

Digital Twin for Europe (TwinEU)

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TwinEU

General Info

- **Programme:** Horizon Europe Innovation Action
- **Topic:** HORIZON-CL5-2023-D3-01-10 - Supporting the development of a digital twin to improve management, operations and resilience of the EU Electricity System in support to REPowerEU
- **Start:** Jan 2024
- **Duration:** 36 Months
- **Budget:**
Estimated Project Cost: €25,216,061.25
Requested EU Contribution: €19,999,999.50



TwinEU Main Target

TwinEU will leverage a unique set of competences coming from grid and market operators, technology providers and research centres to create a concept of Pan-European digital twin based on the **federation of local twins** so to enable a reliable, resilient, and safe operation of the infrastructure while facilitating **new business models** that will **accelerate the deployment of renewable energy sources** in Europe.

TwinEU Objectives

- Define a set of scenarios for the use of digital twin that will benefit from data sharing and exchange among operators (intra and cross-country) and the corresponding requirements for implementation.
- Define and implement a Reference Architecture for the creation of a European-scale Digital Twin
- Define and implement a federated digital twin, consisting of a variety of closed loop adaptive DT instances, to support European-level wider replication

TwinEU Objectives

- Enhance data models and semantic interoperability to better support the digital twin use cases
- Leverage on and adapt the emerging concept of energy data space to break data silos across energy value chain stakeholders, facilitate trusted and sovereignty-preserving data, model and computational resource cross-stakeholder sharing
- Leverage advanced technologies such as physics-informed AI and High-Performance Computing to go beyond classical modelling approaches for digital twin

TwinEU Objectives

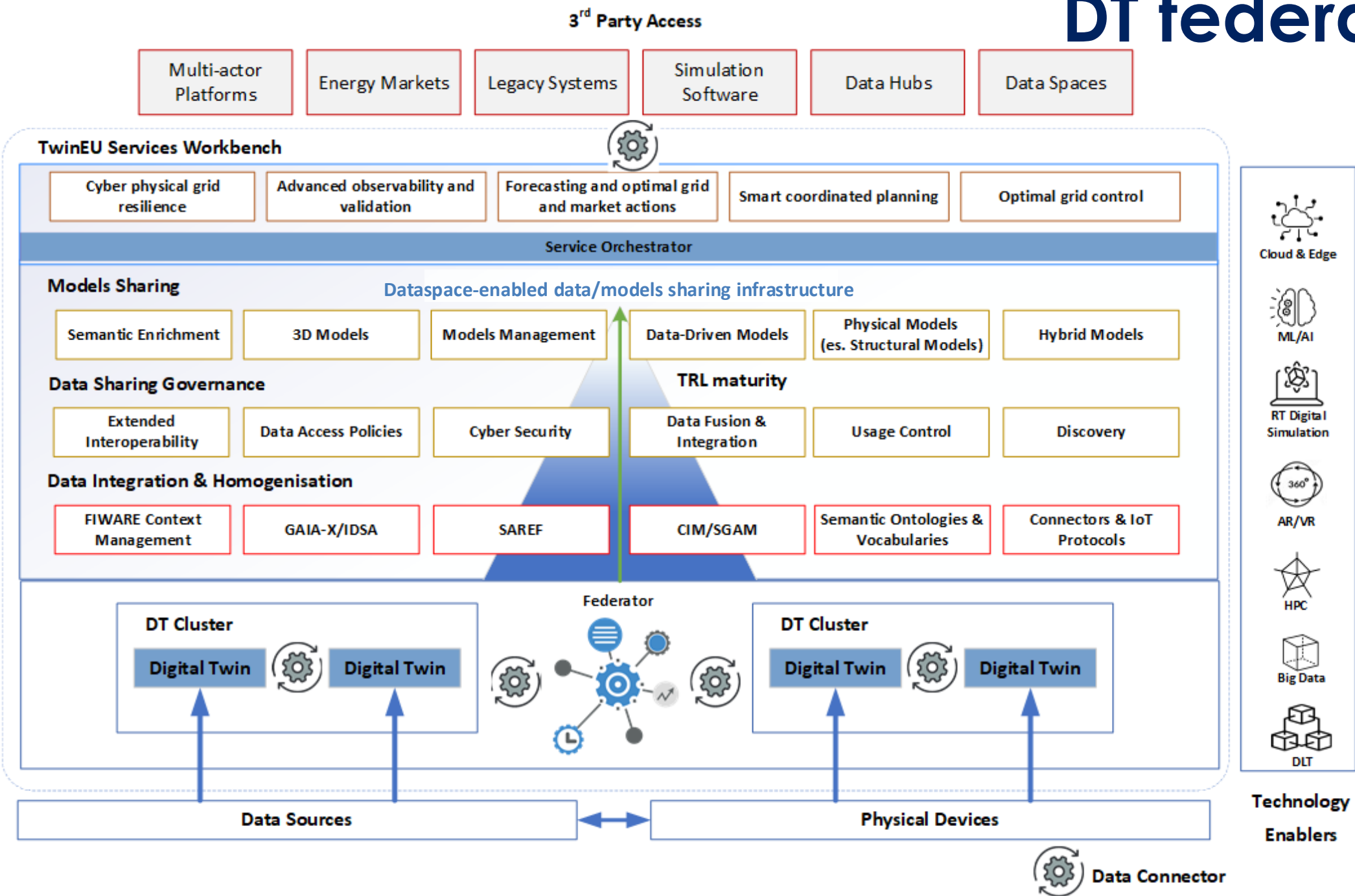
- Develop and deploy a variety of DTs services which will create the conditions for a more resilient and reliable European power network
- Demonstrate the TwinEU approach in real scenarios validating the complete energy and data value chains
- Large adoption of the TwinEU approach creating the condition for a real implementation at European scale.
- Creating the conditions for the long-term sustainability development of the TwinEU vision and open new business opportunities based on DT.

Pilots

Big Data/
Data Hub



DT federation



Thank you for your attention

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