IntNET project overview
Interoperability Network for the Energy Transition

Horizon Europe call HORIZON-CL5-2021-D3-01-03

- Duration: 36 months

- Runtime: 01.05.2022 – 30.04.2025

- Consortium: 12 Partners
  1 Associated Partner
  7 Countries

- Budget: 5 M€

Horizon Europe IntNET project
Grant agreement: 101070086

29.07.2022

This project has received funding from the European Union's Horizon Europe
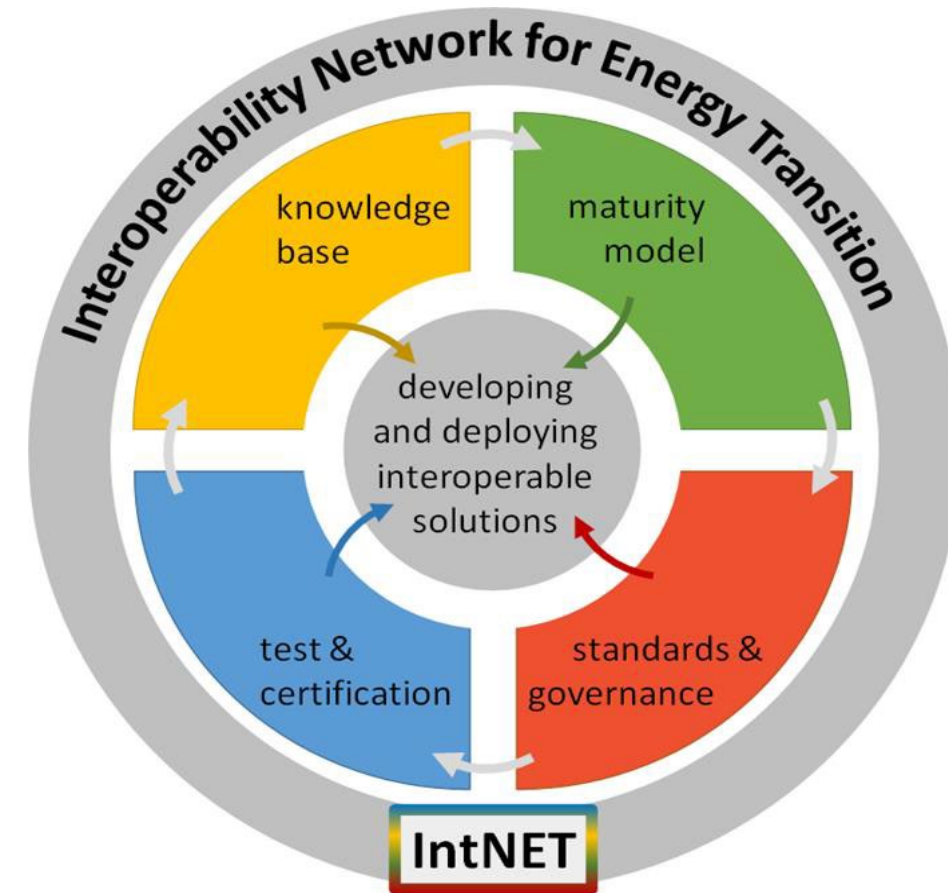research and innovation programme under grant agreement No 101070086

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IntNET project overview
Project objectives

The project aims at:

- Consolidating a common knowledge base for interoperability activities on energy services in Europe

- Developing a comprehensive and accepted Interoperability Maturity Model (IMM)

- Deploying a framework for interoperability testing in a network of interoperability testing facilities

- Fostering a community network for a European interoperability ecosystem

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IntNET project overview
Interoperability knowledge base on energy services in Europe

- Increase interoperability of energy services, data and platforms at the function and business layers via a knowledge base of
  - interoperability initiatives
  - best practices
  - use cases.
- Making knowledge publicly available
  - understanding of the state-of-the-art, at European level, of interoperability of energy services
  - create a destination for the results of the project to be stored
  - dissemination and outreach activities
- Standardised way of documenting the knowledge base, following the FAIR principles, that guarantees European-wide impact long beyond the project period

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IntNET project overview
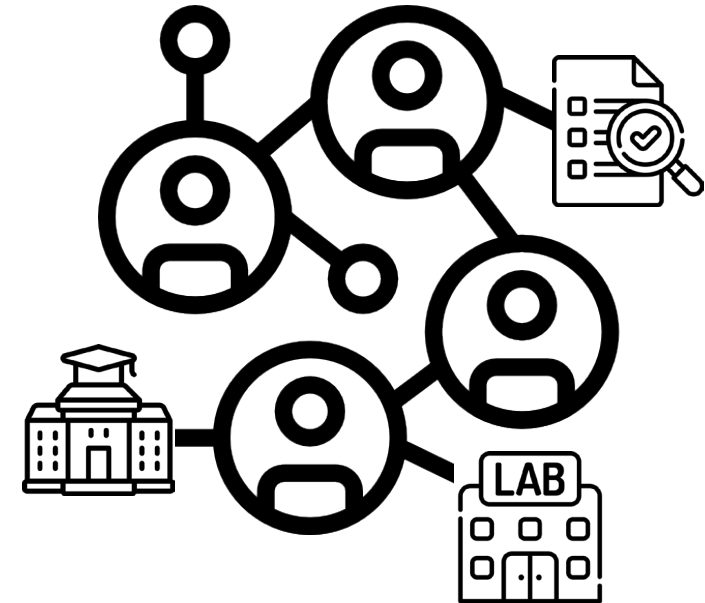## Interoperability Maturity Model (IMM)

- Ensure the continuity of the ongoing interoperability of energy services activities
  - Developing an interoperability assessment methodology
  - Related Interoperability Maturity Model (IMM)

- The IMM will allow the assessment of the level of maturity in organisations and will support developing actions to reach higher levels of interoperability maturity.

- IntNET will foster the adoption of the proposed IMM and its reference implementation through the IntNET community.

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IntNET project overview
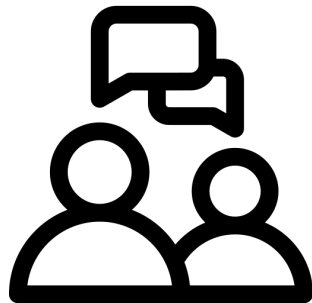## Network of interoperability testing facilities

- Create and support a common framework for testing interoperability across running projects by
  - harmonising interoperability testing procedures
  - creating a self-sustained and formally institutionalised distributed "network" of interoperability testing labs
  - Identifying real-life use cases where interoperability testing is required

- Create a European interoperability ecosystem where all stakeholders can participate and actively support the project's activities.
  - IntNET considers existing initiatives like living labs and digital innovation hubs
  - including testing for interoperability (IOP)

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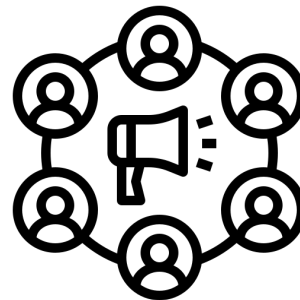
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IntNET project overview

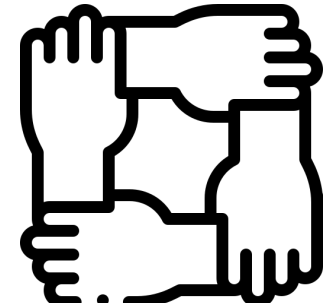## Community network for a European interoperability ecosystem

- Ensure horizontal coordination and support, sustainable up-take of the energy services related to interoperability, data spaces and digital twins by
  - actively involving legal and regulatory framework setters in cross-domain modelling and interoperability testing exercises (e.g., connectathons),
  - cross-fertilisation process for existing regional testing infrastructures
  - being part of initiatives external to the project like Gaia-X or OPEN DEI

- At the end of the project, the IntNET community forming the European interoperability ecosystems needs to be self-maintained in the long term with a community platform and formal institution, possibly an association.

Engage Stakeholders   **Disseminate Results**   **Create a Community**

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IntNET project
Relationship with other interoperability initiatives

IntNET will monitor and reach out to other interoperability initiatives ongoing in Europe, including European projects, standardization bodies, innovation activities.

IntNET consortium partners are already active participating in activities such:

- Bridge WGs
- ISO/IEC technical committees
- ETIP SNET
- ISGAN
- IEEE
- DERLab

- ETSI
- CEN/CNELEC (JTC21: AI act)
- ERA-Net
- AIOTI
- IEC
- CIGRE

- CENELEC CGSG
- INTERCONNECT (H2020)
- OneNet (H2020)
- Joint Research Center Interoperability Lab

IntNET knowledge base creation
OneNet Architecture

OneNet Participants

Any kind of actor involved in the OneNet ecosystem. Can be divided into data source, data provider, data consumer and service provider.

OneNet Network of Platforms

Any Demo Platform (e.g., DSO platforms, Market platforms, DEPs) able to connect with the OneNet Middleware using the OneNet Connector.
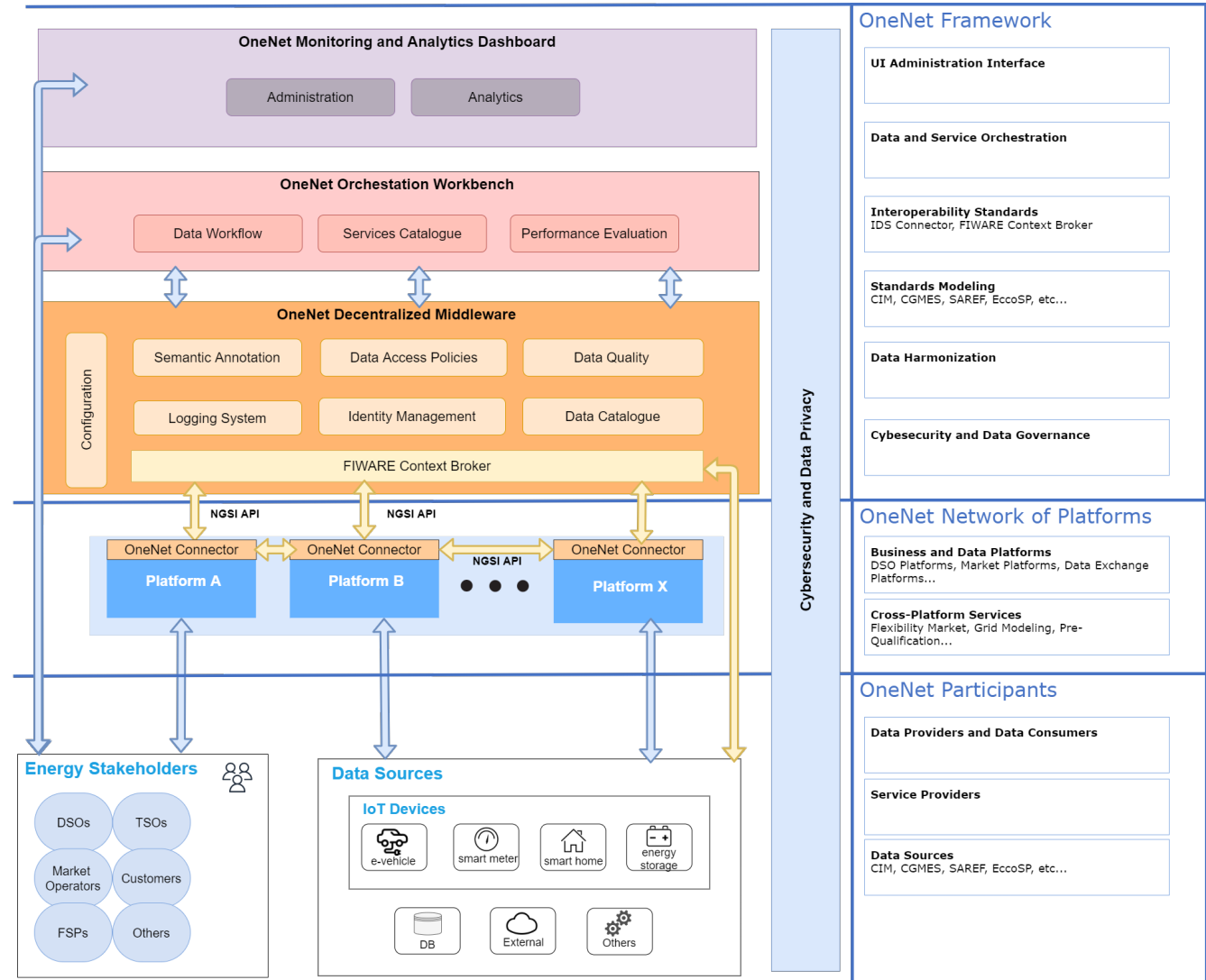
It aims to be a P2P fully decentralised ecosystem for interoperability. In the OneNet Network of Platforms, two systems (OneNet Participants) can interact directly with each other, without intermediation by a third party.

OneNet Framework

The core of the OneNet Architecture. It consists of three main components:

- OneNet Decentralized Middleware
- OneNet Orchestration Workbench
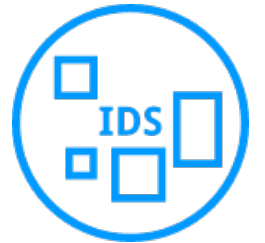- OneNet Monitoring and Analytics Dashboard

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IntNET knowledge base creation
OneNet Middleware and Connector

OneNet Middleware

- enables a **secure and trust end-to-end data exchange** between OneNet Participants
- offers central features to all the OneNet participants like *identity management, sources discovery, semantic annotation, vocabularies and ontologies*
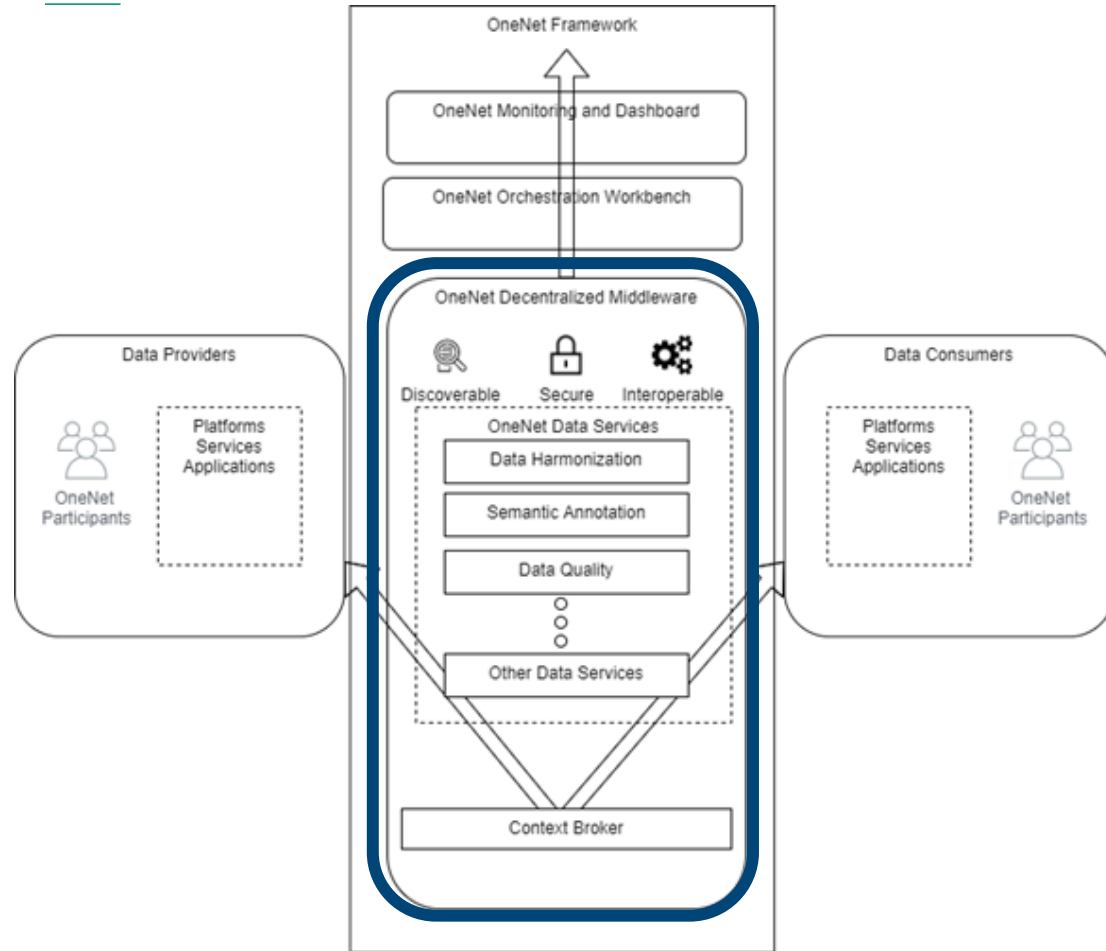
OneNet Connector

- follow the standards **IDS specifications**
- is a **decentralised instance of the OneNet Middleware**
- is **responsible for the execution of the complete data exchange process**
- each OneNet Participant is able to **deploy and configure its own connector**
- Context Broker in the OneNet connector is based on **FIWARE Orion Context Broker and NGSI-API**
- It also includes
  - **Configuration tool**
  - Set of **interoperable API** for the connection with already existing Platform/Application/Services
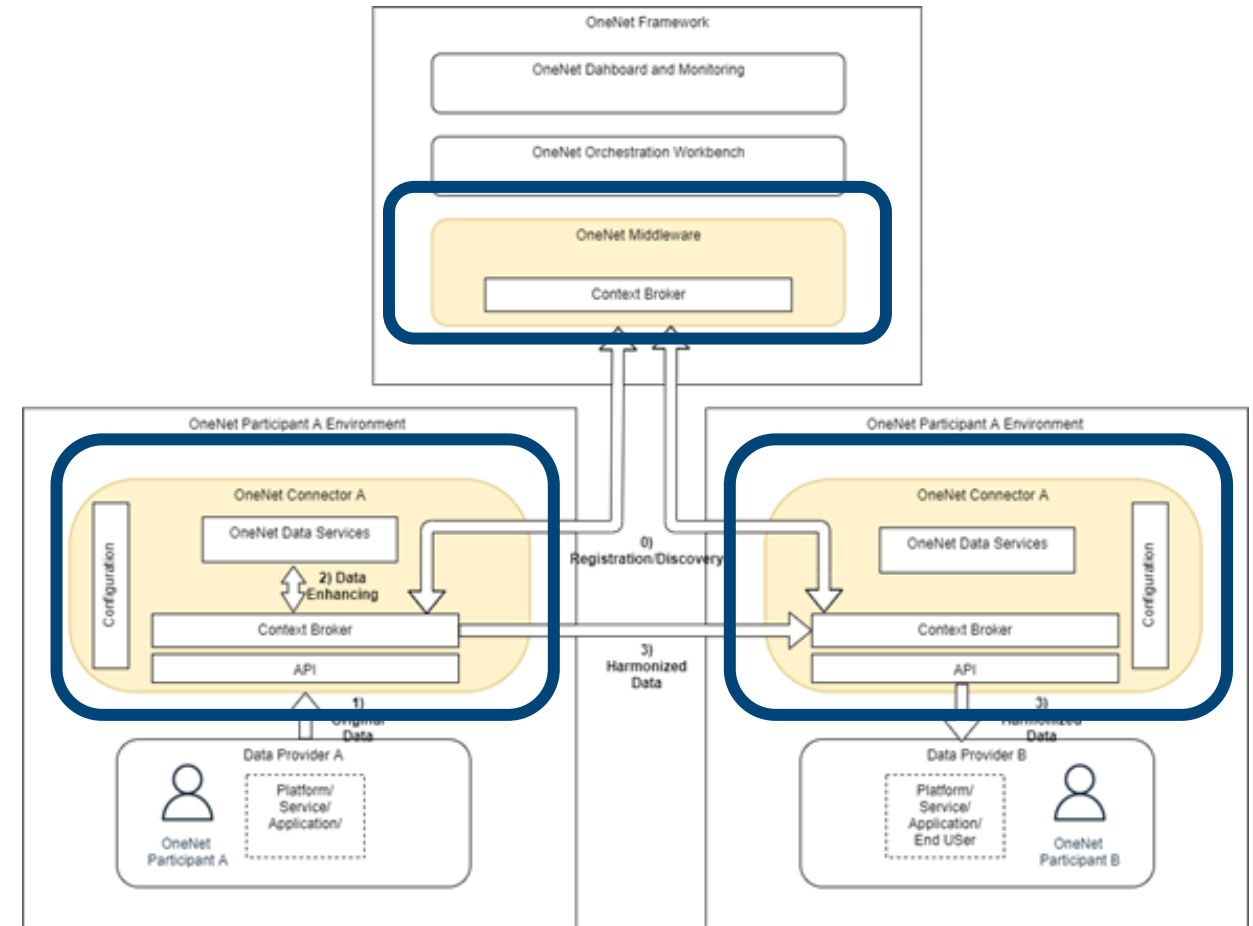 - **OneNet Data Harmonization services**

IntNET knowledge base creation
OneNet Decentralised Approach

Logical View

Deployment View

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