

## Data management for the InterTwin project

*Thursday, March 23, 2023 1:30 PM (30 minutes)*

InterTwin is an EU-funded project that started on the 1st of September 2022.

The project will work with domain experts from different scientific domains in building a technology to support the emerging field of digital twins.

Digital twins are modelled for predicting the behaviour and evolution of real-world systems and applications. InterTwin will focus on employing machine-learning techniques to create and train models that are able to quickly and accurately reflect their physical counterparts in a broad range of scientific domains.

The project will develop, deploy and “road harden” a blueprint for supporting digital twins on federated resources.

For that purpose, it will support a diverse set of science use-cases, in the domains of radio telescopes (Meerkat), particle physics (CERN/LHC and Lattice-QCD), gravitational waves (Einstein telescope), as well as climate research and environment monitoring (e.g. prediction of flooding and other extreme weather due to climate change).

The ultimate goal is to provide a generic infrastructure that can be useful in many additional scientific fields.

In the talk, we will present an overview of the interTwin project along with the corresponding architecture. Its focus will be on the federated data management layer that is designed to support both the training and exploitation of digital twins within the different scientific domains.

The challenges faced when designing the architecture will be described, along with the solutions being developed to address them.

**Primary authors:** MANZI, Andrea (EGI); FUHRMANN, Patrick (DESY/dCache.org); MILLAR, Paul (DESY); WETZEL, Tim (Deutsches Elektronen-Synchrotron DESY); SPIGA, daniele (INFN-PG)

**Presenter:** WETZEL, Tim (Deutsches Elektronen-Synchrotron DESY)

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