

Interoperability between Digital Twins in the Green Deal initiative

Tuesday, 1 October 2024 15:30 (15 minutes)

In this session we will discuss and report on the progress, how Earth System digital twins and digital twins that are part of the wider Green Deal initiative could operate together in a digital twin platform.

For this purpose we explain in detail the processes, technical implementation, and ontology alignment that needs to be put in place in order to allow for interoperability of digital twin systems stemming from different communities and initiatives. We do not intend to provide a generic interoperability framework but work from the assumption that the most value can be derived from providing specific solutions, driven by use cases, that are generic by design but not designed to be generic.

We are not aiming for integration through aggregation but integration through federation where each system focuses on the integration functions or services that allow interoperability between digital twin system components when required.

The level of integration requirement between digital twins can span a wide range of functions and services, from full integration on the physics level (tightly coupled digital twins) to integration through DT outputs (loosely coupled). In order to capture these requirements we defined a so-called integration continuum where we can map integration requirements between digital twins and digital twin systems.

From these exercises we developed a shared high level architectural view and also a common glossary that can describe the implementation for each participating project.

Topic

Needs and solutions in scientific computing: Digital Twins

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