

METADATA (*)

TOPIC B – Training Unit 4: Digital Validation

Source

Partner: **AIMEN**

Project: TRINEFLEX - Transformation of energy intensive process industries through integration of energy, process, and feedstock flexibility, Grant agreement ID: 101058174

Ownership

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Abstract

This training unit explains the framework for digital validation to optimize the selected processes. Digital Twins are a promising technology that is in-built into the manufacturing and production processes to reduce costs and improve efficiency. The models used in Digital Twin and its validation is an essential part that forms the basis for reliable experiments for the system under consideration. In this training unit a framework to validate the DT and its models is provided for measuring their accuracy

Structure

- Lesson 1: Procedures for Digital Validation

This lesson explains:

- Checking the digital twin models for consistency with the reality that they represent.
- Comparing the outputs and behaviors of these models with the real data.
- Measuring and improving the models accuracy.

Learning Outcomes

This background knowledge video on Model validation helps in understanding:

- Overview of the Digital Twin Models
- Models validation approach and techniques

Intended Audience

- Students interested in Digital Twins
- Industry Managers willing to invest in Digital Twins
- Early-Stage Researchers

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Pre-requisites

Basic understanding of Digital Twins (ex. Training Unit 3)

Language: English**Format:** Video mp4, PDF**Expected workload:** about 15 minutes**Complementary additional training material:**

- Validation and Verification of Digital Twins. Pedro, Leonardo Linnaeus University, Faculty of Technology, Department of computer science and media technology (CM). 2021 (English)
- Fuller, Aidan & Fan, Zhong & Day, Charles & Barlow, Chris. (2020). Digital Twin: Enabling Technologies, Challenges and Open Research. IEEE Access. PP. 1-1. 10.1109/ACCESS.2020.2998358.

(*) The structure of the Metadata for the Training Units derives from the training Metadata model developed within the Leonardo da Vinci project LINKVIT (2013-15, GA N. 2013-IT1-LEO05-04046)