)

### 4.1 Intelligence Analytical Model

In the following linked pages you can find the possible associations between functionalities and models for the **Intelligence Analytical Model** data source. A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Equipment Performance](#)
- [Labor Management](#)
- [Labor Performance](#)
- [Location Management](#)
- [Maintenance Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)
- [Quality APC](#)
- [Quality SPC](#)
- [Tag Management](#)

## 5 Opcenter QL Sources

The following products are included in Opcenter QL sources:

- [Opcenter Quality SQL Server](#)
- [Opcenter Quality Oracle](#)

### 5.1 Opcenter Quality SQL Server Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Quality (Opcenter QL) 11.0 to 11.3 - 12.0 (Concern and Complaint Management) and SPC (Statistical Process Control)** SQL Server data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Material Management](#)
- [Quality SPC](#)

### 5.2 Opcenter Quality Oracle Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Quality (Opcenter QL) 11.0 to 11.3 - 12.0 (Concern and Complaint Management) and SPC (Statistical Process Control)** Oracle data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Material Management](#)
- [Quality SPC](#)

## 6 Opcenter IPL Source

In the following linked pages you can find the possible associations between functionalities and models for the **Opcenter Intra Plant Logistics (IPL) 2210 or higher** SQL Server data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Inventory Management](#)
- [Labor Management](#)
- [Material Consumption](#)
- [Material Container History](#)

### Important recommendation on Material Consumption data load

It is strongly recommended that you do not load a high amount of data (6 months at the maximum is the recommended amount) for the **MaterialConsumption** entity.

1. In Opcenter Intelligence Analytical Solution > Scenario > Data source server, select the data source database and click **Open**.
2. In the **Scripts** page, click **Create Script**. See also the *Loading a Script* chapter in *Opcenter Intelligence User Manual*.
3. Select **Material Consumption** model.
4. Select the **MaterialConsumption** entity.
5. Select the **Delete Script** type.
6. Replace the default script with the following SQL Statement. This example shows how to delete 6 months of data.

```
SELECT
    CAST(0 as smallint) as MaterialConsumptionSiteId,
    CAST(CAST(PcbID as nvarchar(255))+'_'+CAST(McID as nvarchar(255))+'_'+CAST(Operation as nvarchar(255))+'_'+CONVERT(NVARCHAR(255), TimeDone, 113)+'_'+CAST(CompID as nvarchar(255)) as nvarchar(255)) as MaterialConsumptionKey,
    CAST(DATEADD(MINUTE,-5,GETUTCDATE()) as datetime) AS [RowInserted]
FROM [#IPLDB#].dbo.PCBTRACECONSUMPTIONDATA
WHERE DATEDIFF(DAY, InsertDate, GETUTCDATE()) > 182
```

## 7 SIMATIC IT UA Sources

The following products are included in SIMATIC IT UA sources:

- [SIMATIC IT Unified Architecture Discrete Manufacturing](#)
- [SIMATIC IT Unified Architecture Process Industries](#)

### 7.1 Unified Architecture Discrete Manufacturing Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **SIMATIC IT Unified Architecture Discrete Manufacturing (SIMATIC IT UADM) 1.0 - 1.1 - 1.2 - 1.3 - 2.3 - 2.4 - 2.5** data source. A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Labor Performance](#)
- [Location Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)
- [Quality APC](#)

### 7.2 Unified Architecture Process Industries Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **SIMATIC IT Unified Architecture Process Industries (SIMATIC IT UAPI) 1.1 Update 1 - 1.2 - 2.3 - 2.4 - 2.5** data source. A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Equipment Management](#)
- [Location Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)

## 8 CEP Core Sources

The following products are included in CEP Core sources:

- [Camstar Enterprise Platform Core SQL Server](#)
- [Camstar Enterprise Platform Core Oracle](#)

### 8.1 Camstar Enterprise Platform Core SQL Server Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Camstar Enterprise Platform (CEP) Core V7 SU4-SU5-SU6-SU7-SU8** as a SQL Server data source. Camstar Enterprise Platform supports both Microsoft SQL Server and Oracle database management systems.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Location Management](#)
- [Material Management](#)
- [Production Execution](#)
- [Quality APC](#)

### 8.2 Camstar Enterprise Platform Core Oracle Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **Camstar Enterprise Platform (CEP) Core V7 SU4-SU5-SU6-SU7-SU8** as an Oracle data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Location Management](#)
- [Material Management](#)
- [Production Execution](#)
- [Quality APC](#)

## 9 QMS Sources

The following products are included in QMS sources:

- [QMS Professional SQL Server](#)
- [QMS Professional Oracle](#)

### 9.1 QMS Professional SQL Server Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **QMS Professional 10.03 - 10.04 - 10.05 - 10.06 - 10.07 (Concern and Complaint Management) and SPC (Statistical Process Control)** SQL Server data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Material Management](#)
- [Quality SPC](#)

### 9.2 QMS Professional Oracle Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **QMS Professional 10.03 - 10.04 - 10.05 - 10.06 (Concern and Complaint Management) and SPC (Statistical Process Control)** Oracle data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Equipment Management](#)
- [Labor Management](#)
- [Material Management](#)
- [Quality SPC](#)

## 10 SIMATIC IT Sources

The following products are included in SIMATIC IT sources:

- [SIMATIC IT Reporting Framework](#)
- [SIMATIC IT Production Suite](#)
- [SIMATIC IT Historian](#)
- [SIMATIC IT Line Monitoring System](#)
- [SIMATIC IT Electronic Batch Recording Oracle](#)

### 10.1 SIMATIC IT Reporting Framework Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **SIMATIC IT Reporting Framework (MDW 1.0)** data source. A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Equipment Performance](#)
- [Labor Management](#)
- [Labor Performance](#)
- [Location Management](#)
- [Maintenance Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)
- [Quality APC](#)
- [Quality SPC](#)

### 10.2 SIMATIC IT Production Suite Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **SIMATIC IT Production Suite (SIMATIC IT PRS) 7.0 SP1 - 7.0 SP2 - 7.1 - 7.2 - 8.0** data sources. A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Equipment Management](#)
- [Labor Management](#)
- [Location Management](#)
- [Maintenance Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)

### 10.3 SIMATIC IT Historian Functionalities

In the following linked page you can find the possible associations between functionalities and models for the **SIMATIC IT Historian 7.2** data source. A model can be associated with one or more functionalities. Each page also

shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Tag Management](#)

## 10.4 SIMATIC IT Line Monitoring System Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **SIMATIC IT Line Monitoring System (SIMATIC IT LMS) 2.2 SP1 HF1 - 2.3 - 2.4 - 2.5 - 2.6 - 2.7** data source.

A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Context Management](#)
- [Downtime Management](#)
- [Equipment Capacity](#)
- [Equipment Management](#)
- [Equipment Performance](#)

## 10.5 SIMATIC IT Electronic Batch Recording Oracle Functionalities

In the following linked pages you can find the possible associations between functionalities and models for the **SIMATIC IT Electronic Batch Recording (eBR) 6.1.6** Oracle data source. A model can be associated with one or more functionalities. Each page also shows the entities related to the models and the type of these entities. An entity can only be associated with one model.

- [Labor Management](#)
- [Material Management](#)
- [Production Execution](#)
- [Production Scheduling](#)

## 11 Third-Party Sources

The following products are included in Third-Party sources:

- [SQL Server-based systems](#)
- [Oracle-based systems](#)

### 11.1 SQL Server

In the following linked pages you can find the possible associations between functionalities and models for the SQL Server data source.

- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Equipment Performance](#)
- [Labor Management](#)
- [Labor Performance](#)
- [Location Management](#)
- [Maintenance Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)
- [Quality APC](#)
- [Quality SPC](#)
- [Tag Management](#)

### 11.2 Oracle

In the following linked pages you can find the possible associations between functionalities and models for the Oracle data source.

- [Defect and Non Conformance](#)
- [Downtime Management](#)
- [Equipment Management](#)
- [Equipment Performance](#)
- [Labor Management](#)
- [Labor Performance](#)
- [Location Management](#)
- [Maintenance Management](#)
- [Material Management](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)
- [Quality APC](#)
- [Quality SPC](#)
- [Tag Management](#)

## 12 List of Functionalities

The Opcenter Intelligence data source configuration is based on the following functionalities:

- [Certification Management](#)
- [Completed WIP](#)
- [Container Management](#)
- [Context Management](#)
- [Defect and Non Conformance](#)
- [Device History](#)
- [Downtime Management](#)
- [Equipment Capacity](#)
- [Equipment Management](#)
- [Equipment Performance](#)
- [Inventory Management](#)
- [Labor Management](#)
- [Labor Performance](#)
- [Location Management](#)
- [Maintenance Management](#)
- [Material Consumption](#)
- [Material Container History](#)
- [Material Management](#)
- [Operational Performance and Quality](#)
- [Product and Material Traceability](#)
- [Production Definition](#)
- [Production Execution](#)
- [Production Scheduling](#)
- [Quality APC](#)
- [Quality SPC](#)
- [Sampling Management](#)
- [Tag Management](#)

### 12.1 Certification Management

The following table shows the models associated with the **Certification Management** functionality.

For security reasons, as well as to allocate the best possible workforce for achieving successful production targets, it must be established who can perform certain actions within a production plant and what specific certified knowledge or know-how (known as Skills) these individuals must possess in order to carry out their activities in the best possible manner. Those users who do not possess the appropriate Certificates attesting they have undergone sufficient training to perform delicate tasks must be inhibited from doing so.

#### Models and Entities

Model	Entities
<b>Certification Model</b>	<a href="#">Certification</a>
	<a href="#">Skill</a>

---

Completed WIP

Model	Entities
	<a href="#">SkillCertification</a>
	<a href="#">EquipmentCertification</a>
	<a href="#">LaborCertification</a>

## 12.2 Completed WIP

The following table shows the models associated with the **Completed WIP** functionality.

Opcenter EX CR provides the ability to display messages associated with specific container attributes and with any service. The Work In Progress (WIP) message capability enforces processing and sends special notifications when a container of material reaches a specific processing point.

### Models and Entities

Model	Entities
<b>Completed WIP Model</b>	<a href="#">SummaryTableCompletedWIPSummary</a>
<b>Factory Model</b>	<a href="#">Factory</a>
<b>Operation Model</b>	<a href="#">Operation</a>
<b>Owner Model</b>	<a href="#">Owner</a>
<b>Spec Model</b>	<a href="#">Spec</a>
<b>Time Model</b>	<a href="#">Shift</a>
<b>Transaction Model</b>	<a href="#">TxnType</a>
<b>Workflow Model</b>	<a href="#">Workflow</a>
	<a href="#">WorkflowStep</a>

## 12.3 Container Management

The following table shows the models associated with the **Container Management** functionality.

For example, Opcenter EX CR provides the ability to manage containers, for example when the container status or context changes, and the management of operations carried out on the container.

## Models and Entities

Model	Entities
<b>Container Model</b>	<a href="#">Container</a>
	<a href="#">ContainerClass</a>
	<a href="#">ContainerContainerClass</a>
	<a href="#">ContainerCurrentStatus</a>
	<a href="#">ContainerHierarchy</a>
	<a href="#">ContainerProperty</a>
	<a href="#">ContainerPropertyStaticValue</a>
	<a href="#">ContainerStatus</a>

## 12.4 Context Management

The following table shows the models associated with the **Context Management** functionality.

## Models and Entities

Model	Entity
<b>Common Model</b>	<a href="#">Extended.PropertyType</a>
	<a href="#">Site</a>
	<a href="#">Uom</a>
	<a href="#">TimeZone</a>
	<a href="#">TimeZoneDaylightTimeSaving</a>
<b>Labor Model</b>	<a href="#">Labor</a>

<b>Model</b>	<b>Entity</b>
	<a href="#">LaborClass</a>
	<a href="#">LaborHierarchy</a>
	<a href="#">LaborLaborClass</a>
	<a href="#">LaborProperty</a>
	<a href="#">LaborPropertyStaticValue</a>
<b>Material Lot Model</b>	<a href="#">MaterialLot</a>
	<a href="#">MaterialLotExtendedPropertyStaticValue</a>
	<a href="#">MaterialLotHierarchy</a>
	<a href="#">MaterialLotMaterialDefinition</a>
	<a href="#">MaterialLotPropertyDynamicValue</a>
	<a href="#">MaterialLotPropertyStaticValue</a>
	<a href="#">MaterialLotStatus</a>
<b>Material Model</b>	<a href="#">FunctionalCode</a>
	<a href="#">MaterialClass</a>
	<a href="#">MaterialDefinition</a>
	<a href="#">MaterialDefinitionBillOfMaterial</a>
	<a href="#">MaterialDefinitionHierarchy</a>
	<a href="#">MaterialDefinitionMaterialClass</a>
	<a href="#">MaterialDefinitionPropertyStaticValue</a>

Model	Entity
	<a href="#">MaterialExtendedProperty</a>
	<a href="#">MaterialProperty</a>
<b>Operation Execution Model</b>	<a href="#">OperationExecution</a>
	<a href="#">OperationExecutionClass</a>
	<a href="#">OperationExecutionHierarchy</a>
	<a href="#">OperationExecutionHistory</a>
	<a href="#">OperationExecutionOperationExecutionClass</a>
	<a href="#">OperationExecutionProperty</a>
	<a href="#">OperationExecutionPropertyStaticValue</a>
	<a href="#">OperationExecutionStatus</a>
<b>Operation Response Model</b>	<a href="#">OperationResponse</a>
	<a href="#">OperationResponseClass</a>
	<a href="#">OperationResponseHierarchy</a>
	<a href="#">OperationResponseHistory</a>
	<a href="#">OperationResponseOperationResponseClass</a>
	<a href="#">OperationResponseProperty</a>
	<a href="#">OperationResponsePropertyStaticValue</a>
	<a href="#">OperationResponseStatus</a>
<b>Time Model</b>	<a href="#">Shift</a>

Model	Entity
Time Model Adv	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.5 Defect and Non Conformance

The following table shows the models associated with the **Defect and Non Conformance** functionality.

### Models and Entities

Model	Entities
Defect Model	<a href="#">Defect</a>
	<a href="#">DefectBoardSide</a>
	<a href="#">DefectClass</a>
	<a href="#">DefectDefectClass</a>
	<a href="#">DefectHistory</a>
	<a href="#">DefectLocation</a>
	<a href="#">DefectPinLocation</a>
	<a href="#">DefectReason</a>
	<a href="#">DefectRepairAction</a>
	<a href="#">DefectSeverity</a>
	<a href="#">DefectStatus</a>
	<a href="#">DefectSymptom</a>

Model	Entities
<b>Non Conformance Model</b>	<a href="#">NonConformance</a> <a href="#">NonConformanceClass</a> <a href="#">NonConformanceHistory</a> <a href="#">NonConformanceNonConformanceClass</a> <a href="#">NonConformanceProperty</a> <a href="#">NonConformancePropertyStaticValue</a> <a href="#">NonConformanceStatus</a> <a href="#">NonConformanceToolSpecification</a> <a href="#">NonConformanceEquipmentSpecification</a> <a href="#">NonConformanceMaterialLotSpecification</a>
<b>QMS Model Specific</b>	Action
<i>This model is only available for the QMS and Opcenter QL data sources.</i>	
<b>Time Model</b>	<a href="#">Shift</a>
<b>Time Model Adv</b>	<a href="#">WorkingTimeException</a> <a href="#">WorkingTimeExceptionClass</a> <a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>
<b>Tool Model</b>	<a href="#">Tool</a> <a href="#">ToolClass</a> <a href="#">ToolDefinition</a>

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*Device History*

<b>Model</b>	<b>Entities</b>
	<a href="#">ToolDefinitionPropertyStaticValue</a>
	<a href="#">ToolDefinitionToolClass</a>
	<a href="#">ToolProperty</a>

## 12.6 Device History

The following table shows the models associated with the **Device History** functionality.

The Device History report reviews the history of a specified device while it is being produced or after it has completed the production process. This report also contains a link that enables you to access the Component Traceability History report.

### Models and Entities

<b>Model</b>	<b>Entities</b>
<b>Device History Model</b>	<a href="#">ContainerOperationExecuteTaskComputation</a>
	<a href="#">ContainerOperationExecuteTask</a>
	<a href="#">ContainerOperationExecuteTaskParameter</a>
	<a href="#">ContainerOperationExecuteTaskParameterValue</a>
	<a href="#">ElectronicProcedure</a>
	<a href="#">FailureEvent</a>
	<a href="#">FailureEventCause</a>
	<a href="#">FailureEventDetail</a>
	<a href="#">FailureEventMode</a>
	<a href="#">FailureEventResolution</a>
	<a href="#">FailureEventSeverity</a>

Model	Entities
	<a href="#">FailureEventStatus</a>
	<a href="#">FailureEventType</a>
	<a href="#">SignatureMeaning</a>
	<a href="#">TaskItem</a>
	<a href="#">TaskList</a>
	<a href="#">TaskStatus</a>
<b>Product and Material Traceability Model</b>	<a href="#">ContainerCorrelation</a>
	<a href="#">ContainerOperation</a>
	<a href="#">ContainerOperationAssembly</a>
	<a href="#">ContainerOperationDisassociate</a>
	<a href="#">ContainerOperationHold</a>
	<a href="#">ContainerOperationHoldReason</a>
	<a href="#">ContainerOperationMoveNonStandard</a>
	<a href="#">ContainerOperationRework</a>
	<a href="#">ContainerOperationReworkReason</a>
	<a href="#">ContainerOperationStatus</a>

## 12.7 Downtime Management

Downtime Management provides a time-based analysis of the issues that affect equipment availability and performance; each downtime event can be attributed to specific causes in order to gain a clear understanding of the most important reasons of unplanned stoppages and production slowdowns. The causes, duration and timing of downtimes may be used to calculate Key Performance Indicators (KPIs) to be analyzed in order to determine and correct the impact of production interruptions.

The following table shows the models associated with the **Downtime Management** functionality.

## Models and Entities

Model	Entities
<b>Common Model</b>	<a href="#">ExtendedPropertyType</a> <a href="#">Site</a> <a href="#">Uom</a> <a href="#">TimeZone</a> <a href="#">TimeZoneDaylightTimeSaving</a>
<b>Equipment Root Cause Model</b>	<a href="#">Cause</a> <a href="#">DetailedReason</a> <a href="#">Reason</a> <a href="#">ReasonTree</a> <a href="#">ReasonTreeItem</a> <a href="#">Status</a>
<b>Equipment Time Model</b>	<a href="#">EquipmentTimeCategory</a> <a href="#">EquipmentTimeCategoryHierarchy</a> <a href="#">EquipmentTimeModel</a> <a href="#">Microstop</a>
<b>Equipment Capacity Model</b>	<a href="#">EquipmentCapacity</a> <a href="#">EquipmentCapacityValue</a>
<b>LMS Model Specific for Equipment Time Model</b> <i>This model is only available for the LMS data source.</i>	<a href="#">EquipmentTimeModelEmulation</a>

Model	Entities
Time Model	<a href="#">Shift</a>
Time Model Adv	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.8 Equipment Capacity

The equipment capacity model is based on a duration time unit. In Opcenter Intelligence this duration can only be expressed in seconds. If you have inserted a different time unit in your contract, you must convert it accordingly.

A functional dependency exists between the Downtime Management and Equipment Capacity functionalities. As a result, the Downtime Management functionality is automatically selected as soon as the user selects the Equipment Capacity functionality.

- ⚠ The measures related to the Equipment Capacity entity are calculated only if an equipment state (EquipmentTimeModel on MDW) exists in the same time range as the capacity sample (EquipmentCapacityValue on MDW).

The following table shows the model associated with the **Equipment Capacity** functionality.

### Models and Entities

Model	Entities
Equipment Capacity Model	<a href="#">EquipmentCapacity</a>
	<a href="#">EquipmentCapacityValue</a>

## 12.9 Equipment Management

According to the hierarchical model defined by the ISA-95 standard, the assets of an enterprise involved in manufacturing are usually organized in a role-based hierarchical fashion. The term role-based is applied to the equipment model to indicate that the hierarchy is defined in terms of the activities that equipment entities may perform. The role-based equipment hierarchy includes the following levels: enterprise, site, area, work center and work unit.

The following table shows the models associated with the **Equipment Management** functionality.

### Models and Entities

<b>Model</b>	<b>Entities</b>
<b>Common Model</b>	<a href="#">ExtendedPropertyType</a> <a href="#">Site</a> <a href="#">Uom</a> <a href="#">TimeZone</a> <a href="#">TimeZoneDaylightTimeSaving</a>
<b>eBR Model Specific for Equipment Model</b> <i>This model is only available for the eBR and Opcenter EX PH data sources.</i>	<a href="#">EquipmentStatusSnapshot</a> <a href="#">EquipmentTrace Entity</a>
<b>Equipment Model</b>	<a href="#">Equipment</a> <a href="#">EquipmentClass</a> <a href="#">EquipmentEquipmentClass</a> <a href="#">EquipmentHierarchy</a> <a href="#">EquipmentProperty</a> <a href="#">EquipmentPropertyStaticValue</a>
<b>Quality Gate Model</b>	<a href="#">QualityGate</a> <a href="#">QualityGateEquipmentSpecification</a> <a href="#">QualityGateMonitoredEquipment</a>
<b>Time Model</b>	<a href="#">Shift</a>
<b>Time Model Adv</b>	<a href="#">WorkingTimeException</a> <a href="#">WorkingTimeExceptionClass</a>

Model	Entities
	<a href="#">WorkingTimeException</a> <a href="#">WorkingTimeExceptionClass</a>

## 12.10 Equipment Performance

The following table shows the models associated with the **Equipment Performance** functionality.

### Models and Entities

Model	Entities
<b>Common Model</b>	<a href="#">Extended.PropertyType</a> <a href="#">Site</a> <a href="#">Uom</a> <a href="#">TimeZone</a> <a href="#">TimeZoneDaylightTimeSaving</a>
<b>Equipment Performance Model</b>	<a href="#">Indicator</a> <a href="#">IndicatorClass</a> <a href="#">IndicatorIndicatorClass</a> <a href="#">IndicatorLimit</a> <a href="#">IndicatorValue</a> <a href="#">IndicatorType</a> <a href="#">TargetType</a>
<b>LMS Model Specific for Equipment Performance</b> <i>This model is only available for the LMS data source.</i>	<a href="#">IndicatorValueEmulation</a> <a href="#">DesignSpeed</a>

Model	Entities
Time Model	<a href="#">Shift</a>
Time Model Adv	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.11 Inventory Management

The following table shows the models associated with the **Inventory Management** functionality.

### Models and Entities

Model	Entities
Material Container Model	<a href="#">MaterialContainer</a> <a href="#">MaterialContainerAction</a> <a href="#">MaterialContainerStatus</a> <a href="#">MaterialContainerThickness</a>
	<a href="#">Feeder</a> <a href="#">MsdLevel</a>
Material Inventory Model	<a href="#">MaterialInventory</a>
Material Model	<a href="#">FunctionalCode</a> <a href="#">MountingTechnology</a> <a href="#">MaterialClass</a> <a href="#">MaterialDefinition</a>

Model	Entities
	<a href="#">MaterialDefinitionBillOfMaterial</a>
	<a href="#">MaterialDefinitionHierarchy</a>
	<a href="#">MaterialDefinitionMaterialClass</a>
	<a href="#">MaterialDefinitionPropertyStaticValue</a>
	<a href="#">MaterialExtendedProperty</a>
	<a href="#">MaterialProperty</a>

## 12.12 Labor Management

The following table shows the models associated with the **Labor Management** functionality.

### Models and Entities

Model	Entities
<b>Common Model</b>	<a href="#">ExtendedPropertyType</a> <a href="#">Site</a> <a href="#">Uom</a> <a href="#">TimeZone</a> <a href="#">TimeZoneDaylightTimeSaving</a>
<b>Labor Model</b>	<a href="#">Labor</a> <a href="#">LaborClass</a> <a href="#">LaborHierarchy</a> <a href="#">LaborLaborClass</a> <a href="#">LaborProperty</a>

Model	Entities
	<a href="#">LaborPropertyStaticValue</a>
<b>Labor Model Adv</b>	<a href="#">LaborPropertyDynamicValue</a>
<b>Time Model</b>	<a href="#">Shift</a>
<b>Time Model Adv</b>	<a href="#">WorkingTimeException</a> <a href="#">WorkingTimeExceptionClass</a> <a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.13 Labor Performance

The following table shows the models associated with the **Labor Performance** functionality.

### Models and Entities

Model	Entities
<b>Common Model</b>	<a href="#">Extended.PropertyType</a> <a href="#">Site</a> <a href="#">Uom</a> <a href="#">TimeZone</a> <a href="#">TimeZoneDaylightTimeSaving</a>
<b>Labor Time Model</b>	<a href="#">LaborTimeCategory</a> <a href="#">LaborTimeCategoryHierarchy</a> <a href="#">LaborTimeModel</a>
<b>Time Model</b>	<a href="#">Shift</a>

Model	Entities
Time Model Adv	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.14 Location Management

The following table shows the models associated with the **Location Management** functionality.

### Models and Entities

Model	Entities
Common Model	<a href="#">ExtendedPropertyType</a> <a href="#">Site</a> <a href="#">Uom</a> <a href="#">TimeZone</a> <a href="#">TimeZoneDaylightTimeSaving</a>
Material Lot Model	<a href="#">MaterialLot</a> <a href="#">MaterialLotExtendedPropertyStaticValue</a> <a href="#">MaterialLotHierarchy</a> <a href="#">MaterialLotMaterialDefinition</a> <a href="#">MaterialLotPropertyDynamicValue</a> <a href="#">MaterialLotPropertyStaticValue</a>

Model	Entities
<b>Material Operation Model</b>	<a href="#">Location</a> <a href="#">LocationHierarchy</a> <a href="#">MaterialLotOperation</a> <a href="#">MaterialLotOperationClass</a> <a href="#">MaterialLotOperationMaterialLotOperationClass</a> <a href="#">MaterialLotOperationProperty</a> <a href="#">MaterialLotOperationPropertyStaticValue</a> <a href="#">MaterialLotOperationHierarchy</a>
	<a href="#">MaterialLotStatus</a>
<b>Material Operation Model Adv</b>	<a href="#">MaterialLotOperationPropertyDynamicValue</a>
<b>Time Model</b>	<a href="#">Shift</a>
<b>Time Model Adv</b>	<a href="#">WorkingTimeException</a> <a href="#">WorkingTimeExceptionClass</a> <a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.15 Maintenance Management

The functionality of maintaining equipment and tools ensures the equipment and tools availability for manufacturing. It also may include scheduling for periodic, preventive, or predictive maintenance as well as responding to immediate problems.

The following table shows the models associated with the **Maintenance Management** functionality.

### Models and Entities

<b>Model</b>	<b>Entities</b>
<b>Maintenance Definition Model</b>	<a href="#">MaintenanceDefinition</a> <a href="#">MaintenanceDefinitionClass</a> <a href="#">MaintenanceDefinitionMaintenanceDefinitionClass</a> <a href="#">MaintenanceDefinitionProperty</a> <a href="#">MaintenanceDefinitionPropertyStaticValue</a>
<b>Maintenance Execution Model</b>	<a href="#">MaintenanceExecution</a> <a href="#">MaintenanceExecutionClass</a> <a href="#">MaintenanceExecutionHierarchy</a> <a href="#">MaintenanceExecutionMaintenanceExecutionClass</a> <a href="#">MaintenanceExecutionProperty</a> <a href="#">MaintenanceExecutionPropertyStaticValue</a> <a href="#">MaintenanceExecutionStatus</a>
<b>Maintenance Execution Model Adv</b>	<a href="#">MaintenanceExecutionPropertyDynamicValue</a>
<b>Maintenance Request Model</b>	<a href="#">MaintenanceRequest</a> <a href="#">MaintenanceRequestClass</a> <a href="#">MaintenanceRequestHierarchy</a> <a href="#">MaintenanceRequestMaintenanceRequestClass</a> <a href="#">MaintenanceRequestProperty</a> <a href="#">MaintenanceRequestPropertyStaticValue</a>

Model	Entities
	<a href="#">MaintenanceRequestStatus</a>
<b>Maintenance Response Model</b>	<a href="#">MaintenanceResponse</a>
	<a href="#">MaintenanceResponseClass</a>
	<a href="#">MaintenanceResponseHierarchy</a>
	<a href="#">MaintenanceResponseMaintenanceResponseClass</a>
	<a href="#">MaintenanceResponseProperty</a>
	<a href="#">MaintenanceResponsePropertyStaticValue</a>
	<a href="#">MaintenanceResponseStatus</a>
<b>Maintenance Response Model Adv</b>	<a href="#">MaintenanceResponsePropertyDynamicValue</a>
<b>Maintenance Scheduling Model</b>	<a href="#">MaintenanceScheduling</a>
	<a href="#">MaintenanceSchedulingClass</a>
	<a href="#">MaintenanceSchedulingHierarchy</a>
	<a href="#">MaintenanceSchedulingMaintenanceSchedulingClass</a>
	<a href="#">MaintenanceSchedulingProperty</a>
	<a href="#">MaintenanceSchedulingPropertyStaticValue</a>
	<a href="#">MaintenanceSchedulingStatus</a>

## 12.16 Material Consumption

This functionality enables users to get insights on placed/rejected components, material corrections, the location of material in the manufacturing and stock areas, cost, etc.

The following table shows the models associated with the **Material Consumption** functionality.

### Models and Entities

Model	Entities
<b>Material Consumption Model</b>	<a href="#">MaterialConsumption</a>
<b>Material Container Model</b>	<a href="#">MaterialContainer</a>
	<a href="#">MaterialContainerAction</a>
	<a href="#">MaterialContainerStatus</a>
	<a href="#">MaterialContainerThickness</a>
	<a href="#">Feeder</a>
	<a href="#">MsdLevel</a>

## 12.17 Material Container History

The following table shows the models associated with the **Material Container History** functionality.

### Models and Entities

Model	Entities
<b>Material Container History Model</b>	<a href="#">MaterialContainerHistory</a>
<b>Material Container Model</b>	<a href="#">MaterialContainer</a>
	<a href="#">MaterialContainerStatus</a>
	<a href="#">MaterialContainerAction</a>
	<a href="#">MaterialContainerThickness</a>
	<a href="#">Feeder</a>
	<a href="#">MsdLevel</a>

## 12.18 Material Management

According to the ISA-95 standard, the material model defines the actual materials, material definitions, and information about classes of material definitions.

The following table shows the models associated with the **Material Management** functionality.

### Models and Entities

Model	Entities
<b>Bof Model</b>	<a href="#">BillOfFeature</a>
	<a href="#">BillOfFeatureItem</a>
<b>Bom Model</b>	<a href="#">BillOfMaterial</a>
	<a href="#">BillOfMaterialItem</a>
<b>Common Model</b>	<a href="#">ExtendedPropertyType</a>
	<a href="#">Site</a>
	<a href="#">Uom</a>
	<a href="#">TimeZone</a>
	<a href="#">TimeZoneDaylightTimeSaving</a>
<b>Customer Model</b>	<a href="#">Customer</a>
<b>Material Model</b>	<a href="#">FunctionalCode</a>
	<a href="#">MountingTechnology</a>
	<a href="#">MaterialClass</a>
	<a href="#">MaterialDefinition</a>
	<a href="#">MaterialDefinitionBillOfMaterial</a>
	<a href="#">MaterialDefinitionHierarchy</a>

Model	Entities
	<a href="#">MaterialDefinitionMaterialClass</a>
	<a href="#">MaterialDefinitionPropertyStaticValue</a>
	<a href="#">MaterialExtendedProperty</a>
	<a href="#">MaterialProperty</a>
<b>Time Model</b>	<a href="#">Shift</a>
<b>Time Model Adv</b>	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.19 Operational Performance and Quality

The following table shows the models associated with the **Operational Performance and Quality** functionality. It contains throughput and quality data related to each individual transaction (operation or workflow step).

### Models and Entities

Model	Entities
<b>Factory Model</b>	<a href="#">Factory</a>
<b>Operation Model</b>	<a href="#">Operation</a>
<b>Operational Performance and Quality Model</b>	<a href="#">QtyAdjustReason</a> <a href="#">ReworkReason</a> <a href="#">SummaryTableOEERawDetails</a>
<b>Owner Model</b>	<a href="#">Owner</a>
<b>Spec Model</b>	<a href="#">Spec</a>

Model	Entities
Time Model	<a href="#">Shift</a>
Transaction Model	<a href="#">TxnType</a>
Workflow Model	<a href="#">Workflow</a> <a href="#">WorkflowStep</a>

## 12.20 Product and Material Traceability

The following table shows the models associated with the **Product and Material Traceability** functionality.

The Container Traceability report enables you to enter a manufacturing container or serial number identifier and get back a list of all component material items listed on the applicable BOM or material list and the issue status for each item. Each container has a unique identifier used for traceability and the performance of shop floor transactions.

### Models and Entities

Model	Entities
Operation Model	<a href="#">Operation</a>
Product and Material Traceability Model	<a href="#">ContainerCorrelation</a> <a href="#">ContainerOperation</a> <a href="#">ContainerOperationAssembly</a> <a href="#">ContainerOperationDisassociate</a> <a href="#">ContainerOperationHold</a> <a href="#">ContainerOperationHoldReason</a> <a href="#">ContainerOperationMoveNonStandard</a> <a href="#">ContainerOperationRework</a> <a href="#">ContainerOperationReworkReason</a>

Model	Entities
	<a href="#">ContainerOperationStatus</a>
<b>Recipe Model</b>	<a href="#">Recipe</a>
<b>ReferenceDesignator Model</b>	<a href="#">ReferenceDesignator</a>
<b>Time Model</b>	<a href="#">Shift</a>
<b>Transaction Model</b>	<a href="#">TxnType</a>
<b>Workflow Model</b>	<a href="#">Workflow</a> <a href="#">WorkflowStep</a>

## 12.21 Production Definition

Product definition management shall be defined as the collection of activities that manage all the information about the product required for manufacturing, including the product production rules, which contain the information used to instruct a manufacturing operation how to produce a product. The operations definition may apply to defining production, maintenance, quality test and inventory operations.

The following table shows the models associated with the **Production Definition** functionality.

### Models and Entities

Model	Entities
<b>Common Model</b>	<a href="#">Extended.PropertyType</a> <a href="#">Site</a> <a href="#">Uom</a> <a href="#">TimeZone</a> <a href="#">TimeZoneDaylightTimeSaving</a>
<b>Operation Definition Model</b>	<a href="#">OperationDefinition</a> <a href="#">OperationDefinitionClass</a>

Model	Entities
	<a href="#">OperationDefinitionEquipmentSpecification</a>
	<a href="#">OperationDefinitionMaterialDefinitionSpecificationIn</a>
	<a href="#">OperationDefinitionOperationDefinitionClass</a>
	<a href="#">OperationDefinitionProperty</a>
	<a href="#">OperationDefinitionPropertyStaticValue</a>
	<a href="#">ProductionProcess</a>
	<a href="#">ProductionProcessOperationDefinition</a>
Time Model	<a href="#">Shift</a>
Time Model Adv	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.22 Production Execution

Operations execution is a report on requested manufacturing and is a collection of operations responses. Operations responses are responses from manufacturing that are associated with an operations request. The operations execution may apply to production, maintenance, quality test and inventory operations.

The following table shows the models associated with the **Production Execution** functionality.

### Models and Entities

Model	Entities
<b>CEP Model Specific for Operation Response</b> <i>(This model is only available for the CEP and Opcenter EX CR Oracle data sources).</i>	<a href="#">OperationResponseCapacityValue</a>
	<a href="#">OperationResponseCapacityValueStatus</a>

Model	Entities
	<a href="#">OperationResponseYield</a>
	<a href="#">OperationResponseYieldStatus</a>
<b>Common Model</b>	<a href="#">ExtendedPropertyType</a>
	<a href="#">Site</a>
	<a href="#">Uom</a>
	<a href="#">TimeZone</a>
	<a href="#">TimeZoneDaylightTimeSaving</a>
<b>eBR Model Specific for Operation Execution</b> <i>(This model is only available for the eBR and Opcenter EX PH data sources).</i>	<a href="#">OperationExecutionCompensation</a>
	<a href="#">OperationExecutionPalletSpecification</a>
	<a href="#">OperationResponseParameterValue</a>
	<a href="#">OperationResponseParameter</a>
	<a href="#">OperationResponseParameterValueProcessingMode</a>
	<a href="#">OperationResponseParameterValueEbrStatus</a>
	<a href="#">OperationResponseParameterValueStatus</a>
	<a href="#">OperationResponseParameterStatus</a>
	<a href="#">ActionTrace</a>
	<a href="#">OperationExecutionConsumption</a>
	<a href="#">OperationExecutionConsumptionActionType</a>
	<a href="#">OperationExecutionConsumptionBalanceType</a>

<b>Model</b>	<b>Entities</b>
	<a href="#">OperationExecutionConsumptionBarcode</a>
	<a href="#">OperationExecutionConsumptionCombination</a>
	<a href="#">OperationExecutionConsumptionMaterialLineStatus</a>
	<a href="#">OperationExecutionConsumptionReconciliationCheck</a>
	<a href="#">OperationExecutionConsumptionRFReconciliationCheck</a>
	<a href="#">OperationExecutionConsumptionWeighingMode</a>
	<a href="#">OperationExecutionConsumptionWeighingStatus</a>
	<a href="#">OperationExecutionConsumptionWeighingType</a>
	<a href="#">Workcenter</a>
	<a href="#">Workstation</a>
<b>Operation Execution Model</b>	<a href="#">OperationExecution</a>
	<a href="#">OperationExecutionClass</a>
	<a href="#">OperationExecutionHierarchy</a>
	<a href="#">OperationExecutionHistory</a>
	<a href="#">OperationExecutionOperationExecutionClass</a>
	<a href="#">OperationExecutionProperty</a>
	<a href="#">OperationExecutionPropertyStaticValue</a>
	<a href="#">OperationExecutionStatus</a>

<b>Model</b>	<b>Entities</b>
<b>Operation Execution Model Adv</b>	<a href="#">OperationExecutionPropertyDynamicValue</a>
<b>Operation Response Model</b>	<a href="#">OperationResponse</a>
	<a href="#">OperationResponseClass</a>
	<a href="#">OperationResponseHierarchy</a>
	<a href="#">OperationResponseHistory</a>
	<a href="#">OperationResponseOperationResponseClass</a>
	<a href="#">OperationResponseProperty</a>
	<a href="#">OperationResponsePropertyStaticValue</a>
	<a href="#">OperationResponseStatus</a>
<b>Operation Response Model Adv</b>	<a href="#">OperationResponseEquipmentRequirement</a>
	<a href="#">OperationResponseEquipmentSpecification</a>
	<a href="#">OperationResponseLaborSpecification</a>
	<a href="#">OperationResponseMaterialDefinitionRequirementIn</a>
	<a href="#">OperationResponseMaterialLotSpecificationIn</a>
	<a href="#">OperationResponseMaterialLotSpecificationOut</a>
	<a href="#">OperationResponsePropertyDynamicValue</a>
	<a href="#">OperationResponseScrewingToolHistory</a>
	<a href="#">OperationResponseToolDefinitionRequirement</a>
	<a href="#">OperationResponseToolSpecification</a>

Model	Entities
<b>Result Model</b>	<a href="#">Result</a>
	<a href="#">ResultHistory</a>
	<a href="#">ResultHistoryTraceabilityDetail</a>
	<a href="#">ResultStrategy</a>
<b>Time Model</b>	<a href="#">Shift</a>
<b>Time Model Adv</b>	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.23 Production Scheduling

A request for operations to be performed shall be listed as an operations schedule. An operations schedule shall be made up of one or more operations requests. An operations schedule may be defined for any specific category of operations; production, maintenance, quality, or inventory, or it may be defined for a combination of categories.

The following table shows the models associated with the **Production Scheduling** functionality.

### Models and Entities

Model	Entities
<b>Common Model</b>	<a href="#">Extended.PropertyType</a>
	<a href="#">Site</a>
	<a href="#">Uom</a>
	<a href="#">TimeZone</a>
<b>Final Product Model</b>	<a href="#">TimeZoneDaylightTimeSaving</a>
	<a href="#">FinalProductFamily</a>

<b>Model</b>	<b>Entities</b>
	<a href="#">FinalProductType</a>
<b>Milestone Model</b>	<a href="#">Milestone</a> <a href="#">MilestoneDiagram</a> <a href="#">MilestoneHistory</a>
<b>Operation Request Model</b>	<a href="#">OperationRequest</a> <a href="#">OperationRequestClass</a> <a href="#">OperationRequestHierarchy</a> <a href="#">OperationRequestOperationRequestClass</a> <a href="#">OperationRequestProperty</a> <a href="#">OperationRequestPropertyValue</a> <a href="#">OperationRequestStatus</a>
<b>Operation Scheduling Model</b>	<a href="#">OperationScheduling</a> <a href="#">OperationSchedulingClass</a> <a href="#">OperationSchedulingExtendedProperty</a> <a href="#">OperationSchedulingExtendedPropertyValue</a> <a href="#">OperationSchedulingHierarchy</a> <a href="#">OperationSchedulingMaterialDefinition</a> <a href="#">OperationSchedulingOperationSchedulingClass</a> <a href="#">OperationSchedulingProperty</a>

**Quality APC**

<b>Model</b>	<b>Entities</b>
	<a href="#">OperationSchedulingPropertyStaticValue</a>
	<a href="#">OperationSchedulingStatus</a>
<b>Time Model</b>	<a href="#">Shift</a>
<b>Time Model Adv</b>	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.24 Quality APC

Quality operations management shall be defined as the collection of activities which coordinate, direct and track the functions that measure and report on quality. The broad scope of quality operations management includes both quality operations and the management of those operations to ensure the quality of intermediate and final products.

The following table shows the models associated with the **Quality APC (Advanced Process Control)** functionality.

### Models and Entities

<b>Model</b>	<b>Entities</b>
<b>Common Model</b>	<a href="#">Extended.PropertyType</a>
	<a href="#">Site</a>
	<a href="#">Uom</a>
	<a href="#">TimeZone</a>
	<a href="#">TimeZoneDaylightTimeSaving</a>
<b>Quality Execution Model</b>	<a href="#">QualityExecution</a>
	<a href="#">QualityExecutionClass</a>
	<a href="#">QualityExecutionHierarchy</a>

<b>Model</b>	<b>Entities</b>
	<a href="#">QualityExecutionProperty</a>
	<a href="#">QualityExecutionPropertyStaticValue</a>
	<a href="#">QualityExecutionQualityExecutionClass</a>
	<a href="#">QualityExecutionStatus</a>
<b>Quality Execution Model Adv</b>	<a href="#">QualityExecutionPropertyDynamicValue</a>
<b>Quality Request Model</b>	<a href="#">QualityRequest</a>
	<a href="#">QualityRequestClass</a>
	<a href="#">QualityRequestHierarchy</a>
	<a href="#">QualityRequestProperty</a>
	<a href="#">QualityRequestPropertyStaticValue</a>
	<a href="#">QualityRequestQualityRequestClass</a>
	<a href="#">QualityRequestStatus</a>
<b>Quality Response Model</b>	<a href="#">QualityFailure</a>
	<a href="#">QualityLimit</a>
	<a href="#">QualityLimitClass</a>
	<a href="#">QualityLimitQualityLimitClass</a>
	<a href="#">QualityLimitStatus</a>
	<a href="#">QualityParameter</a>
	<a href="#">QualityParameterValue</a>

<b>Model</b>	<b>Entities</b>
	<a href="#">QualityResponse</a>
	<a href="#">QualityResponseClass</a>
	<a href="#">QualityResponseHierarchy</a>
	<a href="#">QualityResponseProperty</a>
	<a href="#">QualityResponsePropertyStaticValue</a>
	<a href="#">QualityResponseQualityResponseClass</a>
	<a href="#">QualityResponseStatus</a>
<b>Quality Response Model Adv</b>	<a href="#">QualityResponsePropertyDynamicValue</a>
<b>Quality Scheduling Model</b>	<a href="#">QualityScheduling</a>
	<a href="#">QualitySchedulingClass</a>
	<a href="#">QualitySchedulingHierarchy</a>
	<a href="#">QualitySchedulingProperty</a>
	<a href="#">QualitySchedulingPropertyStaticValue</a>
	<a href="#">QualitySchedulingQualitySchedulingClass</a>
	<a href="#">QualitySchedulingStatus</a>
<b>Quality Task Definition Model</b>	<a href="#">QualityTaskDefinition</a>
	<a href="#">QualityTaskDefinitionClass</a>
	<a href="#">QualityTaskDefinitionProperty</a>
	<a href="#">QualityTaskDefinitionPropertyStaticValue</a>

Model	Entities
	<a href="#">QualityTaskDefinition</a> <a href="#">QualityTaskDefinitionClass</a>
<b>Time Model</b>	<a href="#">Shift</a>
<b>Time Model Adv</b>	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeException</a> <a href="#">WorkingTimeExceptionClass</a>

## 12.25 Quality SPC

Process analysis provides feedback about specific manufacturing processes across multiple production runs or batches. This information is used to optimize or modify specific production processes. Process analysis often includes SPC analysis and process modelling and uses information collected from the multiple activities that measure operating parameters.

The following table shows the models associated with the **Quality SPC (Statistical Process Control)** functionality.

### Models and Entities

Model	Entities
<b>Common Model</b>	<a href="#">ExtendedPropertyType</a>
	<a href="#">Site</a>
	<a href="#">Uom</a>
	<a href="#">TimeZone</a>
	<a href="#">TimeZoneDaylightTimeSaving</a>
<b>Quality Execution Model</b>	<a href="#">QualityExecution</a>
	<a href="#">QualityExecutionClass</a>
	<a href="#">QualityExecutionHierarchy</a>
	<a href="#">QualityExecutionProperty</a>

<b>Model</b>	<b>Entities</b>
	<a href="#">QualityExecutionPropertyStaticValue</a>
	<a href="#">QualityExecutionQualityExecutionClass</a>
	<a href="#">QualityExecutionStatus</a>
<b>Quality Execution Model Adv</b>	<a href="#">QualityExecutionPropertyDynamicValue</a>
<b>Quality Request Model</b>	<a href="#">QualityRequest</a>
	<a href="#">QualityRequestClass</a>
	<a href="#">QualityRequestHierarchy</a>
	<a href="#">QualityRequestProperty</a>
	<a href="#">QualityRequestPropertyStaticValue</a>
	<a href="#">QualityRequestQualityRequestClass</a>
	<a href="#">QualityRequestStatus</a>
<b>Quality Response Model</b>	<a href="#">QualityFailure</a>
	<a href="#">QualityLimit</a>
	<a href="#">QualityLimitClass</a>
	<a href="#">QualityLimitQualityLimitClass</a>
	<a href="#">QualityLimitStatus</a>
	<a href="#">QualityParameter</a>
	<a href="#">QualityParameterValue</a>
	<a href="#">QualityResponse</a>

<b>Model</b>	<b>Entities</b>
	<a href="#">QualityResponseClass</a>
	<a href="#">QualityResponseHierarchy</a>
	<a href="#">QualityResponseProperty</a>
	<a href="#">QualityResponsePropertyStaticValue</a>
	<a href="#">QualityResponseQualityResponseClass</a>
	<a href="#">QualityResponseStatus</a>
<b>Quality Response Model Adv</b>	<a href="#">QualityResponsePropertyDynamicValue</a>
<b>Quality Scheduling Model</b>	<a href="#">QualityScheduling</a>
	<a href="#">QualitySchedulingClass</a>
	<a href="#">QualitySchedulingHierarchy</a>
	<a href="#">QualitySchedulingProperty</a>
	<a href="#">QualitySchedulingPropertyStaticValue</a>
	<a href="#">QualitySchedulingQualitySchedulingClass</a>
	<a href="#">QualitySchedulingStatus</a>
<b>Quality Task Definition Model</b>	<a href="#">QualityTaskDefinition</a>
	<a href="#">QualityTaskDefinitionClass</a>
	<a href="#">QualityTaskDefinitionProperty</a>
	<a href="#">QualityTaskDefinitionPropertyStaticValue</a>
	<a href="#">QualityTaskDefinitionQualityTaskDefinitionClass</a>

Model	Entities
<b>Time Model</b>	<a href="#">Shift</a>
<b>Time Model Adv</b>	<a href="#">WorkingTimeException</a>
	<a href="#">WorkingTimeExceptionClass</a>
	<a href="#">WorkingTimeExceptionWorkingTimeExceptionClass</a>

## 12.26 Sampling Management

Sampling management shall be defined as the collection of activities that manage all the information about the results of laboratory analysis. Samples are extracted from one or more material lots in order to be analyzed to evaluate the sample status and take quality control actions or trigger reanalysis processes. This is particularly useful, for example, when performing physical, biological and chemical tests. One or more parameters can be associated with a sample. Parameters can also be included in groups. The analysis can be performed on single parameters or on groups of parameters to obtain an overall result or a more detailed outcome.

The following table shows the models associated with the **Sampling Management** functionality.

### Models and Entities

Model	Entities
<b>Common Model</b>	<a href="#">ExtendedPropertyType</a> <a href="#">Site</a> <a href="#">Uom</a> <a href="#">TimeZone</a> <a href="#">TimeZoneDaylightTimeSaving</a>
<b>Sampling Model</b>	<a href="#">Parameter</a> <a href="#">ParameterGroup</a> <a href="#">ParameterResult</a> <a href="#">Sample</a>

Model	Entities
	<a href="#">SampleResult</a>
	<a href="#">SampleResultParameterGroup</a>

## 12.27 Tag Management

The following table shows the model associated with the **Tag Management** functionality.

### Models and Entities

Model	Entities
<b>Tag Model</b>	<a href="#">Tag</a>
	<a href="#">TagValue</a>
	<a href="#">TagClass</a>
	<a href="#">TagTagClass</a>
	<a href="#">TagType</a>

## 13 Analytical Model Entities

The Opcenter Intelligence analytical model is based on the following entities.

- [Action](#)
- [ActionTrace](#)
- [BillOfFeature](#)
- [BillOfFeatureItem](#)
- [BillOfMaterial](#)
- [BillOfMaterialItem](#)
- [Cause](#)
- [Certification](#)
- [ContainerClass](#)
- [ContainerContainerClass](#)
- [ContainerCorrelation](#)
- [ContainerCurrentStatus](#)
- [Container](#)
- [ContainerHierarchy](#)
- [ContainerOperationAssembly](#)
- [ContainerOperationDisassociate](#)
- [ContainerOperation](#)
- [ContainerOperationExecuteTaskComputation](#)
- [ContainerOperationExecuteTask](#)
- [ContainerOperationExecuteTaskParameter](#)
- [ContainerOperationExecuteTaskParameterValue](#)
- [ContainerOperationHold](#)
- [ContainerOperationHoldReason](#)
- [ContainerOperationMoveNonStandard](#)
- [ContainerOperationRework](#)
- [ContainerOperationReworkReason](#)
- [ContainerOperationStatus](#)
- [ContainerProperty](#)
- [ContainerPropertyStaticValue](#)
- [ContainerStatus](#)
- [Customer](#)
- [Defect](#)
- [DefectBoardSide](#)
- [DefectClass](#)
- [DefectDefectClass](#)
- [DefectHistory](#)
- [DefectLocation](#)
- [DefectPinLocation](#)
- [DefectReason](#)
- [DefectRepairAction](#)
- [DefectSeverity](#)
- [DefectStatus](#)
- [DefectSymptom](#)
- [DesignSpeed](#)
- [DetailedReason](#)
- [ElectronicProcedure](#)
- [Equipment](#)
- [EquipmentCapacity](#)
- [EquipmentCapacityValue](#)
- [EquipmentCertification](#)

- [EquipmentClass](#)
- [EquipmentEquipmentClass](#)
- [EquipmentHierarchy](#)
- [EquipmentProperty](#)
- [EquipmentPropertyStaticValue](#)
- [EquipmentStatusSnapshot](#)
- [EquipmentTimeCategory](#)
- [EquipmentTimeCategoryHierarchy](#)
- [EquipmentTimeModelEmulation](#)
- [EquipmentTimeModel](#)
- [EquipmentTrace Entity](#)
- [ExtendedPropertyType](#)
- [Factory](#)
- [FailureEventCause](#)
- [FailureEventDetail](#)
- [FailureEvent](#)
- [FailureEventMode](#)
- [FailureEventResolution](#)
- [FailureEventSeverity](#)
- [FailureEventStatus](#)
- [FailureEventType](#)
- [Feeder](#)
- [FinalProductFamily](#)
- [FinalProductType](#)
- [FunctionalCode](#)
- [Indicator](#)
- [IndicatorClass](#)
- [IndicatorIndicatorClass](#)
- [IndicatorLimit](#)
- [IndicatorType](#)
- [IndicatorValue](#)
- [IndicatorValueEmulation](#)
- [Labor](#)
- [LaborCertification](#)
- [LaborClass](#)
- [LaborHierarchy](#)
- [LaborLaborClass](#)
- [LaborProperty](#)
- [LaborPropertyStaticValue](#)
- [LaborPropertyDynamicValue](#)
- [LaborTimeCategory](#)
- [LaborTimeCategoryHierarchy](#)
- [LaborTimeModel](#)
- [Location](#)
- [LocationHierarchy](#)
- [MaintenanceDefinition](#)
- [MaintenanceDefinitionClass](#)
- [MaintenanceDefinitionMaintenanceDefinitionClass](#)
- [MaintenanceDefinitionProperty](#)
- [MaintenanceDefinitionPropertyStaticValue](#)
- [MaintenanceExecutionClass](#)
- [MaintenanceExecution](#)
- [MaintenanceExecutionHierarchy](#)

Tag Management

- [MaintenanceExecutionMaintenanceExecutionClass](#)
- [MaintenanceExecutionPropertyDynamicValue](#)
- [MaintenanceExecutionProperty](#)
- [MaintenanceExecutionPropertyStaticValue](#)
- [MaintenanceExecutionStatus](#)
- [MaintenanceRequestClass](#)
- [MaintenanceRequest](#)
- [MaintenanceRequestHierarchy](#)
- [MaintenanceRequestMaintenanceRequestClass](#)
- [MaintenanceRequestProperty](#)
- [MaintenanceRequestPropertyStaticValue](#)
- [MaintenanceRequestStatus](#)
- [MaintenanceResponseClass](#)
- [MaintenanceResponse](#)
- [MaintenanceResponseHierarchy](#)
- [MaintenanceResponseMaintenanceResponseClass](#)
- [MaintenanceResponsePropertyDynamicValue](#)
- [MaintenanceResponseProperty](#)
- [MaintenanceResponsePropertyStaticValue](#)
- [MaintenanceResponseStatus](#)
- [MaintenanceSchedulingClass](#)
- [MaintenanceScheduling](#)
- [MaintenanceSchedulingHierarchy](#)
- [MaintenanceSchedulingMaintenanceSchedulingClass](#)
- [MaintenanceSchedulingProperty](#)
- [MaintenanceSchedulingPropertyStaticValue](#)
- [MaintenanceSchedulingStatus](#)
- [MaterialClass](#)
- [MaterialConsumption](#)
- [MaterialContainer](#)
- [MaterialContainerAction](#)
- [MaterialContainerHistory](#)
- [MaterialContainerStatus](#)
- [MaterialContainerThickness](#)
- [MaterialDefinition](#)
- [MaterialDefinitionBillOfMaterial](#)
- [MaterialDefinitionHierarchy](#)
- [MaterialDefinitionMaterialClass](#)
- [MaterialDefinitionPropertyStaticValue](#)
- [MaterialExtendedProperty](#)
- [MaterialInventory](#)
- [MaterialLot](#)
- [MaterialLotExtendedPropertyStaticValue](#)
- [MaterialLotHierarchy](#)
- [MaterialLotMaterialDefinition](#)
- [MaterialLotOperation](#)
- [MaterialLotOperationClass](#)
- [MaterialLotOperationHierarchy](#)
- [MaterialLotOperationMaterialLotOperationClass](#)
- [MaterialLotOperationProperty](#)
- [MaterialLotOperationPropertyStaticValue](#)
- [MaterialLotOperationPropertyDynamicValue](#)
- [MaterialLotPropertyDynamicValue](#)

- [MaterialLotPropertyStaticValue](#)
- [MaterialProperty](#)
- [Microstop](#)
- [Milestone](#)
- [MilestoneDiagram](#)
- [MilestoneHistory](#)
- [MountingTechnology](#)
- [MsdLevel](#)
- [NonConformance](#)
- [NonConformanceClass](#)
- [NonConformanceEquipmentSpecification](#)
- [NonConformanceHistory](#)
- [NonConformanceNonConformanceClass](#)
- [NonConformanceMaterialLotSpecification](#)
- [NonConformanceProperty](#)
- [NonConformancePropertyStaticValue](#)
- [NonConformanceStatus](#)
- [NonConformanceToolSpecification](#)
- [Operation](#)
- [OperationDefinition](#)
- [OperationDefinitionClass](#)
- [OperationDefinitionEquipmentSpecification](#)
- [OperationDefinitionMaterialDefinitionSpecificationIn](#)
- [OperationDefinitionOperationDefinitionClass](#)
- [OperationDefinitionProperty](#)
- [OperationDefinitionPropertyStaticValue](#)
- [OperationExecution](#)
- [OperationExecutionClass](#)
- [OperationExecutionCompensation](#)
- [OperationExecutionConsumption](#)
- [OperationExecutionConsumptionActionType](#)
- [OperationExecutionConsumptionBalanceType](#)
- [OperationExecutionConsumptionBarcode](#)
- [OperationExecutionConsumptionCombination](#)
- [OperationExecutionConsumptionMaterialLineStatus](#)
- [OperationExecutionConsumptionReconciliationCheck](#)
- [OperationExecutionConsumptionRFReconciliationCheck](#)
- [OperationExecutionConsumptionWeighingMode](#)
- [OperationExecutionConsumptionWeighingStatus](#)
- [OperationExecutionConsumptionWeighingType](#)
- [OperationExecutionHierarchy](#)
- [OperationExecutionHistory](#)
- [OperationExecutionOperationExecutionClass](#)
- [OperationExecutionPalletSpecification](#)
- [OperationExecutionProperty](#)
- [OperationExecutionPropertyDynamicValue](#)
- [OperationExecutionPropertyStaticValue](#)
- [OperationExecutionStatus](#)
- [OperationRequest](#)
- [OperationRequestClass](#)
- [OperationRequestHierarchy](#)
- [OperationRequestOperationRequestClass](#)
- [OperationRequestProperty](#)

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*Tag Management*

- [OperationRequestPropertyValueStaticValue](#)
- [OperationRequestStatus](#)
- [OperationResponse](#)
- [OperationResponseCapacityValue](#)
- [OperationResponseCapacityValueStatus](#)
- [OperationResponseClass](#)
- [OperationResponseEquipmentRequirement](#)
- [OperationResponseEquipmentSpecification](#)
- [OperationResponseHierarchy](#)
- [OperationResponseHistory](#)
- [OperationResponseLaborSpecification](#)
- [OperationResponseMaterialDefinitionRequirementIn](#)
- [OperationResponseMaterialLotSpecificationIn](#)
- [OperationResponseMaterialLotSpecificationOut](#)
- [OperationResponseOperationResponseClass](#)
- [OperationResponseParameter](#)
- [OperationResponseParameterStatus](#)
- [OperationResponseParameterValueEbrStatus](#)
- [OperationResponseParameterValue](#)
- [OperationResponseParameterValueProcessingMode](#)
- [OperationResponseParameterValueStatus](#)
- [OperationResponseProperty](#)
- [OperationResponsePropertyDynamicValue](#)
- [OperationResponsePropertyStaticValue](#)
- [OperationResponseScrewingToolHistory](#)
- [OperationResponseStatus](#)
- [OperationResponseToolDefinitionRequirement](#)
- [OperationResponseToolSpecification](#)
- [OperationResponseYield](#)
- [OperationResponseYieldStatus](#)
- [OperationScheduling](#)
- [OperationSchedulingClass](#)
- [OperationSchedulingExtendedProperty](#)
- [OperationSchedulingExtendedPropertyStaticValue](#)
- [OperationSchedulingHierarchy](#)
- [OperationSchedulingMaterialDefinition](#)
- [OperationSchedulingOperationSchedulingClass](#)
- [OperationSchedulingProperty](#)
- [OperationSchedulingPropertyStaticValue](#)
- [OperationSchedulingStatus](#)
- [Owner](#)
- [Parameter](#)
- [ParameterGroup](#)
- [ParameterResult](#)
- [ProductionProcess](#)
- [ProductionProcessOperationDefinition](#)
- [.PropertyType](#)
- [QtyAdjustReason](#)
- [QualityExecutionClass](#)
- [QualityExecution](#)
- [QualityExecutionHierarchy](#)
- [QualityExecutionPropertyDynamicValue](#)
- [QualityExecutionProperty](#)

- [QualityExecutionPropertyValueStaticValue](#)
- [QualityExecutionQualityExecutionClass](#)
- [QualityExecutionStatus](#)
- [QualityFailure](#)
- [QualityGate](#)
- [QualityGateEquipmentSpecification](#)
- [QualityGateMonitoredEquipment](#)
- [QualityLimit](#)
- [QualityLimitClass](#)
- [QualityLimitQualityLimitClass](#)
- [QualityLimitStatus](#)
- [QualityParameter](#)
- [QualityParameterValue](#)
- [QualityRequestClass](#)
- [QualityRequest](#)
- [QualityRequestHierarchy](#)
- [QualityRequestProperty](#)
- [QualityRequestPropertyValueStaticValue](#)
- [QualityRequestQualityRequestClass](#)
- [QualityRequestStatus](#)
- [QualityResponse](#)
- [QualityResponseClass](#)
- [QualityResponseHierarchy](#)
- [QualityResponsePropertyDynamicValue](#)
- [QualityResponseProperty](#)
- [QualityResponsePropertyValueStaticValue](#)
- [QualityResponseQualityResponseClass](#)
- [QualityResponseStatus](#)
- [QualityTaskDefinition](#)
- [QualityTaskDefinitionClass](#)
- [QualityTaskDefinitionProperty](#)
- [QualityTaskDefinitionPropertyValueStaticValue](#)
- [QualityTaskDefinitionQualityTaskDefinitionClass](#)
- [Reason](#)
- [ReasonTree](#)
- [ReasonTreeItem](#)
- [Recipe](#)
- [ReferenceDesignator](#)
- [Result](#)
- [ResultHistory](#)
- [ResultHistoryTraceabilityDetail](#)
- [ResultStrategy](#)
- [ReworkReason](#)
- [Sample](#)
- [SampleResult](#)
- [SampleResultParameterGroup](#)
- [Shift](#)
- [SignatureMeaning](#)
- [Site](#)
- [Skill](#)
- [SkillCertification](#)
- [Spec](#)
- [Status](#)

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*Entities from Action to IndicatorValueEmulation*

- [SummaryTableCompletedWIPSummary](#)
- [SummaryTableOEERawDetails](#)
- [TagClass](#)
- [Tag](#)
- [TagTagClass](#)
- [TagType](#)
- [TagValue](#)
- [TargetType](#)
- [TaskItem](#)
- [TaskList](#)
- [TaskStatus](#)
- [TimeZone](#)
- [TimeZoneDaylightTimeSaving](#)
- [Tool](#)
- [ToolClass](#)
- [ToolDefinition](#)
- [ToolDefinitionPropertyStaticValue](#)
- [ToolDefinitionToolClass](#)
- [ToolProperty](#)
- [ToolPropertyStaticValue](#)
- [TxnType](#)
- [Uom](#)
- [Workcenter](#)
- [Workflow](#)
- [WorkflowStep](#)
- [WorkingTimeExceptionClass](#)
- [WorkingTimeException](#)
- [WorkingTimeExceptionWorkingTimeExceptionClass](#)
- [Workstation](#)

## 13.1 Entities from Action to IndicatorValueEmulation

### 13.1.1 Action Entity

Contains information about a corrective action executed as a consequence of an identified defect.

#### Attributes

Attribute	Description
<b>ActionSiteId</b>	Identifier of the Site this entity is related to.
<b>ActionKey</b>	Unique identifier of the action.
<b>DefectId</b>	Identifier of the associated defect.
<b>LaborId</b>	Identifier of the associated person.

<b>Attribute</b>	<b>Description</b>
<b>NonConformanceId</b>	Identifier of the associated non conformance.
<b>Description</b>	Contains additional information and descriptions about the action.
<b>DueDateTime</b>	Due date/time for the action.
<b>Name</b>	Name of the action.
<b>Quantity</b>	Number of occurrences of the action (value for this attribute is always 1, it can be used to count the number of occurrences of a specific action, or of all action executed).
<b>StartDateTime</b>	Starting date/time of the action.
<b>EndDateTime</b>	End date/time of the action.
<b>Duration</b>	Duration of the action.
<b>PlannedDuration</b>	Planned duration of the action.

### 13.1.2 Action Trace Entity

Contains information about an action executed as a consequence of the consumption of a manufacturing request (work order).

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>ActionTraceKey</b>	Unique identifier of the action trace.
<b>ActionTraceSiteId</b>	Identifier of the Site this entity is related to.
<b>Comment</b>	Comment inserted by the user.
<b>Description</b>	Contains additional information and descriptions about the action trace.
<b>EndDateTime</b>	End date/time of the action trace.

Attribute	Description
<b>LaborId</b>	Identifier of the associated person.
<b>Name</b>	Name of the action trace.
<b>StartTime</b>	Starting date/time of the action trace.
<b>Valid</b>	Specifies if the action trace is valid or not.

### 13.1.3 BillOfFeature Entity

Bills of Features are empty containers that, once created, must be associated to the Features, Feature Values and Options that will be used for generating Work Orders of different production types, as well as for creating Work Orders from a Master Plan associated with Qualification Criteria.

Bills of Features can also be associated with Product Configurations, to define (together with Bills of Materials) the structures of the Product Configuration associated with the Final Product Type.

#### Attributes

Attribute	Description
<b>BillOfFeatureSiteId</b>	Identifier of the Site for which the Bill Of Feature is defined.
<b>BillOfFeatureKey</b>	A unique identification of the Bill Of Feature.
<b>Description</b>	Contains additional information on the Bill Of Feature.
<b>IsCurrent</b>	Specifies if the Bill Of Feature is related to Current or Historic data.
<b>Name</b>	Name of the Bill Of Feature.
<b>Revision</b>	The Revision (version) of the Bill of Features to be associated with the Product Configuration and Final Product Type.

### 13.1.4 BillOfFeatureItem Entity

Bill of Feature Item objects identify the items that make up the complete Bill of Feature.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>BillOfFeatureItemSiteId</b>	Identifier of the Site for which the Bill Of Feature Item is defined.
<b>BillOfFeatureItemKey</b>	A unique identification of the Bill Of Feature Item.
<b>BillOfFeatureId</b>	Identifier of the Bill Of Feature the Item belongs to.
<b>Description</b>	Contains additional information on the Bill Of Feature Item.
<b>Name</b>	Name of the Bill Of Feature Item.
<b>Value</b>	Value of the Bill Of Feature Item.

### 13.1.5 BillOfMaterial Entity

Listing of all the subassemblies, parts and/or materials that are used in the production of a product including the quantity of each material required to make a product.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>BillOfMaterialSiteId</b>	Identifier of the Site for which the BoM is defined.
<b>BillOfMaterialKey</b>	A unique identification of the BoM.
<b>Name</b>	Name of the BoM.
<b>Description</b>	Contains additional information on the BoM.
<b>Quantity</b>	Reference quantity of the BoM.
<b>UomId</b>	Identifier of the unit of measure of the associated quantity, if applicable.
<b>MaterialDefinitionId</b>	Identifier of the material definition.

### 13.1.6 BillOfMaterialItem Entity

Bill of Material Item objects identify the items that make up the complete bill of material.

## Attributes

Attribute	Description
<b>BillOfMaterialItemSiteId</b>	Identifier of the Site for which the BoM Item is defined.
<b>BillOfMaterialItemKey</b>	A unique identification of the BoM Item.
<b>BillOfMaterialId</b>	Identifier of the BoM the Item belongs to.
<b>Name</b>	BoM Item name.
<b>Description</b>	Contains additional information of the BoM Item.
<b>MaterialDefinitionId</b>	Identifier of the material definition.
<b>Quantity</b>	Specifies the amount of required resources.
<b>UomId</b>	Identifier of the unit of measure of the associated quantity, if applicable.
<b>MountingTechnologyId</b>	For Opcenter Execution Electronics data source this field contains the identifier of the mounting technology applied during the mounting operation of PCB components.  It can assume the values: <ul style="list-style-type: none"> <li>• SMT (Surface Mount Technology)</li> <li>• THT (Thru Hole Technology)</li> <li>• Undefined</li> </ul>

### 13.1.7 Cause Entity

Defines a possible cause for an asset status (as defined in a reason tree).

## Attributes

Attribute	Description
<b>CauseSiteId</b>	Identifier of the Site this entity is related to.
<b>CauseKey</b>	A unique identification of the cause.
<b>Name</b>	Name of the cause.

<b>Attribute</b>	<b>Description</b>
<b>Description</b>	Contains additional information about the cause.
<b>Color</b>	Color to be used to represent this cause.
<b>IsStop</b>	Specifies if the cause is corresponding to an asset stop (downtime).

### 13.1.8 Certification Entity

A Certification represents an "authorization" that is created ad-hoc with particular characteristics and then assigned to a User or Role to define the sphere of action within which he can operate.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>CertificationSiteId</b>	Identifier of the Site this entity is related to.
<b>CertificationKey</b>	A unique identification of the entity.
<b>Description</b>	Contains additional information about the certification.
<b>Name</b>	Name of the certification.

### 13.1.9 ContainerClass Entity

A Container Class is a representation of a grouping of containers with similar characteristics for a definite purpose. Any container may be a member of zero or more container classes.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>ContainerClassSiteId</b>	Identifier of the Site for which the Container is defined.
<b>ContainerClassKey</b>	Primary key of the Container object.
<b>Name</b>	A unique identification of the Container Class.
<b>Description</b>	Contains additional information about the Container Class.

### 13.1.10 ContainerContainerClass Entity

Contains the relationship between Container and ContainerClass entities.

#### Attributes

Attribute	Description
<b>ContainerContainerClassSiteId</b>	Identifier of the Site this entity is related to.
<b>ContainerContainerClassKey</b>	A unique identification of this entity.
<b>ContainerId</b>	Identifier of the Container object.
<b>ContainerClassId</b>	Identifier of the Container Class object.

### 13.1.11 ContainerCorrelation Entity

The ContainerCorrelation entity is used to correlate a single history mainline record (representing a single transaction) to the container(s) to which it applies.

#### Attributes

Attribute	Description
<b>ContainerCorrelationKey</b>	A unique identification of the ContainerCorrelation.
<b>ContainerCorrelationSiteId</b>	Identifier of the Site this entity is related to.
<b>ContainerId</b>	Identifier of the container to which the transaction is applied.
<b>ContainerOperationId</b>	Identifier of the operation executed on the container.
<b>ParentContainerId</b>	Identifier of the parent element in the Container Hierarchy.

### 13.1.12 ContainerCurrentStatus Entity

This entity describes the current status of the container (for example: Factory, Operation, Equipment, Spec, Workflow, WorkflowStep).

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>ContainerCurrentStatusSiteId</b>	Identifier of the Site for which this entity is defined.
<b>ContainerCurrentStatusKey</b>	A unique identification of the container current status.
<b>ContainerId</b>	Unique identifier of the container.
<b>EquipmentId</b>	Unique identifier of the Equipment associated with the container.
<b>FactoryId</b>	Unique identifier of the Factory where the container is located.
<b>LocationId</b>	Unique identifier of the logical or physical place in which the container is located.
<b>MaterialDefinitionId</b>	Unique identifier of the material definition (product) associated with the container.
<b>OperationId</b>	Identifier of the operation associated with the container.
<b>OperationExecutionId</b>	Identifier of the manufacturing order associated with the container.
<b>SecondaryUomId</b>	Identifier of the secondary Uom associated with the container secondary quantity.
<b>SpecId</b>	Identifier of the Spec associated with the container.
<b>UomId</b>	Identifier of the Uom associated with the container quantity.
<b>WorkflowStepId</b>	Identifier of the workflow step associated with the container.
<b>ContainerQty</b>	Quantity of product related to the container.
<b>ContainerSecondaryQty</b>	Secondary quantity of product related to the container.
<b>CurrentStepPass</b>	Pass of the current step.
<b>LastMoveDate</b>	Last date when the container was moved.

Attribute	Description
<b>OpSecondaryStartQty</b>	Product secondary quantity for a container at the start of the operation.
<b>OpStartQty</b>	Product quantity for a container at the start of the operation.
<b>ReworkLoopCount</b>	Number of times a container has entered a rework loop.
<b>ReworkTotalCount</b>	Total number of reworks executed on the container.
<b>TimersCount</b>	Total number of timers.
<b>LastMoveDateGMT</b>	Last date when the container was moved expressed in Greenwich Mean Time.
<b>OriginalQty</b>	Original quantity for the container.

### 13.1.13 Container Entity

This entity describes an Opcenter Execution Core or Pharma storage unit.

#### Attributes

Attribute	Description
<b>ContainerKey</b>	A unique identification of the container.
<b>ContainerSiteId</b>	Identifier of the Site this entity is related to.
<b>ContainerStatusId</b>	A unique identifier of the container status.
<b>IsInProcess</b>	Boolean that specifies if the container is being processed or not. It can assume the following values: <ul style="list-style-type: none"> <li>• 1 means that the container is being processed</li> <li>• 0 means that the container is not being processed</li> </ul>
<b>IsInRework</b>	Boolean that specifies if the container is being reworked or not. It can assume the following values: <ul style="list-style-type: none"> <li>• 1 means that the container is being reworked</li> <li>• 0 means that the container is not being reworked</li> </ul>

Attribute	Description
<b>IsFailed</b>	Indicates if the container has any open defects that result in a failed status of the container.
<b>SerialNumber</b>	Serial number that identifies the container.
<b>LevelName</b>	A Container Level is the tracking designation assigned to a container. Commonly used level names are batch and lot. Levels are defined to meet the specific requirements of each company. If the data source is Opcenter EX EL, it can assume the values: Board, PCB Panel, etc.
<b>Description</b>	Contains additional information and descriptions about the container.
<b>Name</b>	Name of the container.

### 13.1.14 ContainerHierarchy Entity

The assets of an enterprise involved in manufacturing are usually organized in a role-based hierarchical fashion. Lower-level groupings are combined to form higher levels in the role-based hierarchy. In some cases, a grouping within one level may be incorporated into another grouping at that same level.

#### Attributes

Attribute	Description
<b>ContainerHierarchySiteId</b>	Foreign key to the Site the Container Hierarchy is related to.
<b>ContainerHierarchyKey</b>	A unique identification of an element in the Container Hierarchy.
<b>ContainerId</b>	Identifier of the Container entity.
<b>ParentContainerId</b>	Identifier of the parent element in the Container Hierarchy.
<b>StartTime</b>	The starting date/time of this Container hierarchy element.
<b>EndTime</b>	The ending date/time of this Container hierarchy element.

### 13.1.15 ContainerOperationAssembly Entity

The assembly operation is executed when one or more containers are assembled following a specific sequence.

## Attributes

Attribute	Description
<b>ContainerOperationAssemblySiteId</b>	Identifier of the Site this entity is related to.
<b>ContainerOperationAssemblyKey</b>	A unique identification of the assembly operation.
<b>AssembledContainerId</b>	Identifier of the container that is being assembled.
<b>AssembledMaterialDefinitionId</b>	Identifier of the material associated with the container that is being assembled.
<b>Assembled2ContainerId</b>	Identifier of the second container that is being assembled.
<b>Assembled2MaterialDefinitionId</b>	Identifier of the material associated with the second container that is being assembled.
<b>Assembled3ContainerId</b>	Identifier of the third container that is being assembled.
<b>Assembled3MaterialDefinitionId</b>	Identifier of the material associated with the third container that is being assembled.
<b>AssembledOnContainerId</b>	Identifier of the container on which other containers are assembled.
<b>AssembledOnMaterialDefinitionId</b>	Identifier of the material of the container on which other containers are assembled.
<b>ContainerOperationStatusId</b>	Unique identifier of the status of the operation executed on the container.
<b>EquipmentId</b>	Identifier of the equipment.
<b>IssueQuantity</b>	IssueActualsHistory.Qty
<b>PartNumberMaterialDefinitionId</b>	Identifier of the part number of the material definition related to this entity.
<b>OperationId</b>	Identifier of the operation.

Attribute	Description
<b>OperationExecutionId</b>	A unique identification of the operation execution.
<b>RecipeId</b>	A unique identification of the recipe that defines the container settings.
<b>ReferenceDesignatorId</b>	Identifier of the reference designator, i.e. the location of a component within a printed circuit board.
<b>SubAssembledOnContainerId</b>	Identifier of the container assembled separately but designed to be incorporated with other containers.
<b>SubAssembledOnMaterialDefinitionId</b>	Identifier of the material of the container on which other containers are assembled.
<b>Txn</b>	The allowed transactions for the movement of material through the operation.
<b>TxnDate</b>	Date and time when the transaction was performed expressed in local time.
<b>TxnDateGMT</b>	Date and time when the transaction was performed expressed in Greenwich Mean Time.
<b>TxnTypeId</b>	Identifier of the type of performed transaction.

### 13.1.16 ContainerOperationDisassociate Entity

The disassociate operation is executed when PCBs are depaused from their parent panel at a step based on a specific sequence.

#### Attributes

Attribute	Description
<b>ContainerOperationDisassociateSiteId</b>	Identifier of the Site this entity is related to.
<b>ContainerOperationDisassociateKey</b>	A unique identification of the disassociate operation executed on a PCB container.
<b>ContainerId</b>	Identifier of the PCB container that is being disassociated from the parent container.

Attribute	Description
<b>ContainerOperationId</b>	Identifier of the operation executed on a container.
<b>ParentContainerId</b>	Identifier of the parent container from which child PCB containers are disassociated.
<b>Sequence</b>	The sequence of operations followed when the disassociation is executed.
<b>Txn</b>	Transactions available for the container.
<b>TxnDateGMT</b>	Date of the transaction execution expressed in Greenwich Mean Time.

### 13.1.17 ContainerOperation Entity

Contains details about the operation executed on a container.

#### Attributes

Attribute	Description
<b>ContainerOperationSiteId</b>	Identifier of the Site this entity is related to.
<b>ContainerOperationKey</b>	A unique identification of the container operation.
<b>ContainerId</b>	A unique identification of the container.
<b>ContainerOperationStatusId</b>	A unique identification of the container operation status.
<b>ContainerStepPass</b>	The number of times the Container has passed through this Workflow Step.
<b>EquipmentId</b>	A unique identification of the equipment.
<b>LaborId</b>	A unique identification of the labor who managed the transaction.
<b>MaterialDefinitionId</b>	A unique identification of the material definition.

Attribute	Description
<b>OperationExecutionId</b>	A unique identification of the operation execution.
<b>OperationId</b>	A unique identification of the operation.
<b>ParentContainerId</b>	A unique identification of the parent container, i.e. a container (panel) that has children.
<b>RecipId</b>	A unique identification of the recipe that defines the container settings.
<b>Quantity</b>	Quantity specified in the History Mainline grid, which lists the transactions performed on a container.
<b>MoveInCycletime</b>	Cycletime specified in the MoveInHistory table. MoveIn is a transaction performed on a container.
<b>MoveCycletime</b>	Cycletime specified in the MoveHistory table. Move is a transaction performed on a container.
<b>MoveInQuantity</b>	Quantity specified in the MoveInHistory table. MoveIn is a transaction performed on a container.
<b>MoveQuantity</b>	Quantity specified in the MoveHistory table. Move is a transaction performed on a container.
<b>Txn</b>	The allowed transactions for the movement of material through the operation.
<b>TxnDate</b>	Date of the transaction execution expressed in the plant local time.
<b>TxnDateGMT</b>	Date of the transaction execution expressed in Greenwich Mean Time.
<b>TxnTypeId</b>	Identifier of the type of transaction associated with the entity.
<b>WorkflowStepId</b>	Identifier of the workflow step associated with the entity.

### 13.1.18 ContainerOperationExecuteTaskComputation Entity

The Computation modeling object allows you to create and maintain process computation definitions for use with EProcedure tasks.

#### Attributes

Attribute	Description
<b>ContainerOperationExecuteTaskComputationKey</b>	A unique identification of the entity.
<b>ContainerOperationExecuteTaskComputationSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the entity.
<b>Name</b>	Name of the entity.

### 13.1.19 ContainerOperationExecuteTask Entity

History of the task execution performed on the container.

#### Attributes

Attribute	Description
<b>ContainerOperationExecuteTaskKey</b>	A unique identification of the entity.
<b>ContainerOperationExecuteTaskSiteId</b>	Identifier of the Site this entity is related to.
<b>ComputationValue</b>	Result of the computation task.
<b>ContainerOperationExecuteTaskComputationId</b>	Identifier of the computation task associated with the operation executed on the container.
<b>ContainerOperationId</b>	Identifier of the operation executed on the container.
<b>CoSignerLaborId</b>	Identifier of the employee who provided an additional or alternate electronic signature.
<b>ElectronicProcedureId</b>	Identifier of the Electronic Procedure.
<b>LaborId</b>	Identifier of the employee.

Attribute	Description
<b>OperationId</b>	Identifier of the operation associated with the container.
<b>ParentContainerId</b>	Identifier of the parent element in the Container Hierarchy.
<b>SignatureMeaningId</b>	Identifier of the name or description allowing you to determine the reason for the signature.
<b>SignerLaborId</b>	Identifier of the employee who provided an electronic signature for the transaction.
<b>TaskItemId</b>	Identifier of an item created as a task.
<b>TaskStatusId</b>	Identifier of the status of the task. Possible statuses include: <ul style="list-style-type: none"> <li>• Not Executed</li> <li>• Pass</li> <li>• Fail</li> </ul>
<b>Txn</b>	Transaction associated with the entity.
<b>TxnDate</b>	Value that can be supplied in the transaction (such as when IOT sends a message from the equipment – it passes in the TxnDate) expressed in local time.
<b>TxnDateGMT</b>	Value that can be supplied in the transaction (such as when IOT sends a message from the equipment – it passes in the TxnDate) expressed in Greenwich Mean Time.
<b>TxnTypeId</b>	Identifier of the transaction type associated with the entity.
<b>WorkflowStepId</b>	Identifier of the workflow step associated with the entity.

### 13.1.20 ContainerOperationExecuteTaskParameter Entity

List of all possible parameters associated with a task, for example: pH, temperature, diameter, etc.)

#### Attributes

Attribute	Description
<b>ContainerOperationExecuteTaskParameterKey</b>	A unique identification of the entity.

<b>Attribute</b>	<b>Description</b>
<b>ContainerOperationExecuteTaskParameterSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the entity.
<b>Name</b>	Name of the entity.

### 13.1.21 ContainerOperationExecuteTaskParameterValue Entity

Runtime values that parameters associated with a task can assume, including limits and unit of measure.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>ContainerOperationExecuteTaskId</b>	Identifier of the task of the operation executed on the container.
<b>ContainerOperationExecuteTaskParameterId</b>	Identifier of the task parameter for the operation executed on the container.
<b>ContainerOperationExecuteTaskParameterValueKey</b>	A unique identification of the entity.
<b>ContainerOperationExecuteTaskParameterValueSiteId</b>	Identifier of the Site this entity is related to.
<b>LowerLimit</b>	Lower limit established for data points when collecting container data.
<b>StringValue</b>	Value for a property of type String.
<b>TxnDate</b>	Transaction date expressed in local time.
<b>TxnDateGMT</b>	Transaction date expressed in Greenwich Mean Time.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>UpperLimit</b>	Upper limit established for data points when collecting container data.

### 13.1.22 ContainerOperationHold Entity

Operation executed on a container in the Hold transaction. The Hold transaction enables you to put a container on hold for a specific reason (for example, a scheduled inspection or audit).

#### Attributes

Attribute	Description
<b>Comment</b>	Information or instructions for the Hold transaction or the container.
<b>ContainerId</b>	Identifier of the container that was placed on Hold.
<b>ContainerOperationHoldKey</b>	A unique identification of the entity.
<b>ContainerOperationHoldReasonId</b>	Identifier of the reason why the container operation was placed on Hold.
<b>ContainerOperationHoldSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborId</b>	Identifier of the employee responsible for the operation.
<b>OperationId</b>	Identifier of the operation that was placed on Hold.
<b>TxnDate</b>	Transaction date expressed in local time.
<b>TxnDateGMT</b>	Transaction date expressed in Greenwich Mean Time.
<b>WorkflowStepId</b>	Identifier of the workflow step associated with the container that was placed on Hold.

### 13.1.23 ContainerOperationHoldReason Entity

Name of the user code group that defines hold reasons for the operation.

#### Attributes

Attribute	Description
<b>ContainerOperationHoldReasonKey</b>	A unique identification of the entity.
<b>ContainerOperationHoldReasonSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>Description</b>	Contains additional information about the hold reason.
<b>Name</b>	Name of the hold reason.

### 13.1.24 ContainerOperationMoveNonStandard Entity

Operation executed on a container in the Move NonStandard transaction.

#### Attributes

Attribute	Description
<b>Comment</b>	Information or instructions for the transaction or the container.
<b>ContainerId</b>	Identifier of the container on which the operation was executed.
<b>ContainerOperationMoveNonStandardKey</b>	A unique identification of the entity.
<b>ContainerOperationMoveNonStandardSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborId</b>	Identifier of the employee responsible for the operation.
<b>OperationId</b>	Identifier of the operation executed on the container.
<b>ToWorkflowStepId</b>	Identifier of the To Step of the workflow.
<b>TxnDate</b>	Transaction date expressed in local time.
<b>TxnDateGMT</b>	Transaction date expressed in Greenwich Mean Time.
<b>WorkflowStepId</b>	Identifier of the workflow step associated with the container.

### 13.1.25 ContainerOperationRework Entity

Operation executed on a container in the Rework transaction. Rework is a manufacturing process during which current work goes through extra processing steps to correct a problem that occurred during normal processing.

## Attributes

Attribute	Description
<b>Comment</b>	Information or instructions for the transaction or the container.
<b>ContainerId</b>	Identifier of the container on which a rework operation was executed.
<b>ContainerOperationReworkKey</b>	A unique identification of the entity.
<b>ContainerOperationReworkReasonId</b>	Identifier of the reason why a rework operation had to be performed for the container.
<b>ContainerOperationReworkSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborId</b>	Identifier of the employee responsible for the rework operation.
<b>OperationId</b>	Identifier of the rework operation.
<b>TxnDate</b>	Transaction date expressed in local time.
<b>TxnDateGMT</b>	Transaction date expressed in Greenwich Mean Time.
<b>WorkflowStepId</b>	Identifier of the workflow step associated with the container.

### 13.1.26 ContainerOperationReworkReason Entity

Name of the user code group that defines rework reasons for the operation.

## Attributes

Attribute	Description
<b>ContainerOperationReworkReasonKey</b>	A unique identification of the rework reason.
<b>ContainerOperationReworkReasonSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the rework reason.

Attribute	Description
<b>Name</b>	Name of the rework reason.

### 13.1.27 ContainerOperationStatus Entity

The status of the operation executed on the container. For example, if the data source is Opcenter Execution Electronics, it can assume the **Fail** or **Pass** values.

#### Attributes

Attribute	Description
<b>ContainerOperationStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>ContainerOperationStatusKey</b>	A unique identification of the container operation status.
<b>Name</b>	Name of the container operation status.
<b>Description</b>	Contains additional information and descriptions about the container operation status.

### 13.1.28 ContainerProperty Entity

Container properties define properties of the container. Containers may have zero or more container properties. Container properties may include a unit of measure.

#### Attributes

Attribute	Description
<b>ContainerPropertySiteId</b>	Identifier of the Site the Container Property is related to.
<b>ContainerPropertyKey</b>	A unique identification of the Container Property.
<b>PropertyTypeKey</b>	Type of property (e.g. Numeric, DateTime, String, ...)
<b>UomId</b>	Identifier of the unit of measure.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information about the property.

Attribute	Description
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.1.29 ContainerPropertyStaticValue Entity

Specifies the current property values of the container.

#### Attributes

Attribute	Description
<b>ContainerPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>ContainerPropertyStaticValueKey</b>	A unique identification of the entity.
<b>ContainerId</b>	Identifier of the Container entity.
<b>ContainerPropertyId</b>	Identifier of the Container property entity.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.1.30 ContainerStatus Entity

Contains the possible states of a container.

#### Attributes

Attribute	Description
<b>ContainerStatusKey</b>	A unique identification of the container status.
<b>ContainerStatusSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>Description</b>	Contains additional information and descriptions about the container status.
<b>Name</b>	Name of the container status.

### 13.1.31 Customer Entity

The customer for whom the manufacturing order was created.

#### Attributes

Attribute	Description
<b>CustomerSiteId</b>	Identifier of the Site this entity is related to.
<b>CustomerKey</b>	A unique identification of the customer.
<b>Description</b>	Contains additional information and descriptions about the customer.
<b>Name</b>	Name of the customer.

### 13.1.32 DefectBoardSide Entity

This entity describes the side of the board where the defect was located. For example, if the data source is Opcenter Execution Electronics, it can assume the following values:

- 0 = Top
- 1 = Bottom
- 2 = Both
- 3 = None

#### Attributes

Attribute	
<b>DefectBoardSideSiteId</b>	Identifier of the Site this entity is related to.
<b>DefectBoardSideKey</b>	A unique identifier of the board side. It can assume the values: <b>0, 1, 2, 3</b> .

Attribute	
<b>Description</b>	Contains additional information and descriptions about the board side.
<b>Name</b>	Name of the board side. It can assume the values: <b>Top, Bottom, Both, None.</b>

### 13.1.33 DefectClass Entity

Represents a grouping of Defects.

#### Attributes

Attributes	Description
<b>DefectClassSiteId</b>	Identifier of the Site for which the Defect Class is defined.
<b>DefectClassKey</b>	A unique identification of the Defect Class.
<b>Name</b>	Name of the Defect Class.

### 13.1.34 DefectDefectClass Entity

Contains the relationship between Defect and DefectClass entities.

#### Attributes

Attribute	Description
<b>DefectDefectClassSiteId</b>	Identifier of the Site this entity is related to.
<b>DefectDefectClassKey</b>	A unique identification of this entity.
<b>DefectId</b>	Identifier of the Defect object.
<b>DefectClassId</b>	Identifier of the DefectClass object.

### 13.1.35 Defect Entity

Represents a defect that has been identified in a final or intermediate material.

## Attributes

Attribute	Description
<b>DefectSiteId</b>	Identifier of the Site for which the Defect is defined.
<b>DefectKey</b>	A unique identification of the Defect.
<b>Name</b>	Name of the Defect.
<b>Description</b>	Contains additional information about the Defect.
<b>NonConformanceId</b>	Reference to the non-conformance originating from this Defect.
<b>StartTime</b>	The starting date/time of this Defect.
<b>EndTime</b>	The ending date/time of this Defect.
<b>Duration</b>	Duration of the Defect.
<b>MaterialDefinitionId</b>	Identifier of the material definition.
<b>Quantity</b>	Number of Defects that have been detected.

### 13.1.36 DefectHistory Entity

Contains a list of defects logged for the same combination of Product, Component Identifier, and Defect Reason. Each Defect contains a description of the defect reason and the number of times the defect reason was changed.

## Attributes

Attribute	Description
<b>ContainerId</b>	Identifier of the container the defect is logged against.
<b>ContainerOperationId</b>	Identifier of the operation executed on the container.
<b>ContainerQuantity</b>	The ContainerQuantity field represents the total quantity of the container. If the container is a parent (such as a Panel) the Quantity will be the sum of the Quantity of each child container.

Attribute	Description
<b>ContainerStepPass</b>	The number of times the Container has passed through this Workflow Step.
<b>CreateDate</b>	The date (expressed in local time) when the 'original' defect is created. This value will not change when actions such as a Change Status (Repair, Reopen, NFF) or a Change Reason action are performed.
<b>DefectBoardSideId</b>	Identifier of the Defect Board Side that corresponds to this Defect History.
<b>DefectHistoryKey</b>	A unique identifier of the Defect History.
<b>DefectHistorySiteId</b>	Identifier of the Site this entity is related to.
<b>DefectId</b>	Identifier of the defect contained in the Defect History.
<b>DefectLocationId</b>	Identifier of the Defect Location that corresponds to this Defect History.
<b>DefectPinLocationId</b>	Identifier of the Defect Pin Location that corresponds to this Defect History.
<b>DefectReasonId</b>	Identifier of the Defect Reason that corresponds to this Defect History.
<b>DefectRepairActionId</b>	Identifier of the Defect Repair Action that corresponds to this Defect History.
<b>DefectSeverityId</b>	Identifier of the Defect Severity that corresponds to this Defect History.
<b>DefectStatusId</b>	Identifier of the Defect Status that corresponds to this Defect History.
<b>DefectSymptomId</b>	Identifier of the Defect Symptom that corresponds to this Defect History.
<b>EquipmentId</b>	Identifier of the Equipment that corresponds to this Defect History.

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<b>Attribute</b>	<b>Description</b>
<b>FactoryId</b>	Identifier of the factory associated with this Defect History.
<b>FromContainerMaterialDefinitionId</b>	Material included in the Container where the defect was logged.
<b>FromDefectMaterialDefinitionId</b>	Material for which the defect was logged.
<b>InspectLaborId</b>	Identifier of the employee who found the defect during inspection.
<b>IsFailed</b>	Indicates if the container has open defects whose Severity results in the container as being considered ‘failed’.
<b>OperationExecutionId</b>	Identifier of the Operation Execution that corresponds to this Defect History.
<b>OperationId</b>	Identifier of the Operation that corresponds to this Defect History.
<b>RepairDate</b>	The date (expressed in local time) when the defect was repaired.
<b>RepairLaborId</b>	Identifier of the employee who repaired the defect.
<b>ReplacedContainerId</b>	This field would hold a value if the defect was repaired and a container was used to replace the component. In that case, this is the identifier of the replaced container.
<b>SpecId</b>	Identifier of the spec (specification) associated with the entity.
<b>Txn</b>	The allowed transactions for the movement of material through the operation.
<b>TxnDate</b>	Value that can be supplied in the transaction (such as when IOT sends a message from the equipment – it passes in the TxnDate) expressed in local time.
<b>TxnDateGMT</b>	Value that can be supplied in the transaction (such as when IOT sends a message from the equipment – it passes in the TxnDate) expressed in Greenwich Mean Time.
<b>UpdateDate</b>	The date (expressed in local time) when the defect is updated.
<b>WorkflowId</b>	Identifier of the workflow associated with the entity.

Attribute	Description
<b>WorkflowStepId</b>	Identifier of the workflow step associated with the entity.

### 13.1.37 DefectLocation Entity

Reference designator against which the defect was logged.

#### Attributes

Attribute	Description
<b>DefectLocationSiteId</b>	Identifier of the Site this entity is related to.
<b>DefectLocationKey</b>	A unique identifier of the defect location.
<b>Description</b>	Contains additional information and descriptions about the defect location.
<b>Name</b>	Name of the defect location.

### 13.1.38 DefectPinLocation Entity

Identifies the pin number/name where the defect is located. The Pin can either come from the CAD data (if the defect is logged in the Production Client) or could be reported by the test equipment automatic data collection.

#### Attributes

Attributes	Description
<b>DefectPinLocationSiteId</b>	Identifier of the Site this entity is related to.
<b>DefectPinLocationKey</b>	A unique identifier of the pin location.
<b>Description</b>	Contains additional information and descriptions about the pin location.
<b>Name</b>	Name of the pin location.

### 13.1.39 DefectReason Entity

Defect reason provided when the defect was logged.

## Attributes

Attribute	Description
<b>DefectReasonSiteId</b>	Identifier of the Site this entity is related to.
<b>DefectReasonKey</b>	A unique identifier of the Defect Reason.
<b>Description</b>	Contains additional information and descriptions about the Defect Reason.
<b>Name</b>	Name of the Defect Reason.

### 13.1.40 DefectRepairAction Entity

A defect repair action is a user code representing an action that can be taken to repair a defect. The user selects a repair action when logging a defect repair.

## Attributes

Attribute	Description
<b>DefectRepairActionSiteId</b>	Identifier of the Site this entity is related to.
<b>DefectRepairActionKey</b>	A unique identifier of the defect repair action.
<b>Description</b>	Contains additional information and descriptions about the defect repair action.
<b>IsRequiredReplacement</b>	Indicates whether the operator must supply an action taken to replace a defective component.
<b>Name</b>	The name of the defect repair action.

### 13.1.41 DefectSeverity Entity

The defect severity associated with the defect reason code.

## Attributes

Attribute	Description
<b>DefectSeveritySiteId</b>	Identifier of the Site this entity is related to.
<b>DefectSeverityKey</b>	A unique identifier of the defect severity.
<b>Description</b>	Contains additional information and descriptions about the defect severity.
<b>Name</b>	Name of the defect severity.

### 13.1.42 DefectStatus Entity

The status of a defect. For example, if the data source is Opcenter Execution Electronics, it can assume the following values:

- 0 = Open defect
- 1 = Defect repaired
- 2 = NFF (No Fault Found)

#### Attributes

Attribute	Description
<b>DefectStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>DefectStatusKey</b>	A unique identifier of the defect status. It can assume the values <b>0</b> , <b>1</b> or <b>2</b> .
<b>Description</b>	Contains additional information and descriptions about the defect status.
<b>Name</b>	Name of the defect status. It can assume the values: <b>Open defect</b> , <b>Defect repaired</b> , <b>NFF (No Fault Found)</b> .

### 13.1.43 DefectSymptom Entity

Code selected by a technician (when required) to identify a symptom associated with a defect (for example "Low Voltage") indicative of the need to repair the resource.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>DefectSymptomKey</b>	A unique identification of the entity.
<b>DefectSymptomSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the defect symptom.
<b>Name</b>	Name of the entity.

### 13.1.44 DesignSpeed Entity

Contains the value of a designed/planned speed for a specific equipment/product/shift/order.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>DesignSpeedSiteId</b>	Identifier of the Site this entity is related to.
<b>DesignSpeedKey</b>	A unique identification of the speed.
<b>Name</b>	Name of the speed.
<b>Description</b>	Contains additional information about the speed.
<b>Value</b>	Value of the speed.
<b>UomId</b>	Identifier of the unit of measurement for the speed.
<b>StartTime</b>	Starting date/time of the period where the speed value is valid.
<b>EndTime</b>	End date/time of the period where the speed value is valid.
<b>EquipmentId</b>	Identifier of the associated equipment.
<b>MaterialDefinitionId</b>	Identifier of the associated material/product.
<b>OperationExecutionId</b>	Identifier of the associated production order.
<b>ShiftId</b>	Identifier of the associated work shift.

### 13.1.45 DetailedReason Entity

Defines a possible detailed reason for a reason (as defined in a reason tree).

#### Attributes

Attribute	Description
<b>DetailedReasonSiteId</b>	Identifier of the Site this entity is related to.
<b>DetailedReasonKey</b>	A unique identification of the detailed reason.
<b>Name</b>	Name of the detailed reason.
<b>Description</b>	Contains additional information about the detailed reason.
<b>Color</b>	Color to be used to represent this detailed reason.
<b>IsStop</b>	Specify if the detailed reason is corresponding to an asset stop (downtime).

### 13.1.46 ElectronicProcedure Entity

An Electronic Procedure (EProcedure) is a revisionable object that enables you to assign a collection of tasks to a Specification (Spec).

#### Attributes

Attribute	Description
<b>ElectronicProcedureKey</b>	A unique identification of the Electronic Procedure.
<b>ElectronicProcedureSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the Electronic Procedure.
<b>Name</b>	Name of the Electronic Procedure.

### 13.1.47 EquipmentCapacity Entity

Defines a measure of the equipment capacity (e.g. a theoretical production speed, the actual production speed, the target cycle time, etc.)

## Attributes

Attribute	Description
<b>EquipmentCapacitySiteId</b>	Identifier of the Site this entity is related to.
<b>EquipmentCapacityKey</b>	A unique identification of the equipment capacity.
<b>Name</b>	Name of the equipment capacity.
<b>Description</b>	Contains additional information about the equipment capacity.
<b>UomKey</b>	Identifier of the equipment capacity unit of measurement.

### 13.1.48 EquipmentCapacityValue Entity

Defines a recorded value for a particular equipment capacity.

## Attributes

Attribute	Description
<b>EquipmentCapacityValueSiteId</b>	Identifier of the Site this entity is related to.
<b>EquipmentCapacityValueKey</b>	A unique identification of the equipment capacity value.
<b>EquipmentCapacityId</b>	Identifier of the associated equipment capacity.
<b>EquipmentId</b>	Identifier of the equipment this value has been recorded for.
<b>Value</b>	Value of the equipment capacity.
<b>StartTime</b>	Starting date/time of the capacity value.
<b>EndTime</b>	Ending date/time of the capacity value.
<b>Duration</b>	Duration of the capacity value.

### 13.1.49 EquipmentCertification Entity

Certifications can be associated with specific machines to be used in the production. Users/User Roles linked to those Certifications will be able to execute operations using one or more Equipment Types.

#### Attributes

Attribute	Description
<b>EquipmentCertificationSiteId</b>	Identifier of the Site this entity is related to.
<b>EquipmentCertificationKey</b>	A unique identification of the entity.
<b>CertificationId</b>	Identifier of the Certification associated with one or more specific machines.
<b>EquipmentId</b>	Identifier of the Equipment used to execute the operations allowed with the Certification.
<b>EquipmentClassId</b>	Identifier of the equipment class, that is a grouping of Equipment with similar characteristics, associated with the entity.

### 13.1.50 EquipmentClass Entity

An Equipment Class is a representation of a grouping of Equipment with similar characteristics for a definite purpose such as manufacturing operations definition, scheduling, capability and performance. Any piece of equipment may be a member of zero or more equipment classes.

#### Attributes

Attribute	Description
<b>EquipmentClassSiteId</b>	Identifier of the Site for which the Equipment is defined.
<b>EquipmentClassKey</b>	Primary key of the Equipment object.
<b>Name</b>	A unique identification of the Equipment Class.
<b>Description</b>	Contains additional information about the Equipment Class.

### 13.1.51 Equipment Entity

A representation of the elements of the equipment hierarchy model. Equipment may be a listing of sites, areas, production units, production.

#### Attributes

Attribute	Description
<b>EquipmentSiteId</b>	Identifier of the Site for which the Equipment has been defined.
<b>EquipmentKey</b>	A unique identification of the Equipment.
<b>Name</b>	Name that identifies the Equipment.
<b>Description</b>	Contains additional information about the Equipment.

### 13.1.52 EquipmentEquipmentClass Entity

Contains the relationship between Equipment and EquipmentClass entities.

#### Attributes

Attribute	Description
<b>EquipmentEquipmentClassSiteId</b>	Identifier of the Site this entity is related to.
<b>EquipmentEquipmentClassKey</b>	A unique identification of this entity.
<b>EquipmentId</b>	Identifier of the Equipment object.
<b>EquipmentClassId</b>	Identifier of the Equipment Class object.

### 13.1.53 EquipmentHierarchy Entity

The assets of an enterprise involved in manufacturing are usually organized in a role based hierarchical fashion. Lower-level groupings are combined to form higher levels in the role based hierarchy. In some cases, a grouping within one level may be incorporated into another grouping at that same level.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>EquipmentHierarchySiteId</b>	Foreign key to the Site the Equipment Hierarchy is related to.
<b>EquipmentHierarchyKey</b>	A unique identification of an element in the Equipment Hierarchy.
<b>EquipmentId</b>	Identifier of the Equipment entity.
<b>ParentEquipmentId</b>	Identifier of the parent element in the Equipment Hierarchy.
<b>StartTime</b>	The starting date/time of this equipment hierarchy element.
<b>EndTime</b>	The ending date/time of this equipment hierarchy element.

### 13.1.54 EquipmentProperty Entity

Equipment properties define properties of the equipment. Equipment may have zero or more equipment properties. Equipment properties may include a unit of measure.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>EquipmentPropertySiteId</b>	Identifier of the Site the Equipment Property is related to.
<b>EquipmentPropertyKey</b>	A unique identification of the Equipment Property.
<b>PropertyTypeKey</b>	Type of property (e.g. Numeric, DateTime, String, ...)
<b>UomId</b>	Identifier of the unit of measure.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information about the property.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.1.55 EquipmentPropertyStaticValue Entity

Specifies the current property values of the equipment.

## Attributes

Attributes	Description
<b>EquipmentPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>EquipmentPropertyStaticValueKey</b>	A unique identification of the entity.
<b>EquipmentId</b>	Identifier of equipment entity.
<b>EquipmentPropertyId</b>	Identifier of equipment property entity.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.1.56 EquipmentStatusSnapshot

Describes equipment snapshots about status properties.

## Attributes

Attribute	Description
<b>EquipmentStatusSnapshotKey</b>	A unique identification of the entity.
<b>EquipmentStatusSnapshotSiteId</b>	Identifier of the Site this entity is related to.
<b>CurrentRotation</b>	Number of the rotation that actually occurred.
<b>CurrentValue</b>	Defines if the Status code is the current value of the status property.
<b>EquipmentId</b>	Identifier of the equipment concerned by the snapshot.
<b>EquipmentPropertyId</b>	Identifier of the property concerned by the snapshot.

Attribute	Description
<b>MaxRotation</b>	Maximum rotation of the status property.
<b>PeremptionDate</b>	Peremption date of the status property.
<b>StatusLabel</b>	Status label of the status property.
<b>TotalCycle</b>	Total number of the cycle for the property.
<b>TotalRotation</b>	Total rotation of the status property.

### 13.1.57 EquipmentTimeCategory Entity

Defines a category of operating or not-operating time of a production equipment or physical asset.

#### Attributes

Attribute	Description
<b>EquipmentTimeCategoryId</b>	Identifier of the Site this entity is related to.
<b>EquipmentTimeCategoryKey</b>	A unique identification of the time category.
<b>Name</b>	The name of the time category.
<b>Description</b>	Contains additional information and descriptions about the time category.
<b>Color</b>	Color representing the time category.

### 13.1.58 EquipmentTimeCategoryHierarchy Entity

Equipment time categories can be organized into a time model, therefore defining a hierarchy of time categories.

#### Attributes

Attribute	Description
<b>EquipmentTimeCategoryHierarchySiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>EquipmentTimeCategoryHierarchyKey</b>	A unique identification of the time category hierarchy element.
<b>EquipmentTimeCategoryId</b>	The identifier of the corresponding time category entity.
<b>ParentEquipmentTimeCategoryId</b>	The identifier of the parent time category entity.
<b>StartTime</b>	Starting date/time of the hierarchy element.
<b>EndTime</b>	End date/time of the hierarchy element.

### 13.1.59 EquipmentTimeModelEmulation Entity

Defines the recording of a piece of equipment or asset state, split by Shift context. This entity is relevant only in case SIMATIC IT LMS or SIMATIC IT Reporting Framework is used as a data source.

#### Attributes

Attribute	Description
<b>EquipmentTimeModelEmulationSiteId</b>	Identifier of the Site this entity is related to.
<b>EquipmentTimeModelEmulationKey</b>	A unique identification of this state recording.
<b>EquipmentId</b>	Identifier of the equipment/asset.
<b>EquipmentTimeCategoryId</b>	Identifier of the associated time category.
<b>LaborId</b>	Identifier of the associated person.
<b>MaterialDefinitionId</b>	Identifier of the associated material/product.
<b>MaterialLotId</b>	Identifier of the associated material lot.
<b>OperationExecutionId</b>	Identifier of the associated production order.
<b>OperationResponseId</b>	Identifier of the associated production order operation/step.
<b>ShiftId</b>	Identifier of the associated work shift.

Attribute	Description
<b>ReasonTreeItemId</b>	Identifier of the corresponding reason tree item (state/cause/reason/detailed reason).
<b>Comment</b>	User comment.
<b>IsHidden</b>	Identifies an hidden state.
<b>IsPlanned</b>	Identifies a planned state.
<b>WorkingDate</b>	Calendar day associated with the state.
<b>StartDateTime</b>	Starting date/time.
<b>EndDateTime</b>	Ending date/time.
<b>Duration</b>	Duration.
<b>Sequence</b>	Sequential order of the record in case of asset state split over multiple shifts.
<b>DurationNoBreak</b>	State duration without breaks.

### 13.1.60 EquipmentTimeModel Entity

Defines the recording of a piece of equipment or asset state.

#### Attributes

Attribute	Description
<b>EquipmentTimeModelSiteId</b>	Identifier of the Site this entity is related to.
<b>EquipmentTimeModelKey</b>	A unique identification of this state recording.
<b>EquipmentId</b>	Identifier of the equipment/asset.
<b>EquipmentTimeCategoryId</b>	Identifier of the associated time category.

Attribute	Description
<b>MicrostopId</b>	Identifier of the associated microstop context (permits to identify states that are classified as microstops).
<b>ReasonTreeItemId</b>	Identifier of the corresponding reason tree item (state/cause/reason/detailed reason).
<b>StartTime</b>	Starting date/time.
<b>EndTime</b>	Ending date/time.
<b>Duration</b>	Duration.
<b>RootCauseEquipmentId</b>	Identifier of the asset that is the root-cause machine that caused a downtime, i.e. the machine that caused the asset stop (for example a line).
<b>RootCauseReasonTreeItemId</b>	Identifier of the reason tree item corresponding to the state that caused a downtime.

### 13.1.61 EquipmentTrace Entity

This entity describes equipment traces.

#### Attributes

Attribute	Description
<b>EquipmentTraceKey</b>	A unique identification of the entity.
<b>EquipmentTraceSiteId</b>	Identifier of the Site this entity is related to.
<b>AssemblyEquipmentId</b>	Identifier of the equipment assembled with the equipment that generated the data.
<b>Batch</b>	Unique identifier of the batch that generated the data.
<b>CombiningQuantity</b>	Quantity for combining.
<b>CombiningQuantityUomId</b>	The unit of measure of the quantity for combining.

<b>Attribute</b>	<b>Description</b>
<b>Comment</b>	Comments for the trail.
<b>CreationDatetime</b>	Date and time of the trail creation.
<b>Direction</b>	Direction of the action concerned by the trail.
<b>Environment</b>	XFP Environment.
<b>EPE</b>	EPE used by the equipment that generated the data.
<b>EPEValue</b>	Value returned by the EPE during a process.
<b>EquipmentId</b>	Identifier of the equipment concerned by the trail.
<b>EquipmentPropertyId</b>	Identifier of the property concerned by the trail.
<b>EquipmentStatusSnapshotId</b>	Identifier of the snapshot which describes the different values of status properties.
<b>Function</b>	Description of the action tracked by the trail. The functions are predefined and permit to define the different uses of the equipment.
<b>IsMain</b>	Specifies if the trail is the original trail.
<b>LaborId</b>	Identifier of the user login (person) during the trail.
<b>LDU</b>	Time limit to use the property.
<b>LDUUomId</b>	Identifier of the time unit limit to use the property, for example: hour, day, etc.
<b>LocationId</b>	Identifier of the location of the equipment.
<b>MaterialDefinitionId</b>	Identifier of the item concerned by the trail.
<b>MaterialLotId</b>	Identifier of the lot concerned by the trail.
<b>MaxRotation</b>	Maximum rotations for the property concerned by the trail.

<b>Attribute</b>	<b>Description</b>
<b>Message</b>	Message which describes the trail.
<b>OperationExecutionMaterialLotId</b>	Identifier of the work order lot number used in the tracked action.
<b>OperationExecutionNumber</b>	Number of the work order used in the tracked action.
<b>OperationResponseId</b>	Identifier of the task that generated the data.
<b>OriginEquipmentTrace</b>	Trail id of the first parent trail.
<b>OriginFunction</b>	Description of the tracked action by the original trail. The functions are predefined and permit to define the different uses of the equipment.
<b>ParentEquipmentTrace</b>	Trail id of the parent trail.
<b>PICode</b>	Process instructions code used for recording the data.
<b>ProducedMaterialDefinitionId</b>	Identifier of the work order product number used in the tracked action.
<b>PropertyAttribute</b>	Attribute of the property concerned by the trail.
<b>PropertyAttributeValue</b>	Value of the property concerned by the trail regardless of the property type.
<b>PropertyAttributeValueBefore</b>	Old value of the property concerned by the trail.
<b>PropertyListValue</b>	Current value of the list property for the equipment concerned by the trail.
<b>RefEquipmentId</b>	Identifier of the equipment to which the trail refers. For instance, if a combination occurred, the field will contain the source equipment or destination equipment.
<b>SignedLaborId</b>	Identifier of the signed user (person).
<b>WorkcenterId</b>	Identifier of the workcenter concerned by the trail.

Attribute	Description
<b>WorkstationId</b>	Identifier of the workstation used in the tracked action.

### 13.1.62 ExtendedPropertyType Entity

Contains the possible extended properties (for example the features when the data source is Opcenter Execution Discrete 4.4 or higher).

#### Attributes

Attribute	Description
<b>ExtendedPropertyTypeKey</b>	A unique identification of the extended property.
<b>Name</b>	The name of the extended property.
<b>Description</b>	Contains additional information and descriptions on the extended property.

### 13.1.63 Factory Entity

This entity describes a factory, which is any division, department, or group that is separated for accounting and reporting purposes. An enterprise can contain one or more factories.

It often represents a physical manufacturing building, but can also represent the company itself, or a large division within the company.

#### Attributes

Attribute	Description
<b>FactoryKey</b>	A unique identification of the factory.
<b>FactorySiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the factory.
<b>Name</b>	Name of the factory.

### 13.1.64 FailureEventCause Entity

Failure mode associated with this event. Failure modes are used to record the actual cause of the failure.

## Attributes

Attribute	Description
<b>FailureEventCauseKey</b>	A unique identification of the cause of the event failure.
<b>FailureEventCauseSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the cause of the event failure.
<b>Name</b>	Name of the cause of the event failure.

## 13.1.65 FailureEventDetail Entity

Additional details about the failure of the event.

## Attributes

Attribute	Description
<b>ContainerId</b>	Identifier of the container affected by the failure event.
<b>EquipmentId</b>	Identifier of the equipment affected by the failure event.
<b>FailureEventDetailKey</b>	A unique identification of the failure event detail.
<b>FailureEventDetailSiteId</b>	Identifier of the Site this entity is related to.
<b>FailureEventId</b>	Identifier of the failure event.
<b>MaterialDefinitionId</b>	Identifier of the material affected by the failure event.

## 13.1.66 FailureEvent Entity

The Failures page provides a place for you to enter one or more failure sources for the event. Information for each failure source includes failure mode, type, severity, and description.

## Attributes

Attribute	Description
<b>Comment</b>	Optional description of the failure mode.
<b>Description</b>	Contains additional information about the failure event.
<b>FailureEventCauseId</b>	Identifier of the actual cause of the failure event.
<b>FailureEventKey</b>	A unique identification of the failure event.
<b>FailureEventModeId</b>	Identifier of the failure mode associated with this event. Failure modes are used to record the actual cause of the failure.
<b>FailureEventResolutionId</b>	Identifier of the resolution of the failure event.
<b>FailureEventSeverityId</b>	Identifier of the severity of the failure during the event.
<b>FailureEventSiteId</b>	Identifier of the Site this entity is related to.
<b>FailureEventStatusId</b>	Identifier of the status of the failure event.
<b>FailureEventTypeId</b>	Identifier of the failure type associated with this event. Failure types describe the characteristic of the failure as well as provide a way to categorize it (such as intermittent or continuous).
<b>LaborId</b>	Identifier of the employee responsible for the failure event.
<b>Name</b>	Name of the failure event.
<b>ReportedDate</b>	Date and time the failure event was recorded in local time.
<b>ReportedDateGMT</b>	Date and time the failure event was recorded in Greenwich Mean Time.

### 13.1.67 FailureEventMode Entity

Failure mode associated with this event. Failure modes are used to record the actual cause of the failure. A Failure Mode describes the actual cause of a failure. Failure modes are specified when recording or managing events.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>FailureEventModeKey</b>	A unique identification of the failure event mode.
<b>FailureEventModeSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the failure event mode.
<b>Name</b>	Name of the failure event mode.

### 13.1.68 FailureEventResolution Entity

When you resolve a record, you change its status to Closed and you can no longer perform any actions on it. You can resolve both events and nonconformances.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>FailureEventResolutionKey</b>	A unique identification of the failure event resolution.
<b>FailureEventResolutionSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the failure event resolution.
<b>Name</b>	Name of the failure event resolution.

### 13.1.69 FailureEventSeverity Entity

A Failure Severity defines the severity of a failure during an event. For example, you can create a succession of severities from minor to critical. Failure severities are specified when recording or managing events and nonconformances.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>FailureEventSeverityKey</b>	A unique identification of the failure severity during the event.
<b>FailureEventSeveritySiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>Description</b>	Contains additional information about the failure severity during the event.
<b>Name</b>	Name of the failure severity during the event.

### 13.1.70 FailureEventStatus Entity

Status of an event failure record. In Opcenter Execution Core, this status can assume the following values:

- Active
- Pending
- Escalated
- Void
- Closed
- Deleted
- Initiated
- In Review

#### Attributes

Attribute	Description
<b>FailureEventStatusKey</b>	A unique identification of the status of an event failure record.
<b>FailureEventStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the status of an event failure record.
<b>Name</b>	Name of the status of an event failure record.

### 13.1.71 FailureEventType Entity

Failure type associated with an event. Failure types describe the characteristic of the failure as well as provide a way to categorize it (such as intermittent or continuous).

#### Attributes

Attribute	Description
<b>FailureEventTypeKey</b>	A unique identification of the failure type associated with an event.

Attribute	Description
<b>FailureEventTypeSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information about the failure type associated with an event.
<b>Name</b>	Name of the failure type associated with an event.

### 13.1.72 Feeder Entity

A feeder is a type of equipment resource that fits into a slot on a machine to deliver a consumable material or component during manufacturing.

#### Attributes

Attribute	Description
<b>FeederSiteId</b>	Identifier of the Site this entity is related to.
<b>FeederKey</b>	A unique identification of the feeder.
<b>Description</b>	Contains additional information and descriptions about the feeder.
<b>ExternalNumber</b>	External number of the feeder.
<b>Name</b>	Name of the feeder.

### 13.1.73 FinalProductFamily Entity

An ERP Order can be identified by a Final Product Family, which represents a specific configuration needed to produce a certain product and it is the unique identifier of the structures (Bill of Materials and Bill of Features) making up the Product Configuration required to produce the Final Product Type associated with the ERP Order. If you produce the same car for ten times, you have one Bill of Materials and one Bill of Features which are always the same, belonging to a specific Final Product Family.

#### Attributes

Attribute	Description
<b>FinalProductFamilySiteId</b>	Identifier of the Site this entity is related to.

<b>Attribute</b>	<b>Description</b>
<b>FinalProductFamilyKey</b>	A unique identification of the final product family.
<b>BillOfFeatureId</b>	The unique identifier of the Bill of Features to be associated with the Product Configuration and Final Product Type.
<b>BillOfMaterialId</b>	The unique identifier of the Bill of Materials to be associated with the Product Configuration and Final Product Type.
<b>Description</b>	Contains additional information and descriptions on the final product family.
<b>Name</b>	Name of the the final product family.
<b>Revision</b>	In Opcenter Execution Discrete, certain MES entities may undergo major changes to their structure: the result is known as a Revision of the original MES entity.

### 13.1.74 FinalProductType Entity

An ERP Order is a customer order for the production of a specific product and it is associated with a Final Product Type, which represents the final product of a specific plant.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>FinalProductTypeSiteId</b>	Identifier of the Site this entity is related to.
<b>FinalProductTypeKey</b>	A unique identification of the Final Product Type.
<b>Description</b>	Contains additional information and descriptions on the Final Product Type.
<b>Name</b>	Name of the Final Product Type.

### 13.1.75 FunctionalCode Entity

Materials can be grouped by specifying a Functional Code, that is a unique name to define their functionality or class (for example, "insulation", "electronics", "hardware" and so on).

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>FunctionalCodeSiteId</b>	Identifier of the Site this entity is related to.
<b>FunctionalCodeKey</b>	A unique identification of the functional code.
<b>Description</b>	Contains additional information and descriptions on the functional code.
<b>Name</b>	The name of the functional code.

### 13.1.76 IndicatorClass Entity

An indicator class is a representation of a grouping of indicators with similar characteristics for a definite purpose.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>IndicatorClassSiteId</b>	Identifier of the Site this entity is related to.
<b>IndicatorClassKey</b>	Unique identifier of the indicator class entity.
<b>Name</b>	Name of the indicator class.
<b>Description</b>	Contains additional information about the indicator class.

### 13.1.77 Indicator Entity

Represents a definition of a quantity like a production counter, a material/consumable consumption measure.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>IndicatorSiteId</b>	Identifier of the Site this entity is related to.
<b>IndicatorKey</b>	Unique identifier of the indicator entity.
<b>Name</b>	Name of the indicator.

<b>Attribute</b>	<b>Description</b>
<b>Description</b>	Contains additional information about the indicator.
<b>UomId</b>	Identifier of the unit of measurement for the indicator.

### 13.1.78 IndicatorIndicatorClass Entity

Entity containing the relationship between indicator and indicator class entities.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>IndicatorIndicatorClassSiteId</b>	Identifier of the Site this entity is related to.
<b>IndicatorIndicatorClassKey</b>	Unique identifier of this entity.
<b>IndicatorClassId</b>	Identifier of the indicator class.
<b>IndicatorId</b>	Identifier of the indicator.

### 13.1.79 IndicatorLimit Entity

Value of high and low limits and target for a specific piece of equipment, KPI and time range combination. This entity is relevant only in case SIMATIC IT LMS or SIMATIC IT Reporting Framework is used as data source.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>IndicatorLimitSiteId</b>	Identifier of the Site this entity is related to.
<b>IndicatorLimitKey</b>	Unique identifier of the indicator limit entity.
<b>BaseOnTimeUomId</b>	Identifier of the unit of measurement corresponding to the unit of time (if applicable) the Uom is related to.
<b>EquipmentId</b>	Identifier of the associated equipment.
<b>IndicatorId</b>	Identifier of the associated indicator definition.

Attribute	Description
<b>UomId</b>	Identifier of the unit of measurement of the indicator (may be related to a unit of time expressed by means of <b>BaseOnTimeUomId</b> ).
<b>HighIsBetter</b>	Defines if the higher is the indicator value the better.
<b>HighLimit</b>	Higher limit of the indicator.
<b>LowLimit</b>	Lower limit of the indicator.
<b>Target</b>	Target value of the indicator.
<b>StartDateTime</b>	Validity start date/time.
<b>EndDateTime</b>	Validity end date/time.

### 13.1.80 IndicatorType Entity

Represents a particular kind of indicator (algorithm or counter). This entity is relevant only in case SIMATIC IT LMS or SIMATIC IT Reporting Framework is used as a data source.

#### Attributes

Attribute	Description
<b>IndicatorTypeKey</b>	Unique identifier of the indicator type entity.
<b>Name</b>	Name of the indicator type.
<b>Description</b>	Contains additional information about the indicator type.

### 13.1.81 IndicatorValueEmulation Entity

Represents a measured value for an indicator, including the association with relevant context. This entity is relevant only in case SIMATIC IT LMS or SIMATIC IT Reporting Framework is used as a data source.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>IndicatorValueEmulationSiteId</b>	Identifier of the Site this entity is related to.
<b>IndicatorValueEmulationKey</b>	Unique identifier of the entity.
<b>Sequence</b>	Defines the sequential order of multiple records resulting from the split of a single measurement over multiple contexts.
<b>EquipmentId</b>	Identifier of the equipment this measure is related to.
<b>IndicatorId</b>	Identifier of the indicator definition.
<b>IndicatorTypeId</b>	Identifier of the indicator type.
<b>LaborId</b>	Identifier of the associated person.
<b>MaterialDefinitionId</b>	Identifier of the associated material/product.
<b>MaterialLotId</b>	Identifier of the associated production lot.
<b>OperationExecutionid</b>	Identifier of the associated production order.
<b>OperationResponselid</b>	Identifier of the associated production order operation/step.
<b>SchedulingTypeId</b>	Identifier of the corresponding clustering category (day, week, month, ...)
<b>ShiftId</b>	Identifier of the associated work shift.
<b>TargetTypeId</b>	Identifier of the target type.
<b>ControlHighValue</b>	Value
<b>ControlLowValue</b>	Value
<b>RejectHighValue</b>	Value
<b>RejectLowValue</b>	Value
<b>TargetValue</b>	Target value.

<b>Attribute</b>	<b>Description</b>
<b>Value</b>	Value of the indicator.
<b>WorkingDate</b>	Associated calendar day.
<b>StartTime</b>	Validity starting date/time of the value.
<b>EndTime</b>	Validity end date/time of the value.
<b>Duration</b>	Validity duration of the value.

### 13.1.82 IndicatorValue Entity

Represents a measured value for an indicator.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>IndicatorValueSiteId</b>	Identifier of the Site this entity is related to.
<b>IndicatorValueKey</b>	Unique identifier of the indicator value entity.
<b>EquipmentId</b>	Identifier of the equipment this measure is related to.
<b>IndicatorId</b>	Identifier of the indicator definition.
<b>Value</b>	Value of the indicator.
<b>StartTime</b>	Validity starting date/time of the value.
<b>EndTime</b>	Validity end date/time of the value.
<b>Duration</b>	Validity duration of the value.

## 13.2 Entities from Labor to MaintenanceRequestHierarchy

### 13.2.1 LaborCertification Entity

In case of complex or crucial activities that require more users with specific Skills, it is possible to configure personnel (human resources) to be associated with Process Operations, Process Steps, Work Order Operations and Work Order Steps. In detail, each Human Resource lists the Certifications required to start a Work Order Operation/Step, specifying how many users must possess each Certification.

#### Attributes

Attribute	Description
<b>LaborCertificationSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborCertificationKey</b>	A unique identification of the entity.
<b>CertificationId</b>	Identifier of the Certification required to execute specific operations.
<b>LaborId</b>	Identifier of the selected personnel authorized to execute specific operations.
<b>ExpirationDate</b>	A Certification assigned to a User or Role must have an expiration date. If the Certification has expired, the User will not be authorized to proceed.

### 13.2.2 LaborClass Entity

A labor class is a representation of a grouping of labor resources (persons) with similar characteristics for a definite purpose (e.g. administrators, maintenance operators, developer, line operators etc.)

#### Attributes

Attribute	Description
<b>LaborClassSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborClassKey</b>	Unique identifier of a Labor Class.
<b>Name</b>	Name of the Labor Class.
<b>Description</b>	Contains additional information about the Labor Class.

### 13.2.3 Labor Entity

The MOM domain includes some of the functionalities of providing status of personnel and may include time and attendance reporting, certification tracking, as well as the ability to track production support functions performed by personnel, such as material preparation or tool room work, and providing the status as a basis for activity-based costing. Labor entity is a representation of a specifically identified individual (Person). A labor entity may represent a person who is a member of zero or more labor classes.

#### Attributes

Attribute	Description
<b>LaborSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborKey</b>	Unique identifier of the labor entity.
<b>Name</b>	The name of the individual.
<b>Description</b>	Contains additional information about the individual.

### 13.2.4 LaborHierarchy Entity

Contains information about hierarchy of persons (e.g. teams composed by persons).

#### Attributes

Attribute	Description
<b>LaborHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>LaborHierarchyKey</b>	Unique identifier of an element of the hierarchy.
<b>LaborId</b>	Identifier of the corresponding labor entity.
<b>ParentLaborId</b>	Identifier of the parent labor entity.
<b>StartTime</b>	The starting date/time of this labor hierarchy element.
<b>EndTime</b>	The ending date/time of this labor hierarchy element.

### 13.2.5 LaborLaborClass Entity

Contains the relationship between Labor and Labor Class entities.

## Attributes

Attribute	Description
<b>LaborLaborClassSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborLaborClassKey</b>	Unique identifier of this entity.
<b>LaborId</b>	Identifier of the Labor entity.
<b>LaborClassId</b>	Identifier of the Labor Class entity.

## 13.2.6 LaborPropertyDynamicValue Entity

Dynamic value of a labor property. Dynamic values permit to manage the history of any change applied to the property.

## Attributes

Attribute	Description
<b>LaborPropertyDynamicValueSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborPropertyDynamicValueKey</b>	A unique identification of a labor property dynamic value.
<b>LaborPropertyId</b>	Identifier of the labor property.
<b>LaborId</b>	Identifier of the labor id.
<b>StartDateTime</b>	The starting date/time of this labor property dynamic value.
<b>EndDateTime</b>	The ending date/time of this labor property dynamic value.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Duration</b>	Duration of the value.
<b>Sequence</b>	Value for a multivalue property.

Attribute	Description
<b>StringValue</b>	Value for a property of type String.

### 13.2.7 LaborProperty Entity

Properties of a person shall be defined as labor properties. Each person shall have zero or more labor properties. Person properties may include the current availability of a person and other current information, such as location and assigned activity, and the unit of measure of the current information.

#### Attributes

Attribute	Description
<b>LaborPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>LaborPropertyKey</b>	Unique identification of the Property.
<b>Name</b>	Name of the Property.
<b>Description</b>	Contains additional information about the property.
<b>PropertyTypeKey</b>	Type of the property (Numeric, DateTime, String).
<b>UomId</b>	Identifier of the unit of measure of the associated property value.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.2.8 LaborPropertyStaticValue Entity

Specifies the current property value of the person.

#### Attributes

Attribute	Description
<b>LaborPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborPropertyStaticValueKey</b>	Unique identification of the property value.
<b>LaborId</b>	Identifier of the labor entity.

Attribute	Description
<b>LaborPropertyId</b>	Identifier of the labor property entity.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>Sequence</b>	Value for a multivalue property.

### 13.2.9 LaborTimeCategory Entity

Category of time that can be associated with a specific individual defined as a labor entity.

#### Attributes

Attribute	Description
<b>LaborTimeCategorySiteId</b>	Identifier of the Site this entity is related to.
<b>LaborTimeCategoryKey</b>	Unique identification of the Labor Time Category.
<b>Name</b>	Name of the Labor Time Category.
<b>Description</b>	Contains additional information about the Labor Time Category.
<b>Color</b>	Color associated with the Labor Time Category.

### 13.2.10 LaborTimeCategoryHierarchy Entity

Labor time categories can be further divided into more detailed time categories therefore defining a hierarchy of time categories.

#### Attributes

Attribute	Description
<b>LaborTimeCategoryHierarchySiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>LaborTimeCategoryHierarchyKey</b>	A unique identification of a specific element in the hierarchy.
<b>LaborTimeCategoryId</b>	Identifier of the corresponding labor time category entity.
<b>ParentLaborTimeCategoryId</b>	Identifier of the parent labor time category entity.
<b>StartTime</b>	The starting date/time of this labor hierarchy element.
<b>EndTime</b>	The ending date/time of this labor hierarchy element.

### 13.2.11 LaborTimeModel Entity

Specifies the amount of time of a specific time category associated with a specific individual.

#### Attributes

Attribute	Description
<b>LaborTimeModelSiteId</b>	Identifier of the Site this entity is related to.
<b>LaborTimeModelKey</b>	Unique identification of the Labor Time Model element.
<b>LaborTimeCategoryId</b>	Identifier of the Labor Time Category.
<b>LaborId</b>	Identifier of the labor entity.
<b>Duration</b>	Duration of the Time Category.
<b>StartTime</b>	The starting date/time of this labor entity.
<b>EndTime</b>	The ending date/time of this labor entity.

### 13.2.12 Location Entity

Locations define the logical or physical places in which resources are located or are expected to be located within a plant (site). Locations may be made up of smaller operational locations (therefore defining a location hierarchy).

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>LocationSiteId</b>	Identifier of the Site this entity is related to.
<b>LocationKey</b>	A unique identification of a specific Location.
<b>Name</b>	The name of the Location.
<b>Description</b>	Contains additional information and descriptions about the Location.

### 13.2.13 LocationHierarchy Entity

Contains information about the hierarchy of Locations.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>LocationHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>LocationHierarchyKey</b>	A unique identification of a specific element in the Location Hierarchy.
<b>LocationId</b>	Identifier of the corresponding Location entity.
<b>ParentLocationId</b>	Identifier of the parent Location entity.
<b>StartTime</b>	The starting date/time of this location element.
<b>EndTime</b>	The ending date/time of this location element.

### 13.2.14 MaintenanceDefinitionClass Entity

A representation of a grouping of maintenance definitions with similar characteristics.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceDefinitionClassSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>MaintenanceDefinitionClassKey</b>	A unique identification of the maintenance definition class.
<b>Name</b>	Name of the maintenance definition class.
<b>Description</b>	Contains additional information on the maintenance definition class.

### 13.2.15 MaintenanceDefinition Entity

Defines the information used to instruct maintenance personnel on which activities are required to perform the specified maintenance activity, how to perform those activities, how long they typically take and the resources required for each sub-activity – not only in terms of special tools and jigs or test equipment, but also the required qualifications for personnel.

#### Attributes

Attribute	Description
<b>MaintenanceDefinitionSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceDefinitionKey</b>	A unique identification of the maintenance definition.
<b>Name</b>	Name of the maintenance definition.
<b>Description</b>	Contains additional information on the maintenance definition.

### 13.2.16 MaintenanceDefinitionMaintenanceDefinitionClass Entity

Defines the relationship between maintenance definition and maintenance definition class entities.

#### Attributes

Attribute	Description
<b>MaintenanceDefinitionMaintenanceDefinitionClass SiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceDefinitionMaintenanceDefinitionClass Key</b>	A unique identification of this relationship entity.

Attribute	Description
<b>MaintenanceDefinitionId</b>	Identifier of the maintenance definition class.
<b>MaintenanceDefinitionClassId</b>	Identifier of the maintenance definition.

### 13.2.17 MaintenanceDefinitionProperty Entity

Properties of maintenance definitions shall be represented as maintenance definition properties. Each maintenance definition can have unique values for zero or more maintenance definition properties.

#### Attributes

Attribute	Description
<b>MaintenanceDefinitionPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceDefinitionPropertyKey</b>	A unique identification of a maintenance property.
<b>Name</b>	Identifier of the unit of measure for the property value.
<b>Description</b>	Type of the property value.
<b>PropertyTypeId</b>	Name of the property.
<b>UomId</b>	Contains additional information about the property.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.2.18 MaintenanceDefinitionPropertyStaticValue Entity

Current value of a maintenance definition property.

#### Attributes

Attribute	Description
<b>MaintenanceDefinitionPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceDefinitionPropertyStaticValueKey</b>	A unique identification of a maintenance definition property static value.

<b>Attribute</b>	<b>Description</b>
<b>MaterialDefinitionId</b>	Identifier of the maintenance definition.
<b>MaterialDefinitionPropertyId</b>	Identifier of the maintenance definition property.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>StringValue</b>	Value for a property of type String.
<b>Sequence</b>	Value for a multivalue property.

### 13.2.19 MaintenanceExecutionClass Entity

A representation of a grouping of maintenance executions with similar characteristics.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceExecutionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceExecutionClassKey</b>	A unique identification of a maintenance execution class.
<b>Name</b>	Name of the maintenance execution class.
<b>Description</b>	Contains additional information about the maintenance execution class.

### 13.2.20 MaintenanceExecution Entity

The execution of a maintenance request shall be presented as maintenance execution. Maintenance execution is used in the analytical model to represent the execution of a maintenance order.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceExecutionSiteId</b>	Identifier of the Site this entity is related to.

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceExecutionKey</b>	A unique identification of an maintenance execution.
<b>Name</b>	Name of the maintenance execution.
<b>Description</b>	Contains additional notes regarding the maintenance execution.
<b>MaintenanceExecutionStatusId</b>	Identifier of the maintenance execution status.
<b>StartTime</b>	The actual starting date/time of this maintenance execution.
<b>EndTime</b>	The actual ending date/time of this maintenance execution.
<b>Duration</b>	Actual duration of the maintenance execution.

### 13.2.21 MaintenanceExecutionHierarchy Entity

A maintenance execution can be made up of one or more maintenance executions, therefore defining a hierarchy of maintenance executions.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceExecutionHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceExecutionHierarchyKey</b>	A unique identification of the hierarchy element.
<b>ParentMaintenanceExecutionId</b>	Identifier of the parent maintenance execution.
<b>MaintenanceExecutionId</b>	Identifier of the corresponding maintenance execution.
<b>StartTime</b>	The starting date/time of this maintenance execution hierarchy element.
<b>EndTime</b>	The ending date/time of this maintenance execution hierarchy element.

### 13.2.22 MaintenanceExecutionMaintenanceExecutionClass Entity

Defines the relationship between maintenance execution and maintenance execution class entities.

#### Attributes

Attribute	Description
<b>MaintenanceExecutionMaintenanceExecutionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceExecutionMaintenanceExecutionClassKey</b>	A unique identification of this relationship entity.
<b>MaintenanceExecutionId</b>	Identifier of the maintenance execution.
<b>MaintenanceExecutionClassId</b>	Identifier of the maintenance execution class.

### 13.2.23 MaintenanceExecutionPropertyDynamicValue Entity

Dynamic value of an maintenance execution property. Dynamic values permit to manage the history of any change applied to the property.

#### Attributes

Attribute	Description
<b>MaintenanceExecutionPropertyDynamicValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceExecutionPropertyDynamicValueKey</b>	A unique identification of a maintenance execution property dynamic value.
<b>MaintenanceExecutionId</b>	Identifier of the maintenance execution.
<b>MaintenanceExecutionPropertyId</b>	Identifier of the maintenance execution property.
<b>StartTime</b>	The starting date/time of this maintenance execution property dynamic value.
<b>EndTime</b>	The ending date/time of this maintenance execution property dynamic value.
<b>DatetimeValue</b>	Value for a property of type DateTime.

Attribute	Description
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Duration</b>	Duration of the value.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.2.24 MaintenanceExecutionProperty Entity

Properties of maintenance executions shall be presented as maintenance execution properties. Each maintenance execution can have unique values for zero or more maintenance execution properties.

#### Attributes

Attribute	Description
<b>MaintenanceExecutionPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceExecutionPropertyKey</b>	A unique identification of this maintenance execution property.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information about the property.
<b>PropertyTypeId</b>	Type of the property value.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.2.25 MaintenanceExecutionPropertyStaticValue Entity

Current value of a operation execution property.

#### Attributes

Attribute	Description
<b>MaintenanceExecutionPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceExecutionPropertyStaticValueKey</b>	A unique identification of a maintenance execution property static value.
<b>MaintenanceExecutionId</b>	Identifier of the maintenance execution property.
<b>MaintenanceExecutionPropertyId</b>	Identifier of the maintenance execution property.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>Sequence</b>	Value for a multivalue property.

### 13.2.26 MaintenanceExecutionStatus Entity

Contains the possible states of a maintenance execution.

#### Attributes

Attribute	Description
<b>MaintenanceExecutionStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceExecutionStatusKey</b>	A unique identification of a maintenance execution status.
<b>Name</b>	Name of the maintenance execution status.
<b>Description</b>	Contains additional information about the maintenance execution status.

### 13.2.27 MaintenanceRequestClass Entity

A representation of a grouping of maintenance requests with similar characteristics.

#### Attributes

Attribute	Description
<b>MaintenanceRequestClassSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceRequestClassKey</b>	A unique identification of the maintenance request class.
<b>Name</b>	Name of the maintenance request class.
<b>Description</b>	Contains additional information about the maintenance request class.

### 13.2.28 MaintenanceRequest Entity

A maintenance scheduling shall be made up of one or more maintenance requests. Each maintenance request shall correspond to, or reference, an identified maintenance definition. Maintenance requests therefore contain information about scheduled maintenance operations or maintenance steps within a maintenance order.

#### Attributes

Attribute	Description
<b>MaintenanceRequestSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceRequestKey</b>	A unique identification of the maintenance request.
<b>Name</b>	Name of the maintenance request.
<b>Description</b>	Contains additional information about the operation request.
<b>MaintenanceDefinitionId</b>	Identifier of the maintenance definition that corresponds to this maintenance request.
<b>MaintenanceSchedulingId</b>	Identifier of the associated maintenance scheduling entity.
<b>EquipmentId</b>	Identifier of the equipment related to the maintenance request.
<b>MaintenanceRequestStatusId</b>	Identifier of the state of the maintenance request.
<b>StartTime</b>	Estimated starting date/time of this maintenance request.
<b>EndTime</b>	Estimated ending date/time of this maintenance request.

Attribute	Description
<b>Duration</b>	Estimated duration of the maintenance request.
<b>Sequence</b>	Indicates the sequence number among other maintenance requests within the same maintenance schedule.

### 13.2.29 MaintenanceRequestHierarchy Entity

A maintenance request can be made up of multiple nested maintenance requests, therefore defining a maintenance request hierarchy.

#### Attributes

Attribute	Description
<b>MaintenanceRequestHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceRequestHierarchyKey</b>	A unique identification of a maintenance request hierarchy element.
<b>MaintenanceRequestId</b>	Identifier of the corresponding maintenance request.
<b>MaintenanceOperationRequestId</b>	Identifier of the parent maintenance request.
<b>StartTime</b>	The starting date/time of this maintenance request hierarchy element.
<b>EndTime</b>	The ending date/time of this maintenance request hierarchy element.

## 13.3 Entities from MaintenanceRequestMaintenanceRequestClass to MaintenanceSchedulingStatus

### 13.3.1 MaintenanceRequestMaintenanceRequestClass Entity

This entity defines the relationship between operation request and operation request class entities.

#### Attributes

---

*Entities from MaintenanceRequestMaintenanceRequestClass to MaintenanceSchedulingStatus*

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceRequestMaintenanceRequestClassSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceRequestMaintenanceRequestClassKey</b>	A unique identification of this relationship entity.
<b>MaintenanceRequestId</b>	Identifier of the maintenance request.
<b>MaintenanceRequestClassId</b>	Identifier of the maintenance request class.

### 13.3.2 MaintenanceRequestProperty Entity

Properties of maintenance requests shall be presented as maintenance request properties. Each maintenance request can have unique values for zero or more maintenance request properties.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceRequestPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceRequestPropertyKey</b>	A unique identification of the maintenance request property.
<b>PropertyTypeId</b>	Type of the property.
<b>UomId</b>	Identifier of the unit of measure for the property value.

### 13.3.3 MaintenanceRequestPropertyStaticValue Entity

Current value of an operation request property.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceRequestPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceRequestPropertyStaticValueKey</b>	A unique identification of a maintenance request property static value.

---

Entities from MaintenanceRequestMaintenanceRequestClass to MaintenanceSchedulingStatus

Attribute	Description
<b>MaintenanceRequestPropertyId</b>	Identifier of the maintenance request property.
<b>MaintenanceRequestId</b>	Identifier of the maintenance request.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.3.4 MaintenanceRequestStatus Entity

Contains the possible states of an operation request.

#### Attributes

Attribute	Description
<b>MaintenanceRequestStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceRequestStatusKey</b>	A unique identification of a maintenance request status.
<b>Name</b>	Name of the maintenance request status.
<b>Description</b>	Contains additional information about the maintenance request status.

### 13.3.5 MaintenanceResponseClass Entity

A representation of a grouping of maintenance responses with similar characteristics.

#### Attributes

Attribute	Description
<b>MaintenanceResponseClassSiteId</b>	Identifier of the Site this entity is related to.

---

*Entities from MaintenanceRequestMaintenanceRequestClass to MaintenanceSchedulingStatus*

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceResponseClassKey</b>	A unique identification of the maintenance response class.
<b>Name</b>	Name of the maintenance response class.
<b>Description</b>	Contains additional information about the maintenance response class.

### 13.3.6 MaintenanceResponse Entity

The executions from manufacturing that are associated with a maintenance request shall be defined as a maintenance response. Operation responses are basically the unit of work within a maintenance execution. Maintenance responses therefore are used to represent the execution of each maintenance order operation or maintenance order step.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceResponseSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceResponseKey</b>	A unique identification of the maintenance response.
<b>Name</b>	Name of the maintenance response.
<b>Description</b>	Contains additional information about the maintenance response.
<b>Sequence</b>	Indicates the sequence number among other maintenance requests within the same maintenance execution.
<b>MaintenanceDefinitionId</b>	Identifier of the maintenance definition that corresponds to this maintenance response.
<b>MaintenanceExecutionId</b>	Identifier of the maintenance execution this maintenance response belongs to.
<b>MaintenanceResponseStatusId</b>	Identifier of the state of the maintenance response.
<b>EquipmentId</b>	Identifier of the equipment used for the maintenance response.
<b>StartTime</b>	The actual starting date/time of this maintenance response.

---

*Entities from MaintenanceRequestMaintenanceRequestClass to MaintenanceSchedulingStatus*

Attribute	Description
<b>EndDateTime</b>	The actual ending date/time of this maintenance response.
<b>Duration</b>	Actual duration of the maintenance response.

### 13.3.7 MaintenanceResponseHierarchy Entity

A maintenance response can be made up of multiple nested maintenance responses, therefore defining a maintenance response hierarchy.

#### Attributes

Attribute	Description
<b>MaintenanceResponseHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceResponseHierarchyKey</b>	A unique identification of a maintenance response hierarchy element.
<b>MaintenanceResponseId</b>	Identifier of the corresponding maintenance response.
<b>ParentMaintenanceResponseId</b>	Identifier of the parent maintenance response.
<b>StartTime</b>	The starting date/time of this maintenance response hierarchy element.
<b>EndDateTime</b>	The ending date/time of this maintenance response hierarchy element.

### 13.3.8 MaintenanceResponseMaintenanceResponseClass Entity

This entity defines the relationship between maintenance response and maintenance response class entities.

#### Attributes

Attribute	Description
<b>MaintenanceResponseMaintenanceResponseClassSiteId</b>	Identifier of the Site this entity is related to.

---

*Entities from MaintenanceRequestMaintenanceRequestClass to MaintenanceSchedulingStatus*

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceResponseMaintenanceResponseClassKey</b>	A unique identification of this relationship entity.
<b>MaintenanceResponseId</b>	Identifier of the maintenance response.
<b>MaintenanceResponseClassId</b>	Identifier of the maintenance response class.

### 13.3.9 MaintenanceResponsePropertyDynamicValue Entity

Dynamic value of a maintenance response property. Dynamic values permit to manage the history of any change applied to the property.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceResponsePropertyDynamicValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceResponsePropertyDynamicValueKey</b>	A unique identification of a maintenance response property dynamic value.
<b>MaintenanceResponseId</b>	Identifier of the maintenance response.
<b>MaintenanceResponsePropertyId</b>	Identifier of the maintenance response property.
<b>StartTime</b>	The starting date/time of this maintenance response property dynamic value.
<b>EndTime</b>	The ending date/time of this maintenance response property dynamic value.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Duration</b>	Duration of the value.
<b>Sequence</b>	Value for a multivalue property.

Attribute	Description
<b>StringValue</b>	Value for a property of type String.

### 13.3.10 MaintenanceResponseProperty Entity

Properties of maintenance responses shall be presented as maintenance response properties. Each maintenance response can have unique values for zero or more maintenance response properties.

#### Attributes

Attribute	Description
<b>MaintenanceResponsePropertySiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceResponsePropertyKey</b>	A unique identification of the maintenance response property.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information about the property.
<b>PropertyTypeId</b>	Type of the property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.3.11 MaintenanceResponsePropertyStaticValue Entity

Current value of a maintenance response property.

#### Attributes

Attribute	Description
<b>MaintenanceResponsePropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceResponsePropertyStaticValueKey</b>	A unique identification of a maintenance response property static value.

---

*Entities from MaintenanceRequestMaintenanceRequestClass to MaintenanceSchedulingStatus*

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceResponseId</b>	Identifier of the maintenance response.
<b>MaintenanceResponsePropertyId</b>	Identifier of the maintenance response property.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>DatetimeValue</b>	Value for a property of type datetime.
<b>Sequence</b>	Value for a multivalue property.

### 13.3.12 MaintenanceResponseStatus Entity

Contains the possible states of a maintenance response.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceResponseStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceResponseStatusKey</b>	A unique identification of a maintenance response status.
<b>Name</b>	Name of the maintenance response status.
<b>Description</b>	Contains additional information about the maintenance response status.

### 13.3.13 MaintenanceSchedulingClass Entity

A representation of a grouping of maintenance scheduling with similar characteristics.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceSchedulingClassSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>MaintenanceSchedulingClassKey</b>	A unique identification of the maintenance scheduling class.
<b>Name</b>	Name of the maintenance scheduling class.
<b>Description</b>	Contains additional information and descriptions of the maintenance scheduling class.

### 13.3.14 MaintenanceScheduling Entity

A request for maintenance (maintenance order) to be performed is a maintenance scheduling.

#### Attributes

Attribute	Description
<b>MaintenanceSchedulingSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceSchedulingKey</b>	A unique identification of the maintenance scheduling.
<b>Name</b>	Name of the maintenance scheduling.
<b>Description</b>	Contains additional information and descriptions of the maintenance scheduling.
<b>MaintenanceSchedulingStatusId</b>	Identifier of the associated maintenance scheduling status.
<b>StartTime</b>	Estimated starting time of the maintenance scheduling.
<b>EndTime</b>	Estimated ending time of the maintenance scheduling.
<b>Duration</b>	Estimated duration of the maintenance scheduling.

### 13.3.15 MaintenanceSchedulingHierarchy Entity

A maintenance scheduling can be made up of multiple nested maintenance scheduling elements, therefore defining a maintenance scheduling hierarchy.

#### Attributes

---

*Entities from MaintenanceRequestMaintenanceRequestClass to MaintenanceSchedulingStatus*

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceSchedulingHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceSchedulingHierarchyKey</b>	A unique identification of a maintenance scheduling hierarchy element.
<b>MaintenanceSchedulingId</b>	Identifier of the corresponding maintenance scheduling.
<b>ParentMaintenanceSchedulingId</b>	Identifier of the parent maintenance scheduling.
<b>StartTime</b>	The starting date/time of this maintenance scheduling hierarchy element.
<b>EndTime</b>	The ending date/time of this maintenance scheduling hierarchy element.

### 13.3.16 MaintenanceSchedulingMaintenanceSchedulingClass Entity

Defines the relationship between maintenance scheduling and maintenance scheduling class entities.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaintenanceSchedulingMaintenanceSchedulingClassesSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceSchedulingMaintenanceSchedulingClassesKey</b>	A unique identification of this relationship entity.
<b>MaintenanceSchedulingClassId</b>	Identifier of the maintenance scheduling.
<b>MaintenanceSchedulingId</b>	Identifier of the maintenance scheduling class.

### 13.3.17 MaintenanceSchedulingProperty Entity

Properties of maintenance scheduling shall be presented as maintenance scheduling properties. Each maintenance scheduling can have unique values for zero or more maintenance scheduling properties.

#### Attributes

Attribute	Description
<b>MaintenanceSchedulingPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceSchedulingPropertyKey</b>	A unique identification of the maintenance scheduling property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>PropertyTypeId</b>	Type of the property.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information and descriptions of the property.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.3.18 MaintenanceSchedulingPropertyStaticValue Entity

Current value of a maintenance scheduling property.

#### Attributes

Attribute	Description
<b>MaintenanceSchedulingPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceSchedulingPropertyStaticValueKey</b>	A unique identification of a maintenance scheduling property static value.
<b>MaintenanceSchedulingId</b>	Identifier of the maintenance scheduling.
<b>MaintenanceSchedulingPropertyId</b>	Identifier of the maintenance scheduling property.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.

Attribute	Description
<b>StringValue</b>	Value for a property of type String.

### 13.3.19 MaintenanceSchedulingStatus Entity

Contains the possible states of an operation scheduling.

#### Attributes

Attribute	Description
<b>MaintenanceSchedulingStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>MaintenanceSchedulingStatusKey</b>	A unique identification of a maintenance scheduling status.
<b>Name</b>	Name of the maintenance scheduling status.
<b>Description</b>	Contains additional information and descriptions of the maintenance scheduling status.

## 13.4 Entities from MaterialClass to NonConformanceToolSpecification

### 13.4.1 MaterialClass Entity

A representation of groupings of material definitions for a definite purpose such as manufacturing operations definition, scheduling, capability and performance shall be presented as a material class. A material definition shall belong to zero or more material classes.

#### Attributes

Attribute	Description
<b>MaterialClassSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialClassKey</b>	A unique identification of a specific Material Class.
<b>Name</b>	Name of the Material Class.

Attribute	Description
<b>Description</b>	Contains additional information and descriptions about the Material Class.

### 13.4.2 MaterialConsumption Entity

The Material Consumption entity allows users to perform in-depth analysis of material consumption over a selected time period using different attributes such as customer, placed/rejected components, material corrections, part, cost, and so on.

#### Attributes

Attribute	Description
<b>Correction</b>	Correction applied to the material amount.
<b>Cost</b>	Current monetary value of the material consumption volume.
<b>CustomerId</b>	Unique identifier of the customer associated with the product.
<b>EquipmentId</b>	Unique identifier of the equipment associated with the material consumption.
<b>InitialAmount</b>	The initial amount of the components on a container.
<b>MaterialConsumptionKey</b>	A unique identification of the material consumption.
<b>MaterialConsumptionSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialContainerId</b>	Identifier of the material container related to the material consumption.
<b>MaterialDefinitionId</b>	Unique identifier of the final material.
<b>OperationExecutionId</b>	Identifier of the manufacturing order associated with the material consumption.
<b>OperationId</b>	Identifier of the operation associated with the material consumption.
<b>PartNumberMaterialDefinitionId</b>	Identifier of the part number of the material definition related to this entity.

Attribute	Description
<b>Placed</b>	Status of the container.
<b>RecipeId</b>	Identifier of the recipe that defines the material consumption.
<b>Rejected</b>	Status of the container.
<b>Slot</b>	Slot where the container is placed.
<b>Station</b>	Station on the machine where the container is located.
<b>SubSlot</b>	Sub-slot where the container is placed.
<b>Timestamp</b>	Date and time of the material consumption.

### 13.4.3 MaterialContainerAction Entity

A record describing the action is created each time an operator performs a predefined task such as connecting a feeder to a reel on a kitting station. This is used to trace errors and to reduce the possibility of reoccurrence.

#### Attributes

Attributes	Description
<b>MaterialContainerActionSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialContainerActionKey</b>	A unique identification of the Material Container Action.
<b>Description</b>	Contains additional information and descriptions on the Material Container Action.
<b>Name</b>	Name of the Material Container Action.

### 13.4.4 MaterialContainer Entity

Master data for a Material Container (reel), the data is added when a reel is kitted to a feeder for the first time.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaterialContainerSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialContainerKey</b>	A unique identification of the Material Container.
<b>Direction</b>	The direction of the component on the supply form. It can assume the following values: 0, 90, 180, 270.
<b>LotNumber</b>	Specifies the lot number of the container.
<b>Manufacturer</b>	Identification of the component manufacturer.
<b>ManufacturerPartNumber</b>	The part number as specified by the manufacturer.
<b>ReceiveDate</b>	Date when the container was first registered.
<b>Remark</b>	A text containing remarks about the container.
<b>Remark2</b>	Can contain additional remarks or customer specific entries.
<b>Remark3</b>	Can contain additional remarks or customer specific entries.
<b>Supplier</b>	The supplier of the container.
<b>SupplyFormName</b>	Name of the form where the material container supply is detailed.
<b>Type</b>	Component type: it can be one of the following: <ul style="list-style-type: none"> <li>• SMD (0),</li> <li>• Other (1),</li> <li>• Paste (2),</li> <li>• Stencil (3),</li> <li>• Squeegee1 (4),</li> <li>• BareBoard (5),</li> <li>• Backup Plate (6),</li> <li>• Cleaning Paper (7),</li> <li>• Cleaning Solvent (8),</li> <li>• Squeegee2 (9)</li> </ul>

### 13.4.5 MaterialContainerHistory Entity

Tracking of all container transactions and actions that have been executed on a material container, for example location change, operator actions, material status etc.

#### Attributes

Attribute	Description
<b>MaterialContainerHistorySiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialContainerHistoryKey</b>	A unique identification of the Material Container History.
<b>EquipmentId</b>	Identifier of the equipment related to this entity.
<b>FeederId</b>	Identifier of the feeder used if the component reel is placed on a feeder.
<b>LaborId</b>	Identifier of the personnel related to this entity.
<b>MaterialContainerId</b>	Identifier of the reel (material container).
<b>MaterialContainerActionId</b>	Identifier of the action performed on the reel.
<b>MaterialContainerThicknessId</b>	Identifier of the thickness of the component body.
<b>MaterialDefinitionId</b>	Identifier of the material definition related to this entity.
<b>MsdLevelId</b>	Identifier of the Moisture Sensitivity Level (MSL), an electronic standard used by manufacturers for MSD components.
<b>Comment</b>	The comment made by the operator. The comment can for example describe the action taken by the operator.
<b>DryTimeStamp</b>	For dry components this field is a timestamp specifying when the reel was placed in a dry storage. For other components it is the time when the reel was added to the table and it is not updated again.
<b>InitialAmount</b>	Initial number of components on a reel (container).

Attribute	Description
<b>OpenTimeStamp</b>	For dry components this field identifies the time when the reel was opened. For other components it is the time for the last kitting meaning that it will be updated each time a kitting occurs.
<b>Slot</b>	The slot where the reel is placed.
<b>Station</b>	The station where the reel is placed.
<b>SubSlot</b>	The sub-slot where the reel is placed.
<b>Timestamp</b>	A timestamp identifying when an action on the material container has occurred.

### 13.4.6 MaterialContainerStatus Entity

Material container status description. Examples are Accepted, Rejected, Spliced, Blocked, and others.

#### Attributes

Attribute	Description
<b>MaterialContainerStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialContainerStatusKey</b>	A unique identification of the Material Container Status.
<b>Description</b>	Contains additional information and descriptions on the Material Container Status.
<b>Name</b>	Name of the Material Container Status.

### 13.4.7 MaterialContainerThickness Entity

This entity shows the thickness of a Moisture Sensitive Device (MSD) component. It can assume the following values:

- 1 is  $\pm 1.4\text{mm}$ ,
- 2 is  $-1.4$  and  $\pm 2.0\text{mm}$ ,
- 3 is  $-2.0$  and  $\pm 4.5$ ,
- 4 is BGA -17 x 17mm

#### Attributes

Attribute	Description
<b>MaterialContainerThicknessSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialContainerThicknessKey</b>	A unique identification of the Material Container Thickness.
<b>Description</b>	Contains additional information and descriptions about the Material Container Thickness.
<b>Name</b>	Name of the Material Container Thickness.

### 13.4.8 MaterialDefinitionBillOfMaterial Entity

For the Electronics Industry, this entity establishes a relationship between the material definition and the bill of material, as in this industry more than one product (material definition) can be manufactured using the same bill of material.

#### Attributes

Attribute	Description
<b>MaterialDefinitionBillOfMaterialSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialDefinitionBillOfMaterialKey</b>	Unique identifier of this entity.
<b>BillOfMaterialId</b>	Identifier of the Bill of Material.
<b>MaterialDefinitionId</b>	Identifier of the Material Definition entity.

### 13.4.9 MaterialDefinition Entity

A representation of a material (consumed or produced) with similar characteristics for the purpose of manufacturing operations definition, scheduling, capability and performance shall be presented as a material definition.

#### Attributes

Attribute	Description
<b>MaterialDefinitionSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialDefinitionKey</b>	A unique identification of a specific Material Definition.

Attribute	Description
<b>FunctionalCodeId</b>	Identifier of the functional code by which the material defined by this entity is grouped.
<b>MountingTechnologyId</b>	For Opcenter Execution Electronics data source this field contains the identifier of the mounting technology applied during the mounting operation of PCB components.  It can assume the values: <ul style="list-style-type: none"> <li>• SMT (Surface Mount Technology)</li> <li>• THT (Thru Hole Technology)</li> <li>• Undefined</li> </ul>
<b>Identifier</b>	String that contains the NId value (Numeric Identifier for Process CPG and Discrete Industry).
<b>Name</b>	Name of the Material Definition.
<b>Description</b>	Contains additional information and descriptions about the Material Definition.

### 13.4.10 MaterialDefinitionHierarchy Entity

A material definition may be defined as containing an assembly of material definitions and as part of an assembly of material definitions, therefore defining a hierarchy of material definitions.

#### Attributes

Attribute	Description
<b>MaterialDefinitionHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialDefinitionHierarchyKey</b>	Unique identification of a specific Material Definition Hierarchy element.
<b>MaterialDefinitionId</b>	Identifier of the corresponding Material Definition entity.
<b>ParentMaterialDefinitionId</b>	Identifier of the parent Material Definition entity.
<b>StartTime</b>	The starting date/time of this Material Definition Hierarchy element.

Attribute	Description
<b>EndDateTime</b>	The ending date/time of this Material Definition Hierarchy element.

### 13.4.11 MaterialDefinitionMaterialClass Entity

Contains the relationship between Material Definition and Material Class entities.

#### Attributes

Attribute	Description
<b>MaterialDefinitionMaterialClassSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialDefinitionMaterialClassKey</b>	Unique identifier of this entity.
<b>MaterialDefinitionId</b>	Identifier of the corresponding Material Definition entity.
<b>MaterialClassId</b>	Identifier of the corresponding Material Class entity.

### 13.4.12 MaterialDefinitionPropertyStaticValue Entity

Contains the static value of a Material Definition Property.

#### Attributes

Attribute	Description
<b>MaterialDefinitionPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialDefinitionPropertyStaticValueKey</b>	Unique identifier of a specific Material Definition Property value.
<b>MaterialDefinitionId</b>	Identifier of the corresponding Material Definition entity.
<b>MaterialPropertyId</b>	Identifier of the corresponding Material Definition Property.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.

### 13.4.13 MaterialExtendedProperty Entity

Contains the extended material properties of a material definition or material lot.

#### Attributes

<b>MaterialExtendedPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialExtendedPropertyKey</b>	A unique identification of the material extended property.
<b>ExtendedPropertyTypeId</b>	A unique identification of the type of extended property.
<b>Description</b>	Contains additional information and descriptions on the material extended property.
<b>IsOption</b>	Identifies whether this extended property is optional (value = 1) or not (value = 0).
<b>Name</b>	The name of the material extended property.

### 13.4.14 MaterialInventory Entity

Monthly historical and current material amount, monetary value and location.

#### Attributes

Attribute	Description
<b>MaterialInventorySiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialInventoryKey</b>	A unique identification of the material inventory.
<b>LaborId</b>	Identifier of the labor related to the material inventory.
<b>MaterialContainerId</b>	Identifier of the material container related to the material inventory.
<b>MaterialContainerStatusId</b>	Identifier of the material container status related to the material inventory.

Attribute	Description
<b>MaterialDefinitionId</b>	Identifier of the material definition related to the material inventory.
<b>Correction</b>	Correction to the amount, used in combination with splicing. This is updated by the shop floor applications during splicing, after manual count.
<b>Cost</b>	Current monetary value of the inventory volume.
<b>Currency</b>	Currency used for the monetary value.
<b>Errors</b>	Number of errors produced for a material inventory.
<b>ExpirationDateTime</b>	Expiration date and time of the material inventory.
<b>InitialAmount</b>	The initial amount of the components on a container.
<b>Inventory</b>	Number of containers in stock.
<b>IsCurrent</b>	Specifies if the inventory is related to Current or Historic data.
<b>Slot</b>	The slot where the container is placed.
<b>Station</b>	The station where the container is placed.
<b>SubSlot</b>	The subslot where the container is placed.
<b>Used</b>	<b>Used</b> subtracted from <b>InitialAmount</b> gives the amount left on a container.
<b>Timestamp</b>	Timestamp of the snapshot.

### 13.4.15 MaterialLot Entity

A uniquely identified specific amount of material, either countable or weighable, shall be presented as a material lot. A material lot describes the planned or actual total quantity or amount of material available, its current state, and its specific property values. Material lot can represent either consumed or produced quantities.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaterialLotSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotKey</b>	A unique identification of the Material Lot.
<b>Name</b>	Name of the Material Lot.
<b>Description</b>	Contains additional information and descriptions about the Material Lot.
<b>MaterialDefinitionId</b>	Identifier of the the Material Definition that defines this Material Lot.
<b>MaterialLotStatusId</b>	Identifier of the material status for this material lot.
<b>Quantity</b>	The quantity of the Material Lot.
<b>UomId</b>	The unit of measure of the associated quantity.
<b>ValidFromDateTime</b>	Starting validity Date/time of the lot.
<b>ValidToDateTime</b>	Ending validity Date/time of the lot.

### 13.4.16 MaterialLotExtendedPropertyStaticValue Entity

Contains the static value of a Material Lot Extended Property.

#### Attributes

<b>MaterialLotExtendedPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotExtendedPropertyStaticValueKey</b>	A unique identification of the Material Lot Extended Property Static Value.
<b>MaterialExtendedPropertyId</b>	Unique identifier of the Material Extended Property.
<b>MaterialLotId</b>	Unique identifier of the material lot.

<b>Value</b>	String that represents the value of this property for the specified material lot.
<b>ValueDescription</b>	Contains additional information and descriptions on the value of this property for the specified material lot.
<b>ValueName</b>	The name of the value of this property for the specified material lot.

### 13.4.17 MaterialLotHierarchy Entity

A material lot may be made up of material sublots. A material lot or a material subplot may be defined as follows by containing an assembly of material lots or material sublots and as part of an assembly of material lots or material sublots.

#### Attributes

Attribute	Description
<b>MaterialLotHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotHierarchyKey</b>	A unique identification of an element in a Material Lot Hierarchy.
<b>MaterialLot</b>	Identifier of the the corresponding Material Lot entity.
<b>ParentMaterialLotId</b>	Identifier of the the parent Material Lot entity.
<b>StartTime</b>	The starting date/time of this Material Lot Hierarchy element.
<b>EndTime</b>	The ending date/time of this Material Lot Hierarchy element.

### 13.4.18 MaterialLotMaterialDefinition Entity

The representation of a material (consumed or produced) for a uniquely identified specific amount of material, either countable or weighable.

#### Attributes

Attribute	Description
<b>MaterialLotMaterialDefinitionSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotMaterialDefinitionKey</b>	A unique identification of the Material Lot Material Definition.
<b>MaterialDefinitionId</b>	A unique identification of the Material Definition.
<b>MaterialLotId</b>	A unique identification of the Material Lot.
<b>UomId</b>	Identifier of the unit of measure for the value.
<b>ConsumedQuantity</b>	Value of the consumed material.
<b>Quantity</b>	The quantity to be produced for a specific order.

### 13.4.19 MaterialLotOperationClass Entity

A representation of groupings of material lot operations/activities for a definite purpose shall be presented as a material lot operation class.

#### Attributes

Attribute	Description
<b>MaterialLotOperationClassSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotOperationClassKey</b>	A unique identification of the Material Lot Operation Class.
<b>Name</b>	Name of the Material Lot Operation Class.
<b>Description</b>	Contains additional information about the Material Lot Operation Class.

### 13.4.20 MaterialLotOperation Entity

A material lot operation contains information about an operation/activity executed on a specific material lot (movement, consumption etc.)

#### Attributes

Attribute	Description
<b>MaterialLotOperationSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotOperationKey</b>	A unique identification of Material Lot Operation.
<b>OperationDateTime</b>	Date/time of the operation.
<b>MaterialLotId</b>	Identifier of the Material Lot on which the operation has been executed.
<b>MaterialDefinitionId</b>	Identifier of the the corresponding Material Definition.
<b>LocationId</b>	Identifier of the the location of the Material Lot.
<b>ActualQuantity</b>	Quantity of the lot before the operation.
<b>OperationQuantity</b>	Quantity of the lot after the operation.
<b>UomId</b>	Identifier of the unit of measure of the quantity.
<b>SourceLocationId</b>	Identifier of the the source location.
<b>SourceMaterialDefinitionId</b>	Identifier of the source Material Definition.
<b>SourceMaterialLotId</b>	Identifier of the source Material Lot.
<b>SourceUomId</b>	Identifier of the unit of measure of the source quantity.
<b>EquipmentId</b>	Identifier of the target equipment.
<b>SourceEquipmentId</b>	Identifier of the source equipment.

### 13.4.21 MaterialLotOperationHierarchy Entity

A hierarchy of Material Lot Operations.

#### Attributes

Attributes	Description
<b>MaterialLotOperationHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotOperationHierarchyKey</b>	A unique identification of an element in the Material Lot Operation Hierarchy.
<b>MaterialLotOperationId</b>	Identifier of the corresponding Material Lot Operation.
<b>ParentMaterialLotOperationId</b>	Identifier of the parent Material Lot Operation.
<b>StartTime</b>	The starting date/time of this Material Lot Operation Hierarchy element.
<b>EndTime</b>	The ending date/time of this Material Lot Operation Hierarchy element.

### 13.4.22 MaterialLotOperationMaterialLotOperationClass Entity

Contains the relationship between Material Lot Operation and Material Lot Operation Class entities.

#### Attributes

Attribute	Description
<b>MaterialLotOperationMaterialLotOperationClassSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotOperationMaterialLotOperationClassKey</b>	A unique identification of this entity.
<b>MaterialLotOperationClassId</b>	Identifier of the Material Lot Operation Class.
<b>MaterialLotOperationId</b>	Identifier of the Material Lot Operation.

### 13.4.23 MaterialLotOperationPropertyDynamicValue Entity

Dynamic value of a material lot operation property. Dynamic values permit to manage the history of any change applied to the property.

#### Attributes

Attribute	Description
<b>MaterialLotOperationPropertyDynamicValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotOperationPropertyDynamicValueKey</b>	A unique identification of a material lot property dynamic value.
<b>MaterialLotOperationPropertyId</b>	Identifier of the material property.
<b>MaterialLotId</b>	Identifier of the material lot id.
<b>StartTime</b>	The starting date/time of this material lot property dynamic value.
<b>EndTime</b>	The ending date/time of this material lot property dynamic value.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Duration</b>	Duration of the value.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.4.24 MaterialLotOperationProperty Entity

Properties of a material lot operations shall be defined as material lot properties. Each material lot operation shall have zero or more properties.

#### Attributes

Attribute	Description
<b>MaterialLotOperationPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotOperationPropertyKey</b>	A unique identification of a Material Lot Operation Property.

Attribute	Description
<b>UomId</b>	The unit of measure of the associated Property value.
<b>PropertyTypeId</b>	Type of the Property (Numeric, DateTime, String).
<b>Name</b>	Name of the Property.
<b>Description</b>	Contains additional information about the Property.
<b>Multivalue</b>	Specifies if the Property can have multiple values.

### 13.4.25 MaterialLotOperationPropertyStaticValue Entity

Entity containing the static value of a Material Lot Operation Property.

#### Attributes

Attribute	Description
<b>MaterialLotOperationPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotOperationPropertyStaticValueKey</b>	A unique identification of a Material Lot Operation Property static value.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.4.26 MaterialLotPropertyDynamicValue Entity

Dynamic value of a material property. Dynamic values allow you to manage the history of any change applied to the property.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaterialLotPropertyDynamicValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotPropertyDynamicValueKey</b>	A unique identification of a material lot property dynamic value.
<b>MaterialPropertyId</b>	Identifier of the material property.
<b>MaterialLotId</b>	Identifier of the material lot id.
<b>StartTime</b>	The starting date/time of this material lot property dynamic value.
<b>EndTime</b>	The ending date/time of this material lot property dynamic value.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Duration</b>	Duration of the value.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.4.27 MaterialLotPropertyStaticValue Entity

Contains the static value of a Material Lot Property.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaterialLotPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotPropertyStaticValueKey</b>	A unique identification of a material lot property static value.
<b>MaterialLotId</b>	Identifier of the material lot.

<b>Attribute</b>	<b>Description</b>
<b>MaterialPropertyId</b>	Identifier of the material property.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>Sequence</b>	Value for a multivalue property.

### 13.4.28 MaterialLotStatus Entity

Defines a possible status for a material lot.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaterialLotStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialLotStatusKey</b>	A unique identification of a material lot status.
<b>Description</b>	Contains additional information about the material lot status.
<b>Name</b>	Name of the material lot status.

### 13.4.29 MaterialProperty Entity

Properties of a material definition or material lot shall be presented as material properties. Each material can have unique values for zero or more material properties, such as a specific pH value for the specific material lot, or a specific density for the material lot.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MaterialPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>MaterialPropertyKey</b>	A unique identification of a material property.

Attribute	Description
<b>Name</b>	Name of the material property.
<b>Description</b>	Contains additional information about the material property.
<b>PropertyTypeId</b>	Type of the material property value.
<b>UomId</b>	Identifier of the unit of measure for the value.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.4.30 Microstop Entity

Defines a possible microstop context value for a piece of equipment/asset state.

#### Attributes

Attribute	Description
<b>MicrostopKey</b>	Unique identifier of the microstop value.
<b>Value</b>	<b>True</b> (the state is a microstop) or <b>False</b> (the state is not a microstop).

### 13.4.31 MilestoneDiagram Entity

Diagram showing the milestone sequence within a Production Flow Control.

#### Attributes

Attribute	Description
<b>MilestoneDiagramSiteId</b>	Identifier of the Site this entity is related to.
<b>MilestoneDiagramKey</b>	A unique identification of the milestone diagram.
<b>FinalProductTypeId</b>	Identifier of the Final Product Type through which the Production Flow Control including the milestone is associated with a Material Tracking Unit.

<b>Attribute</b>	<b>Description</b>
<b>Description</b>	Contains additional information and descriptions on the milestone diagram.
<b>Name</b>	Name of the milestone diagram.
<b>Revision</b>	Identifies the revision (version) of the Production Flow Control Diagram.

### 13.4.32 Milestone Entity

Each product to be produced must undergo a specific Production Flow Control. This means going through a set of predefined business Milestones, relevant to a specific plant and logically connected through Transitions. An example could be: a Vehicle body painting or its assembly.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>MilestoneSiteId</b>	Identifier of the Site this entity is related to.
<b>MilestoneKey</b>	A unique identification of the milestone.
<b>MilestoneDiagramId</b>	Identifier of the diagram showing the Production Flow Control of a milestone sequence.
<b>Description</b>	Contains additional information and descriptions on the milestone.
<b>Name</b>	The name of the milestone.
<b>Sequence</b>	Number that indicates the order in which the milestone will be hypothetically executed during the production process.

### 13.4.33 MilestoneHistory Entity

Information on the history of the reached Milestones.

#### Attributes

Attribute	Description
<b>MilestoneHistorySiteId</b>	Identifier of the Site this entity is related to.
<b>MilestoneHistoryKey</b>	A unique identification of the milestone history.
<b>EquipmentId</b>	Identifier of the equipment where the milestone has been reached.
<b>FinalProductTypeId</b>	Identifier of the Final Product Type through which the Production Flow Control including the milestone is associated with a Material Tracking Unit.
<b>MaterialLotId</b>	A unique identification of the Material Lot.
<b>MilestoneId</b>	A unique identification of the milestone the history refers to.
<b>OperationSchedulingId</b>	ERP order for Opcenter Execution Discrete 4.4 or higher.
<b>EventDateTime</b>	Date and time when the milestone has been reached.

### 13.4.34 MountingTechnology Entity

Mounting technology information allows customers to distinguish which technology was applied during the mounting operation of PCB components, like for example:

- **SMT** (Surface Mount Technology)
- **THT** (Thru Hole Technology)
- **Undefined** Indicates the mounting technology is unknown or not applicable.

#### Attributes

Attribute	Description
<b>MountingTechnologySiteId</b>	Identifier of the Site this entity is related to.
<b>MountingTechnologyKey</b>	Unique identification of the mounting technology.
<b>Name</b>	The name of the mounting technology.
<b>Description</b>	Contains additional information on the mounting technology.

### 13.4.35 MsdLevel Entity

The Moisture Sensitivity Level is an electronic standard used by manufacturers for Moisture Sensitive Device (MSD) components. It relates to the packaging and handling precautions for some semiconductors, ranging from level 1 (unlimited) to 6 (must be baked prior to use).

#### Attributes

Attribute	Description
<b>MsdLevelSiteId</b>	Identifier of the Site this entity is related to.
<b>MsdLevelKey</b>	A unique identification of the MsdLevel.
<b>Description</b>	Contains additional information and descriptions about the MsdLevel.
<b>Name</b>	Name of the MsdLevel.

### 13.4.36 NonConformanceClass Entity

A representation of a type or grouping of NonConformance entities.

#### Attributes

Attribute	Description
<b>NonConformanceClassSiteId</b>	Identifier of the Site this entity is related to.
<b>NonConformanceClassKey</b>	A unique identification of a NonConformance class.
<b>Name</b>	Name of the NonConformance class.

### 13.4.37 NonConformance Entity

During the execution of manufacturing activities, shop floor operators might encounter anomalies in manufacturing operations or in related entities. In such scenarios, operators can bring these anomalies to the notice of Production Coordinators by declaring Non-Conformances.

#### Attributes

Attribute	Description
<b>NonConformanceSiteId</b>	Identifier of the Site this entity is related to.

<b>Attribute</b>	<b>Description</b>
<b>NonConformanceKey</b>	A unique identification of a Non-Conformance.
<b>Name</b>	Name of the Non-Conformance.
<b>NonConformanceStatusId</b>	Identifier of the Non-Conformance status.
<b>StartTime</b>	Date on which the Non-Conformance was closed.
<b>EndTime</b>	Date on which the Non-Conformance was declared.
<b>Duration</b>	Duration of the Non-Conformance.
<b>EquipmentId</b>	The equipment related to the Non-Conformance.
<b>MaterialDefinitionId</b>	The Material Definition related to the Non-Conformance.
<b>ToolDefinitionId</b>	The Tool Definition related to the Non-Conformance.
<b>OperationExecutionId</b>	Identifier of the operation execution (work order) the Non-Conformance is related to.
<b>OperationResponseId</b>	Identifier of the operation response (work order operation/step) the Non-Conformance is related to.
<b>MaterialLotId</b>	Identifier of the material lot the Non-Conformance is related to.
<b>Comment</b>	Notes inserted by the user while declaring the Non-Conformance.
<b>InspectedQuantity</b>	Quantity of the inspected material.
<b>NonConformantQuantity</b>	Partial quantity of the inspected material that has been found to be non-conformant.

### 13.4.38 NonConformanceEquipmentSpecification Entity

Equipment related to a Non-Conformance.

#### Attributes

Attributes	Description
<b>NonConformanceNonConformanceClassSiteId</b>	Identifier of the Site this entity is related to.
<b>NonConformanceNonConformanceClassKey</b>	A unique identification of this relationship entity.
<b>NonConformanceClassId</b>	Identifier of the NonConformance class.
<b>NonConformanceId</b>	Identifier of the NonConformance.

### 13.4.39 NonConformanceHistory Entity

History of non-conformance status changes, like for example open to scrap, open to repair, repair to close and return to work, etc.

#### Attributes

Attribute	Description
<b>NonConformanceHistorySiteId</b>	Identifier of the Site this entity is related to.
<b>NonConformanceHistoryKey</b>	A unique identification of the non-conformance history.
<b>StartTime</b>	Date and time when the status started.
<b>Duration</b>	Status duration expressed in seconds.
<b>EndTime</b>	Date and time when the status ended.
<b>LaborId</b>	Identifier of the operator who performed the non-conformance status change.
<b>NonConformanceId</b>	Identifier of the non-conformance the history refers to.
<b>NonConformanceStatusId</b>	Identifier of the non-conformance status.
<b>EquipmentId</b>	Identifier of the equipment the non-conformance history refers to.

### 13.4.40 NonConformanceMaterialLotSpecification Entity

Material lot related to a Non-Conformance.

## Attributes

Attribute	Description
<b>NonConformanceMaterialLotSpecificationSiteId</b>	Identifier of the Site this entity is related to.
<b>NonConformanceMaterialLotSpecificationKey</b>	A unique identification of a NonConformance material lot specification.
<b>NonConformanceId</b>	Identifier of the Non-Conformance.
<b>MaterialLotSiteId</b>	Identifier of the site the material lot is related to.
<b>MaterialLotKey</b>	Identifier of the material lot.

### 13.4.41 NonConformanceNonConformanceClass Entity

This entity defines the relationship between NonConformance and NonConformance class entities.

## Attributes

Attribute	Description
<b>NonConformanceNonConformanceClassSiteId</b>	Identifier of the Site this entity is related to.
<b>NonConformanceNonConformanceClassKey</b>	A unique identification of this relationship entity.
<b>NonConformanceClassId</b>	Identifier of the NonConformance class.
<b>NonConformanceId</b>	Identifier of the NonConformance.

### 13.4.42 NonConformanceProperty Entity

Properties of NonConformances shall be presented as NonConformance properties. Each NonConformance can have unique values for zero or more NonConformance properties.

## Attributes

Attribute	Description
<b>NonConformancePropertySiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>NonConformancePropertyKey</b>	A unique identification of a NonConformance property.
<b>Name</b>	Name of the property.
<b>PropertyTypeId</b>	Type of the property value.
<b>UomId</b>	Identifier of the unit of measure for the property value.

### 13.4.43 NonConformancePropertyStaticValue Entity

Current value of a NonConformance property.

#### Attributes

Attribute	Description
<b>NonConformancePropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>NonConformancePropertyStaticValueKey</b>	A unique identification of a NonConformance property static value.
<b>NonConformanceId</b>	Identifier of the NonConformance.
<b>NonConformancePropertyId</b>	Identifier of the NonConformance property.
<b>StringValue</b>	Value for a property of type String.

### 13.4.44 NonConformanceStatus Entity

Defines a possible status for a NonConformance.

#### Attributes

Attribute	Description
<b>NonConformanceStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>NonConformanceStatusKey</b>	A unique identification of a NonConformance status.

Attribute	Description
<b>Name</b>	Name of the NonConformance status.

### 13.4.45 NonConformanceToolSpecification Entity

An identification of a NonConformance tool.

#### Attributes

Attributes	Description
<b>NonConformanceToolSpecificationSiteId</b>	Identifier of the Site this entity is related to.
<b>NonConformanceToolSpecificationKey</b>	A unique identification of a NonConformance tool specification.
<b>NonConformanceId</b>	Identifier of the NonConformance.
<b>ToolSiteId</b>	Identifier of the site the tool is related to.
<b>ToolKey</b>	Identifier of the tool.

## 13.5 Entities from Operation to OperationRequestStatus

### 13.5.1 Operation Entity

This entity describes an Operation, which is a manufacturing or processing point where inventory and production activities are tracked.

#### Attributes

Attribute	Description
<b>OperationKey</b>	A unique identification of the operation.
<b>OperationSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the operation.

<b>Attribute</b>	<b>Description</b>
<b>Name</b>	Name of the operation.

### 13.5.2 OperationDefinitionClass Entity

A representation of a grouping of operation definitions with similar characteristics.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>OperationDefinitionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationDefinitionClassKey</b>	A unique identification of the operation definition class.
<b>Name</b>	Name of the operation definition class.
<b>Description</b>	Contains additional information on the operation definition class.

### 13.5.3 OperationDefinition Entity

An operations definition defines a production operation or a single step within such production operation.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>OperationDefinitionSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationDefinitionKey</b>	A unique identification of the operation definition.
<b>Name</b>	Name of the operation definition.
<b>Description</b>	Contains additional information on the operation definition.

### 13.5.4 OperationDefinitionEquipmentSpecification Entity

Specifies the equipment used by the operation definition.

#### Attributes

Attribute	Description
<b>OperationDefinitionEquipmentSpecificationSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationDefinitionEquipmentSpecificationKey</b>	A unique identification of the operation definition equipment specification.
<b>EquipmentId</b>	Identifier of the equipment.
<b>OperationDefinitionId</b>	Identifier of the operation definition.
<b>Quantity</b>	The actual produced quantity associated with this operation definition equipment specification.
<b>StartTime</b>	The actual starting date/time of this operation definition equipment specification.
<b>EndTime</b>	The actual ending date/time of this operation definition equipment specification.
<b>Duration</b>	The actual duration of this operation definition equipment specification.

### 13.5.5 OperationDefinitionMaterialDefinitionSpecificationIn Entity

An identification of a material that should be consumed and that is specified in the operation definition.

#### Attributes

Attribute	Description
<b>OperationDefinitionMaterialDefinitionSpecificationInSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationDefinitionMaterialDefinitionSpecificationInKey</b>	A unique identification of the material definition specification specified in the operation definition.
<b>MaterialDefinitionId</b>	A unique identification of the material definition.
<b>OperationDefinitionId</b>	A unique identification of the operation definition.

Attribute	Description
<b>Quantity</b>	The quantity of material that should be consumed.
<b>UomId</b>	Identifier of the unit of measure for the quantity.

### 13.5.6 OperationDefinitionOperationDefinitionClass Entity

Defines the relationship between operation definition and operation definition class entities.

#### Attributes

Attribute	Description
<b>OperationDefinitionOperationDefinitionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationDefinitionOperationDefinitionClassKey</b>	A unique identification of this relationship entity.
<b>OperationDefinitionClassId</b>	Identifier of the operation definition class.
<b>OperationDefinitionId</b>	Identifier of the operation definition.

### 13.5.7 OperationDefinitionProperty Entity

Properties of operation definitions shall be presented as operation definition properties. Each operation definition can have unique values for zero or more operation definition properties.

#### Attributes

Attribute	Description
<b>OperationDefinitionPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationDefinitionPropertyKey</b>	A unique identification of an operation definition property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>PropertyTypeId</b>	Type of the property value.
<b>Name</b>	Name of the property.

Attribute	Description
<b>Description</b>	Contains additional information about the property.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.5.8 OperationDefinitionPropertyStaticValue Entity

Current value of an operation definition property.

#### Attributes

Attribute	Description
<b>OperationDefinitionPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationDefinitionPropertyStaticValueKey</b>	A unique identification of an operation definition property static value.
<b>OperationDefinitionId</b>	Identifier of the operation definition.
<b>OperationDefinitionPropertyId</b>	Identifier of the operation definition property.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.5.9 OperationExecutionClass Entity

A representation of a grouping of operation executions with similar characteristics.

#### Attributes

Attribute	Description
<b>OperationExecutionClassSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>OperationExecutionClassKey</b>	A unique identification of an operation execution.
<b>Name</b>	Name of the operation execution.
<b>Description</b>	Contains additional information about the operation execution.

### 13.5.10 OperationExecutionCompensation Entity

Contains information about compensators of work orders. This entity is relevant only to SIMATIC IT EBR or Opcenter EX Pharma sources.

#### Attributes

Attribute	Description
<b>OperationExecutionCompensationSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionCompensationKey</b>	A unique identification of this operation execution compensation.
<b>CompensatedOperationResponseId</b>	Identifier of the production/work order phase/operation/step that will be compensated.
<b>CompensatorOperationResponseId</b>	Identifier of the production/work order operation/step that will compensate.
<b>OperationExecutionId</b>	Identifier of the production/work order.
<b>CompensatorDoseNumber</b>	The number of doses of compensator.
<b>Percentage</b>	Compensation percentage.

### 13.5.11 OperationExecutionConsumptionActionType Entity

Type of action (preparation or manufacturing) performed for the consumption.

#### Attributes

Attribute	Description
<b>OperationExecutionConsumptionActionTypeKey</b>	A unique identification of this entity.
<b>OperationExecutionConsumptionActionTypeSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the entity.
<b>Name</b>	Name of the type of action (preparation or manufacturing).

### 13.5.12 OperationExecutionConsumptionBalanceType Entity

Type of scale used for the weighing.

#### Attributes

Attribute	Description
<b>OperationExecutionConsumptionBalanceTypeKey</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionConsumptionBalanceTypeSiteId</b>	A unique identification of this entity.
<b>Description</b>	Contains additional information and descriptions about the type of scale.
<b>Name</b>	Name of the type of scale.

### 13.5.13 OperationExecutionConsumptionBarcode Entity

Barcode label.

#### Attributes

Attribute	Description
<b>OperationExecutionConsumptionBarcodeKey</b>	A unique identification of this entity.

Attribute	Description
<b>OperationExecutionConsumptionBarcodeSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the consumption barcode.
<b>Name</b>	Name of the consumption barcode.

### 13.5.14 OperationExecutionConsumptionCombination Entity

Combination mode of the consumption.

#### Attributes

Attribute	Description
<b>OperationExecutionConsumptionCombinationKey</b>	A unique identification of this entity. It can assume the following values: <ul style="list-style-type: none"> <li>• If combined weigh line = R</li> <li>• If cancelled weigh line = X</li> </ul>
<b>OperationExecutionConsumptionCombinationSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the consumption combination.
<b>Name</b>	Name of the consumption combination. It can assume the following values: <ul style="list-style-type: none"> <li>• If combined weigh line = R</li> <li>• If cancelled weigh line = X</li> </ul>

### 13.5.15 OperationExecutionConsumption Entity

This entity describes the consumption related to the execution of a manufacturing request (work order).

#### Attributes

Attribute	Description
<b>OperationExecutionConsumptionSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionConsumptionKey</b>	A unique identification of this entity.
<b>ActionTraceId</b>	Identifier of the action trace.
<b>BalanceNumber</b>	Number of the scale.
<b>CalculatedNet</b>	Net weight of an item.
<b>CombinationDatetime</b>	In case of combined weigh line, this field contains the date and time of the combination.
<b>CombinationLaborId</b>	In case of combined weigh line, this field contains the person responsible for the combination.
<b>CombinationWorkstationId</b>	In case of combined weigh line, this field contains the workstation on which the combination was recorded.
<b>ConcordanceNumber</b>	Number of the concordance.
<b>ConsumedMaterialDefinitionId</b>	Item code of the consumed material.
<b>ConsumedQuantity</b>	Specifies the amount of material consumed by the consumption.
<b>ContainerId</b>	A unique identification of the container.
<b>CorrectLot</b>	Specifies if the lot is correct or not.
<b>CountingUomId</b>	Identifier of the unit of measure used for the count.
<b>EndGrossQuantity</b>	Final gross quantity.
<b>EndOfContainer</b>	Specifies if the container is the final one or not.
<b>EquipmentId</b>	Identifier of the equipment related to the consumption.
<b>ForcedLot</b>	Specifies if the lot has been forced or not.

Attribute	Description
<b>ForcedPrecision</b>	Specifies if the precision has been forced or not.
<b>ForcedRelease</b>	Specifies if the release has been forced or not.
<b>ForcedWeighing</b>	Specifies if the weighing has been forced or not.
<b>Gross</b>	The value of the gross weight.
<b>ItemDensity</b>	Value of the item density.
<b>ItemPotency</b>	Value of the item potency.
<b>ItemPotency2</b>	Another value of the item potency.
<b>ItemUomId</b>	Identifier of the unit of measure of the item.
<b>KeyboardInput</b>	Specifies if an input has been received using the keyboard.
<b>LabelNumber</b>	Number of the label.
<b>LocationId</b>	Identifier of the corresponding Location entity.
<b>LotDensity</b>	Density of the lot used for consumption.
<b>LotPotency</b>	Potency of the lot used for consumption.
<b>LotPotency2</b>	Another potency of the lot used for consumption.
<b>MaterialLotId</b>	Identifier of the material lot.
<b>NumberOfContainers</b>	Number of the containers used for the consumption.
<b>OperationExecutionConsumptionActionType Id</b>	Type of action (preparation or manufacturing) performed for the consumption.
<b>OperationExecutionConsumptionBalanceTy peld</b>	Type of scale used for the weighing.
<b>OperationExecutionConsumptionBarcodeId</b>	Identifier of the barcode label.

Attribute	Description
<b>OperationExecutionConsumptionCombinationId</b>	Identifier of the combination mode of the consumption.
<b>OperationExecutionConsumptionMaterialLineStatusId</b>	Identifier of the status of the material line after the consumption.
<b>OperationExecutionConsumptionReconciliationCheckId</b>	Identifier of the reconciliation check of the radio frequency.
<b>OperationExecutionConsumptionRFReconciliationCheckId</b>	Identifier of the radio frequency reconciliation check.
<b>OperationExecutionConsumptionWeighingModeId</b>	Identifier of the weighing mode used to weigh the amount of material.
<b>OperationExecutionConsumptionWeighingStatusId</b>	Identifier of the state of the weighing, for example: in progress, ended, etc.
<b>OperationExecutionConsumptionWeighingTypeId</b>	Identifier of the type of weighing, for example OF, MP, etc.
<b>OperationExecutionId</b>	Identifier of the operation execution (work order).
<b>OperationResponseId</b>	Identifier of the operation response (work order operation).
<b>PalletNumber</b>	The number of the pallet.
<b>Potency2UomId</b>	Identifier of the unit of measure of the second potency value.
<b>PotencyUomId</b>	Identifier of the unit of measure of the potency.
<b>PrintedLabel</b>	Specifies if the label has been printed or not.
<b>RadioFrequencyReconciliationCheckDateTime</b>	In case the weigh line is controlled before weighing, this field contains the date and time of the reconciliation check of the radio frequency.
<b>RadioFrequencyReconciliationCheckLaborId</b>	In case the weigh line is controlled before weighing, this field contains the person responsible for the reconciliation check of the radio frequency.

Attribute	Description
<b>RadioFrequencyReconciliationCheckWorkstationId</b>	In case the weigh line is controlled before weighing, this field contains the workstation on which the reconciliation check of the radio frequency was recorded.
<b>ReconciliationCheckDatetime</b>	In case the weigh line is controlled after weighing, this field contains the date and time of the reconciliation check.
<b>ReconciliationCheckLaborId</b>	In case the weigh line is controlled after weighing, this field contains the identifier of person responsible for the reconciliation check.
<b>ReconciliationCheckWorkstationId</b>	In case the weigh line is controlled after weighing, this field contains the the workstation on which the reconciliation check was recorded.
<b>RemainingQuantity</b>	Remaining quantity in the container after the consumption.
<b>SameContainer</b>	Species if the same container has been used or not.
<b>SourceEquipmentId</b>	Identifier of the source equipment.
<b>StartGrossQuantity</b>	Initial gross quantity.
<b>StockUomId</b>	Identifier of the unit of measure of the stock.
<b>TagDensity</b>	Specifies if the density has been tagged or not.
<b>Tare</b>	The tare of the pallet.
<b>TicketNumber</b>	Number of the ticket.
<b>Tolerance</b>	Value of the tolerance.
<b>WducleanDatetime</b>	WDU clean date and time.
<b>WeighingDatetime</b>	End date and time of the weighing.
<b>WeighingGap</b>	Gap applied to the weighing.
<b>WeighingIndex</b>	Index of the weighing.

Attribute	Description
<b>WeighingLaborId</b>	In case of simple weigh line, this field contains the identifier of the person responsible for the weighing.
<b>WeighingStartDatetime</b>	In case of simple weigh line, this field contains the starting date and time of the weighing.
<b>WeighingUomId</b>	In case of simple weigh line, this field contains the unit of measure of the weighing.
<b>WeighingWorkstationId</b>	In case of simple weigh line, this field contains the workstation on which the weighing was recorded.
<b>WorkcenterId</b>	A unique identification of the workcenter.

### 13.5.16 OperationExecutionConsumptionMaterialLineStatus Entity

Status of the material line after the consumption.

#### Attributes

Attribute	Description
<b>OperationExecutionConsumptionMaterialLineStatusKey</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionConsumptionMaterialLineStatusSiteId</b>	A unique identification of this entity.
<b>Description</b>	Contains additional information and descriptions about the status of the material line.
<b>Name</b>	Name of the status of the material line.

### 13.5.17 OperationExecutionConsumptionReconciliationCheck Entity

The reconciliation check of the radio frequency.

#### Attributes

Attribute	Description
<b>OperationExecutionConsumptionReconciliationCheckKey</b>	A unique identification of this entity. It can assume the following values: <ul style="list-style-type: none"><li>• If the weigh line is controlled after weighing = R</li><li>• If the line is a cancelled weigh line = X</li></ul>
<b>OperationExecutionConsumptionReconciliationCheckSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the consumption reconciliation check.
<b>Name</b>	Name of the consumption reconciliation check. It can assume the following values: <ul style="list-style-type: none"><li>• If the weigh line is controlled after weighing = R</li><li>• If the line is a cancelled weigh line = X</li></ul>

### 13.5.18 OperationExecutionConsumptionRFReconciliationCheck Entity

Radio frequency reconciliation check.

#### Attributes

Attribute	Description
<b>OperationExecutionConsumptionRFReconciliationCheckKey</b>	A unique identification of this entity. It can assume the following values: <ul style="list-style-type: none"><li>• If the weigh line is controlled before combination = R</li><li>• If the line is a cancelled weigh line = X</li></ul>
<b>OperationExecutionConsumptionRFReconciliationCheckSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the RF reconciliation check.
<b>Name</b>	Name of the RF reconciliation check.

### 13.5.19 OperationExecutionConsumptionWeighingMode Entity

Weighing mode used to weigh the amount of material.

## Attributes

Attribute	Description
<b>OperationExecutionConsumptionWeighingMode Key</b>	A unique identification of this entity.
<b>OperationExecutionConsumptionWeighingMode SiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the weighing mode.
<b>Name</b>	Name of the weighing mode.

### 13.5.20 OperationExecutionConsumptionWeighingStatus Entity

Describes the state of the weighing, for example: in progress, ended, etc.

## Attributes

Attribute	Description
<b>OperationExecutionConsumptionWeighingStatus Key</b>	A unique identification of this entity.
<b>OperationExecutionConsumptionWeighingStatus SiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the weighing status.
<b>Name</b>	Name of the weighing status.

### 13.5.21 OperationExecutionConsumptionWeighingType Entity

Describes the type of weighing, for example OF, MP, etc.

## Attributes

Attribute	Description
<b>OperationExecutionConsumptionWeighingTypeKey</b>	A unique identification of this entity.
<b>OperationExecutionConsumptionWeighingTypeSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the weighing type.
<b>Name</b>	Name of the weighing type.

### 13.5.22 OperationExecution Entity

The execution of a manufacturing request (work order) shall be presented as an operation execution.

#### Attributes

Attributes	Description
<b>OperationExecutionSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionKey</b>	A unique identification of an operation execution.
<b>Name</b>	Name of the operation execution.
<b>Description</b>	Contains additional notes regarding the operation execution.
<b>OperationExecutionStatusId</b>	Identifier of the operation execution status.
<b>EquipmentId</b>	Identifies where the operation execution fits within the equipment hierarchy.
<b>MaterialDefinitionId</b>	Identifier of the final material of the operation execution.
<b>BillOfMaterialId</b>	Identifier of the bill of material (the collection of all material used in the operation execution).
<b>OperationSchedulingId</b>	Identifier of the associated operation scheduling entity.
<b>PlannedStartTime</b>	The estimated starting date/time of this operation execution.

Attributes	Description
<b>PlannedEndDateTime</b>	The estimated ending date/time of this operation execution.
<b>ProducedQuantity</b>	Specifies the amount of material produced by this operation execution.
<b>ReworkedQuantity</b>	Specifies the amount of material reworked by this operation execution.
<b>ScrapQuantity</b>	Specifies the amount of material scrapped by this operation execution.
<b>UomId</b>	Identifier of the unit of measure for the quantity.
<b>StartTime</b>	The actual starting date/time of this operation execution.
<b>EndTime</b>	The actual ending date/time of this operation execution.
<b>Duration</b>	Actual duration of the operation execution.
<b>PlannedQuantity</b>	Specifies the quantity of material planned for the order execution.
<b>PlannedQuantityUomId</b>	Identifier of the unit of measure for the planned quantity.
<b>WorkflowId</b>	Identifier of the workflow related to the order execution.

### 13.5.23 OperationExecutionHierarchy Entity

An operation execution can be made up of one or more operation executions, therefore defining a hierarchy of operation executions.

#### Attributes

Attribute	Description
<b>OperationExecutionHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionHierarchyKey</b>	A unique identification of the hierarchy element.
<b>ParentOperationExecutionId</b>	Identifier of the parent operation execution.

Attribute	Description
<b>OperationExecutionId</b>	Identifier of the corresponding operation execution.
<b>StartTime</b>	The starting date/time of this operation execution hierarchy element.
<b>EndTime</b>	The ending date/time of this operation execution hierarchy element.

### 13.5.24 OperationExecutionHistory Entity

History of the order statuses, for example: Running, Created, Paused, etc.

#### Attributes

Attribute	Description
<b>OperationExecutionHistorySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionHistoryKey</b>	A unique identification of the Operation Execution History.
<b>OperationExecutionId</b>	Identifier of the operation execution (manufacturing order) associated with the entity.
<b>OperationExecutionStatusId</b>	Identifier of the operation execution (manufacturing order) status.
<b>LaborId</b>	Identifier of the personnel who executed the order.
<b>StartTime</b>	The starting date and time of the order status.
<b>EndTime</b>	The ending date and time of the order status.
<b>Duration</b>	Duration of the status (difference between start and end time).

### 13.5.25 OperationExecutionOperationExecutionClass Entity

Defines the relationship between operation execution and operation execution class entities.

#### Attributes

Attribute	Description
<b>OperationExecutionOperationExecutionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionOperationExecutionClassKey</b>	A unique identification of this relationship entity.
<b>OperationExecutionId</b>	Identifier of the operation execution.
<b>OperationExecutionClassId</b>	Identifier of the operation execution class.

### 13.5.26 OperationExecutionPalletSpecification Entity

Contains information about declarations of production of pallets. This entity is relevant only to SIMATIC IT EBR or Opcenter EX Pharma sources.

#### Attributes

Attribute	Description
<b>OperationExecutionPalletSpecificationSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionPalletSpecificationKey</b>	A unique identification of this operation execution pallet specification.
<b>MaterialDefinitionId</b>	Identifier of the material definition related to the material contained in the pallet.
<b>OperationExecutionId</b>	Identifier of the production/work order.
<b>TareUomId</b>	The tare unit of the pallet.
<b>Identifier</b>	Pallet identifier.
<b>Label</b>	The label associated with the pallet.
<b>LotNumber</b>	The declared lot number.
<b>PalletType</b>	The pallet type.
<b>Quantity</b>	Theoretical quantity in stock unit.

Attribute	Description
<b>Tare</b>	The tare of the pallet.

### 13.5.27 OperationExecutionPropertyDynamicValue Entity

Dynamic value of an operation execution property. Dynamic values permit to manage the history of any change applied to the property.

#### Attributes

Attribute	Description
<b>OperationExecutionPropertyDynamicValueSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionPropertyDynamicValueKey</b>	A unique identification of an operation execution property dynamic value.
<b>OperationExecutionId</b>	Identifier of the operation execution.
<b>OperationExecutionPropertyId</b>	Identifier of the operation execution property.
<b>StartTime</b>	The starting date/time of this operation execution property dynamic value.
<b>EndTime</b>	The ending date/time of this operation execution property dynamic value.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Duration</b>	Duration of the value.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.5.28 OperationExecutionProperty Entity

Properties of operation executions shall be presented as operation execution properties. Each operation execution can have unique values for zero or more operation execution properties.

## Attributes

Attribute	Description
<b>OperationExecutionPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionPropertyKey</b>	A unique identification of this operation execution property.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information about the property.
<b>PropertyTypeId</b>	Type of the property value.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>Multivalue</b>	Specifies if the property can have multiple values.

## 13.5.29 OperationExecutionPropertyStaticValue Entity

Current value of an operation execution property.

## Attributes

Attribute	Description
<b>OperationExecutionPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionPropertyStaticValueKey</b>	A unique identification of an operation execution property static value.
<b>OperationExecutionId</b>	Identifier of the operation execution.
<b>OperationExecutionPropertyId</b>	Identifier of the operation execution property.
<b>StringValue</b>	Value for a property of type String.

## 13.5.30 OperationExecutionStatus Entity

Contains the possible states of an operation execution.

## Attributes

Attribute	Description
<b>OperationExecutionStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationExecutionStatusKey</b>	A unique identification of an operation execution status.
<b>Name</b>	Name of the operation execution status.
<b>Description</b>	Contains additional information about the operation execution status.

## 13.5.31 OperationRequestClass Entity

A representation of a grouping of operation requests with similar characteristics.

## Attributes

Attribute	Description
<b>OperationRequestClassSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationRequestClassKey</b>	A unique identification of the operation request class.
<b>Name</b>	Name of the operation request class.
<b>Description</b>	Contains additional information about the operation request class.

## 13.5.32 OperationRequest Entity

An operations scheduling shall be made up of one or more operation requests. Each operation request shall correspond to, or reference, an identified operation definition.

## Attributes

Attribute	Description
<b>OperationRequestSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationRequestKey</b>	A unique identification of the operation request.

<b>Attribute</b>	<b>Description</b>
<b>Name</b>	Name of the operation request.
<b>Description</b>	Contains additional information about the operation request.
<b>UomId</b>	Unit of measure for the operation request.
<b>OperationDefinitionId</b>	Identifier of the operation definition that corresponds to this operation request.
<b>MaterialDefinitionId</b>	Identifier of the material definition produced by the operation request.
<b>OperationSchedulingId</b>	Identifier of the associated operation scheduling entity.
<b>EquipmentId</b>	Identifier of the equipment to be used for the operation request.
<b>OperationRequestStatusId</b>	Identifier of the state of the operation request.
<b>StartTime</b>	Estimated starting date/time of this operation request.
<b>EndTime</b>	Estimated ending date/time of this operation request.
<b>EstimatedQuantity</b>	The estimated quantity of the material to be produced by the operation request.
<b>Duration</b>	Estimated duration of the operation request.
<b>Sequence</b>	Indicates the sequence number among other operation requests within the same operation schedule.

### 13.5.33 OperationRequestHierarchy Entity

An operation request can be made up of multiple nested operation requests, therefore defining an operation request hierarchy.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>OperationRequestHierarchySiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>OperationRequestHierarchyKey</b>	A unique identification of an operation request hierarchy element.
<b>OperationRequestId</b>	Identifier of the corresponding operation request.
<b>ParentOperationRequestId</b>	Identifier of the parent operation request.
<b>StartTime</b>	The starting date/time of this operation request hierarchy element.
<b>EndTime</b>	The ending date/time of this operation request hierarchy element.

### 13.5.34 OperationRequestOperationRequestClass Entity

Defines the relationship between operation request and operation request class entities.

#### Attributes

Attribute	Description
<b>OperationRequestOperationRequestClassSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationRequestOperationRequestClassKey</b>	A unique identification of this relationship entity.
<b>OperationRequestId</b>	Identifier of the operation request.
<b>OperationRequestClassId</b>	Identifier of the operation request class.

### 13.5.35 OperationRequestProperty Entity

Properties of operation requests shall be presented as operation request properties. Each operation request can have unique values for zero or more operation request properties.

#### Attributes

Attribute	Description
<b>OperationRequestPropertySiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>OperationRequestPropertyKey</b>	A unique identification of the operation request property.
<b>PropertyTypeId</b>	Type of the property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information about the property.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.5.36 OperationRequestPropertyStaticValue Entity

Current value of an operation request property.

#### Attributes

Attribute	Description
<b>OperationRequestPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationRequestPropertyStaticValueKey</b>	A unique identification of an operation request property static value.
<b>OperationRequestId</b>	Identifier of the operation request property.
<b>OperationRequestId</b>	Identifier of the operation request.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.5.37 OperationRequestStatus Entity

Contains the possible states of an operation request.

## Attributes

Attribute	Description
<b>OperationRequestStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationRequestStatusKey</b>	A unique identification of an operation request status.
<b>Name</b>	Name of the operation request status.
<b>Description</b>	Contains additional information about the operation request status.

## 13.6 Entities from OperationResponseCapacityValue to OperationResponseYieldStatus

### 13.6.1 OperationResponseCapacityValue Entity

Contains information about cycle time related to product or workflow step. This entity is relevant only in case CEP or Opcenter EX Core data sources are used.

## Attributes

Attribute	Description
<b>OperationResponseCapacityValueSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseCapacityValueKey</b>	A unique identification of the operation response capacity value.
<b>EventDateTime</b>	Transaction date/time.
<b>OperationResponseCapacityValueStatusId</b>	Identifier of the associated capacity value status.
<b>OperationResponseId</b>	Identifier of the associated operation response.
<b>OperationExecutionId</b>	Identifier of the associated operation execution.
<b>MaterialDefinitionId</b>	Identifier of the associated material definition.

Attribute	Description
<b>Quantity</b>	Quantity related to this cycle time entity.
<b>Cycletime</b>	Cycle time value.

## 13.6.2 OperationResponseCapacityValueStatus Entity

Contains information about cycle time related to product or workflow step. This entity is relevant only in case CEP or Opcenter EX Core data sources are used.

### Attributes

Attribute	Description
<b>OperationResponseCapacityValueStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseCapacityValueStatusKey</b>	A unique identification of the operation response capacity value status.
<b>Name</b>	Name of the operation response capacity value status.
<b>Description</b>	Contains additional information about the operation response capacity value status.

## 13.6.3 OperationResponseClass Entity

A representation of a grouping of operation responses with similar characteristics.

### Attributes

Attribute	Description
<b>OperationResponseClassSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseClassKey</b>	A unique identification of the operation response class.
<b>Name</b>	Name of the operation response class.
<b>Description</b>	Contains additional information about the operation response class.

### 13.6.4 OperationResponse Entity

The executions from manufacturing that are associated with an operation request shall be defined as an operation response. Operation responses are basically the units of work within an operation execution. Operation response typically corresponds to work order operations or work order steps.

#### Attributes

Attribute	Description
<b>OperationResponseSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseKey</b>	A unique identification of the operation response.
<b>Name</b>	Name of the operation response.
<b>Description</b>	Contains additional information about the operation response.
<b>Identifier</b>	String that contains the NId value (Numeric Identifier for Process CPG and Discrete Industry).
<b>Sequence</b>	Indicates the sequence number among other operation requests within the same operation execution.
<b>OperationDefinitionId</b>	Identifier of the operation definition that corresponds to this operation response.
<b>OperationExecutionId</b>	Identifier of the operation execution this operation response belongs to.
<b>OperationResponseStatusId</b>	Identifier of the state of the operation response.
<b>MaterialDefinitionId</b>	Identifier of the material definition produced by the operation response.
<b>EquipmentId</b>	Identifier of the equipment used for the operation response.
<b>OperationRequestId</b>	Identifier of the operation request that corresponds to this operation response.
<b>ProducedQuantity</b>	Specifies the amount of material produced by this operation response.
<b>ReworkedQuantity</b>	Specifies the amount of material reworked by this operation response.
<b>ScrapQuantity</b>	Specifies the amount of material scrapped by this operation response.

Attribute	Description
<b>UomId</b>	Identifier of the unit of measure for the quantity.
<b>StartTime</b>	The actual starting date/time of this operation response.
<b>EndTime</b>	The actual ending date/time of this operation response.
<b>Duration</b>	Actual duration of the operation response.

### 13.6.5 OperationResponseEquipmentRequirement Entity

Specifies the equipment required by the operation response.

#### Attributes

Attribute	Description
<b>OperationResponseEquipmentRequirementSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseEquipmentRequirementKey</b>	A unique identification of the operation response equipment requirement.
<b>EquipmentId</b>	Identifier of the equipment.
<b>OperationResponseId</b>	Identifier of the operation response.
<b>Quantity</b>	The quantity associated with this operation response equipment requirement.

### 13.6.6 OperationResponseEquipmentSpecification Entity

Specifies the equipment used by the operation response.

#### Attributes

Attribute	Description
<b>OperationResponseEquipmentSpecificationSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>OperationResponseEquipmentSpecificationKey</b>	A unique identification of the operation response equipment specification.
<b>OperationResponseId</b>	Identifier of the operation response.
<b>EquipmentId</b>	Identifier of the equipment.
<b>StartTime</b>	The actual starting date/time of this operation response equipment specification.
<b>EndTime</b>	The actual ending date/time of this operation response equipment specification.
<b>Duration</b>	The actual duration of this operation response equipment specification.
<b>Quantity</b>	The actual produced quantity associated with this operation response equipment specification.

### 13.6.7 OperationResponseHierarchy Entity

An operation response can be made up of multiple nested operation responses, therefore defining an operation response hierarchy.

#### Attributes

Attribute	Description
<b>OperationResponseHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseHierarchyKey</b>	A unique identification of an operation response hierarchy element.
<b>OperationResponseId</b>	Identifier of the corresponding operation response.
<b>ParentOperationResponseId</b>	Identifier of the parent operation response.
<b>StartTime</b>	The starting date/time of this operation response hierarchy element.

Attribute	Description
<b>EndDateTime</b>	The ending date/time of this operation response hierarchy element.

### 13.6.8 OperationResponseHistory Entity

History of the statuses of the order operations, for example: Running, Paused, Created, etc.

#### Attributes

Attribute	Description
<b>OperationResponseHistorySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseHistoryKey</b>	A unique identification of the Operation Response History.
<b>OperationResponseId</b>	Identifier of the operation response (work order operation) associated with the entity.
<b>OperationResponseStatusId</b>	Identifier of the operation response (work order operation) status.
<b>LaborId</b>	Identifier of the personnel who executed the work order operation.
<b>StartTime</b>	The starting date and time of the work order operation status.
<b>EndTime</b>	The ending date and time of the work order operation status.
<b>Duration</b>	Duration of the status (difference between start and end time).

### 13.6.9 OperationResponseLaborSpecification Entity

An identification of a personnel used during the execution of a production operation/step.

#### Attributes

Attribute	Description
<b>OperationResponseLaborSpecificationSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>OperationResponseLaborSpecificationKey</b>	A unique identification of an operation response labor specification.
<b>LaborId</b>	Identifier of the personnel (defined as a labor entity).
<b>OperationResponseId</b>	Identifier of the corresponding operation response.
<b>StartTime</b>	The starting date/time of this operation response hierarchy element.
<b>EndTime</b>	The ending date/time of this operation response hierarchy element.
<b>Quantity</b>	Specifies the amount of personnel resources used.
<b>Duration</b>	The actual duration of use of the personnel during the operation.

### 13.6.10 OperationResponseMaterialDefinitionRequirementIn Entity

Specifies the material that is expected to be used by the operation for a specific operation execution.

#### Attributes

Attribute	Description
<b>OperationResponseMaterialDefinitionRequirementInSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseMaterialDefinitionRequirementInKey</b>	A unique identification of an operation response material definition requirement.
<b>MaterialDefinitionId</b>	Identifier of the material definition required by the operation response.
<b>OperationResponseId</b>	Identifier of the corresponding operation response.
<b>UomId</b>	Identifier of the unit of measure for the quantity.
<b>Quantity</b>	Quantity of material that should be consumed as required by the operation response.

### 13.6.11 OperationResponseMaterialLotSpecificationIn Entity

An identification of a material that was consumed during the execution of a production operation/step.

#### Attributes

Attribute	Description
<b>OperationResponseMaterialLotSpecificationInSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseMaterialLotSpecificationInKey</b>	A unique identification of an operation response material lot specification.
<b>OperationResponseId</b>	Identifier of the corresponding operation response.
<b>MaterialLotId</b>	Identifier of the corresponding material lot.
<b>Quantity</b>	Specifies the amount of material consumed by the operation.
<b>StartTime</b>	The starting date/time of this operation response material lot specification.
<b>EndTime</b>	The ending date/time of this operation response material lot specification.
<b>Duration</b>	The duration of this operation response material lot specification.

### 13.6.12 OperationResponseMaterialLotSpecificationOut Entity

An identification of a material that was produced during the execution of a production operation/step.

#### Attributes

Attribute	Description
<b>OperationResponseMaterialLotSpecificationOutSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseMaterialLotSpecificationOutKey</b>	A unique identification of an operation response material lot specification.

Attribute	Description
<b>OperationResponseId</b>	Identifier of the corresponding operation response.
<b>MaterialLotId</b>	Identifier of the corresponding material lot.
<b>Quantity</b>	Specifies the amount of material produced by the operation.
<b>StartTime</b>	The starting date/time of this operation response material lot specification.
<b>EndTime</b>	The ending date/time of this operation response material lot specification.
<b>Duration</b>	The duration of this operation response material lot specification.

### 13.6.13 OperationResponseOperationResponseClass Entity

Defines the relationship between operation response and operation response class entities.

#### Attributes

Attribute	Description
<b>OperationResponseOperationResponseClassSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseOperationResponseClassKey</b>	A unique identification of this relationship entity.
<b>OperationResponseId</b>	Identifier of the operation response.
<b>OperationResponseClassId</b>	Identifier of the operation response class.

### 13.6.14 OperationResponseParameter Entity

Definition of parameters (process instruction tag in SIMATIC IT eBR) used in work order operations/steps, such as electronic work instructions or workflow tasks. This entity is relevant only in case SIMATIC IT eBR is used as data source.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>OperationResponseParameterSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseParameterKey</b>	A unique identification of this operation response parameter.
<b>OperationResponseParameterStatusId</b>	Identifier of the associated parameter status.
<b>Description</b>	Contains additional information about the operation response parameter.
<b>Family</b>	Family of the parameter.
<b>LastVersion</b>	Flag determining if this is the record of the highest version of a parameter.
<b>Name</b>	Name of the operation response parameter.

### 13.6.15 OperationResponseParameterStatus Entity

A possible status of a parameter. This entity is relevant only in case SIMATIC IT eBR is used as data source.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>OperationResponseParameterStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseParameterStatusKey</b>	A unique identification of the operation response parameter status.
<b>Name</b>	Name of the operation response parameter status (created, validated, obsolete).
<b>Description</b>	Contains additional information about the operation response parameter status.

### 13.6.16 OperationResponseParameterValueEbrStatus Entity

Defines all possible eBR status values. This entity is relevant only in case SIMATIC IT eBR is used as a data source.

## Attributes

Attribute	Description
<b>OperationResponseParameterValueEbrStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseParameterValueEbrStatusKey</b>	A unique identification of the operation response parameter value eBR status.
<b>Name</b>	Name of the eBR status, which can assume the following values: <ul style="list-style-type: none"> <li>• Approved</li> <li>• AwaitingAlertProcessing</li> <li>• AwaitingReview</li> <li>• AwaitingValidation</li> <li>• PreparationInProgress</li> <li>• Rejected</li> <li>• ReviewInProgress</li> </ul>
<b>Description</b>	Contains additional information about the operation response parameter value eBR status.

## 13.6.17 OperationResponseParameterValue Entity

A recorded value for an operation/step parameter (a Process Instruction tag in SIMATIC IT eBR). This entity is relevant only in case SIMATIC IT eBR is used as a data source.

## Attributes

Attribute	Description
<b>OperationResponseParameterValueSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseParameterValueKey</b>	A unique identification of the operation response parameter value.
<b>AnomalyOperationRequestId</b>	Process Instruction code and version when an anomaly occurs.
<b>LaborId</b>	User login who was logged during the process.

## Entities from OperationResponseCapacityValue to OperationResponseYieldStatus

Attribute	Description
<b>MaterialDefinitionId</b>	Identifier of the material definition corresponding to the final product code of the work order in which the data was recorded.
<b>OperationExecutionId</b>	Identifier of the production/work order in which the data was recorded.
<b>OperationRequestId</b>	Identifier of the operation request corresponding to the process instruction.
<b>OperationResponseId</b>	Identifier of the operation response corresponding to the task that generated the data.
<b>OperationResponseParameterId</b>	Identifier of the parameter.
<b>OperationResponseParameterValueEbrStatusId</b>	Identifier of the corresponding eBR status.
<b>OperationResponseParameterValueProcessingModelId</b>	Identifier of the corresponding processing mode.
<b>OperationResponseParameterValueStatusId</b>	Identifier of the corresponding process instruction status.
<b>RemarkOperationRequestId</b>	Identifier of the operation request corresponding to the process instruction when a remark occurs.
<b>UomId</b>	Identifier of the unit of measurement for numeric value.
<b>DatetimeValue</b>	Value for a property of type datetime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>ForcedValue</b>	Defines if the value has been forced.
<b>HighLimit</b>	Higher limit of the parameter.
<b>InputDateTime</b>	Date the data was recorded.
<b>LowLimit</b>	Lower limit of the parameter.

Attribute	Description
<b>StringValue</b>	Value for a property of type String.

### 13.6.18 OperationResponseParameterValueProcessingMode Entity

Defines all possible execution modes of a process instruction. This entity is relevant only in case SIMATIC IT eBR is used as a data source.

#### Attributes

Attribute	Description
<b>OperationResponseParameterValueProcessingModeSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseParameterValueProcessingModeKey</b>	A unique identification of the operation response processing mode.
<b>Name</b>	Name of the operation response processing mode (Simulation, Manufacturing, ExecutionTest).
<b>Description</b>	Contains additional information about the operation response processing mode.

### 13.6.19 OperationResponseParameterValueStatus Entity

Identifies all possible process instruction state values. This entity is relevant only in case SIMATIC IT eBR is used as a data source.

#### Attributes

Attribute	Description
<b>OperationResponseParameterValueStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseParameterValueStatusKey</b>	A unique identification of the operation response parameter value status.

Attribute	Description
<b>Name</b>	Name of the process instruction status, which can assume the following values: <ul style="list-style-type: none"> <li>• Accepted</li> <li>• Created</li> <li>• Launched</li> <li>• Obsolete</li> <li>• ToBeQualified</li> </ul>
<b>Description</b>	Contains additional information about the operation response parameter value status.

### 13.6.20 OperationResponsePropertyDynamicValue Entity

Dynamic value of an operation response property. Dynamic values allow you to manage the history of any change applied to the property.

#### Attributes

Attribute	Description
<b>OperationResponsePropertyDynamicValueSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponsePropertyDynamicValueKey</b>	A unique identification of an operation response property dynamic value.
<b>OperationResponseId</b>	Identifier of the operation response.
<b>OperationResponsePropertyId</b>	Identifier of the operation response property.
<b>StartTime</b>	The starting date/time of this operation response property dynamic value.
<b>EndTime</b>	The ending date/time of this operation response property dynamic value.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Duration</b>	Duration of the value.

Attribute	Description
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.6.21 OperationResponseProperty Entity

Properties of operation responses shall be presented as operation response properties. Each operation response can have unique values for zero or more operation response properties.

#### Attributes

Attribute	Description
<b>OperationResponsePropertySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponsePropertyKey</b>	A unique identification of the operation response property.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information about the property.
<b>PropertyTypeId</b>	Type of the property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.6.22 OperationResponsePropertyStaticValue Entity

Current value of an operation response property.

#### Attributes

Attribute	Description
<b>OperationResponsePropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponsePropertyStaticValueKey</b>	A unique identification of an operation response property static value.

Attribute	Description
<b>OperationResponseId</b>	Identifier of the operation response.
<b>OperationResponsePropertyId</b>	Identifier of the operation response property.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>DatetimeValue</b>	Value for a property of type datetime.
<b>Sequence</b>	Value for a multivalue property.

### 13.6.23 OperationResponseScrewingToolHistory Entity

Screwing Tools (for example, Screwdrivers) are specific Tools used during the execution of Work Order Operations of type Screwing (for example, those operations required for installing wheels on the vehicle).

#### Attributes

Attribute	Description
<b>OperationResponseScrewingToolHistorySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseScrewingToolHistoryKey</b>	A unique identification of the entity.
<b>OperationResponseId</b>	Identifier of the operation response associated with the screwing tool.
<b>ToolId</b>	Identifier of the tool definition created for screwing operations.
<b>AngleValue</b>	Value of the angle of the screwing operation that has been executed (Field: Angle).
<b>EventDateTime</b>	Date and time when the operation response was executed (field: Usage date).
<b>IsOk</b>	Flag that indicates that the execution of the screwing operation was successful.

Attribute	Description
<b>ResultValue</b>	The outcome of the operation response (field: Reason).
<b>Sequence</b>	The sequence of steps of the operation response (field: ItemId).
<b>TorqueValue</b>	Value of the torque of the screwing operation that has been executed (field: Torque).

### 13.6.24 OperationResponseStatus Entity

Contains the possible states of an operation request.

#### Attributes

Attribute	Description
<b>OperationResponseStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseStatusKey</b>	A unique identification of a operation response status.
<b>Name</b>	Name of the operation response status.
<b>Description</b>	Contains additional information about the operation response status.

### 13.6.25 OperationResponseToolDefinitionRequirement Entity

Within the context of the product, a Tool Definition is an abstract representation of a specific tool (for example, "drill bit, 5 mm"). A Tool Definition is instantiated multiple times to represent the number of actual Tools used in the plant (for example, "fifty individual 5mm drill bits"). This entity contains the requirements to be satisfied in a tool definition.

#### Attributes

Attribute	Description
<b>OperationResponseToolDefinitionRequirementsSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseToolDefinitionRequirementKey</b>	A unique identification of the tool definition requirement.

Attribute	Description
<b>OperationResponseId</b>	Identifier of the operation response related to the tool definition requirements.
<b>ToolDefinitionId</b>	Identifier of the tool for which the definition requirement has to be satisfied.
<b>AngleValueMax</b>	The maximum value allowed for the angle applied during the screwing operation for the tool to be used.
<b>AngleValueMin</b>	The minimum value allowed for the angle applied during the screwing operation for the tool to be used.
<b>NumberOfBolts</b>	Number of total bolts to be screwed by the actual Screwdriver.
<b>TimesToBeUsed</b>	Number of times the tool is used.
<b>TorqueValueMax</b>	Maximum value of the torque of the screwing operation that has been executed.
<b>TorqueValueMin</b>	Minimum value of the torque of the screwing operation that has been executed.

### 13.6.26 OperationResponseToolSpecification Entity

An identification of a tool used/consumed during the execution of a production operation/step.

#### Attributes

Attribute	Description
<b>OperationResponseToolSpecificationSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseToolSpecificationKey</b>	A unique identification of the operation response tool specification.
<b>ToolId</b>	Identifier of the tool.
<b>OperationResponseId</b>	Identifier of the operation response.

Attribute	Description
<b>StartTime</b>	The starting date/time of this operation response tool specification.
<b>EndTime</b>	The ending date/time of this operation response tool specification.
<b>Quantity</b>	Specifies the amount of tools used/consumed by the operation.
<b>Duration</b>	Specifies the duration.

### 13.6.27 OperationResponseYield Entity

Yield of the operation response.

#### Attributes

Attribute	Description
<b>OperationResponseYieldSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseYieldKey</b>	A unique identification of the operation response yield.
<b>MaterialDefinitionId</b>	Identifier of the material definition.
<b>OperationResponseId</b>	Identifier of the production/work order operation/step.
<b>LaborId</b>	Identifier of the personnel who executed the operation.
<b>OperationResponseYieldStatusId</b>	Identifier of the operation response yield status.
<b>EventDateTime</b>	Operation date/time.
<b>Quantity</b>	Quantity.

### 13.6.28 OperationResponseYieldStatus Entity

Yield of the operation response.

#### Attributes

Attribute	Description
<b>OperationResponseYieldSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationResponseYieldKey</b>	A unique identification of the operation response yield.
<b>MaterialDefinitionId</b>	Identifier of the material definition.
<b>OperationResponseId</b>	Identifier of the production/work order operation/step.
<b>LaborId</b>	Identifier of the personnel who executed the operation.
<b>OperationResponseYieldStatusId</b>	Identifier of the operation response yield status.
<b>EventDateTime</b>	Operation date/time.
<b>Quantity</b>	Quantity.

## 13.7 Entities from OperationSchedulingClass to QualityParameterValue

### 13.7.1 OperationSchedulingClass Entity

A representation of a grouping of operation scheduling with similar characteristics.

#### Attributes

Attribute	Description
<b>OperationSchedulingClassSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationSchedulingClassKey</b>	A unique identification of the operation scheduling class.
<b>Name</b>	Name of the operation scheduling class.
<b>Description</b>	Contains additional information and descriptions of the operation scheduling class.

### 13.7.2 OperationScheduling Entity

A request for operations (work order / production order) to be performed is an operation scheduling. The operations scheduling may apply not only to scheduling of production operation, but also to maintenance, quality test, and inventory operations. Operation scheduling defines production of products and intermediates, as defined by physical segments of operations. In Opcenter Execution Discrete 4.4 or higher this entity represents the ERP order.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>OperationSchedulingSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationSchedulingKey</b>	A unique identification of the operation scheduling.
<b>Name</b>	Name of the operation scheduling.
<b>Description</b>	Contains additional information and descriptions of the operation scheduling.
<b>EquipmentId</b>	Identifies where the operation scheduling fits within the role-based equipment hierarchy.
<b>BillOfMaterialId</b>	Identifier of the bill of material associated with the operation scheduling.
<b>Identifier</b>	String that contains the NId value (Numeric Identifier for Process CPG Industry).
<b>UomId</b>	Name of the unit of measure of the estimated quantity.
<b>MaterialDefinitionId</b>	Identifier of the associated material definition of the material to be produced.
<b>OperationSchedulingStatusId</b>	Identifier of the associated operation scheduling status.
<b>StartTime</b>	Estimated starting time of the operation scheduling.
<b>EndTime</b>	Estimated ending time of the operation scheduling.
<b>EstimatedQuantity</b>	Estimated quantity of material to be produced.
<b>Duration</b>	Estimated duration of the operation scheduling.

Attribute	Description
<b>FinalProductFamilyId</b>	Identifier of the final product family this entity is related to.
<b>FinalProductTypeId</b>	Identifier of the final product type this entity is related to.
<b>MaterialLotId</b>	Identifier of the material lot concerned by the operation scheduling.
<b>CustomerType</b>	Type of customer according to the company classification.
<b>Sequence</b>	Value for a multivalue property.
<b>SerialNumber</b>	Serial code of a specific operation scheduling.

### 13.7.3 OperationSchedulingExtendedProperty Entity

Contains the extended properties of an operation scheduling.

#### Attributes

Attribute	Description
<b>OperationSchedulingExtendedPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationSchedulingExtendedPropertyKey</b>	A unique identification of the Operation Scheduling Extended Property.
<b>ExtendedPropertyTypeId</b>	A unique identification of the type of extended property.
<b>Description</b>	Contains additional information and descriptions on the Operation Scheduling Extended Property.
<b>IsOption</b>	Identifies whether this extended property is optional (value = 1) or not (value = 0).
<b>Name</b>	The name of the Operation Scheduling Extended Property.

### 13.7.4 OperationSchedulingExtendedPropertyStaticValue Entity

Contains the static value of an Operation Scheduling Extended Property.

## Attributes

Attribute	Description
<b>OperationSchedulingExtendedPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationSchedulingExtendedPropertyStaticValueKey</b>	A unique identification of the Operation Scheduling Extended Property Static Value.
<b>OperationSchedulingId</b>	A unique identification of the Operation Scheduling.
<b>OperationSchedulingExtendedPropertyId</b>	A unique identification of the Operation Scheduling Property.
<b>Value</b>	String that represents the value of this property for the specified Operation Scheduling.
<b>ValueDescription</b>	Contains additional information and descriptions on the value of this property for the specified Operation Scheduling.
<b>ValueName</b>	The name of the value of this property for the specified Operation Scheduling.

## 13.7.5 OperationSchedulingHierarchy Entity

An operation scheduling can be made up of multiple nested operation scheduling elements, therefore defining an operation scheduling hierarchy.

## Attributes

Attribute	Description
<b>OperationSchedulingHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationSchedulingHierarchyKey</b>	A unique identification of an operation scheduling hierarchy element.
<b>OperationSchedulingId</b>	Identifier of the corresponding operation scheduling.
<b>ParentOperationSchedulingId</b>	Identifier of the parent operation scheduling.

Attribute	Description
<b>StartTime</b>	The starting date/time of this operation scheduling hierarchy element.
<b>EndTime</b>	The ending date/time of this operation scheduling hierarchy element.

### 13.7.6 OperationSchedulingMaterialDefinition Entity

Specifies the material that is expected to be used by the operation for a specific operation scheduling.

#### Attributes

Attribute	Description
<b>OperationSchedulingMaterialDefinitionSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationSchedulingMaterialDefinitionKey</b>	A unique identification of the operation scheduling material definition.
<b>MaterialDefinitionId</b>	Identifier of the material definition required by the operation scheduling.
<b>OperationSchedulingId</b>	Identifier of the operation scheduling for which the material definition is required.
<b>UomId</b>	Identifier of the unit of measure for the quantity.
<b>Quantity</b>	Quantity of material that should be consumed as required by the operation scheduling.

### 13.7.7 OperationSchedulingOperationSchedulingClass Entity

Defines the relationship between operation scheduling and operation scheduling class entities.

#### Attributes

Attribute	Description
<b>OperationSchedulingOperationSchedulingClassSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>OperationSchedulingOperationSchedulingClassKey</b>	A unique identification of this relationship entity.
<b>OperationSchedulingClassId</b>	Identifier of the operation scheduling class.
<b>OperationSchedulingId</b>	Identifier of the operation scheduling.

### 13.7.8 OperationSchedulingProperty Entity

Properties of operation scheduling shall be presented as operation scheduling properties. Each operation scheduling can have unique values for zero or more operation scheduling properties.

#### Attributes

Attribute	Description
<b>OperationSchedulingPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>OperationSchedulingPropertyKey</b>	A unique identification of the operation scheduling property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>PropertyTypeId</b>	Type of the property.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information and descriptions of the property.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.7.9 OperationSchedulingPropertyStaticValue Entity

Current value of an operation scheduling property.

#### Attributes

Attribute	Description
<b>OperationSchedulingPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>OperationSchedulingPropertyStaticValueKey</b>	A unique identification of an operation scheduling property static value.
<b>OperationSchedulingId</b>	Identifier of the operation scheduling.
<b>OperationSchedulingPropertyId</b>	Identifier of the operation scheduling property.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.7.10 OperationSchedulingStatus Entity

Contains the possible states of an operation scheduling.

#### Attributes

Attribute	Description
<b>OperationSchedulingStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>OperationSchedulingStatusKey</b>	A unique identification of an operation scheduling status.
<b>Name</b>	Name of the operation scheduling status.
<b>Description</b>	Contains additional information and descriptions on the operation scheduling status.

### 13.7.11 Owner Entity

This entity describes an owner.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>OwnerKey</b>	A unique identification of the owner.
<b>OwnerSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the owner.
<b>Name</b>	Name of the owner.

### 13.7.12 Parameter Entity

Parameters that are analyzed in a laboratory for a specific lot material.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>ParameterSiteId</b>	Identifier of the Site this entity is related to.
<b>ParameterKey</b>	A unique identification of a parameter.
<b>Description</b>	Contains additional information and descriptions on the parameter.
<b>Name</b>	Name of the parameter.

### 13.7.13 ParameterGroup Entity

Group of parameters of a specific lot material that are analyzed in a laboratory.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>ParameterGroupSiteId</b>	Identifier of the Site this entity is related to.
<b>ParameterGroupKey</b>	A unique identification of a parameter group.
<b>Description</b>	Contains additional information and descriptions on the parameter group.

Attribute	Description
<b>Name</b>	Name of the parameter group.

### 13.7.14 ParameterResult Entity

Result of the laboratory analysis performed on the parameter of a specific lot material.

#### Attributes

Attribute	Description
<b>ParameterResultSiteId</b>	Identifier of the Site this entity is related to.
<b>ParameterResultKey</b>	A unique identification of a parameter result.
<b>ParameterGroupId</b>	Identifier of the group that includes the parameter.
<b>ParameterId</b>	Identifier of the parameter.
<b>FloatValue</b>	Value of the parameter if it is a numeric value.
<b>StringValue</b>	Value of the parameter if it is a string value.
<b>UomId</b>	Identifier of the UoM for the parameter.
<b>LowerLimit</b>	Lower limit of the parameter value.
<b>UpperLimit</b>	Upper limit of the parameter value.
<b>LowSpec</b>	Lower specification limit.
<b>HighSpec</b>	Highest specification limit.
<b>HighDeviation</b>	Higher deviation limit.
<b>LowDeviation</b>	Lower deviation limit.

Attribute	Description
<b>Reanalysis</b>	Counter that specifies how many times the reanalysis was executed. It can assume the following values: <ul style="list-style-type: none"> <li>• 0 = no reanalysis</li> <li>• 1 = the reanalysis was executed once</li> <li>• 2 = the reanalysis was executed twice</li> <li>• x = the reanalysis was executed x times</li> </ul>
<b>Result</b>	A short string expressing the outcome of the analysis.
<b>Comment</b>	A more detailed explanation on the analysis outcome.
<b>SampleResultId</b>	Identifier of the overall sample result.

### 13.7.15 ProductionProcess Entity

Contains information about the production process. A Production Process is an abstract representation of the sequence of operations and steps involved in producing a specific product.

#### Attributes

Attribute	Description
<b>ProductionProcessSiteId</b>	Identifier of the Site this entity is related to.
<b>ProductionProcessKey</b>	A unique identification of a production process.
<b>Name</b>	Name of the production process.
<b>Description</b>	Contains additional notes regarding the production process.
<b>MaterialDefinitionId</b>	Identifier of the material definition related to the production process.
<b>Quantity</b>	Specifies the amount of material required for the production process.
<b>UomId</b>	Identifier of the unit of measure for the quantity.

### 13.7.16 ProductionProcessOperationDefinition Entity

Contains the relationship between the Production Process and Operation Definition entities.

## Attributes

Attribute	Description
<b>ProductionProcessOperationDefinitionSiteId</b>	Identifier of the Site this entity is related to.
<b>ProductionProcessOperationDefinitionKey</b>	A unique identification of this relationship entity.
<b>OperationDefinitionId</b>	Identifier of the corresponding operation definition entity.
<b>ProductionProcessId</b>	Identifier of the corresponding production process entity.
<b>Quantity</b>	Specifies the amount of operation definition related to the production process.

## 13.7.17 PropertyType Entity

Contains the possible data types of a property value.

## Attributes

Attribute	Description
<b>PropertyTypeKey</b>	A unique identification of a property type ("String" or "Numeric" or "DateTime").
<b>Name</b>	Name of the property type ("String" or "Numeric" or "DateTime").
<b>Description</b>	Contains additional information and descriptions on the property type.

## 13.7.18 QtyAdjustReason Entity

This entity describes the reason why a specific quantity had to be adjusted. Examples of the possible reasons are:

- Out of Spec
- Failed Test
- Dropped
- Scratch
- Leak
- Bent
- Misaligned
- Operator Error
- Failed Component

## Attributes

Attribute	Description
<b>QtyAdjustReasonKey</b>	A unique identification of the reason to adjust the quantity.
<b>QtyAdjustReasonSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the reason to adjust the quantity.
<b>Name</b>	Name of the reason to adjust the quantity.

## 13.7.19 QualityExecutionClass Entity

A representation of a grouping of quality executions with similar characteristics.

## Attributes

Attribute	Description
<b>QualityExecutionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityExecutionClassKey</b>	A unique identification of a quality execution class.
<b>Name</b>	Name of the quality execution class.
<b>Description</b>	Contains additional information about the quality execution class.

## 13.7.20 QualityExecution Entity

The execution of a quality related requests shall be presented as quality executions. Quality execution is used in the analytical model to represent the execution of scheduled quality orders or jobs.

## Attributes

Attribute	Description
<b>QualityExecutionSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityExecutionKey</b>	A unique identification of a quality execution.

Attribute	Description
<b>Name</b>	Name of the quality execution.
<b>Description</b>	Contains additional notes regarding the quality execution.
<b>QualityExecutionStatusId</b>	Identifier of the quality execution status.
<b>EquipmentId</b>	Identifies where the quality execution fits within the equipment hierarchy.
<b>MaterialDefinitionId</b>	Identifier of the material related to the quality execution.
<b>StartTime</b>	The actual starting date/time of this quality execution.
<b>EndTime</b>	The actual ending date/time of this quality execution.
<b>Duration</b>	Actual duration of the quality execution.
<b>OperationExecutionId</b>	Identifier of the production work order related to this quality order.

### 13.7.21 QualityExecutionHierarchy Entity

An operation execution can be made up of one or more operations executions, therefore defining a hierarchy of operation executions.

#### Attributes

Attribute	Description
<b>QualityExecutionHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>QualityExecutionHierarchyKey</b>	A unique identification of the hierarchy element.
<b>ParentQualityExecutionId</b>	Identifier of the parent quality execution.
<b>QualityExecutionId</b>	Identifier of the corresponding quality execution.
<b>StartTime</b>	The starting date/time of this quality execution hierarchy element.

Attribute	Description
<b>EndDateTime</b>	The ending date/time of this quality execution hierarchy element.

### 13.7.22 QualityExecutionPropertyDynamicValue Entity

Dynamic value of a quality execution property. Dynamic values permit to manage the history of any change applied to the property.

#### Attributes

Attribute	Description
<b>QualityExecutionPropertyDynamicValueSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityExecutionPropertyDynamicValueKey</b>	A unique identification of a quality execution property dynamic value.
<b>QualityExecutionId</b>	Identifier of the quality execution.
<b>QualityExecutionPropertyId</b>	Identifier of the quality execution property.
<b>StartTime</b>	The starting date/time of this quality execution property dynamic value.
<b>EndTime</b>	The ending date/time of this quality execution property dynamic value.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Duration</b>	Duration of the value.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.7.23 QualityExecutionProperty Entity

Properties of quality executions shall be presented as quality execution properties. Each quality execution can have unique values for zero or more quality execution properties.

## Attributes

Attribute	Description
<b>QualityExecutionPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>QualityExecutionPropertyKey</b>	A unique identification of this quality execution property.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information about the property.
<b>PropertyTypeId</b>	Type of the property value.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.7.24 QualityExecutionPropertyStaticValue Entity

Current value of a quality execution property.

## Attributes

Attribute	Description
<b>QualityExecutionPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityExecutionPropertyStaticValueKey</b>	A unique identification of a quality execution property static value.
<b>QualityExecutionId</b>	Identifier of the quality execution property.
<b>QualityExecutionPropertyId</b>	Identifier of the quality execution property.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>DatetimeValue</b>	Value for a property of type DateTime.

Attribute	Description
<b>Sequence</b>	Value for a multivalue property.

### 13.7.25 QualityExecutionQualityExecutionClass Entity

Defines the relationship between quality execution and quality execution class entities.

#### Attributes

Attribute	Description
<b>QualityExecutionOQualityExecutionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityExecutionQualityExecutionClassKey</b>	A unique identification of this relationship entity.
<b>QualityExecutionId</b>	Identifier of the quality execution.
<b>QualityExecutionClassId</b>	Identifier of the quality execution class.

### 13.7.26 QualityExecutionStatus Entity

Contains the possible states of an operation execution.

#### Attributes

Attribute	Description
<b>QualityExecutionStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityExecutionStatusKey</b>	A unique identification of a quality execution status.
<b>Name</b>	Name of the quality execution status.
<b>Description</b>	Contains additional information about the quality execution status.

### 13.7.27 QualityFailure Entity

Failures represent potential problems which can occur during the life cycle of a product or process. They can be assigned to Quality Characteristics (Attributive, Variable and Visual).

## Attributes

Attribute	Description
<b>QualityFailureSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityFailureKey</b>	A unique identification of the quality failure.
<b>Name</b>	Name of the quality failure.
<b>Description</b>	Contains additional information and descriptions on the quality failure.

## 13.7.28 QualityGate Entity

Represents an entity used to monitor the equipment.

## Attributes

Attribute	Description
<b>QualityGateSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityGateKey</b>	A unique identification of the quality gate.
<b>Description</b>	Contains additional information and descriptions on the quality gate.
<b>Name</b>	Name of the quality gate.

## 13.7.29 QualityGateEquipmentSpecification Entity

Specifies the equipment declared as quality gate.

## Attributes

Attribute	Description
<b>QualityGateEquipmentSpecificationSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityGateEquipmentSpecificationKey</b>	A unique identification of the quality gate equipment specification.

Attribute	Description
<b>EquipmentId</b>	Identifier of the equipment.
<b>QualityGateId</b>	Identifier of the quality gate.

### 13.7.30 QualityGateMonitoredEquipment Entity

Specifies the equipment monitored by the quality gate.

#### Attributes

Attribute	Description
<b>QualityGateMonitoredEquipmentSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityGateMonitoredEquipmentKey</b>	A unique identification of the monitored equipment.
<b>EquipmentId</b>	Identifier of the equipment that is being monitored.
<b>QualityGateId</b>	Identifier of the quality gate that is monitoring the equipment.

### 13.7.31 QualityLimitClass Entity

A representation of a grouping of specification limits with similar characteristics.

#### Attributes

Attribute	Description
<b>QualityLimitClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityLimitClassKey</b>	A unique identification of this quality limit class.
<b>Name</b>	Name of the quality limit class.
<b>Description</b>	Contains additional information and descriptions on the quality limit class.

### 13.7.32 QualityLimit Entity

Defines the specification limits of a parameter.

#### Attributes

Attribute	Description
<b>QualityLimitSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityLimitKey</b>	A unique identification of these specification limits.
<b>QualityParameterId</b>	Identifier of the parameter these specification limits are associated with.
<b>StartTime</b>	Specifies the effectiveness starting date/time.
<b>EndTime</b>	Specifies the effectiveness ending date/time.
<b>HighLimit</b>	Upper limit of the value.
<b>Target</b>	Value rendered at the shop floor as target value.
<b>LowLimit</b>	Lower limit of the value.

### 13.7.33 QualityLimitQualityLimitClass Entity

This entity defines the relationship between quality limit and quality limit class entities.

#### Attributes

Attribute	Description
<b>QualityLimitQualityLimitClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityLimitQualityLimitClassKey</b>	A unique identification of this relationship entity.
<b>QualityLimitId</b>	Identifier of the quality limit entity.
<b>QualityLimitClassId</b>	Identifier of the quality limit class entity.

### 13.7.34 QualityLimitStatus Entity

Contains the possible states of a quality specification limit.

#### Attributes

Attribute	Description
<b>QualityLimitStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityLimitStatusKey</b>	A unique identification of a quality limit status.
<b>Name</b>	Name of the quality limit status.
<b>Description</b>	Contains additional information and descriptions on the quality limit status.

### 13.7.35 QualityParameter Entity

Production parameters which have a measurable effect on the product's quality attributes.

#### Attributes

Attribute	Description
<b>QualityParameterSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityParameterKey</b>	A unique identification of a quality parameter.
<b>Name</b>	Name of the quality parameter.
<b>Description</b>	Contains additional information and descriptions on the quality parameter.
<b>UomId</b>	Identifier of the parameter value unit of measurement.

### 13.7.36 QualityParameterValue Entity

Value of a quality parameter.

#### Attributes

Attribute	Description
<b>QualityParameterValueSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityParameterValueKey</b>	A unique identification of a quality parameter value.
<b>QualityResponseId</b>	Identifier of the quality operation the parameter is associated with.
<b>QualityParameterId</b>	Identifier of the quality parameter.
<b>QualityFailureId</b>	Identifier of the failure associated with the quality parameter.
<b>MaterialLotId</b>	Identifier of the material lot the parameter is associated with.
<b>LaborId</b>	Identifier of the personnel that measured the quality parameter.
<b>SampleId</b>	Identifier of the sample extracted from the material lot associated with the parameter.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>StringValue</b>	Value for a property of type String.
<b>StartTime</b>	The starting date/time of this quality parameter value.
<b>EndTime</b>	The ending date/time of this quality parameter value.

## 13.8 Entities from QualityRequestClass to QualitySchedulingStatus

### 13.8.1 QualityRequestClass Entity

A representation of a grouping of quality requests with similar characteristics.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>QualityRequestClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityRequestClassKey</b>	A unique identification of the quality request class.
<b>Name</b>	Name of the quality request class.
<b>Description</b>	Contains additional information about the quality request class.

### 13.8.2 QualityRequest Entity

A quality scheduling (i.e. a quality order or job or operation) shall be made up of one or more quality requests (quality tasks). Each quality request shall correspond to, or reference, an identified quality task definition. Quality requests therefore contain information about scheduled quality tasks within a quality order/operation.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>QualityRequestSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityRequestKey</b>	A unique identification of the quality request.
<b>Name</b>	Name of the quality request.
<b>Description</b>	Contains additional information about the quality request.
<b>QualityTaskDefinitionId</b>	Identifier of the quality task definition that corresponds to this quality request.
<b>LaborId</b>	Identifier of the labor (person) associated with the quality request.
<b>QualitySchedulingId</b>	Identifier of the associated quality scheduling entity.
<b>EquipmentId</b>	Identifier of the equipment related to the quality request.
<b>QualityRequestStatusId</b>	Identifier of the state of the quality request.
<b>StartTime</b>	Estimated starting date/time of this quality request.

Attribute	Description
<b>EndDateTime</b>	Estimated ending date/time of this quality request.
<b>Duration</b>	Estimated duration of the quality request.

### 13.8.3 QualityRequestHierarchy Entity

A quality request can be made up of multiple nested quality requests, therefore defining a quality request hierarchy.

#### Attributes

Attribute	Description
<b>QualityRequestHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>QualityRequestHierarchyKey</b>	A unique identification of an quality request hierarchy element.
<b>QualityRequestId</b>	Identifier of the corresponding quality request.
<b>ParentQualityRequestId</b>	Identifier of the parent quality request.
<b>StartTime</b>	The starting date/time of this quality request hierarchy element.
<b>EndTime</b>	The ending date/time of this quality request hierarchy element.

### 13.8.4 QualityRequestProperty Entity

Properties of quality requests shall be presented as quality request properties. Each quality request can have unique values for zero or more quality request properties.

#### Attributes

Attribute	Description
<b>QualityRequestPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>QualityRequestPropertyKey</b>	A unique identification of the quality request property.

Attribute	Description
<b>PropertyTypeId</b>	Type of the property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information about the property.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.8.5 QualityRequestPropertyStaticValue Entity

Current value of a quality request property.

#### Attributes

Attribute	Description
<b>QualityRequestPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityRequestPropertyStaticValueKey</b>	A unique identification of a quality request property static value.
<b>QualityRequestPropertyId</b>	Identifier of the quality request property.
<b>QualityRequestId</b>	Identifier of the quality request.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.8.6 QualityRequestQualityRequestClass Entity

This entity defines the relationship between quality request and quality request class entities.

## Attributes

Attribute	Description
<b>QualityRequestQualityRequestClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityRequestQualityRequestClassKey</b>	A unique identification of this relationship entity.
<b>QualityRequestId</b>	Identifier of the quality request.
<b>QualityRequestClassId</b>	Identifier of the quality request class.

## 13.8.7 QualityRequestStatus Entity

Contains the possible states of a quality request.

## Attributes

Attribute	Description
<b>QualityRequestStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityRequestStatusKey</b>	A unique identification of a quality request status.
<b>Name</b>	Name of the quality request status.
<b>Description</b>	Contains additional information about the quality request status.

## 13.8.8 QualityResponseClass Entity

A representation of a grouping of quality responses with similar characteristics.

## Attributes

Attribute	Description
<b>QualityResponseClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityResponseClassKey</b>	A unique identification of this quality response class.
<b>Name</b>	Name of the quality response class.

Attribute	Description
<b>Description</b>	Contains additional information and descriptions on the quality response class.

### 13.8.9 QualityResponse Entity

An operation/task during which one or more quality parameters are collected (e.g. a work instruction, a quality test operation, quality task etc.)

#### Attributes

Attribute	Description
<b>QualityResponseSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityResponseKey</b>	A unique identification of a quality response.
<b>Name</b>	Name of the quality response.
<b>Description</b>	Contains additional information and descriptions on the quality response.
<b>LaborId</b>	Identifier of the personnel who executed the quality operation/task.
<b>QualityResponseStatusId</b>	Identifier of the quality response state.
<b>EquipmentId</b>	Identifies where the quality operation/task fits within the role-based equipment hierarchy.
<b>QualityTaskDefinitionId</b>	Identifier of the associated quality task definition.
<b>QualityExecutionId</b>	Identifier of the associated quality execution.
<b>OperationResponseId</b>	Identifier of the operation response (production step) this quality operation/task is associated with.
<b>StartTime</b>	The starting date/time of this quality response.
<b>EndTime</b>	The ending date/time of this quality response.

Attribute	Description
<b>Duration</b>	The duration of this quality response.

### 13.8.10 QualityResponseHierarchy Entity

A quality response can be made up of multiple nested quality responses therefore defining a quality response hierarchy.

#### Attributes

Attribute	Description
<b>QualityResponseHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>QualityResponseHierarchyKey</b>	A unique identification of a quality response hierarchy element.
<b>ParentQualityResponseId</b>	Identifier of the corresponding quality response.
<b>QualityResponseId</b>	Identifier of the parent quality response.
<b>StartTime</b>	The starting date/time of this quality response hierarchy element.
<b>EndTime</b>	The ending date/time of this quality response hierarchy element.

### 13.8.11 QualityResponsePropertyDynamicValue Entity

Dynamic value of a quality response property. Dynamic values permit to manage the history of any change applied to the property.

#### Attributes

Attribute	Description
<b>QualityResponsePropertyDynamicValueSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityResponsePropertyDynamicValueKey</b>	A unique identification of a quality response property dynamic value.

Attribute	Description
<b>QualityResponseId</b>	Identifier of the quality response.
<b>QualityResponsePropertyId</b>	Identifier of the quality response property.
<b>StartTime</b>	The starting date/time of this quality response property dynamic value.
<b>EndTime</b>	The ending date/time of this quality response property dynamic value.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Duration</b>	Duration of the value.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.8.12 QualityResponseProperty Entity

Properties of quality responses shall be presented as quality response properties. Each quality response can have unique values for zero or more quality response properties.

#### Attributes

Attribute	Description
<b>QualityResponsePropertySiteId</b>	Identifier of the Site this entity is related to.
<b>QualityResponsePropertyKey</b>	A unique identification of the quality response property.
<b>Name</b>	Name of the property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>PropertyTypeId</b>	Type of the property.

### 13.8.13 QualityResponsePropertyStaticValue Entity

Current value of a quality response property.

#### Attributes

Attribute	Description
<b>QualityResponsePropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityResponsePropertyStaticValueKey</b>	A unique identification of a quality response property static value.
<b>QualityResponseId</b>	Identifier of the quality response.
<b>QualityResponsePropertyId</b>	Identifier of the quality response property.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>StringValue</b>	Value for a property of type String.
<b>Sequence</b>	Value for a multivalue property.

### 13.8.14 QualityResponseQualityResponseClass Entity

This entity defines the relationship between quality response and quality response class entities.

#### Attributes

Attribute	Description
<b>QualityResponseQualityResponseClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityResponseQualityResponseClassKey</b>	A unique identification of this relationship entity.
<b>QualityResponseId</b>	Identifier of the quality response entity.
<b>QualityResponseClassId</b>	Identifier of the quality response class entity.

### 13.8.15 QualityResponseStatus Entity

Contains the possible states of a quality response.

#### Attributes

Attribute	Description
<b>QualityResponseStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityResponseStatusKey</b>	A unique identification of a quality response status.
<b>Name</b>	Name of the quality response status.
<b>Description</b>	Contains additional information and descriptions on the quality response status.

### 13.8.16 QualitySchedulingClass Entity

A representation of a grouping of quality scheduling with similar characteristics.

#### Attributes

Attribute	Description
<b>QualitySchedulingClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualitySchedulingClassKey</b>	A unique identification of the quality scheduling class.
<b>Name</b>	Name of the quality scheduling class.
<b>Description</b>	Contains additional information and descriptions of the quality scheduling class.

### 13.8.17 QualityScheduling Entity

A request for quality operations (quality-related work order / quality job) to be performed is a quality scheduling. Quality scheduling defines scheduling of quality operations and tasks.

#### Attributes

Attribute	Description
<b>QualitySchedulingSiteId</b>	Identifier of the Site this entity is related to.
<b>QualitySchedulingKey</b>	A unique identification of the quality scheduling.
<b>Name</b>	Name of the quality scheduling.
<b>Description</b>	Contains additional information and descriptions of the quality scheduling.
<b>EquipmentId</b>	Identifies where the quality scheduling fits within the role based equipment hierarchy.
<b>MaterialDefinitionId</b>	Identifier of the associated material definition.
<b>QualitySchedulingStatusId</b>	Identifier of the associated quality scheduling status.
<b>StartTime</b>	Estimated starting time of the quality scheduling.
<b>EndTime</b>	Estimated ending time of the quality scheduling.
<b>Duration</b>	Estimated duration of the quality scheduling.

### 13.8.18 QualitySchedulingHierarchy Entity

A quality scheduling can be made up of multiple nested quality scheduling element, therefore defining a quality scheduling hierarchy.

#### Attributes

Attribute	Description
<b>QualitySchedulingHierarchySiteId</b>	Identifier of the Site this entity is related to.
<b>QualitySchedulingHierarchyKey</b>	A unique identification of a quality scheduling hierarchy element.
<b>QualitySchedulingId</b>	Identifier of the corresponding quality scheduling.
<b>QualityOperationSchedulingId</b>	Identifier of the parent quality scheduling.

Attribute	Description
<b>StartTime</b>	The starting date/time of this quality scheduling hierarchy element.
<b>EndTime</b>	The ending date/time of this quality scheduling hierarchy element.

### 13.8.19 QualitySchedulingProperty Entity

Properties of quality scheduling shall be presented as quality scheduling properties. Each quality scheduling can have unique values for zero or more quality scheduling properties.

#### Attributes

Attribute	Description
<b>QualitySchedulingPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>QualitySchedulingPropertyKey</b>	A unique identification of the quality scheduling property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>PropertyTypeId</b>	Type of the property.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information and descriptions of the property.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.8.20 QualitySchedulingPropertyStaticValue Entity

Current value of a quality scheduling property.

#### Attributes

Attribute	Description
<b>QualitySchedulingPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>QualitySchedulingPropertyStaticValueKey</b>	A unique identification of a quality scheduling property static value.
<b>QualitySchedulingId</b>	Identifier of the quality scheduling.
<b>QualitySchedulingPropertyId</b>	Identifier of the quality scheduling property.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>Sequence</b>	Value for a multivalue property.
<b>StringValue</b>	Value for a property of type String.

### 13.8.21 QualitySchedulingQualitySchedulingClass Entity

Defines the relationship between quality scheduling and quality scheduling class entities.

#### Attributes

Attribute	Description
<b>QualitySchedulingQualitySchedulingClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualitySchedulingQualitySchedulingClassKey</b>	A unique identification of this relationship entity.
<b>QualitySchedulingClassId</b>	Identifier of the quality scheduling.
<b>QualitySchedulingId</b>	Identifier of the quality scheduling class.

### 13.8.22 QualitySchedulingStatus Entity

Contains the possible states of a quality scheduling.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>QualitySchedulingStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>QualitySchedulingStatusKey</b>	A unique identification of a quality scheduling status.
<b>Name</b>	Name of the quality scheduling status.
<b>Description</b>	Contains additional information and descriptions of the quality scheduling status.

## 13.9 Entities from QualityTaskDefinitionClass to Workstation

### 13.9.1 QualityTaskDefinitionClass Entity

A representation of a grouping of quality operation/tasks with similar characteristics.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>QualityTaskDefinitionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityTaskDefinitionClassKey</b>	A unique identification of a quality task definition class.
<b>Name</b>	Name of the quality task definition class.
<b>Description</b>	Contains additional information and descriptions on the quality task definition class.

### 13.9.2 QualityTaskDefinition Entity

A definition of a quality-relevant operation/task.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>QualityTaskDefinitionSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityTaskDefinitionKey</b>	A unique identification of a quality task definition.

<b>Attribute</b>	<b>Description</b>
<b>Name</b>	Name of the quality task.
<b>Description</b>	Contains additional information and descriptions on the quality task definition.

### 13.9.3 QualityTaskDefinitionProperty Entity

Properties of quality responses shall be presented as quality task definition properties. Each quality task definition can have unique values for zero or more quality task definition properties.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>QualityTaskDefinitionPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>QualityTaskDefinitionPropertyKey</b>	A unique identification of the quality task definition property.
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information and descriptions on the property.
<b>PropertyTypeId</b>	Type of the property.
<b>UomId</b>	Identifier of the unit of measure for the property value.

### 13.9.4 QualityTaskDefinitionPropertyStaticValue Entity

Current value of a quality task definition property.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>QualityTaskDefinitionPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityTaskDefinitionPropertyStaticValueKey</b>	A unique identification of a quality task definition property static value.

Attribute	Description
<b>QualityTaskDefinitionId</b>	Identifier of the quality task definition.
<b>QualityTaskDefinitionPropertyId</b>	Identifier of the quality task definition property.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>Sequence</b>	Value for a multivalue property.

### 13.9.5 QualityTaskDefinitionQualityTaskDefinitionClass Entity

This entity defines the relationship between quality task definition and quality task definition class entities.

#### Attributes

Attribute	Description
<b>QualityTaskDefinitionQualityTaskDefinitionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>QualityTaskDefinitionQualityTaskDefinitionClassKey</b>	A unique identification of this relationship entity.
<b>QualityTaskDefinitionId</b>	Identifier of the quality task definition entity.
<b>QualityTaskDefinitionClassId</b>	Identifier of the quality task definition class entity.

### 13.9.6 Reason Entity

Defines one of the possible reasons for an asset state cause (as defined in a reason tree).

#### Attributes

Attribute	Description
<b>ReasonSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>ReasonKey</b>	A unique identification of the Reason.
<b>Name</b>	Name of the reason.
<b>Description</b>	Contains additional information about the reason.
<b>Color</b>	Color to be used to represent this reason.
<b>IsStop</b>	Specifies if the reason is corresponding to an asset stop state (downtime).

### 13.9.7 ReasonTree Entity

Defines a reason tree, which defines the hierarchy of all possible asset states, causes, reasons and detailed reasons.

#### Attributes

Attribute	Description
<b>ReasonTreeSiteId</b>	Identifier of the Site this entity is related to.
<b>ReasonTreeId</b>	A unique identification of the reason tree.
<b>Name</b>	Name of the reason tree.
<b>Description</b>	Contains additional information about the reason tree.

### 13.9.8 ReasonTreeItem Entity

Defines one element of a reason tree item.

#### Attributes

Attribute	Description
<b>ReasonTreeItemSiteId</b>	Identifier of the Site this entity is related to.
<b>ReasonTreeItemId</b>	A unique identification of the reason tree item.

Attribute	Description
<b>EquipmentTimeCategoryID</b>	Identifier of the associated time category.
<b>ReasonTreeId</b>	Identifier of the reason tree this item belongs to.
<b>StatusId</b>	Identifier of the associated status.
<b>CauseId</b>	Identifier of the associated cause.
<b>ReasonId</b>	Identifier of the associated reason.
<b>DetailedReasonId</b>	Identifier of the associated detailed reason.

### 13.9.9 Recipe Entity

A recipe usually defines the resource settings, such as the timing and temperature of a machine, for use in manufacturing. Once defined, the recipe is typically, but not always, performed by the resource itself.

#### Attributes

Attribute	Description
<b>RecipeSiteId</b>	Identifier of the Site this entity is related to.
<b>RecipeKey</b>	A unique identification of the recipe.
<b>Name</b>	Name of the recipe.
<b>Description</b>	Contains additional information and descriptions about the recipe.

### 13.9.10 ReferenceDesignator Entity

Identifies the location of a component within a printed circuit board.

#### Attributes

Attribute	Description
<b>ReferenceDesignatorSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>ReferenceDesignatorKey</b>	A unique identification of the reference designator.
<b>Name</b>	Name of the reference designator.
<b>Description</b>	Contains additional information and descriptions about the reference designator.

### 13.9.11 Result Entity

Outcome of the execution of a specific work order operation or work order step, that is if it was completed successfully and the Material Tracking Unit was produced correctly.

#### Attributes

Attribute	Description
<b>ResultSiteId</b>	Identifier of the Site this entity is related to.
<b>ResultKey</b>	A unique identification of the result.
<b>EquipmentId</b>	The machine for which the result was issued.
<b>MaterialLotId</b>	Identifier of the material lot for which the result was issued.
<b>OperationResponseId</b>	Identifier of the operation response (work order operation/step) for which the result was issued.
<b>ResultStrategyId</b>	Identifier of the result strategy to be adopted.
<b>Activity</b>	Type of specification (for example Tool, Material, Quality Inspection, or Work Instruction) for which the result was set.
<b>IsKO</b>	Flag that indicates that the execution of the Work Order Operation or Work Order Step was not completed successfully and the Material Tracking Unit was not produced correctly.

Attribute	Description
<b>Value</b>	<p>The outcome of the Work Order Operation or Work Order Step and of the production of the corresponding Material Tracking Unit.</p> <p>For example, it can assume the following values but you can add custom values according to your requirements.</p> <ul style="list-style-type: none"> <li>• <b>OK</b></li> <li>• <b>NOK</b></li> <li>• <b>Not Executed</b></li> </ul>

### 13.9.12 ResultHistory Entity

The log of the result.

#### Attributes

Attribute	Description
<b>ResultHistorySiteId</b>	Identifier of the Site this entity is related to.
<b>ResultHistoryKey</b>	A unique identification of the result history.
<b>EquipmentId</b>	The machine for which the result was issued.
<b>LaborId</b>	Identifier of the employee responsible for issuing the result.
<b>MaterialLotId</b>	Identifier of the material lot for which the result was issued.
<b>OperationResponseId</b>	Identifier of the operation response (work order operation/step) for which the result was issued.
<b>ResultId</b>	Identifier of the result.
<b>ResultStrategyId</b>	Identifier of the result strategy to be adopted.
<b>Activity</b>	Type of specification (for example Tool, Material, Quality Inspection, or Work Instruction) for which the result was set.
<b>EventDateTime</b>	Date and time when the Result was issued.

Attribute	Description
<b>IsKO</b>	Flag that indicates that the execution of the Work Order Operation or Work Order Step was not completed successfully and the Material Tracking Unit was not produced correctly.
<b>IsPartial</b>	Flag that indicates that the execution of the Work Order Operation or Work Order Step was partially completed.
<b>Value</b>	The outcome of the Work Order Operation or Work Order Step and of the production of the corresponding Material Tracking Unit. For example, it can assume the following values but you can add custom values according to your requirements. <ul style="list-style-type: none"> <li>• <b>OK</b></li> <li>• <b>NOK</b></li> <li>• <b>Not Executed</b></li> </ul>

### 13.9.13 ResultHistoryTraceabilityDetail Entity

Opcenter Execution Discrete provides the possibility of configuring Barcode Rules to validate a Barcode string. When the MTU enters the Equipment to which Traceability Operations are linked, if the Operator inserts a Barcode, the system automatically compares the received Barcode with the configured Barcode Rule and behaves accordingly.

#### Attributes

Attribute	Description
<b>ResultHistoryTraceabilityDetailSiteId</b>	Identifier of the Site related to this entity.
<b>ResultHistoryTraceabilityDetailKey</b>	Unique identifier of the entity.
<b>ResultHistoryId</b>	Identifier of the result history.
<b>Barcode</b>	Barcode string.

### 13.9.14 ResultStrategy Entity

Corrective actions to be adopted when a Result is declared on a Work Order Operation and Batch/Serial Number. Depending on the specific production process, it can be defined when the Result declaration is issued or later. For example, to recover a NOK result the Work Order Operation on Batch/Serial Numbers with a negative result might need to be repeated. The Repeat action is also the strategy/corrective action released as OOTB.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>ResultStrategySiteId</b>	Identifier of the Site this entity is related to.
<b>ResultStrategyKey</b>	A unique identification of the result strategy.
<b>Description</b>	Contains additional information and descriptions on the result strategy.
<b>Name</b>	Name of the result strategy.

### 13.9.15 ReworkReason Entity

This entity describes the reason why a rework was to be performed. Examples of the possible reasons are:

- Replace Component
- Missing Label
- Retest
- Failed Test
- Repair

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>ReworkReasonKey</b>	A unique identification of the Rework Reason.
<b>ReworkReasonSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the Rework Reason.
<b>Name</b>	Name of the Rework Reason.

### 13.9.16 Sample Entity

Material sample extracted from a material lot in order to be analyzed in a laboratory.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>SampleSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>SampleKey</b>	A unique identification of a sample.
<b>SampleType</b>	Type of sample to perform a Quality Control procedure.
<b>Name</b>	Name of the sample.
<b>Description</b>	Contains additional information and descriptions on the sample.
<b>Quantity</b>	Amount of sample to be analyzed in a laboratory.
<b>UomId</b>	Identifier of the UoM to express the amount of sample.
<b>MaterialDefinitionId</b>	Identifier of the sample material associated with the Material Tracking Unit (MTU).
<b>SourceMaterialLotId</b>	Identifier of the source Material Tracking Unit (MTU) from which the sample is to be created.
<b>MaterialLotId</b>	Identifier of the Material Lot associated with the Material Tracking Unit (MTU) from which the sample is to be created.
<b>EquipmentId</b>	Identifier of the Equipment associated with the Work Order related to the sample.
<b>LaborId</b>	Identifier of the personnel that executes the sample analysis.
<b>OperationExecutionId</b>	Identifier of the Work Order associated with the creation of the Sample.
<b>OperationResponseId</b>	Identifier of the Work Order operations executed on the sample.
<b>TaskOperationResponseId</b>	Identifier of the sample operation response (Task).
<b>WorkProcessOperationResponseId</b>	Identifier of the operations that make up the Sampling Work Process.

### 13.9.17 SampleResult Entity

Overall result of the laboratory analysis for a specific sample.

## Attributes

Attributes	Description
<b>SampleResultSiteId</b>	Identifier of the Site this entity is related to.
<b>SampleResultKey</b>	A unique identification of the sample result.
<b>SampleId</b>	Identifier of the sample.
<b>Result</b>	String that specifies the Overall result for the sample.
<b>ExecutionEndDateTime</b>	End date and time of the laboratory analysis for the sample.
<b>Reanalysis</b>	Counter that specifies how many times the reanalysis was executed. It can assume the following values: <ul style="list-style-type: none"> <li>• 0 = no reanalysis</li> <li>• 1 = the reanalysis was executed once</li> <li>• 2 = the reanalysis was executed twice</li> <li>• x = the reanalysis was executed x times</li> </ul>

### 13.9.18 SampleResultParameterGroup Entity

Defines the relationship between sample result and parameter group entities.

## Attributes

Attributes	Description
<b>SampleResultParameterGroupSiteId</b>	Identifier of the Site this entity is related to.
<b>SampleResultParameterGroupKey</b>	A unique identification of a Sample Result Parameter Group.
<b>SampleResultId</b>	Identifier of the Sample Result.
<b>ParameterGroupId</b>	Identifier of the Parameter Group.
<b>Result</b>	A short string expressing the outcome of the analysis executed on a parameter group.
<b>Comment</b>	A more detailed explanation on the outcome of the analysis executed on a parameter group.

Attributes	Description
<b>Reanalysis</b>	Counter that specifies how many times the reanalysis was executed. It can assume the following values: <ul style="list-style-type: none"> <li>• 0 = no reanalysis</li> <li>• 1 = the reanalysis was executed once</li> <li>• 2 = the reanalysis was executed twice</li> <li>• x = the reanalysis was executed x times</li> </ul>

### 13.9.19 Shift Entity

Contains information about a specific working shift, as defined in a work shift calendar. This entity is relevant only in case SIMATIC IT LMS or SIMATIC IT Reporting Framework are used as data sources.

#### Attributes

Attribute	Description
<b>ShiftSiteId</b>	Identifier of the Site this entity is related to.
<b>ShiftKey</b>	A unique identification of the shift.
<b>Name</b>	The name or identifier of the shift.
<b>Description</b>	Contains additional information and descriptions of the shift.
<b>StartTime</b>	Starting date/time of the shift.
<b>EndTime</b>	End date/time of the shift.

### 13.9.20 SignatureMeaning Entity

An Electronic Signature (ESig) Meaning represents the purpose and accountability of a signature. It enables you to establish what process is being verified when an electronic signature is applied.

#### Attributes

Attribute	Description
<b>SignatureMeaningSiteId</b>	Identifier of the Site this entity is related to.
<b>SignatureMeaningKey</b>	A unique identification of the Electronic Signature Meaning.

<b>Attribute</b>	<b>Description</b>
<b>Description</b>	Contains additional information about the Electronic Signature Meaning.
<b>Name</b>	Name of the Electronic Signature Meaning.

### 13.9.21 Site Entity

A site is a physical, geographical, or logical grouping determined by the enterprise. It may contain areas, production lines, process cells, and production units. A geographical location and main production capability usually identifies a site. Sites generally have well-defined manufacturing capabilities.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>SiteId</b>	A unique identification of the site.
<b>TimeZonId</b>	Identifier of the site time zone.
<b>Name</b>	Name of the site.
<b>Description</b>	Contains additional information and descriptions of the site.
<b>Longitude</b>	Longitude of the site geospatial location.
<b>Latitude</b>	Latitude of the site geospatial location.

### 13.9.22 SkillCertification Entity

Skills are linked to Certifications: by creating Certifications that include one or more specific Skills, it is possible to allow or deny the execution of specific Process Operations, Work Order Operations and/or Work Order Steps.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>SkillCertificationSiteId</b>	Identifier of the Site this entity is related to.
<b>SkillCertificationKey</b>	A unique identification of the entity.

Attribute	Description
<b>CertificationId</b>	Identifier of the Certification(s) linked to the Skill.
<b>SkillId</b>	Identifier of the Skills included in the Certification.

### 13.9.23 Skill Entity

A Skill represents a specific requirement that can be associated with Process Operations, Work Order Operations, Process Steps and/or Work Order Steps, to permit a more granular control on their execution. Skills are linked to Certifications: by creating Certifications that include one or more specific Skills, it is possible to allow or deny the execution of specific Process Operations, Work Order Operations and/or Work Order Steps.

#### Attributes

Attribute	Description
<b>SkillSiteId</b>	Identifier of the Site this entity is related to.
<b>SkillKey</b>	A unique identification of the entity.
<b>Description</b>	Contains additional information about the skill.
<b>Name</b>	Name of the skill.

### 13.9.24 Spec Entity

This entity describes a Spec (specification), which defines the activities carried out at a step in a workflow or master recipe and includes detailed scheduling and processing parameter information. Specs reference many other modeling components including Operation, Setup, Data Collection Definition, and Resource.

#### Attributes

Attribute	Description
<b>SpecKey</b>	A unique identification of the Spec.
<b>SpecSiteId</b>	Identifier of the Site this entity is related to.
<b>Revision</b>	Identifies the revision of the entity.
<b>Description</b>	Contains additional information and descriptions about the Spec.

Attribute	Description
<b>Name</b>	Name of the Spec.

### 13.9.25 Status Entity

Defines one of the possible states of an asset (as defined in a reason tree).

#### Attributes

Attribute	Description
<b>StateSiteId</b>	Identifier of the Site this entity is related to.
<b>StateKey</b>	A unique identification of the state.
<b>Name</b>	Name of the state.
<b>Description</b>	Contains additional information and descriptions of the state.
<b>Color</b>	Color to be used to represent the state.
<b>IsStop</b>	Defines if the state is corresponding to an asset stop (downtime).

### 13.9.26 SummaryTableCompletedWIPSummary Entity

The isCompletedWIPSummary table is a persistent table that stores the final information for all containers that have completed processing.

This table is populated when a container is moved to a step where IsLastStep = true.

This summary will also flag the containers that were completed on time. This table can be used to calculate workflow cycle times, throughput, yield, and on-time delivery.

#### Attributes

Attribute	Description
<b>SummaryTableCompletedWIPSummaryKey</b>	A unique identification of the entity.
<b>SummaryTableCompletedWIPSummarySiteId</b>	Identifier of the Site this entity is related to.
<b>CalendarDate</b>	Date on which the shift is working.

Attribute	Description
<b>CompletedDate</b>	Datetime when the container is completed.
<b>CompletedDateGMT</b>	Datetime when the container is completed expressed in Greenwich Mean Time.
<b>ContainerId</b>	Identifier of the container associated with the entity.
<b>EndQty</b>	Container quantity when the container was moved to the step <b>isLastStep</b> .
<b>FactoryId</b>	Identifier of the factory associated with the entity.
<b>FactoryStartDate</b>	Start datetime of the manufacturing process.
<b>FactoryStartDateGMT</b>	Start datetime of the manufacturing process expressed in Greenwich Mean Time.
<b>LaborId</b>	Identifier of the labor (employee) associated with the entity.
<b>ManufacturingCycleTime</b>	The difference expressed in seconds between <b>CompletedDate</b> and <b>FactoryStartDate</b> .
<b>MaterialDefinitionId</b>	Identifier of the material definition (product) associated with the entity.
<b>MfgOrderPlannedQty</b>	The quantity planned for the manufacturing order.
<b>MfgOrderPlannedQtyUomId</b>	The unit of measure of the quantity planned for the manufacturing order.
<b>OperationExecutionId</b>	Identifier of the operation execution (manufacturing order) associated with the entity.
<b>OperationId</b>	Identifier of the operation associated with the entity.
<b>OwnerId</b>	Identifier of the owner associated with the entity.
<b>PastDue</b>	It can assume the value 0 or 1. <ul style="list-style-type: none"> <li>• 1 means that the container was completed late.</li> <li>• 0 means it was completed on time.</li> </ul>

Attribute	Description
<b>PlannedCompletionDate</b>	Datetime when the completion of the container is planned.
<b>PlannedCompletionDateGMT</b>	Datetime when the completion of the container is planned expressed in Greenwich Mean Time.
<b>PlannedQty</b>	The quantity planned for the container.
<b>PlannedQtyUomId</b>	The unit of measure of the quantity planned for the container.
<b>SecondaryEndQty</b>	Container secondary quantity when the container was moved to the step isLastStep.
<b>SecondaryStartQty</b>	Secondary quantity with which the container started.
<b>SecondaryUomId</b>	Identifier of the secondary Uom associated with the entity.
<b>ShiftId</b>	Identifier of the shift associated with the entity.
<b>SpecId</b>	Identifier of the Spec associated with the entity.
<b>StartQty</b>	Quantity with which the container started.
<b>TimePassedCompletionDate</b>	Time in days the container was passed its MfgOrder completion date. <ul style="list-style-type: none"> <li>Positive value means it was past due.</li> <li>Negative number means it finished early.</li> </ul>
<b>TxnTypeId</b>	Identifier of the TxnType associated with the entity.
<b>UomId</b>	Identifier of the Uom associated with the entity.
<b>WorkflowId</b>	Identifier of the workflow associated with the entity.
<b>WorkflowStepId</b>	Identifier of the workflow step associated with the entity.

### 13.9.27 SummaryTableOERawDetails Entity

This entity is a persistent table that stores throughput and quality data that is not aggregated. Each row represents an individual transaction.

## Attributes

Attribute	Description
<b>SummaryTableOEERawDetailsKey</b>	A unique identification of the entity.
<b>SummaryTableOEERawDetailsSiteId</b>	Identifier of the Site this entity is related to.
<b>CalendarDate</b>	Date on which the shift is working.
<b>ContainerId</b>	Identifier of the container associated with the entity.
<b>CycleStartGMT</b>	Start time of the cycle expressed in Greenwich Mean Time.
<b>CycleTime</b>	Cycle time value.
<b>EquipmentClassId</b>	Identifier of the equipment class associated with the entity.
<b>EquipmentId</b>	Identifier of the equipment associated with the entity.
<b>FactoryId</b>	Identifier of the factory associated with the entity.
<b>GoodQty</b>	Total good transacted quantity. On movement transactions, this is the quantity that left the operation.
<b>IdealCycleTime</b>	Used for Overall Equipment Effectiveness (OEE) calculations. Fastest time required to process the total quantity. This is calculated based on the ideal cycle time for the product and resource multiplied by the total quantity (TotalQty*Resources Ideal Cycletime).
<b>LaborId</b>	Identifier of the labor (employee) associated with the entity.
<b>LossQty</b>	Total of loss or adjusted negative quantity populated when a change quantity transaction is executed.
<b>MaterialClassId</b>	Identifier of the material class (product family) associated with the entity.
<b>MaterialDefinitionId</b>	Identifier of the material definition (product) associated with the entity.

Attribute	Description
<b>OperationExecutionId</b>	Identifier of the operation execution (manufacturing order) associated with the entity.
<b>OperationId</b>	Identifier of the operation associated with the entity.
<b>OwnerId</b>	Identifier of the owner associated with the entity.
<b>ProcessTime</b>	Time the container is in process. This is set when the container is moved out using the MoveStd transaction.
<b>QtyAdjustReasonId</b>	Identifier of the QtyAdjustReason associated with the entity.
<b>QueueTime</b>	Time the container waits to be processed. This is set on the Moveln transaction.
<b>ReworkedQty</b>	Total quantity reworked when a rework transaction is executed.
<b>ReworkReasonId</b>	Identifier of the ReworkReason associated with the entity.
<b>SecondaryGoodQty</b>	Total good transacted secondary quantity. On movement transactions, this is the secondary quantity that left the operation.
<b>SecondaryLossQty</b>	Total of loss or adjusted negative secondary quantity populated when a change quantity transaction is executed.
<b>SecondaryReworkedQty</b>	Total secondary quantity reworked when a rework transaction is executed.
<b>SecondaryTotalQty</b>	Total transaction secondary quantity. On movement transactions, this is the secondary quantity moved to the operation.
<b>SecondaryUomId</b>	Identifier of the secondary Uom associated with the entity.
<b>ShiftId</b>	Identifier of the shift associated with the entity.
<b>SpecId</b>	Identifier of the spec associated with the entity.
<b>TotalQty</b>	Total transaction quantity. On movement transactions, this is the quantity moved to the operation.

Attribute	Description
<b>TxnDate</b>	Datetime of the transaction type.
<b>TxnDateGMT</b>	Datetime of the transaction type expressed in Greenwich Mean Time.
<b>TxnTypeId</b>	Identifier of the TxnType associated with the entity.
<b>UomId</b>	Identifier of the Uom associated with the entity.
<b>WorkflowId</b>	Identifier of the workflow associated with the entity.
<b>WorkflowStepId</b>	Identifier of the workflow step associated with the entity.
<b>TotalDefectCount</b>	The number of logged defects.
<b>Qty</b>	Quantity of defects associated with the entity.
<b>OpenDefectCount</b>	The number of defects that have not been repaired.
<b>FailedQty</b>	Quantity of failed occurrences.
<b>IsFailed</b>	Indicates if there are any open defects that result in a failed status of the container.
<b>ChildCount</b>	The number of children of a container.

### 13.9.28 TagClass Entity

A representation of a grouping of tags with similar characteristics.

#### Attributes

Attribute	Description
<b>TagClassSiteId</b>	Identifier of the Site this entity is related to.
<b>TagClassKey</b>	A unique identification of a tag class.
<b>Description</b>	Contains additional information and descriptions on the tag class.

Attribute	Description
<b>Name</b>	Name of the tag class.

### 13.9.29 Tag Entity

Tags act as containers able to archive, aggregate, contextualize and analyze data from many data sources.

#### Attributes

Attribute	Description
<b>TagSiteId</b>	Identifier of the Site this entity is related to.
<b>TagKey</b>	A unique identification of a tag.
<b>UomId</b>	Identifier of the unit of measurement of the tag.
<b>TagTypeId</b>	Identifier of the type of tag.
<b>Description</b>	Contains additional information and descriptions on the tag.
<b>Name</b>	Name of the tag.

### 13.9.30 TagTagClass Entity

This entity defines the relationship between tag and tag class entities.

#### Attributes

Attribute	Description
<b>TagTagClassSiteId</b>	Identifier of the Site this entity is related to.
<b>TagTagClassKey</b>	A unique identification of this entity.
<b>TagClassId</b>	Identifier of the tag class entity.
<b>TagId</b>	Identifier of the tag entity.

### 13.9.31 TagType Entity

Contains the possible data types of a tag value.

#### Attributes

Attribute	Description
<b>TagTypeKey</b>	A unique identification of a tag type ("String" or "Numeric").
<b>Name</b>	Name of the tag type ("String" or "Numeric").
<b>Description</b>	Contains additional information and descriptions on the tag type.

### 13.9.32 TagValue Entity

Defines a recorded value for a particular tag.

#### Attributes

Attribute	Description
<b>TagValueSiteId</b>	Identifier of the Site this entity is related to.
<b>TagValueKey</b>	A unique identification of a tag value.
<b>EquipmentId</b>	Identifier of the Equipment object.
<b>TagId</b>	Identifier of the tag entity.
<b>EventDateTime</b>	The date and time of the tag sampling.
<b>FloatValue</b>	Value for a tag of type numeric.
<b>StringValue</b>	Value for a tag of type string.

### 13.9.33 TargetType Entity

Represents a particular kind of target value for an indicator.

#### Attributes

Attribute	Description
<b>TargetTypeKey</b>	A unique identification of the target type.
<b>Name</b>	Name of the target type.
<b>Description</b>	Contains additional information and descriptions on the target type.

### 13.9.34 TaskItem Entity

A Task is a unit of work required to be completed for a container at a specification.

#### Attributes

Attribute	Description
<b>TaskItemSiteId</b>	Identifier of the Site this entity is related to.
<b>TaskItemKey</b>	A unique identification of the task item.
<b>TaskListId</b>	Identifier of the task list including the task item.
<b>Sequence</b>	Sequence number assigned to the task based on the sequence in which it appears in the Tasks grid of the Task List modeling object.
<b>Description</b>	Contains additional information about the task item.
<b>Name</b>	Name of the task item.

### 13.9.35 TaskList Entity

A Task List provides a method for defining a list of tasks to be executed against a specification. You specify whether the tasks must be performed in sequential order.

#### Attributes

Attribute	Description
<b>TaskListSiteId</b>	Identifier of the Site this entity is related to.
<b>TaskListKey</b>	A unique identification of the task list.

Attribute	Description
<b>Description</b>	Contains additional information about the task list.
<b>Name</b>	Name of the task list.

### 13.9.36 TaskStatus Entity

Status of the task item. For Opcenter Execution Core, this status can assume either of the following values: **PASS** or **FAIL**.

#### Attributes

Attribute	Description
<b>TaskStatusSiteId</b>	Identifier of the Site this entity is related to.
<b>TaskStatusKey</b>	A unique identification of the Task Status.
<b>Description</b>	Contains additional information about the Task Status.
<b>Name</b>	Name of the Task Status.

### 13.9.37 TimeZoneDaylightTimeSaving Entity

Entity containing information about daylight saving time for each time zone.

#### Attributes

Attribute	Description
<b>TimeZoneDaylightTimeSavingKey</b>	A unique identification of the entity.
<b>TimeZonId</b>	Identifier of the associated time zone.
<b>OffSet</b>	Offset compared to non-daylight saving time.
<b>DateFrom</b>	Starting date of daylight saving period.
<b>DateTo</b>	End date of daylight saving period.

### 13.9.38 TimeZone Entity

Defines a time zone in terms of offset to UTC.

#### Attributes

Attribute	Description
<b>TimeZoneKey</b>	A unique identification of the time zone.
<b>Name</b>	Name of the time zone.
<b>Description</b>	Contains additional information and descriptions of the time zone.
<b>OffSet</b>	Offset with respect to UTC time (in minutes).

### 13.9.39 ToolClass Entity

A representation of a grouping of tools with similar characteristics.

#### Attributes

Attribute	Description
<b>ToolClassSiteId</b>	Identifier of the Site this entity is related to.
<b>ToolClassKey</b>	A unique identification of a tool class.
<b>Name</b>	Name of the tool class.
<b>Description</b>	Contains additional information and descriptions of the tool class.

### 13.9.40 ToolDefinition Entity

A representation of a tool with similar characteristics for the purpose of manufacturing operations definition, scheduling, capability and performance shall be presented as a tool definition.

#### Attributes

Attribute	Description
<b>ToolDefinitionSiteId</b>	Identifier of the Site this entity is related to.

Attribute	Description
<b>ToolDefinitionKey</b>	A unique identification of a tool definition.
<b>Name</b>	Name of the tool definition.
<b>Description</b>	Contains additional information and descriptions of the tool definition.

### 13.9.41 ToolDefinitionPropertyStaticValue Entity

Current value of a tool definition property.

#### Attributes

Attribute	Description
<b>ToolDefinitionPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>ToolDefinitionPropertyStaticValueKey</b>	A unique identification of a tool definition property static value.
<b>ToolDefinitionId</b>	Identifier of the tool definition.
<b>ToolPropertyId</b>	Identifier of the tool definition property.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>Sequence</b>	Value for a multivalue property.

### 13.9.42 ToolDefinitionToolClass Entity

This entity defines the relationship between tool definition and tool definition class entities.

#### Attributes

Attribute	Description
<b>ToolDefinitionToolClassSiteId</b>	Identifier of the Site this entity is related to.
<b>ToolDefinitionToolClassKey</b>	A unique identification of this relationship entity.
<b>ToolDefinitionId</b>	Identifier of the tool definition entity.
<b>ToolClassId</b>	Identifier of the tool definition class entity.

### 13.9.43 Tool Entity

Defines a tool to be used or consumed in a manufacturing operation or a specific task of an operation.

#### Attributes

Attribute	Description
<b>ToolSiteId</b>	Identifier of the Site this entity is related to.
<b>ToolKey</b>	A unique identification of the tool.
<b>Name</b>	Name of the tool.
<b>Description</b>	Contains additional information and descriptions of the tool.
<b>ToolDefinitionId</b>	Identifier of the associated tool definition.

### 13.9.44 ToolProperty Entity

Properties of tools shall be presented as tool properties. Each tool can have unique values for zero or more tool properties.

#### Attributes

Attribute	Description
<b>ToolPropertySiteId</b>	Identifier of the Site this entity is related to.
<b>ToolPropertyKey</b>	A unique identification of the tool property.

Attribute	Description
<b>Name</b>	Name of the property.
<b>Description</b>	Contains additional information and descriptions of the property.
<b>PropertyTypeId</b>	Type of the property.
<b>UomId</b>	Identifier of the unit of measure for the property value.
<b>Multivalue</b>	Specifies if the property can have multiple values.

### 13.9.45 ToolPropertyStaticValue Entity

Current value of a tool property.

#### Attributes

Attribute	Description
<b>ToolPropertyStaticValueSiteId</b>	Identifier of the Site this entity is related to.
<b>ToolPropertyStaticValueKey</b>	A unique identification of a tool property static value.
<b>ToolId</b>	Identifier of the tool.
<b>ToolPropertyId</b>	Identifier of the tool property.
<b>StringValue</b>	Value for a property of type String.
<b>FloatValue</b>	Value for a property of type Numeric.
<b>DatetimeValue</b>	Value for a property of type DateTime.
<b>Sequence</b>	Value for a multivalue property.

### 13.9.46 TxnType Entity

This entity describes a transaction type. Examples of the values this entity can assume are:

- Change Qty
- Rework

- Move
- Move In
- MoveStd

## Attributes

Attribute	Description
<b>TxnTypeKey</b>	A unique identification of the transaction type.
<b>TxnTypeSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the transaction type.
<b>Name</b>	Name of the transaction type.

## 13.9.47 Uom Entity

Identifies a unit of measurements for a property value.

## Attributes

Attribute	Description
<b>UomKey</b>	A unique identification of the Uom.
<b>Name</b>	Name of the Uom.
<b>Description</b>	Contains additional information and descriptions of the Uom.
<b>UomSystemId</b>	Identifier of the unit of measurement system.
<b>UomCategoryId</b>	Identifier of the unit of measurement category.

## 13.9.48 Workcenter Entity

Equipment item that performs production, storage, material movement, or any other scheduled activity.

## Attributes

<b>Attribute</b>	<b>Description</b>
<b>WorkcenterKey</b>	A unique identification of this entity.
<b>WorkcenterSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the workcenter.
<b>Name</b>	Name of the workcenter.

### 13.9.49 Workflow Entity

A workflow defines a sequence of workflow steps that are used to manufacture a product.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>WorkflowKey</b>	A unique identification of the workflow.
<b>WorkflowSiteId</b>	Identifier of the Site this entity is related to.
<b>Revision</b>	Identifies the revision of the entity.
<b>Description</b>	Contains additional information and descriptions about the workflow.
<b>Name</b>	Name of the workflow.

### 13.9.50 WorkflowStep Entity

A step defines the processing for that point in the workflow. Each step refers to a set of instructions that may include a combination of the following:

- Tasks to be performed by an employee.
- Events that must occur to process the container at that step.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>WorkflowStepKey</b>	A unique identification of the workflow step.

<b>Attribute</b>	<b>Description</b>
<b>WorkflowStepSiteId</b>	Identifier of the Site this entity is related to.
<b>Sequence</b>	Identifies the sequence of the workflow steps within the workflow.
<b>Description</b>	Contains additional information and descriptions about the workflow step.
<b>Name</b>	Name of the workflow step.
<b>IsLastStep</b>	Identifies whether the workflow step is the last step or not.
<b>WorkflowId</b>	Id of the workflow that includes this workflow step.

### 13.9.51 WorkingTimeExceptionClass Entity

Identifies an exception to a working time defined in a production/work calendar, typically representing a non-working period within a planned working time. This entity is relevant only in case SIMATIC IT LMS or SIMATIC IT Reporting Framework are used as data sources.

#### Attributes

<b>Attribute</b>	<b>Description</b>
<b>WorkingTimeExceptionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>WorkingTimeExceptionClassKey</b>	A unique identification of the working time exception class.
<b>Name</b>	Name of the working time exception class.
<b>Description</b>	Contains additional information and descriptions of the working time exception.

### 13.9.52 WorkingTimeException Entity

Identifies an exception to a working time defined in a production/work calendar, typically representing a non-working period within a planned working time. This entity is relevant only in case SIMATIC IT LMS or SIMATIC IT Reporting Framework are used as data sources.

#### Attributes

Attribute	Description
<b>WorkingTimeExceptionSiteId</b>	Identifier of the Site this entity is related to.
<b>WorkingTimeExceptionKey</b>	A unique identification of the working time exception.
<b>EquipmentSiteId</b>	Identifier of the Site related to the equipment where the working time exception is recorded.
<b>EquipmentKey</b>	A unique identification of the equipment where the working time exception is recorded.
<b>StartTime</b>	Starting date/time of the exception.
<b>EndTime</b>	Ending date/time of the exception.
<b>Duration</b>	Duration of the exception.

### 13.9.53 WorkingTimeExceptionWorkingTimeExceptionClass Entity

Defines the relationship between working time exception and working time exception class entities. This entity is relevant only in case SIMATIC IT LMS or SIMATIC IT Reporting Framework are used as data sources.

#### Attributes

Attribute	Description
<b>WorkingTimeExceptionWorkingTimeExceptionClassSiteId</b>	Identifier of the Site this entity is related to.
<b>WorkingTimeExceptionWorkingTimeExceptionClassKey</b>	A unique identification of this relationship entity.
<b>WorkingTimeExceptionClassId</b>	Identifier of the working time exception class.
<b>WorkingTimeExceptionId</b>	Identifier of the working time exception.

### 13.9.54 Workstation Entity

A workstation is a work area used by one person with a computer terminal connected to a network.

#### Attributes

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*Entities from QualityTaskDefinitionClass to Workstation*

<b>Attribute</b>	<b>Description</b>
<b>WorkstationKey</b>	A unique identification of this entity.
<b>WorkstationSiteId</b>	Identifier of the Site this entity is related to.
<b>Description</b>	Contains additional information and descriptions about the workstation.
<b>Name</b>	Name of the workstation.

## 14 Opcenter Intelligence Smart Views Data

When you select measures and attributes in the cards of a smart view, you are choosing the information on the basis of which you want to aggregate, filter or group data for analysis in runtime dashboards.

When the Smart View is deployed, one or more data marts are created, which are made up of related fact tables (measures) and dimensions/context (attributes). A fact table is created for each card where measures have been selected and dimensions are created for each selected attribute card.

The available fact tables and dimensions depend on functionalities, on available sources and on the selected measures/attributes. Some of the displayed measures and attributes are provided out of the box, while other depend on the data warehouse content and are loaded during a project synchronization.

### 14.1 Measures and Attributes Distribution in Cards

While measures are distributed in cards according to data warehouse entities, attributes are further subdivided depending on the data warehouse table they belong to. The following attribute types can be present in the corresponding cards:

Type	Description
<b>Standard</b>	Basic information about the entity. They are always present in the attribute cards.
<b>Class</b>	Classification created for the entity in the data source. Classes that are mutually exclusive can be merged into a single attribute by means of the <b>Merge Attributes</b> operation. See <i>Opcenter Intelligence User Manual</i> for more details.
<b>Property</b>	Property configured for the entity in the data source.
<b>Hierarchy</b>	Hierarchy of the entity distributed in levels as defined in the data source. Since we do not have a prior knowledge of the different hierarchy levels, they are shown as <b>Level0</b> , <b>Level1</b> , etc. However, like all other measures and attributes, they can be renamed.
<b>Lookup</b>	Additional information on the entity.

### Data Management in Smart Views

In these linked pages, you can find a description on how data is managed in smart views for the following entities:

- [Downtime Management](#)
- [Equipment Capacity](#)
- [Equipment Performance](#)

## 14.2 Downtime Management Data in Smart Views

Downtime Management data can be used for different purposes, for example to perform a time-based analysis on the issues that affect asset availability and performance, or calculate the Availability KPI, which is one of the elements required to calculate the OEE KPI.

Contextualization on Downtime Management data is executed automatically on **Site**, **Equipment**, **ReasonTreeItem** and all the **Time Definitions** contexts.

For more details, see:

- [Downtime Management OOTB Contexts](#)
- *How to Configure Smart Views > Selecting Measures in Opcenter Intelligence User Manual.*

### Downtime Management Measures

The list of measures is dynamic. For Downtime Management, they are generated on the basis of time categories acquired in the data warehouse (the reference tables are **bm20.EquipmentTimeCategory** for the lookup and **bm20.EquipmentTimeModel** for the values).

#### Example

In this example, the following time categories were present in the data warehouse:

- Planned Maintenance
- Productive Time
- Scheduled Maintenance
- ...

Downtime Management	
<input type="checkbox"/>	Planned Maintenance EquipmentTimeCategory
<input checked="" type="checkbox"/>	Productive Time EquipmentTimeCategory
<input checked="" type="checkbox"/>	Scheduled Maintenance EquipmentTimeCategory
<input type="checkbox"/>	Scheduled Up Time EquipmentTimeCategory
<input checked="" type="checkbox"/>	Scheduled breaks EquipmentTimeCategory
<input checked="" type="checkbox"/>	Standby EquipmentTimeCategory
<input type="checkbox"/>	Total Time EquipmentTimeCategory
<input checked="" type="checkbox"/>	Unscheduled Downtime EquipmentTimeCategory
<input type="checkbox"/>	Up EquipmentTimeCategory

### Downtime Management OOTB Contexts

The following out-of-the-box contexts are associated with the Downtime Management entity:

- **Equipment**
- **Microstop**
- **ReasonTreeItem**
- **Site**
- **Time definitions** to filter data based on time units (for details, see *How to Configure the Time Definition > Time Management in Smart Views in Opcenter Intelligence User Manual*).

## 14.3 Equipment Capacity Data in Smart Views

Equipment Capacity data can be used for different purposes, such as:

- provide the calculation of theoretical equipment production based on the speed value in a specific time span,
- calculate the Performance KPI, which is one of the elements required to calculate the OEE KPI.

Contextualization on Equipment Capacity data is executed automatically on **Equipment**, **ReasonTreeItem**, **Site** and **Time definitions** contexts.

For more details, see

- [Equipment Capacity OOTB Contexts](#)
- *How to Configure Smart Views > Selecting Measures in Opcenter Intelligence User Manual.*

### Equipment Capacity Measures

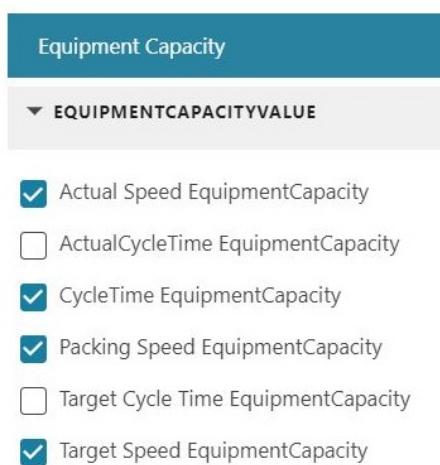
The list of measures is dynamic. For Equipment Capacity, they are generated on the basis of speed and cycle time acquired in the data warehouse (the reference tables are **bm20.EquipmentCapacity** for the lookup and **bm20.EquipmentCapacityValue** for the values).

 In this table the speed value is always expected, because when smart view values are calculated the capacity is always calculated.

#### Example

In this example, the following speeds were present in the data warehouse:

- Actual Speed
- ActualCycleTime
- CycleTime
- ...



The screenshot shows the 'Equipment Capacity' Smart View configuration. Under the 'EQUIPMENTCAPACITYVALUE' section, the following items are selected (checked):

- Actual Speed EquipmentCapacity
- CycleTime EquipmentCapacity
- Packing Speed EquipmentCapacity
- Target Speed EquipmentCapacity

### Equipment Capacity OOTB Contexts

The following out-of-the-box contexts are associated with the Equipment Capacity entity:

- **Equipment**
- **ReasonTreeItem**
- **Site**

- **Time definitions** to filter data based on time units (for details, see *How to Configure the Time Definition > Time Management in Smart Views in Opcenter Intelligence User Manual*).

## 14.4 Equipment Performance Data in Smart Views

Equipment Performance data can be used for different purposes, such as:

- calculate the Quality ratio KPI, which is one of the elements required to calculate the OEE KPI,
- calculate totals based on production counters (good, scrap, reworked, etc.).

Contextualization on Equipment Performance data is executed automatically on **Equipment**, **Site** and **Time definitions** contexts (see [Equipment Performance OOTB Contexts](#)).

### Equipment Performance Measures

The list of measures is dynamic. For Equipment Performance, they are generated on the basis of counters acquired in the data warehouse (the reference tables are **bm20.Indicator** for the lookup and **bm20.IndicatorValue** for the values and for the main contexts).

#### Example

In this example, the following counters were present in the data warehouse:

- Counter A
- Counter B
- Counter C
- ...

The screenshot shows a Smart View titled 'Equipment Performance'. Below the title, there is a section header 'INDICATORVALUE' with a downward arrow icon. A list of indicators is displayed, each preceded by a checked or unchecked checkbox. The checked items are: 'Counter A Indicator', 'Counter B Indicator', 'Counter C Indicator', 'Counter D Indicator', and 'Good Items Indicator'. The unchecked items are: 'Produced Bottles 100cl Indicator', 'Produced Bottles 125cl Indicator', and 'Produced Bottles 150cl Indicator'.

Indicator
Counter A Indicator
Counter B Indicator
Counter C Indicator
Counter D Indicator
Good Items Indicator
Produced Bottles 100cl Indicator
Produced Bottles 125cl Indicator
Produced Bottles 150cl Indicator

### Equipment Performance OOTB Contexts

The following out-of-the-box contexts are associated with the Equipment Performance entity:

- **Equipment**
- **Site**
- **Time definitions** to filter data based on time units (for details, see *How to Configure the Time Definition > Time Management in Smart Views in Opcenter Intelligence User Manual*).