

interTwin

The interTwin Digital Twin Engine: a platform for building and managing scientific Digital Twins



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Funded by the
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interTwin Consortium



EGI Foundation as coordinator

30

Participants, including 1 affiliated entity and 2 associated partners

Consortium at a glance

10

Providers

cloud, HTC , HPC
resources and
access to
Quantum systems

11

Technology
providers

delivering the
DTE infrastructure
and horizontal
capabilities

14

Community
representants

from 5 domains
requirements and
developing DT
applications and
thematic modules

1.09.22 - 31.08.25

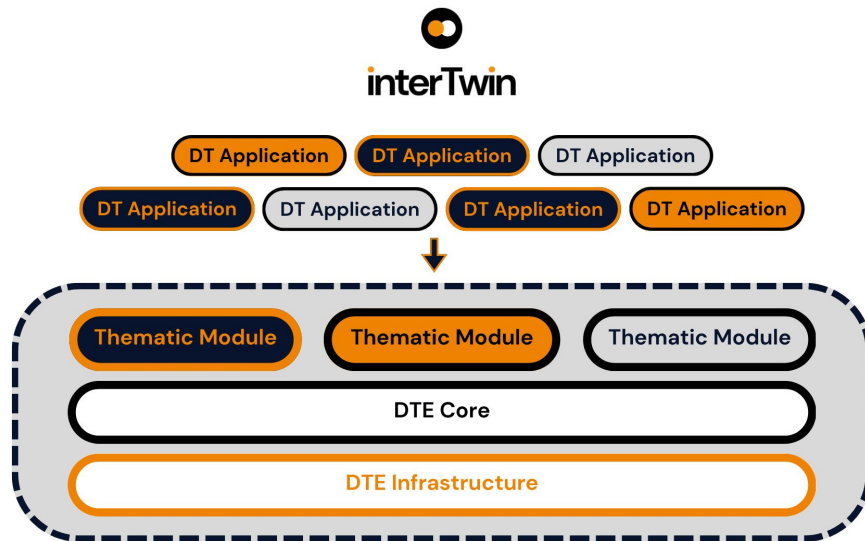
Budget 11,7 M euro

interTwin - Digital Twin Engine for science

Co-designs and implements the prototype of an **interdisciplinary Digital Twin Engine**

Open-source platform based on **open standards** offering the capability to develop **application-specific Digital Twins (DTs)**

Piloted by a large spectrum of **diverse use cases** from physics and environmental sciences



The interTwin Digital Twin Engine (DTE)

Cyclone Detection



WildFire Hazard Prediction



Early Flood Warnings



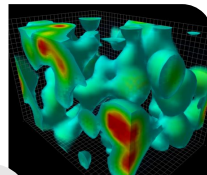
Drought Prediction



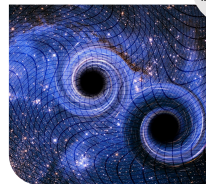
Radio Astronomy



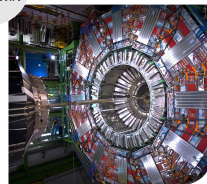
Lattice QCD



Gravitational Waves



High-energyPhysics



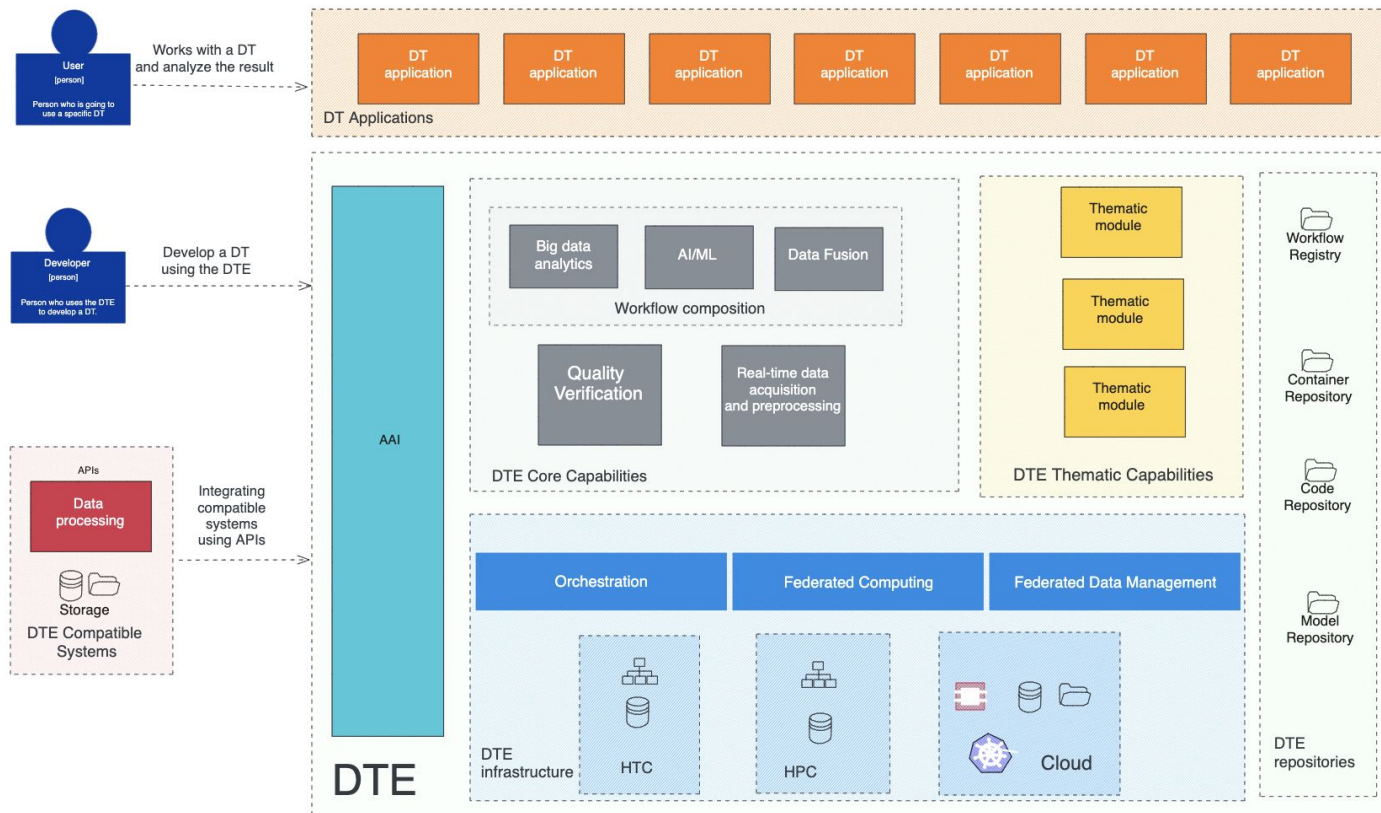


DTE Blueprint Architecture

Second version of the Blueprint architecture and design specifications is available in [Zenodo](#)

Final version is planned for Q4 2024

Also includes the analysis of relevant initiatives and projects (*DestinE*, *EOSC*, *ESCAPE*, *C-Scale*, *Digital Twin Consortium* and *EU Data Spaces*, *DT-GEO* and *BioDT*) to identify potential architectural components that can be incorporated within the interTwin context and where interoperability is desirable.



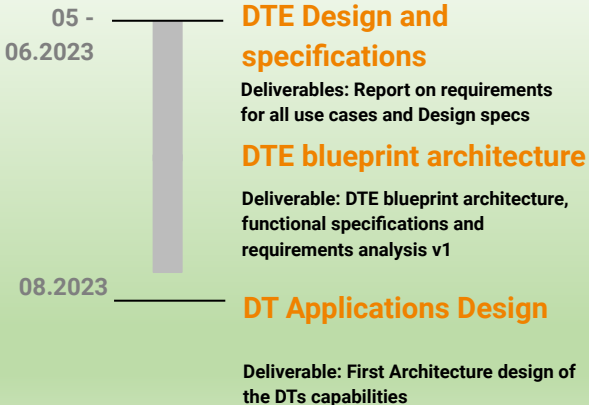


Timeline

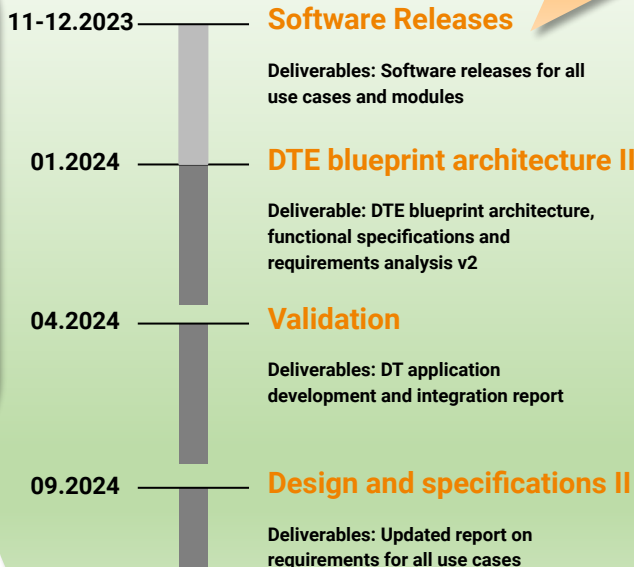
interTwin DTE first release available

- 38 components in Total
- New components developed and extension to existing software
- [interTwin GitHub](#)

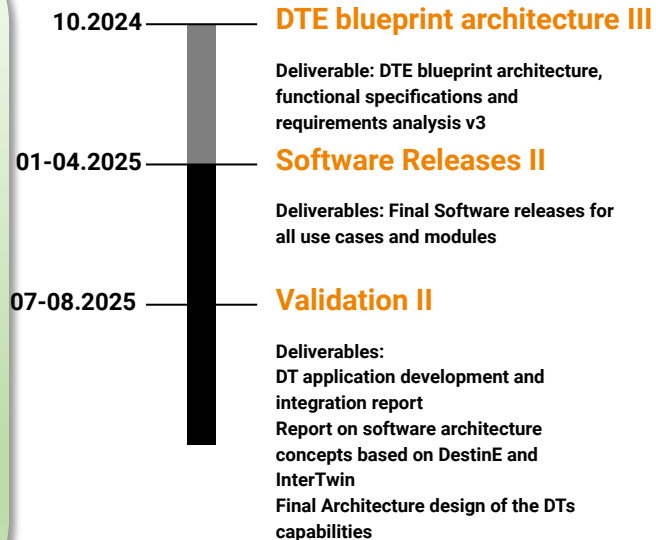
Project Year 1 COMPLETED



Project Year 2 COMPLETED



Project Year 3 Focus now!



2023

2025

2024

Conclusion - integration with EOSC

Objective 3. Extend the technical capabilities of the European Open Science Cloud with modelling & simulation tools integrated with its compute platform

Initial plan:

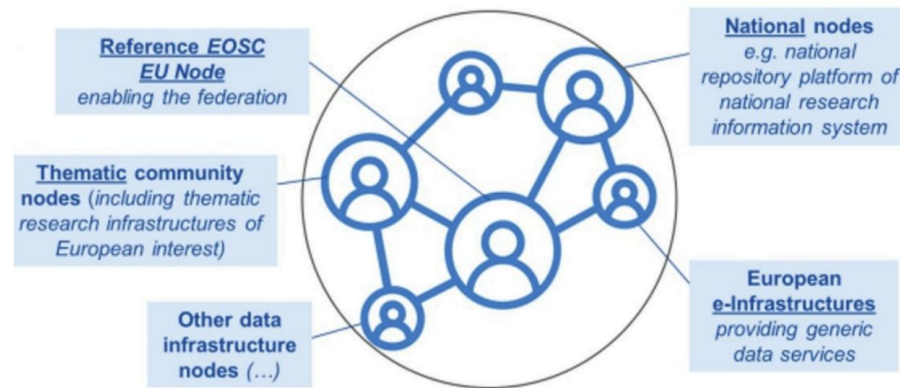
- Integrate with EOSC Core (e.g. AAI)
- Onboard higher-TRL components and services to EOSC portal (marketplace)

Evolving landscape:

- EOSC becoming a federation of Nodes

Several options for future integration:

- Deliver Digital Twin capabilities as a thematic node
- Deliver interTwin services part of EGI Node
- Onboarding services to EOSC EU Node



Thank you!

Questions?



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