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Model-Integrated Smart Production

***AutomationML
&
IEC 62264***

CDL-MINT

- Intertwining of International Standards
- Application Recommendation
- Metamodel Alignment
- Vertical Integration



IEC 62264

Part 2 of IEC 62264 deals with the modeling of information for data exchange between enterprise resource planning systems and manufacturing execution systems. It specifies basic structures such as **personnel, equipment, material** and **process segments**, as well as operations data, including **product definitions, schedules** and **performance data**.

A reference implementation of IEC 62264 has been created within the realms of MESA (<http://www.mesa.org/>) in terms of the Business to Manufacturing Markup Language (**B2MML**).

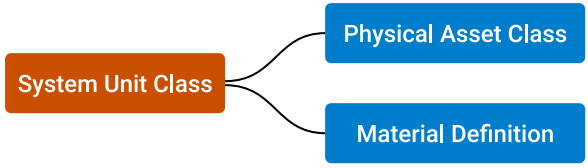
AutomationML

AutomationML is an XML-based international standard for contextualizing and linking engineering information from different domains. It is available as **IEC 62714** and can be also found at <http://www.automationml.org/>.

AutomationML

IEC 62264

Excerpt of the realized **metamodel alignment** of AutomationML and IEC 62264



Provisioning for MES and ERP

The semantic alignment and technical integration of IEC 62264 and AutomationML enables double-standards compliant modeling of production information. Two (interleavable) methods for integration are provided:

- Modeling detailed IEC 62264 information within AutomationML
- Referring to externally stored IEC 62264 information

| AutomationML (IEC 62714), CAEX (IEC 62424) | B2MML (based on IEC 62264) |
|---|--|
| <p>IEC 62264-2 B2MML Example</p> <ul style="list-style-type: none">Physical Assets (Class Role ResourceStructure)<ul style="list-style-type: none">Conveyor-1 (Class Role PhysicalAsset)<ul style="list-style-type: none">Conveyor-1-Documents (Class Role B2MMLData)<ul style="list-style-type: none">Conveyor-1-Documents-Interfaces<ul style="list-style-type: none">B2MML (Class ExternalDataReference) <i>refURI="/pas.b2mml#Conveyor-1"</i> Turntable (Class Role PhysicalAsset)<ul style="list-style-type: none">Turntable-Documents (Class Role B2MMLData)<ul style="list-style-type: none">Turntable-Documents-Interfaces<ul style="list-style-type: none">B2MML (Class ExternalDataReference) <i>refURI="/pas.b2mml#Turntable"</i> | <pre><?xml version="1.0" encoding="UTF-8"?> <PhysicalAssetInformation xmlns="http://www... <PhysicalAsset> <ID>Conveyor-1</ID> <.../> </PhysicalAsset> <PhysicalAsset> <ID>Robot-1</ID> </PhysicalAsset> <PhysicalAsset> <ID>Turntable</ID> </PhysicalAsset> </PhysicalAsset></pre> |

Referring from an AutomationML document to a B2MML document through external data references.

The alignment of IEC 62264 and AutomationML is available as an application recommendation (AR-MES-ERP). Find the document and example files online: <http://www.automationml.org/>

<AutomationML/>



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