

Digital Twin architectures in manufacturing and ISO23247 standard (III)

[anonymised]

1. Motivation for using ISO23247 standard

Be aligned with ISO23247?

What is the value of ISO23247 standard and the Reference architecture with functional view proposed in the standard when realising Digital Twin in practice ? Why architectures need to be compliant with the standard ?

ISO23247_Overview.pdf

GOOGLE DRIVE

Functional view specifying functional architecture and how to realize the architecture (reference model) entity - composed of one or more entities that compose the digital twin framework

Below we list the definitions from the standard for each functional entity (active boxes in Figure 1, as a reference for the questions)

- Data Collecting PE:** Collects data from observable manufacturing elements (OMEs)
- Data Pre-Processing PE:** Organizes collected data, depending on pre-processing (data filtering and aggregation)
- Collecting the Information PE:** Collects data needed from OMEs, depending on the context, and the resulting connectivity to devices in the landscape addressed by that device
- Knowledge PE:** Activates an OME in response to a request from the user entity or the digital twin entity
- Control/activation PE:** Identifies an OME so that it can be controlled uniquely and consistently
- Digital Representation PE:** Shows information from an OME to represent its internal characteristics, internally
- Visualization PE:** Presents information visually in cooperation with the digital representation in an appropriate format such as text, images, charts, video or audio that is used to monitor the OME's parameters
- Maintenance PE:** Keeps digital twin operational, including monitoring results

Industry is confused with a lot of frameworks. The standard would serve as a guideline and a common language. — ANONYMOUS

2. Functionalities in the standard not implemented by current architecture.

Compliance

You said that in your opinion is not important to comply to the standard for architectures.

23247 draw a lot of intention for the standardisation, however compared for example with ASS it can be seen as a guideline, a framework and not a specification for being compliant on a conceptual level. — ANONYMOUS

Peer interface

You evaluated as absolutely necessary, but most of the respondents did not. Any remark?

Important to have an interface to enable interoperability, but today there are many different contributors to consider that are claiming doing this, eg OPC UA, asset admin shell etc — ANONYMOUS

3. Functionalities not captured by the standard.

Continuous Deployment

You rate the importance of CD 1/5. Do you have any remarks on that?

CD is outside of DT scope — ANONYMOUS

4. Other functionalities.

How to address interoperability

too many standards exists — ANONYMOUS

5.Final remarks

producing industrial use cases that are part of the standards. provide an use case.

important to update the standard. the risk is to draw attention but may be confusing due to the abundance of standards.