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FROM DATA TO ACTION: HOW DIGITALISATION ACCELERATES THE ENERGY TRANSITION

29th January 2026

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INSIEME
TOGETHER TOWARDS THE COMMON EUROPEAN ENERGY DATA SPACE

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Agenda

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European Commission

From Data to Action: How Digitalisation Accelerates the Energy Transition

29th January 2026

10:00 - 10:05

Welcome and Opening Remarks Manuel Serrano (ETRA)

10:05 - 10:15

United for Impact: Advancing the EU Energy Transition Through Digital Collaboration Ms. Patricia Arsene - Policy Officer, European Commission, DG CONNECT

10:15- 11:30

- **OPENTUNITY project** Álvaro Nofuentes (ETRA)
- **ODEON project** Moisés Antón (ETRA)
- **ECLIPSE DIGITAL project** ETRA / TRIALOG
- **BEGONIA project** Razgar Ebrahimy (DTU)
- **INSIEME project** Shievam Kashyap (FHOOE)

11:30- 11:50

Questions from the Audience & Panel Discussion:
Exploring common challenges and solutions in the digital transformation of the energy sector

11:50- 12:00

Conclusions and Actions
Ms. Patricia Arsene - Policy Officer, European Commission, DG CONNECT
Manuel Serrano (ETRA)

12:00 - 12:45

Connect & Brunch

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Ms. Patricia Arsene - Policy Officer, European Commission, DG CONNECT

United for impact: Advancing the EU energy transition through digital collaboration

The ambition?
A digitalised, resilient, efficient, secure, resource independent, integrated and socially fair European energy system

The energy system is changing at unprecedented scale.

This is due to:

- Decarbonisation
- Decentralization
- Digitalisation

A system of this complexity cannot be operated efficiently without digital tools and (Gen)AI.

Growth of renewables
In the third quarter of 2025, 49.3% of net electricity generated in the EU came from renewable energy sources (Eurostat).

Electrification of Transport
Battery-electric vehicles accounted for 16.4% of new EU car registrations in the first ten months of 2025 (ACEA)

Buildings
Around 16% of EU buildings are heated or cooled using heat pumps (ehpa)

Industry
Electricity represented 32.6% of final energy use in EU industry in 2023 (Eurostat)

This fundamental transformation and its benefits cannot be delivered without:

- a digital backbone of the EU energy system
- empowering consumers!

Key AI legislation and strategies

EU policy is shifting from experimentation to system-wide deployment.

AI Continent (incl. AI Factories)

- Build AI capacity at scale in Europe
- Provide compute, data and tools to innovators
- Reduce dependence on non-EU infrastructure

Cloud & AI Development Act

- Scale up cloud and data centres in Europe
- Ensure sustainability and security
- Enable AI deployment at scale

2025

2026

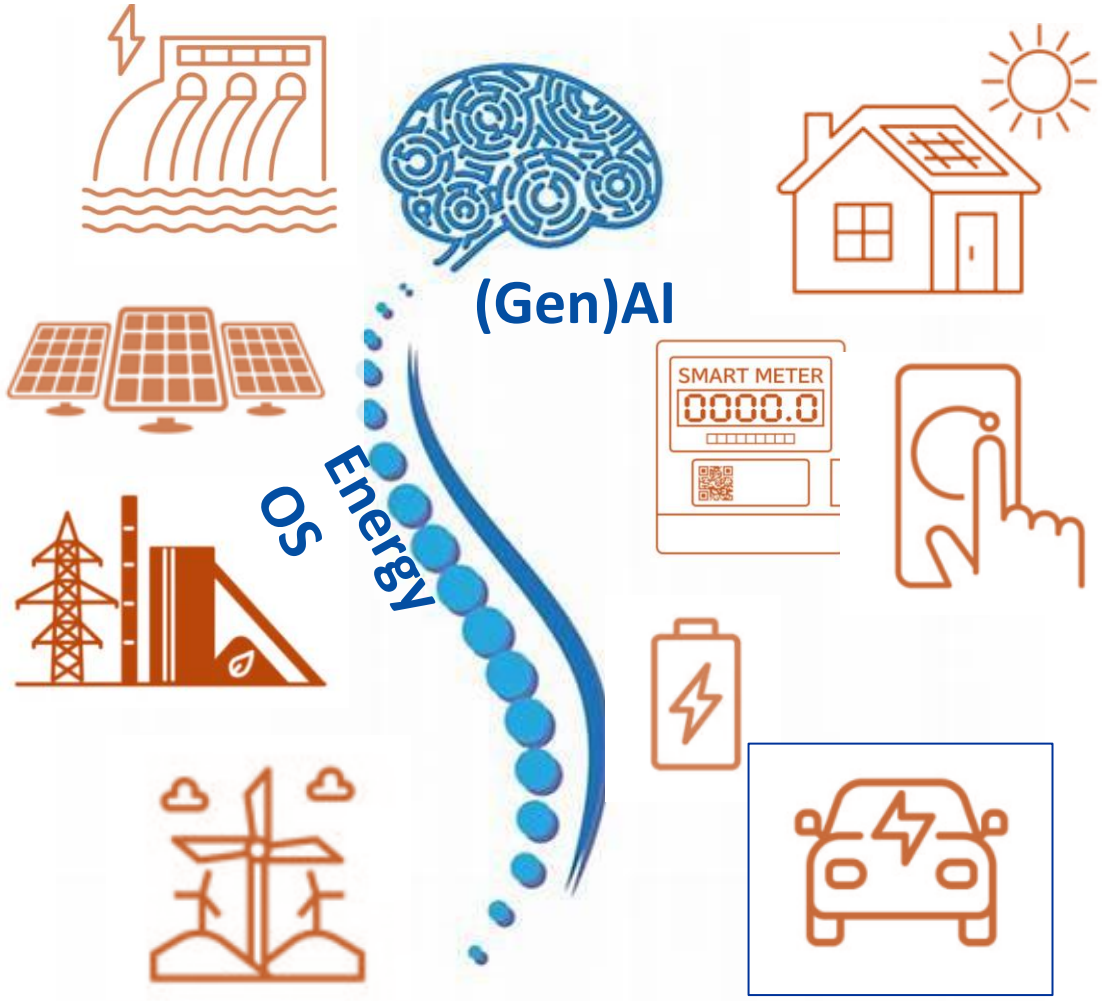
Apply AI Strategy

- Move AI from pilots to deployment
- Boost productivity in key sectors
- Support SMEs and public service
- ➢ complementarity with the upcoming Strategic Roadmap for Digitalisation and AI in energy

Data Union Strategy

- Unlock high-quality data for AI and innovation
- Enable secure data sharing across borders and sectors
- Create data spaces and data labs for trusted reuse

Towards a Digital Backbone as an orchestrator powered by (Gen)AI

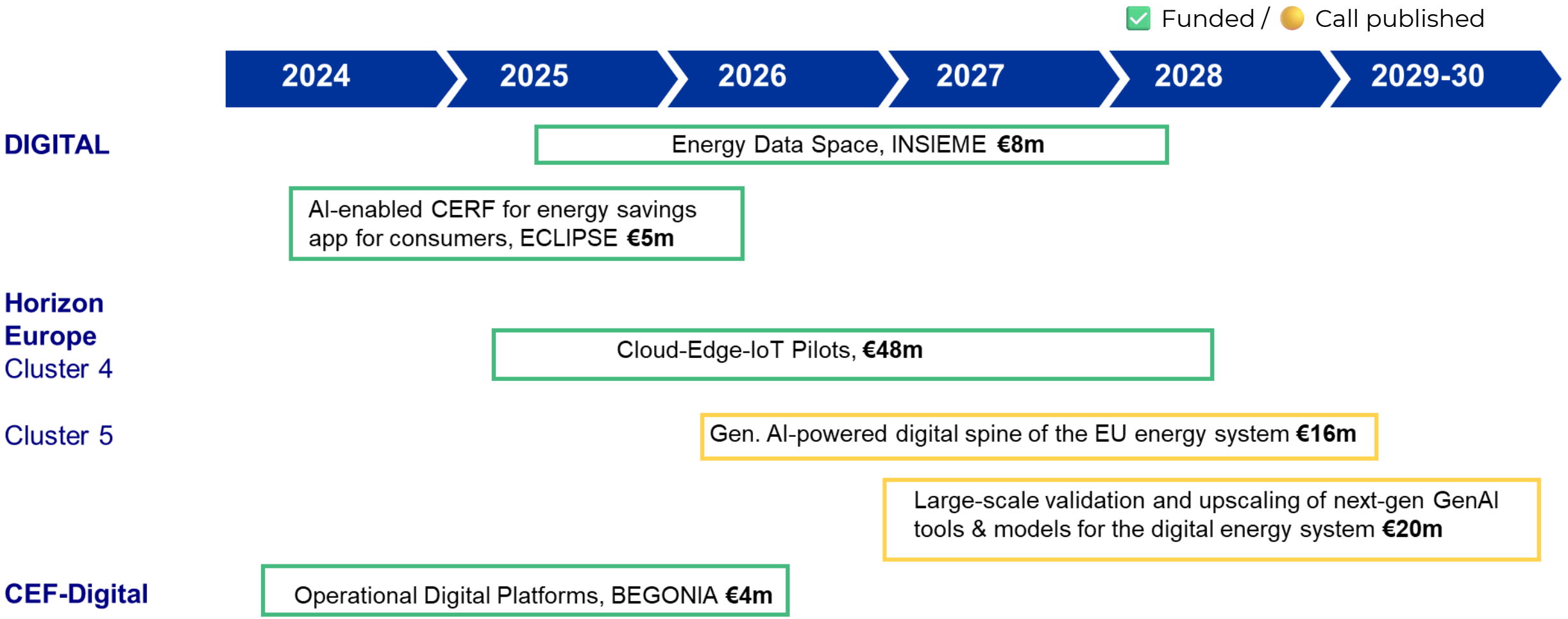


Energy data layer: bringing together existing EU technical and governance building blocks into a federated Common European Energy Data Space (CEEDS).

AI operational layer: AI Factories, TEFs and TSOs/DSOs aligning on shared data, validation and deployment, monitoring & governance frameworks to enable deployment at scale.

Open platforms:
ecosystem – market place – standards – piloting

Support for the digital backbone of the energy system



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FOUR PROJECTS, ONE VISION: THE DIGITAL TRANSFORMATION OF THE EU ENERGY SYSTEM

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From 01/01/2023

A project opening the electricity ecosystem to enable a smarter and more flexible energy system.

DEON

From 01/01/2024

A Reference Federated Energy Data Space for all actors to facilitate the energy transition.

Begonia

From 01/01/2024

A project driving digital transformation in energy and transport through the development of cross-border Operational Digital Platforms (ODPs).

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From 01/09/2024

A Common European Reference Framework (CERF) for energy consumer applications across the EU.

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From 01/04/2025

A Common European Energy Data Space as digital backbone of Europe's transition to net-zero

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OPENing the electricity ecosystem to multiple actors in order to have a real decarbonization opportunity

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Horizon Europe Grant agreement N° 101096333 .

ECLIPSE Workshop

29.01.2026

Álvaro Nofuentes

Project Coordinator - ETRA I+D

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Horizon Europe Grant agreement Nº 101096333 .

OPENing the electricity ecosystem to multiple actors in order to have a real decarbonization opportunity

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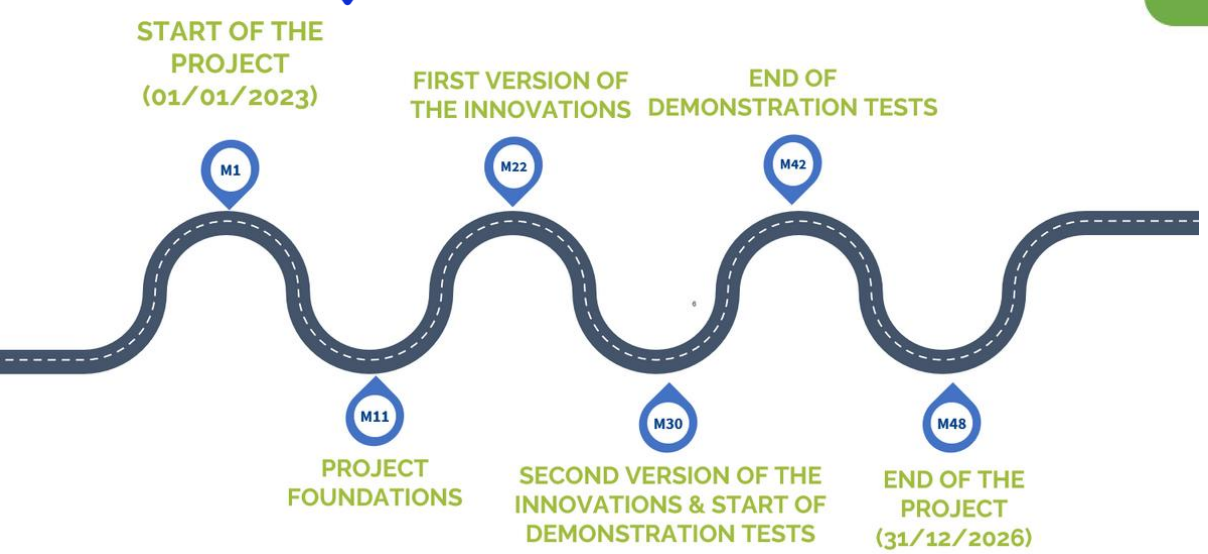

GRID OPERATORS

aem · Elektro Primorska · HEDNO · ipto

TECHNICAL DEVELOPERS

Que technologies · Hypertech · etra I+D · BLUESUN AUTOMATION · avantcar · amibit

MARKET PLAYERS

NODES · KOLEKTOR

RESEARCH & STANDARDIZATION ENTITIES

IECS ΕΜΠΕΥ · UNE Normalización Española · SUPSI

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The OPENTUNITY innovations are tested and validated in 4 different EU Countries: Greece, Slovenia, Spain, and Switzerland.

Location: Municipality of Santa Eulalia de Ronçana and city of Balenya.

Goal: Improving the operation of the Distribution Grid to favour the installation of Distributed Renewable Sources.

Location: Urban district of Via Motta in Massagno.

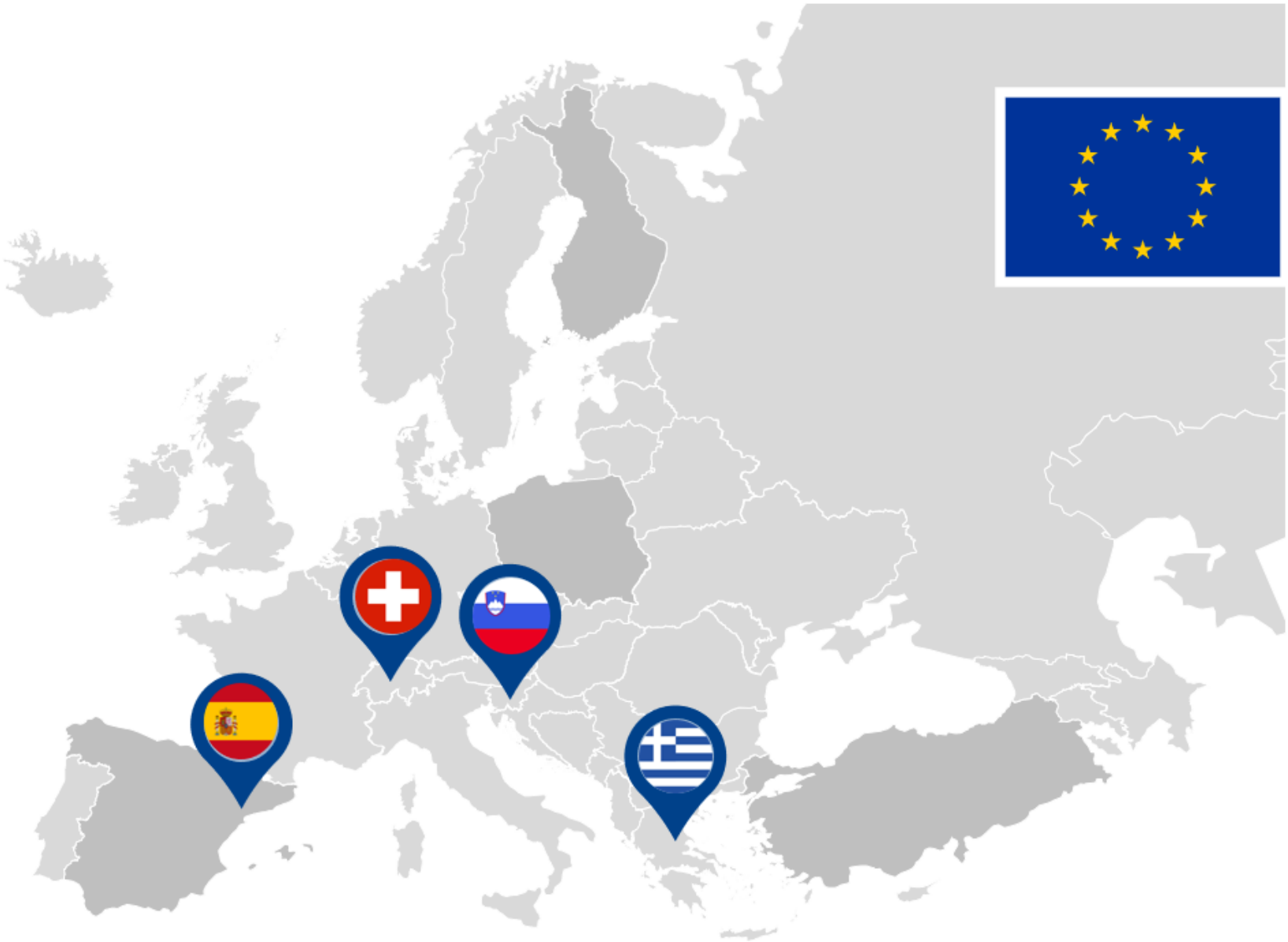
Goal: Facilitating the settlement and operation of a Local Energy Community in accordance to Distribution Grid characteristics.

Location: A section of the grids of Elektro Primorska and Elektro Ljubljana.

Goal: Utilising the flexibility potential of domestic assets and Electric Vehicles in order to provide services to the Distribution Grid.

Location: Mesogia area, municipalities of Koropi, Lavrio, N. Makri and the interconnected islands of Kea, Andros and Tinos.

Goal: Increasing the digitalization of both DSO and TSO and establishing synergies between them.



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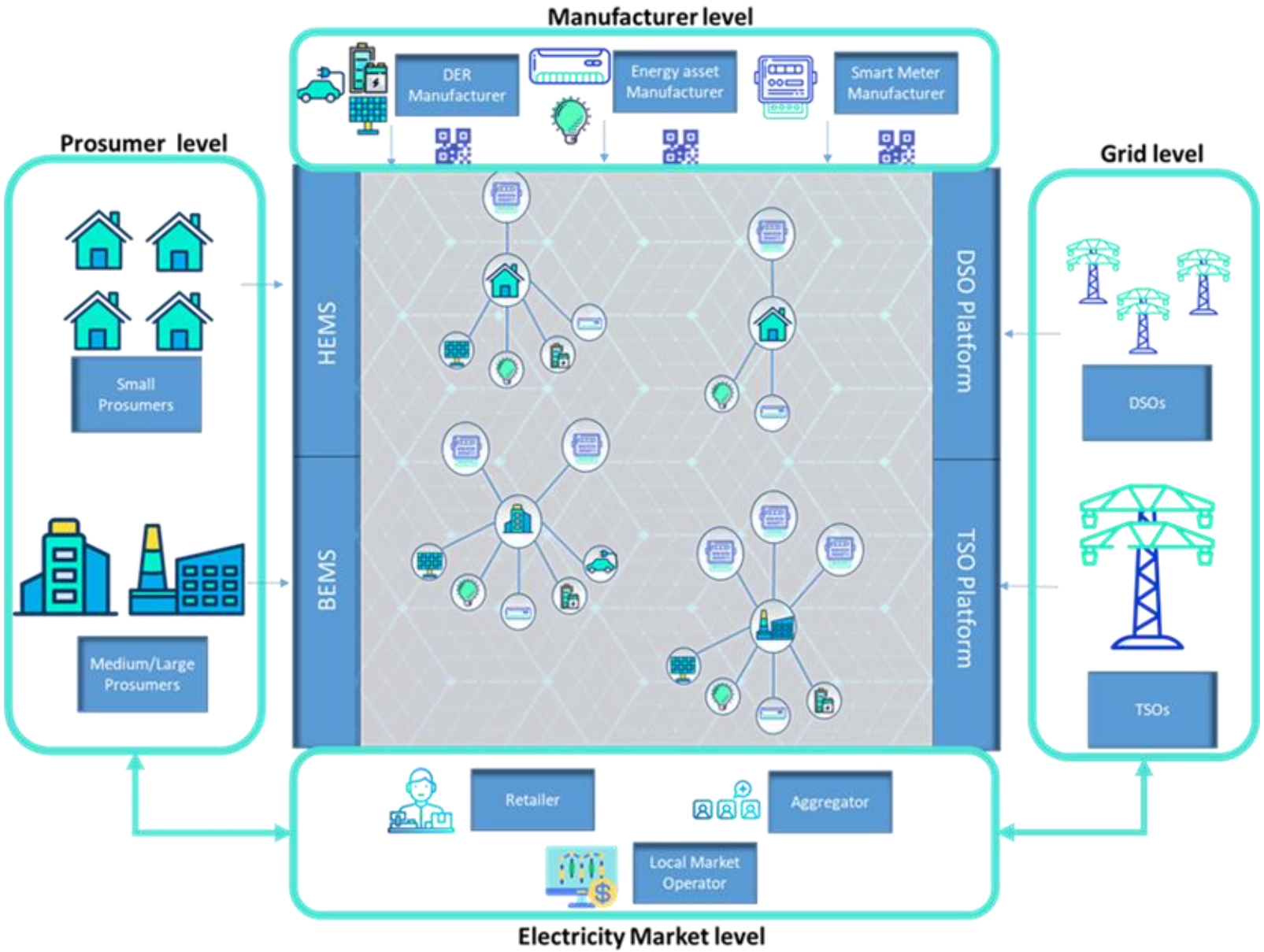
etra I+D



OPENFLEX

Technologies to increase flexibility in prosumer environments.

OPENGRID

Supporting technologies for DSOs and TSOs to better manage grid issues.

OPENSPACE

Federated Data Space Infrastructure

OPENABILITY

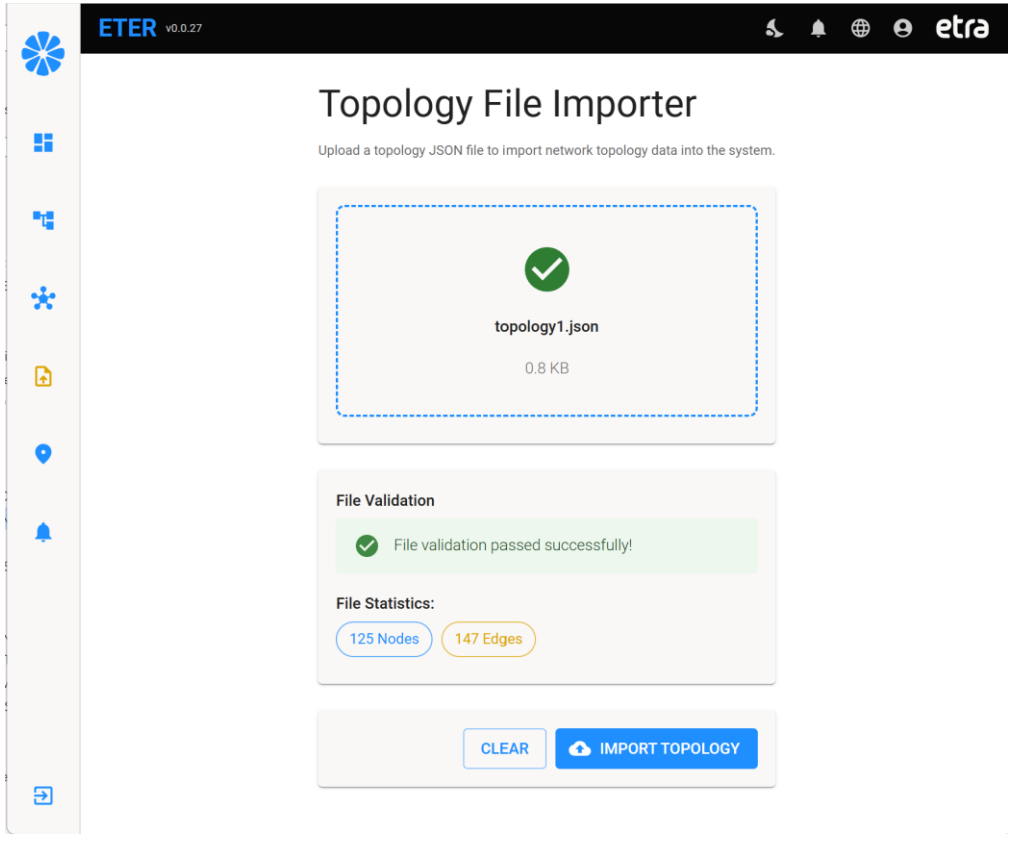
Procedures for enhancing interoperability.

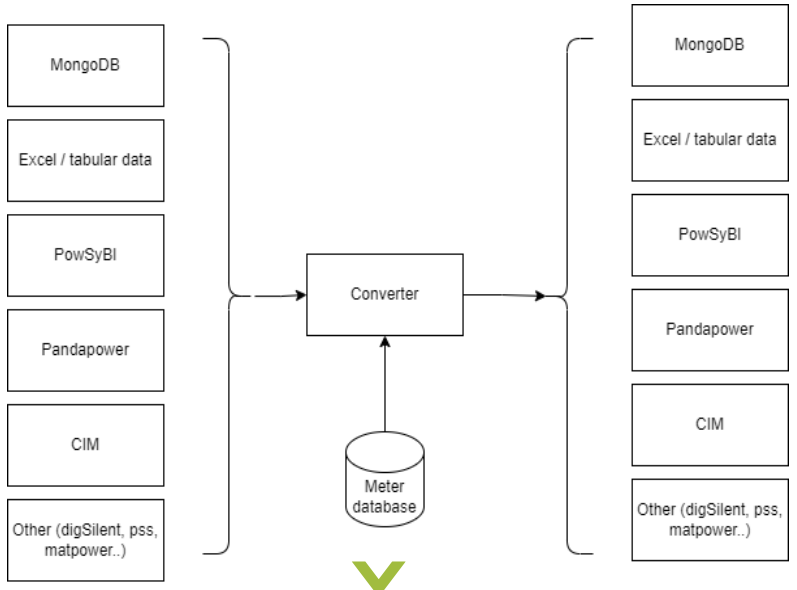
OPENABILITY: OPENTUNITY Topology converter.

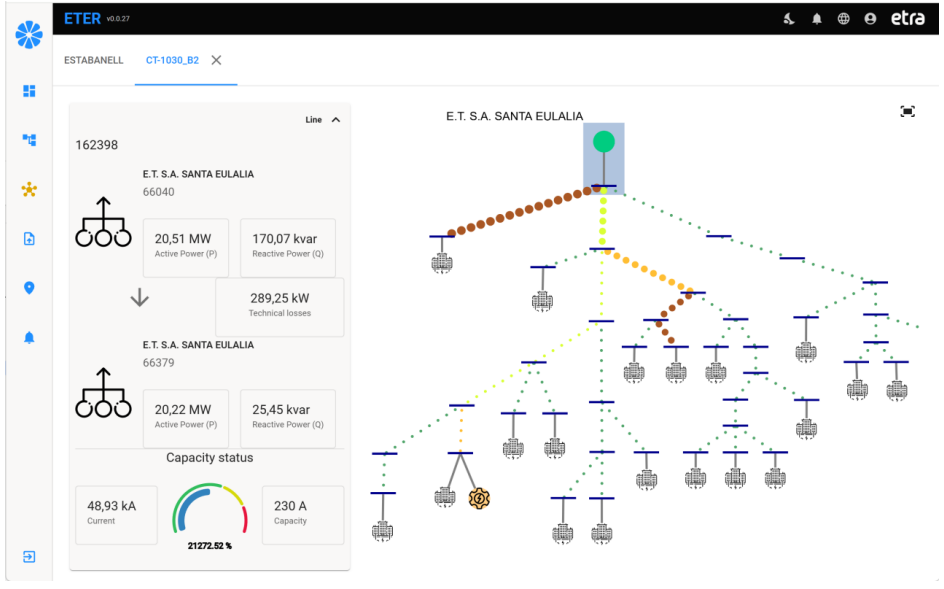
RATIONALE

The **aim of using CIM** also for DSO topology led to the development of the Open-Source

OPENTUNITY Topology converter.







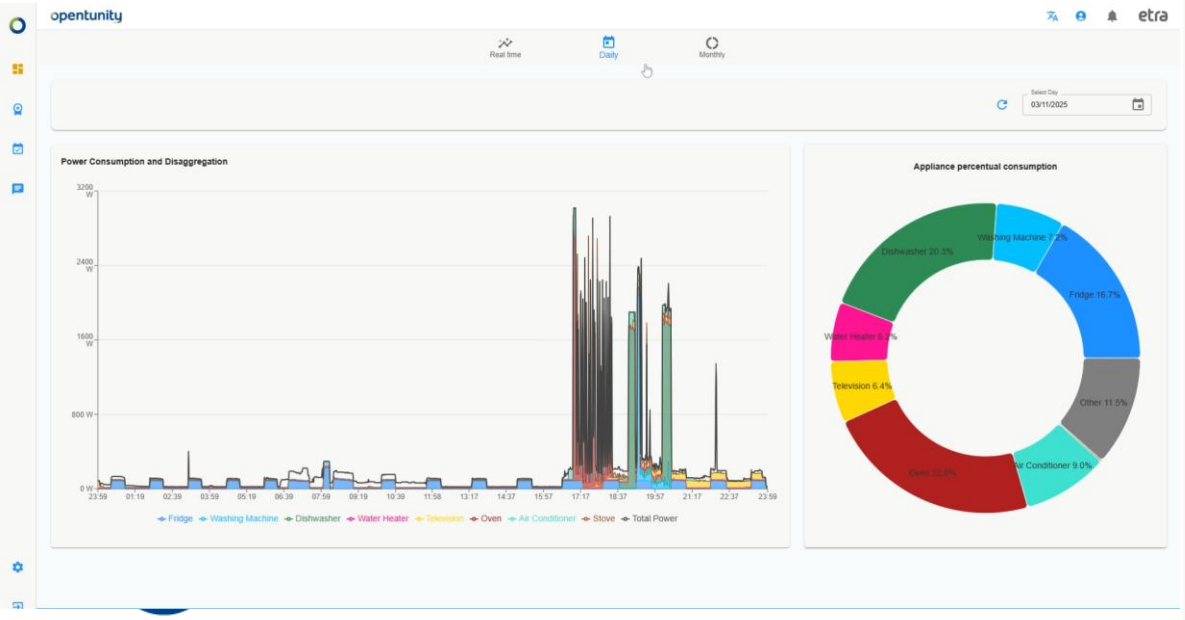
OPENFLEX: OPENTUNITY NILM module →

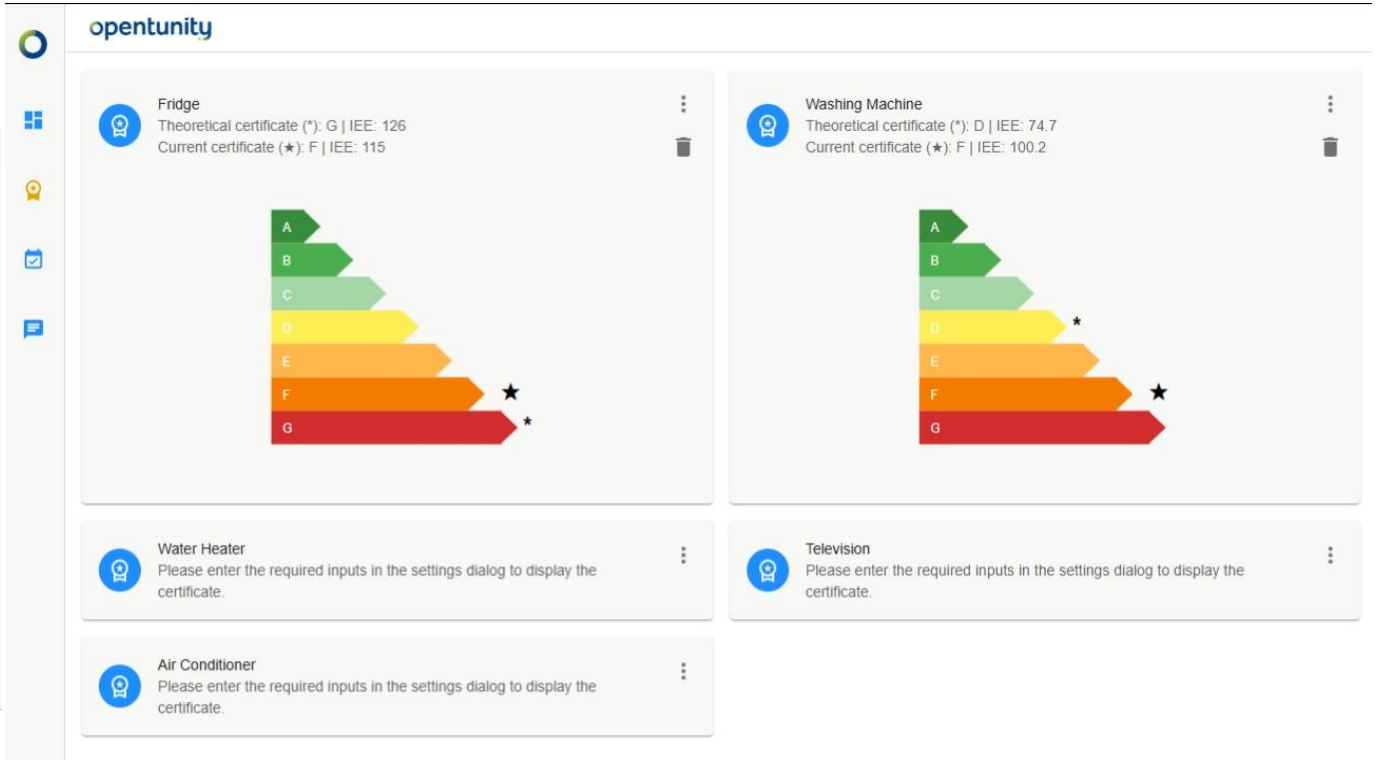
RATIONALE

To get the energy consumption of the assets of the household **just with smart-meter data,** without the need to install sensors for the devices.

F1-scores ranges from 60% to 96% depending on the appliance

Best results obtained with XGBoost.





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Basis for future Grid-related projects and commercial actions of ETRA.

Pan-European impact at scientific, grid and prosumer level

Applying cutting-edge AI features and ready to leverage GenAI innovations

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ODEON

FEDERATED DATA AND INTELLIGENCE ORCHESTRATION
& SHARING FOR THE DIGITAL ENERGY TRANSITION

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ODEON partners

ODEON at a glance

HORIZON-CL5-2023-D3-01-15

Supporting the green and digital transformation of the energy ecosystem and enhancing its resilience through the development and piloting of AI-IoT Edge-cloud and platform solutions

5 pilot sites

Distributed in 5 different EU member states

48 months

Starting in January 2024
Ending in December 2027

35 parnters

From 13 different member states

Total budget: 22.56 M€

Total funding: 17.87 M€

Green and Digital transition

Green and Digital Transition

The need to evolve from a centralized and fossil-fuel-based system to an energy efficient, RES-based and interdependent system that operates with a high degree of flexibility offered by distributed assets across its edges.

Read more

EXPANSION OF THE EDGE

Assets that expand their edge in terms of controllability and operational complexity.

INCREASE DATA OUTREACH AND OBERSVABILITY

Facilitate the coordination at a grid (centralized) and DER (edge) levels in a coordinated manner.

COORDINATION BETWEEN ENERGY STAKEHOLDERS

In business and market terms, but also in exchanging data and intelligence. The overall goal is to increase network's stability and resilience

ODEON innovations

ODEON Cloud-Edge Data and Intelligence Service Platform

Reference Energy Data Spaces implementation around energy data

ODEON Catalogue of AI Artefacts

Machine-Learning mechanisms for orchestration of devices

ODEON Energy services for DSO

- Flexibility-based Network Management
- Dynamic Power Flow Management and Quality restoration
- Network Planning and Reinforcement Assessment
- Asset management and Predictive maintenance

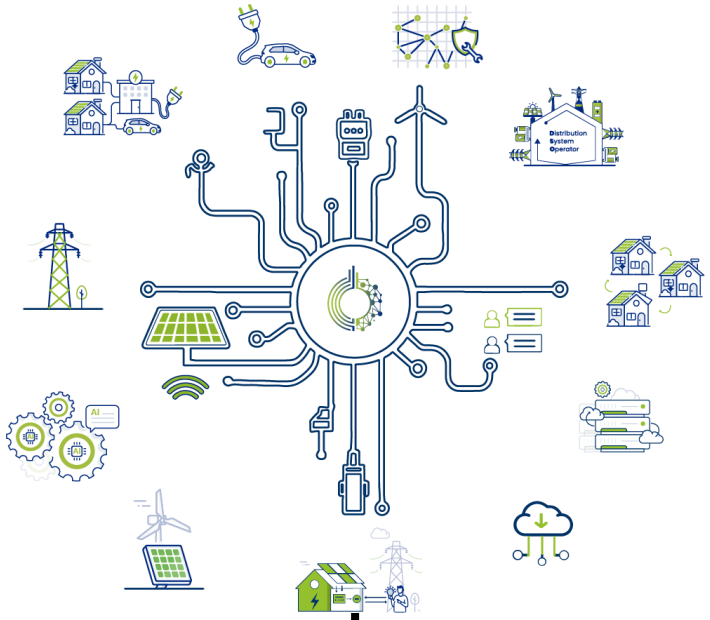
ODEON Energy Services for LECs/Aggregator

Reduction of energy costs and increase their autonomy by management in RES and flexible assets

ODEON Energy Services for Prosumers

Informed and transparent participation in flexibility and energy transactions

ODEON Architecture – Enabling Smart Solutions through Edge Computing, AI & IoT



ODEON Innovative Data-driven and Intelligence-enabled Energy Services and Applications

Data/ Intelligence-driven Services for Flexible and Resilient Grids

Data/ Intelligence-driven Services for LECs and Prosumers

ODEON Catalogue of AI Artefacts

ODEON CLOUD INFRASTRUCTURE

ODEON Cloud Data Space and AI Container

ODEON Cloud-Edge Orchestrator and Operations Manager

Centralized Cloud

ODEON NEAR EDGE/EDGE ENVIRONMENTS

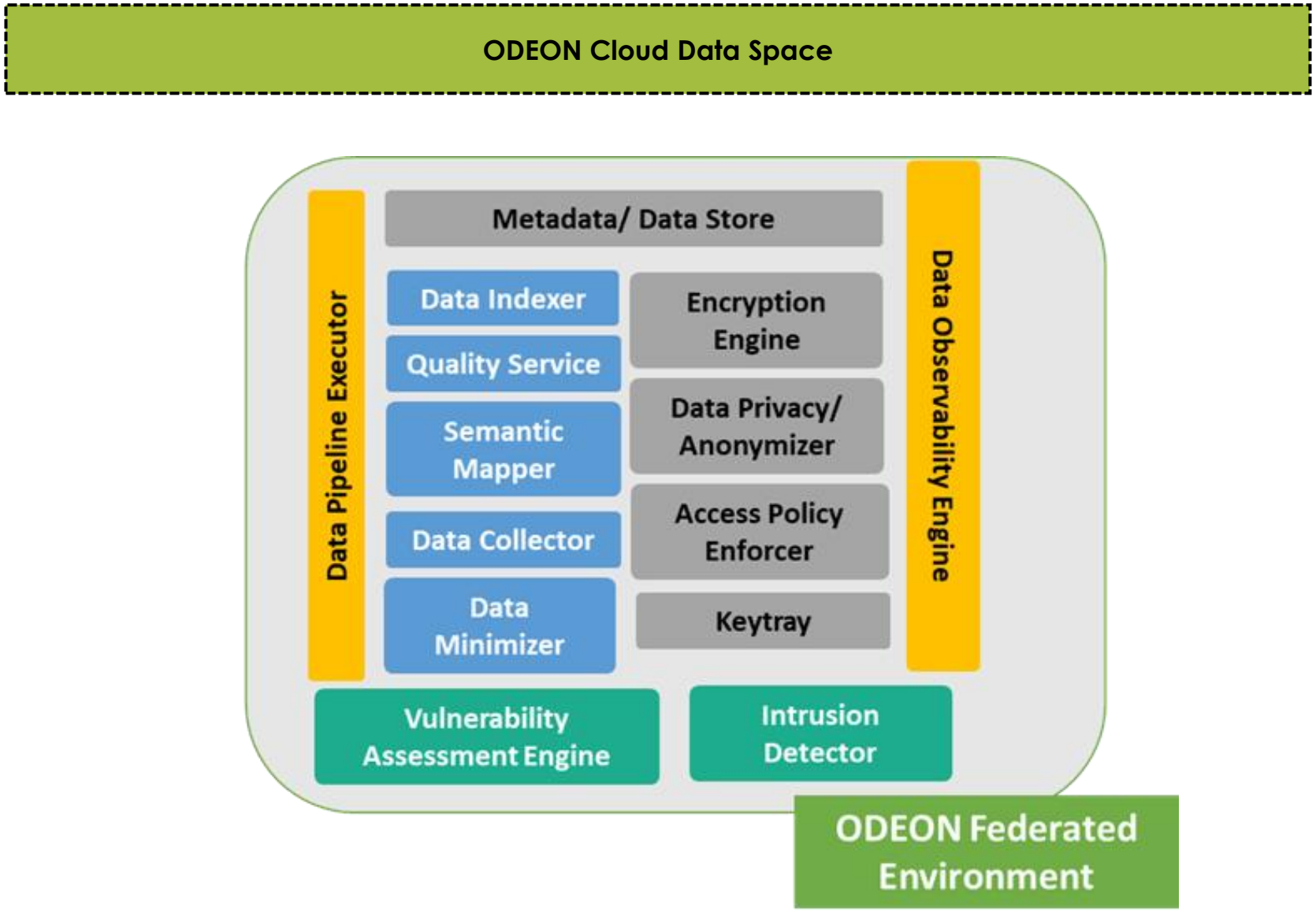
ODEON Federated Private Cloud/Server

ODEON Edge Environment

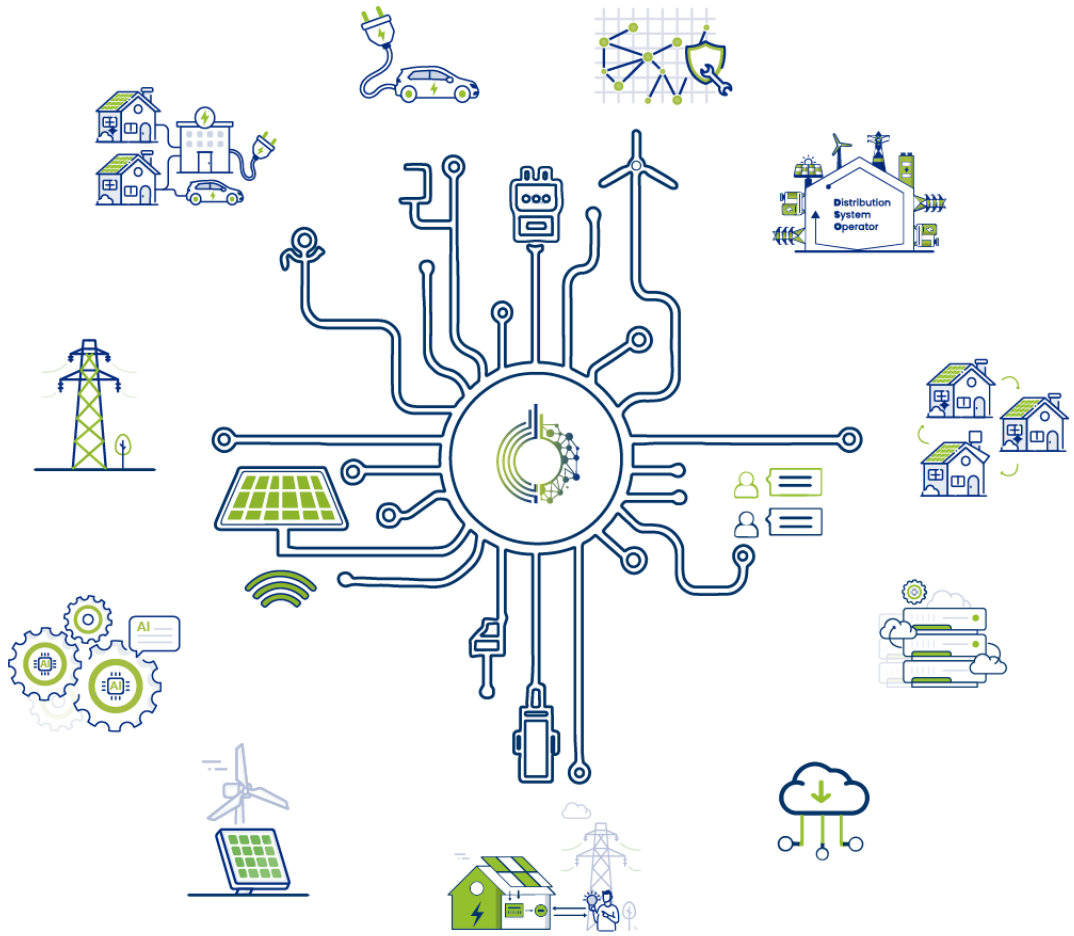
Hosted by each Demo Partner

IoT Gateway

ODEON Cloud Data Space



A Bird-eye view of the ODEON approach

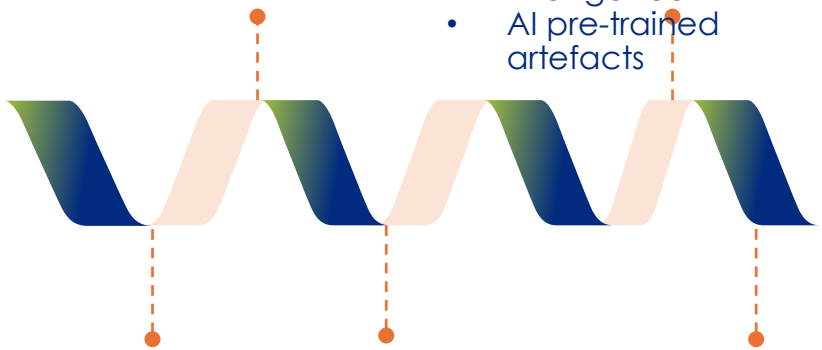


SERVICE ENABLERS

- Network and Asset Management
- VPP and Demand Response
- Investment Guidance
- Self-consumption
- EV Smart Charging

INTELLIGENCE ENABLERS

- Federated AI Containers
- Pipeline design,training and execution
- Federated intelligence
- AI pre-trained artefacts



MARKET ENABLERS

- P2P Energy Trading
- Local Flexibility Trading
- Market Codes and Processes

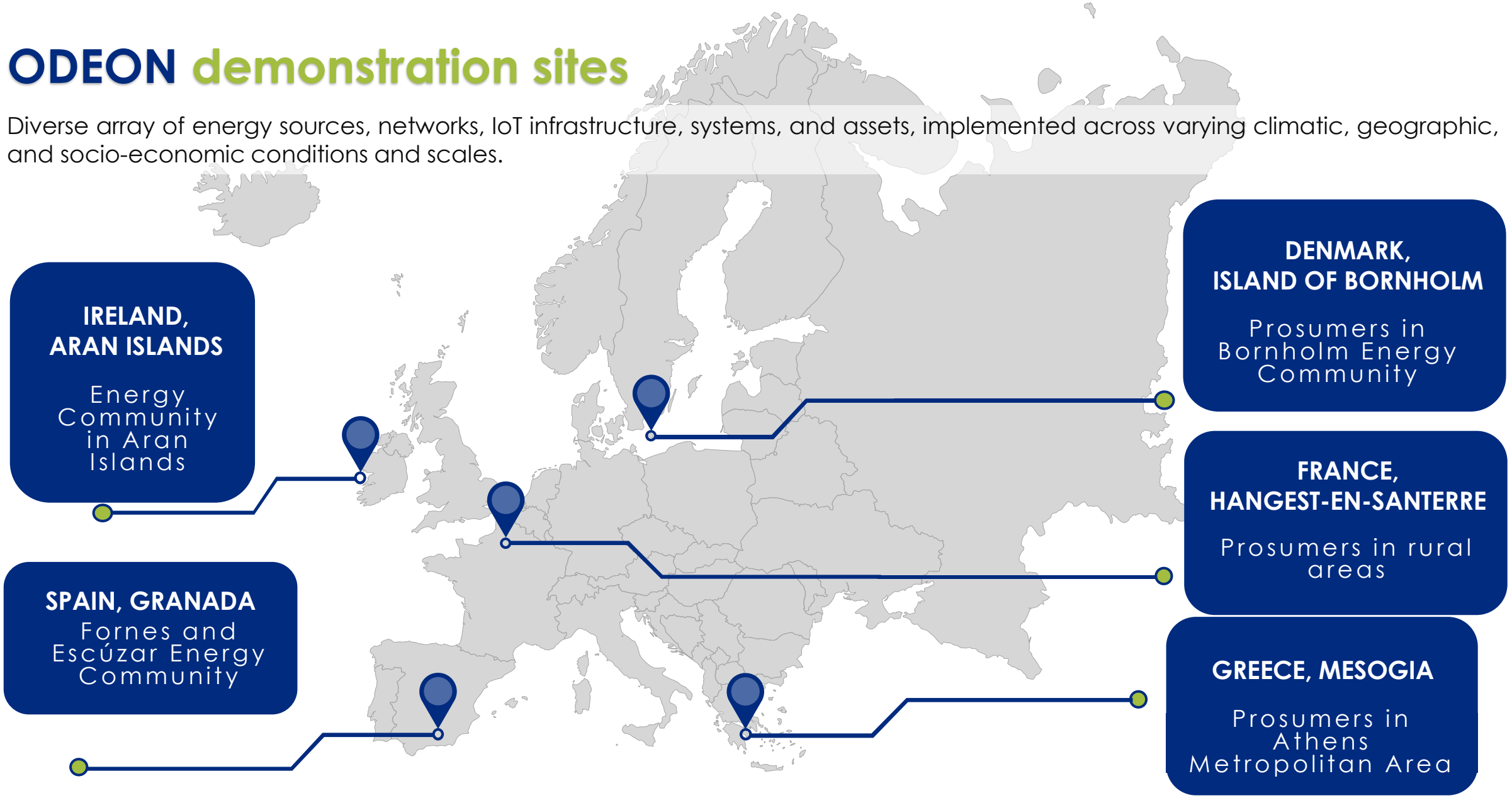
DATA ENABLERS

- Federated Data Spaces and DataOps Orchestration
- Interoperability and Data Sharing
- Data privacy and Cyber security

DER, GRID Assets, Distributed Data Assets

ODEON demonstration sites

Diverse array of energy sources, networks, IoT infrastructure, systems, and assets, implemented across varying climatic, geographic, and socio-economic conditions and scales.



IRELAND, ARAN ISLANDS

Energy Community in Aran Islands

SPAIN, GRANADA

Fornes and Escúzar Energy Community

DENMARK, ISLAND OF BORNHOLM

Prosumers in Bornholm Energy Community

FRANCE, HANGEST-EN-SANTERRE

Prosumers in rural areas

GREECE, MESOGIA

Prosumers in Athens Metropolitan Area

Aran Islands, Ireland

- Smart Metering **800 customers.**
- >239 kWp Solar Panels
- **70 prosumers** with Smart Plugs and controllable HVACs
- **EV Chargers (private)**

ODEON demonstration sites

- Smart Metering **16,000 customers.**
- >250kWp
- **600 prosumers** with Smart Plugs and controllable HVACs
- **GIS topology and SCADA data**
- **EV Chargers**

Bornholm, Denmark

- Smart Metering **28,000 customers.**
- >23MWp Solar panels, 37MW (Wind)
- **20 prosumers** with Smart Plugs and controllable HVACs
- **GIS topology and SCADA data**
- **EV Chargers**

Hangest-En-Santerre, France

- Smart Metering **30,000 customers.**
- >188 kWp solar, 22kW wind
- **20 prosumers** with Smart Plugs and controllable HVACs
- **GIS topology and SCADA data**
- **EV Chargers**

Mesogia, Greece

- Smart Metering **650,000 customers.**
- >300 **PV Plants**
- **150 prosumers** with Smart Plugs and controllable HVACs
- **GIS topology and SCADA data**

ECLIPSE Connection

ODEON

While ECLIPSE defines the **framework of services for citizen energy savings**, ODEON builds the **'digital highway'** of data and AI that ensures those services are secure, automated, and scalable across Europe

ECLIPSE creates the environment for energy-saving applications and consumer engagement. **ODEON** provides the "How"—the technical backbone of Federated Data Spaces and AI that makes the ECLIPSE vision operationally possible, secure, and interoperable.

ODEON

FEDERATED DATA AND INTELLIGENCE ORCHESTRATION
& SHARING FOR THE DIGITAL ENERGY TRANSITION

Thank you!

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ENERGY CONSUMPTION REDUCTION BASED ON OPEN-SOURCE REFERENCE FRAMEWORK

2024 - 26

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WHY ECLIPSE

- Necessity to accelerate the energy transition to ensure a sustainable, resilient, and fair economy in Europe, by means of better use of the energy and digital technologies to reduce energy demand and bills, and grid stability and resilience.

- Several Energy Apps across Europe from different stakeholders (DSOs, TSOs, retailers, aggregators, third parties, etc.) that use different energy data platforms, formats, and protocols, due to a lack of common standards and interoperability profiles.

In response of the European Commission adopted the Digitalisation of Energy Action Plan, ECLIPSE project aims to develop the Common European Reference Framework (CERF), a comprehensive set of guidelines for energy-saving applications across Europe, to enable consistent and interoperable solutions that help consumers reduce or shift their energy usage in response to grid conditions.
This ensures that energy-saving applications are scalable, compatible, and effective across all EU Member States.

ECLIPSE at a glance

ECLIPSE

Energy Consumption reduction based on Open-source Reference framework

DIGITAL EUROPE PROGRAMME

COORDINATOR

ETRA I+D

CONSORTIUM

22 partners from 13 EU countries

PILOT SITES

15 pilot sites (13 real and 2 virtual) across 17 countries

TOTAL BUDGET

9,8 M€

TOTAL FUNDING

4,9 M€

DURATION

Start date: 01/09/2024
End date: 31/08/2026

ECLIPSE PROJECT

Consortium

7 R&D entities: ETRA I+D, TRIALOG, UBITECH ENERGY, FHOO, D4G, CINTECH (Cyprus), UPB (Romania).

7 DSOs: i-DE (Spain), E-REDES (Portugal), Elektro Ljubljana (Slovenia), METLEN (Greece), CEZ (Czech Republic), Tauron (Poland), HEDNO.

4 TSO: ESO (Bulgaria), TSOC (Cyprus), HOPS (Croatia), RD NESTER.

2 Energy services: Voltalis (France), Checkwatt (Sweden).

2 Energy associations: EDSO-E (Belgium), AELEC (Spain).

ECLIPSE PROJECT

Consortium

eclipse

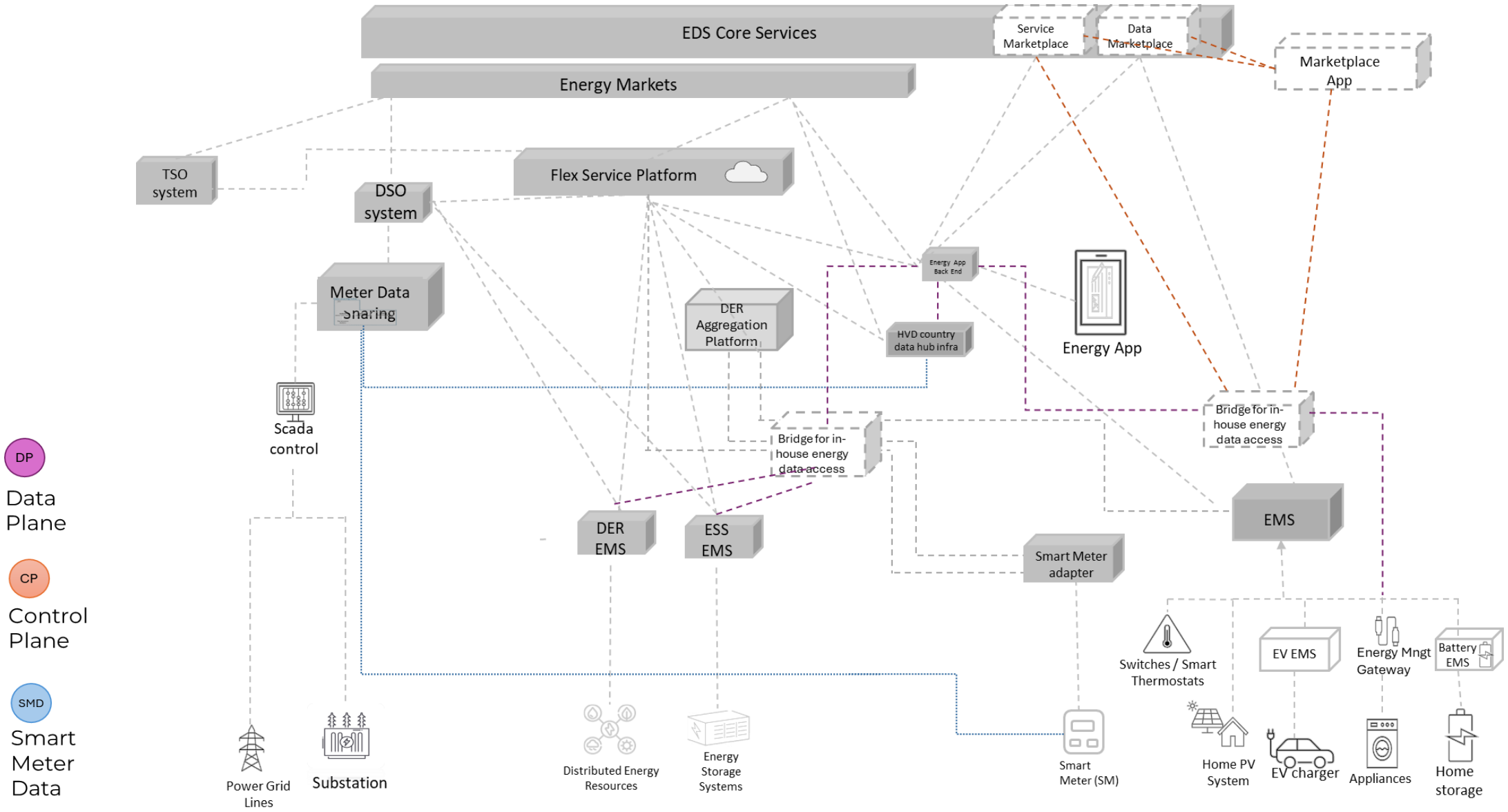
ECLIPSE PROJECT

Demonstration activities in 15 pilot sites (13 real and 2 virtual) across 17 countries

ECLIPSE 56 Use cases in 6 categories

Categories	Use cases	Definition
Energy invoice reduction for consumers	7	Consumption optimization by adopting different rates or monitoring the pool market.
Carbon footprint reduction & customer awareness	13	To increase environmental awareness through generic or personalized messages.
Enhancing quality of supply and grid resilience	13	When the network reaches or is expected to reach an operating state with values outside or close to the limit. A series of measures are proposed to avoid shedding or blackouts.
Optimization of customer energy flows	7	Based on historical data, propose a way of exploiting housing assets to optimize consumption.
Participation in flexibility energy markets	7	TSO and DSO send flexibility proposals to participate in customer flexibility markets that must previously identify which assets they could manage.
Smart-charging of EVs for grid support	4	Those uses cases centred on managing the charging of EVs considering the state of the grid or the fleet itself.

ECLIPSE DIGITAL CERF Marketplace and Aggregator consideration



Recommended Standards & Guidelines for Interoperability Profiles

- **Purpose:**
  - Define a common methodology for building interoperability profiles within the CERF framework.
  - Deliver recommended standards and guidelines across all technical layers.

- **Scope:**
  - Three CERF interfaces covered: Energy App, DSO, Flexibility and Aggregation Data Source.

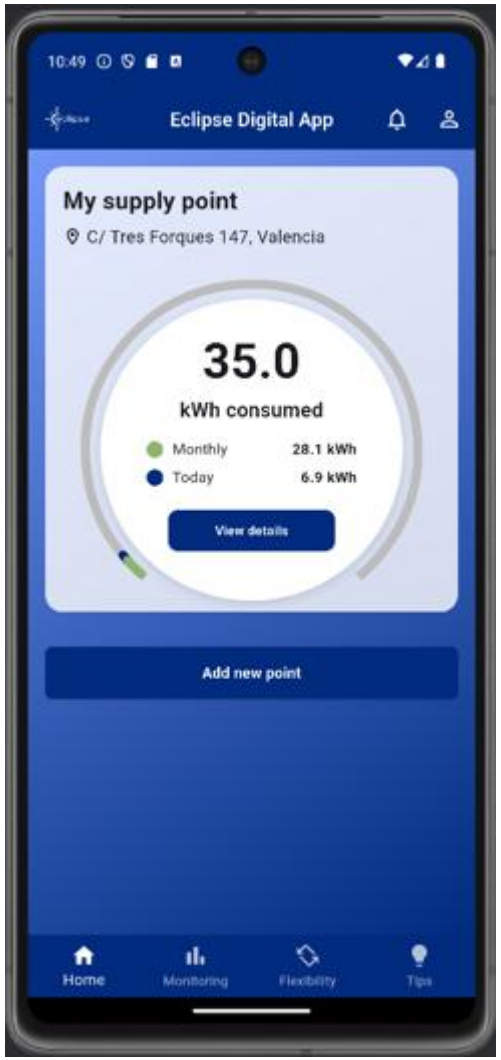
- **Approach:**
  - Develop standards recommendations and practical guidelines (not final profiles)
  - Apply a five-layer structure: Policy, Behaviour, Semantic, Syntactic, Transport
  - Prioritize standards based on maturity, adoption, and relevance to CERF use cases:
    - High (must-have): core for CERF, expected across pilots
    - Medium (good-to-have): applied when in scope (e.g., metering, market, dataspace)
    - Low (optional): used only for specific cases

Recommended Standards & Guidelines for Interoperability Profiles - Methodology and Process

- Inputs and Data Collection:
  - Defined core technical functionalities per layer for each interface
  - Collected pilot inputs through two questionnaire rounds
  - Surveyed past, ongoing & related EU projects to extract reusable standards, tools & best practices
  - Consolidated all inputs to define candidate standards for five interoperability layers

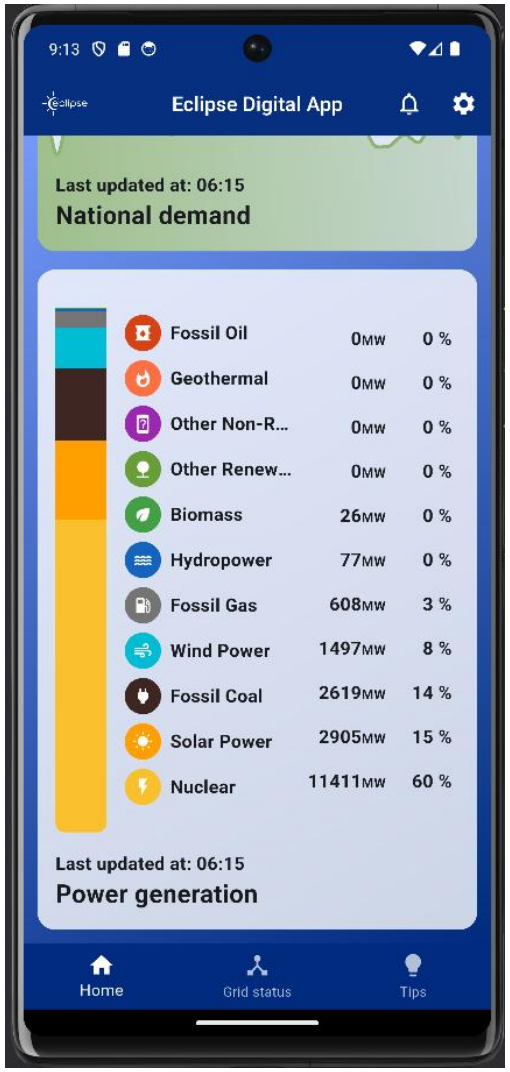
- Evaluation and Prioritization Approach:
  - Applied structured evaluation for each layer
  - Assessed candidate standards based on technical fit, reuse/adoption, implementation readiness
  - Shortlisted standards with strong maturity, interoperability, and implementation feasibility

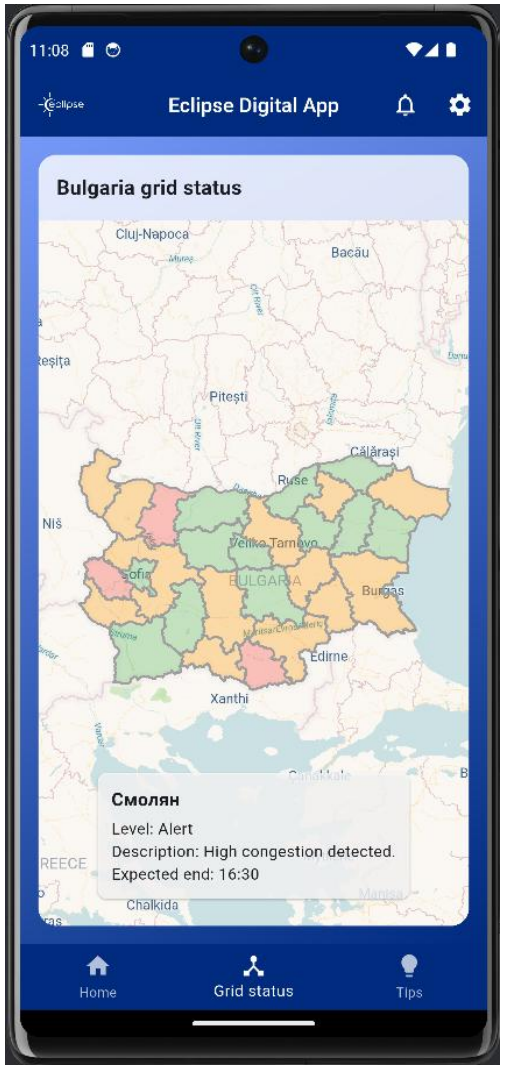
ENERGY APP: DSO Version

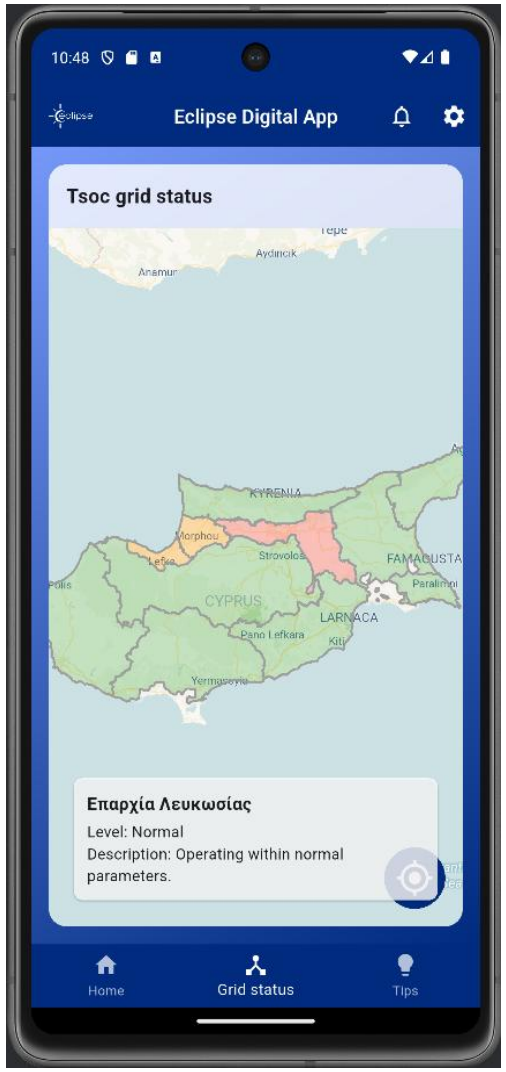


- Tested in the Greek pilots (METLEN and HEDNO).

ENERGY APP: TSO Version







- Tested in the Bulgarian pilot (ESO) and in the Cypriot pilot (TSOC).

ENERGY CONSUMPTION REDUCTION BASED ON OPEN-SOURCE REFERENCE FRAMEWORK

Thank You!

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ECLIPSE DIGITAL Project

@EclipseDigitalEU

From Data to Action: How Digitalisation Accelerates the Energy Transition

BEGONIA Journey

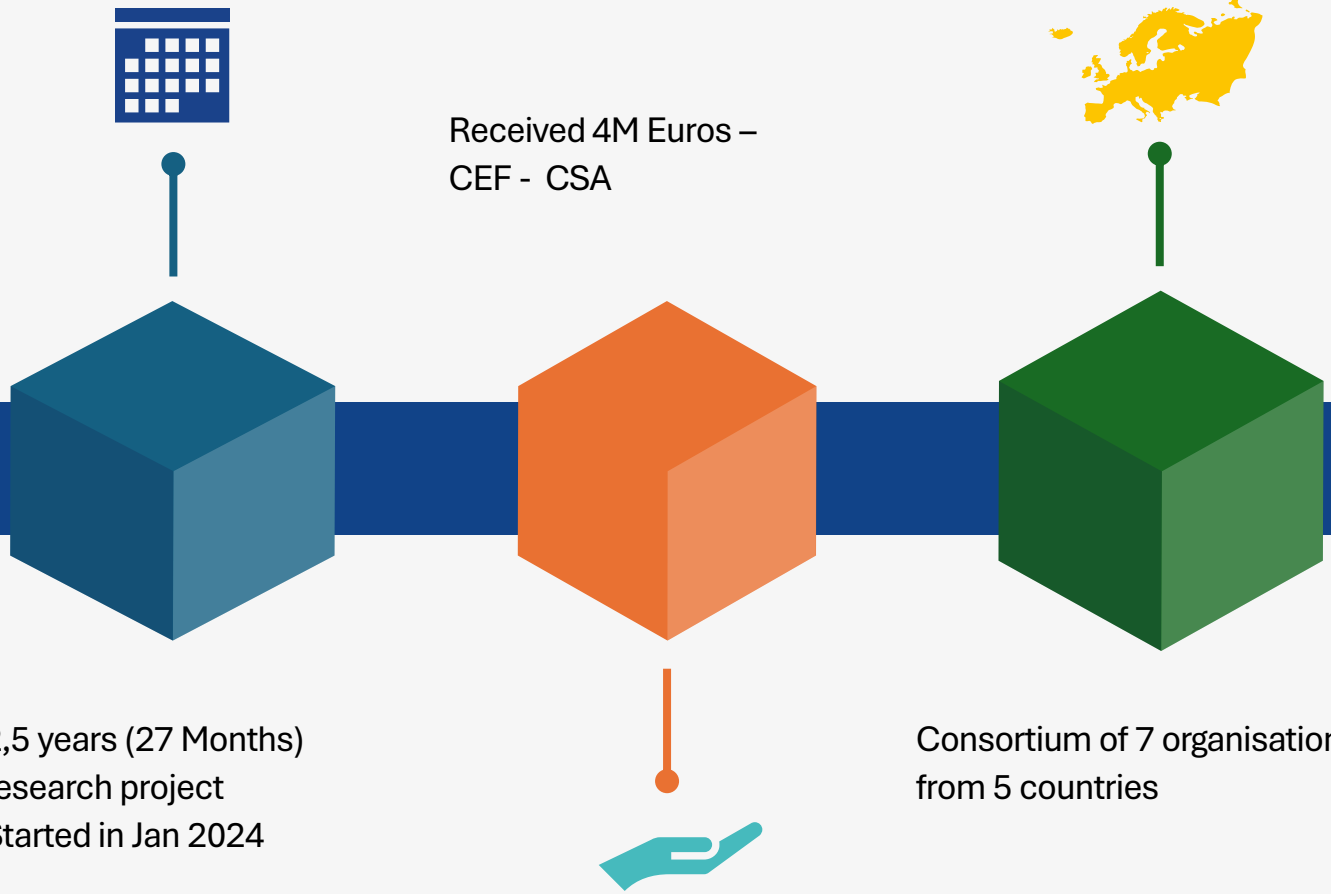
ECLIPSE Workshop (Valencia & Online)

Razgar Ebrahimy, Mohsen Banaei, Konstantin Filonenko (DTU),

Niccolo Fattirolli (Olivo Energy)

29/01/2026

Introduction - The project in a nutshell



Begonia

This project has received funding from the European Commission under grant agreement N°101133306.

Begonia project (CSA)

Main objectives:

- Identifying and shortlisting the energy and mobility use-cases
- Proposing Operational Digital Platforms (ODPs) for deployment
- Providing input to the EC for the preparation of the call and assist the awarded project

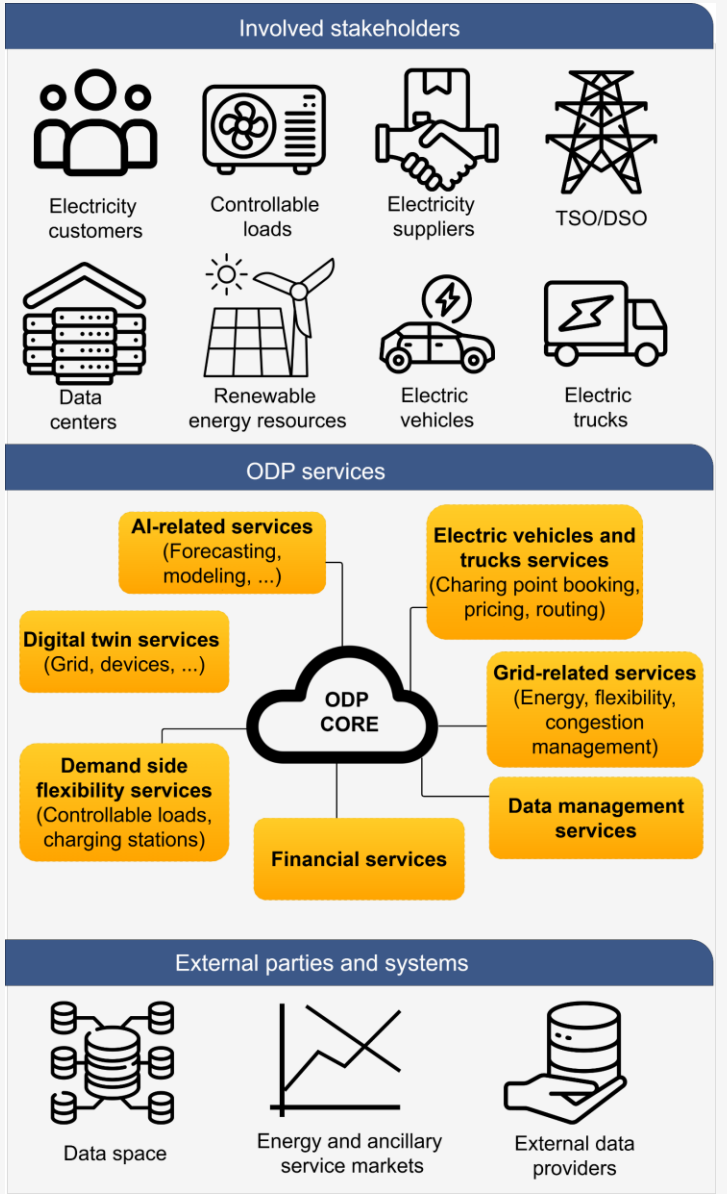
AI services in the ODP:

AI is one of the key components of the ODP used in use cases :

- Load and renewable energy resources forecasting,
- Demand-side flexibility capacity calculation
- Predicting the behavior of EVs and ETs at cross-border level,
- Routing services

BEGONIA actions:

- Select uses cases
- Short list 3 final use cases
- Develop proof of concept



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Project use cases

- 14 use cases were selected.

No.	Use case title
UC01	ODPs for distribution grids
UC02	Digitalization of Data Centers
UC03	Cross-border charging coordination and traffic management of electric trucks (ETs)
UC04	Cross-border EV commuter charging strategies with electricity price-based application
UC05	Interaction of EV owners, charging stations, and grid
UC06	A cross-border recommender tool and flexibility procurement mechanism for grid services
UC07	A unified way for changing the energy service provider in EU
UC08	Cross-border virtual communities of RESs and controllable loads
UC09	Mobility 3.0
UC10	Floating car data for dynamic insurance services
UC11	Digital permits for drone-based inspections in linear infrastructures
UC12	Smart Ports Operations
UC13	Carbon footprint of ports supply chain
UC14	Inland Waterways Multimodality 4.0

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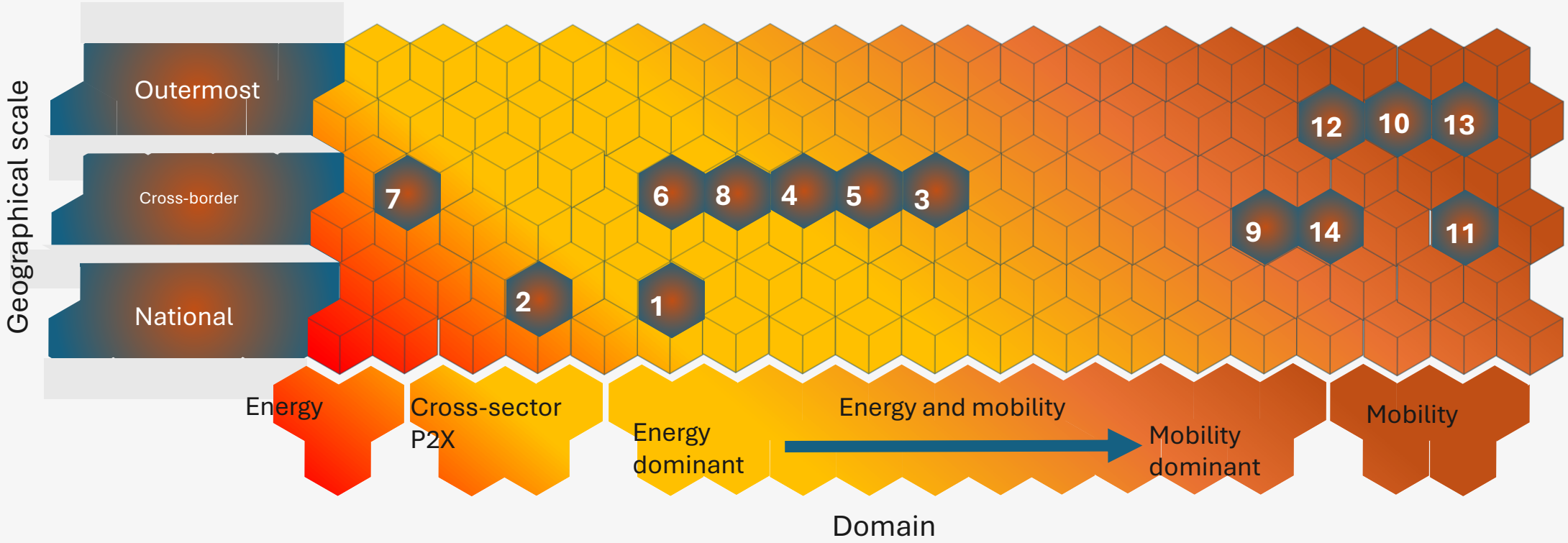
Use Cases distributions

- 14 use cases were selected.



- 5 additional use cases were also briefly introduced

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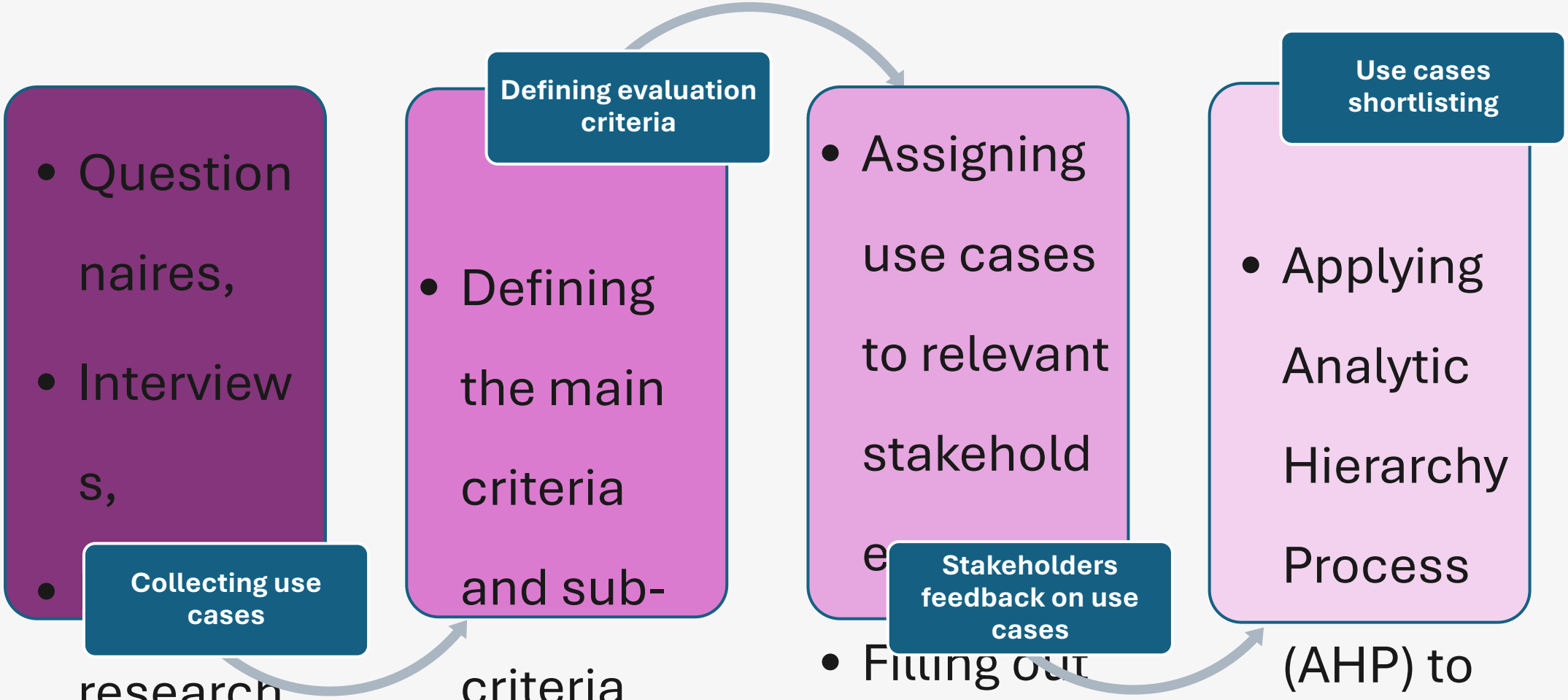
Use cases shortlisting process



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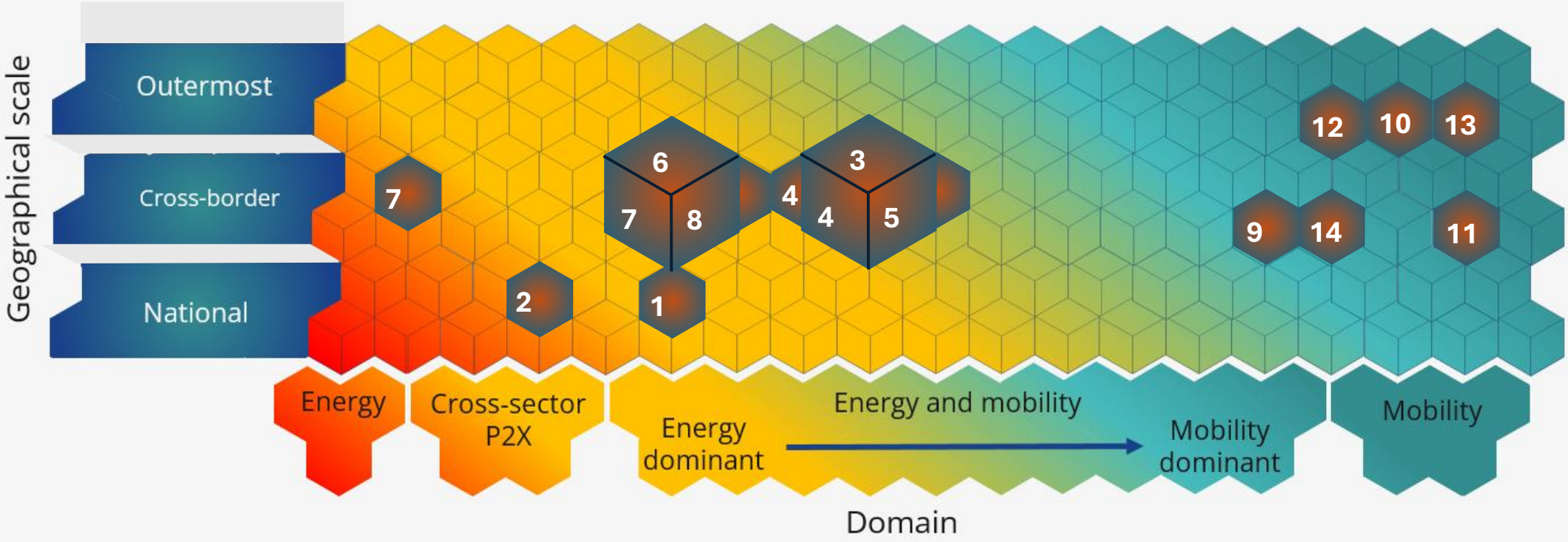
Use cases shortlisting



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Shortlisted use cases

UC 3,4, 5

AI-driven ODP for integration of EVs, ETs RESs, and grid

UC 13

Carbon footprint of ports supply chain

UC 6,7,8

Electricity customers centric ODP

UC 2

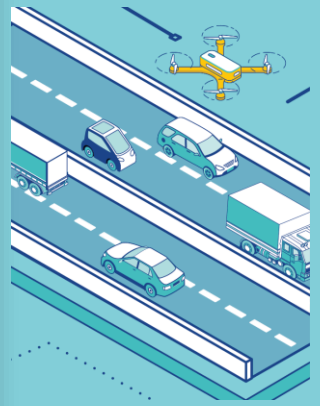
Digitalization of Data Centers

UC 12

Smart Ports Operations

UC 11

Digital permits for drone-based inspections in linear infrastructures



This project has received funding from the European Commission under grant agreement N°101133306.

Shortlisted use cases

Use cases	Name
UCI	Electricity customers-centric OPD
UCII	AI-driven ODP for integration of EVs, ETs, RES and Grid
UCIII	Digitalisation of data centres
UCIV	Digital permits for drone-based inspections
UCV	Smart port operations
UCVI	Carbon footprint of port supply chain

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Cost Benefit Analysis

Cost-benefit analysis framework	
Steps	**Procedure**
Step 1	Define the Use Case
Step 2	Map technologies to functions
Step 3	Map functions to benefits
Step 4	Monetize benefits
Step 5	Quantify costs
Step 6	Compare costs and benefits
Step 7	Sensitivity analysis and risk assessment

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Cost Benefit Analysis (USC 1) – Map Technologies to functions

		Functions				
		A. Data and information collection	B. Interoperability and system integration	C. Smart load forecasting and grid balancing	D. Automating switching and secure transactions	E. Decision support system
Technologies (Assets)	Smart meters		•	•	•	•
	IoT sensors	•	•	•	•	•
	AI algorithms	•		•	•	•
	Communication	•	•	•	•	•
	Edge computing frameworks		•			•
	Cloud		•			•
	Data integration					
	Data lake &	•	•	•	•	•
	Edge network 5G	•	•			•
	Message queues	•	•			

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Cost Benefit Analysis (USC 1) – Summary of benefits

Category	Benefits (€)	(€ Million)
Economic benefits	Reduced billing costs	241,869,779
	Reduction in transaction costs	52,817,202
	Cost savings through demand-response	125,450,955
	Cost savings from peak load reduction	25,632,254
	Revenue generation from energy trading	384,955,951
Reliability benefits	Grid Stability savings	202,314,250
	Avoidance of energy curtailment	357,415,969
Environmental benefits	CO_2 emission reduction	642,530,418
	SOx, NOx, PM10 reduction	26,470,623
Total benefits		2,059,457,401

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Economic feasibility

Sub-criterion	Weights (%)	Weighted scores					
		UCI	UCII	UCIII	UCIV	UCV	UCVI
NPV	40	5	4	3	2	1	1
BCR	25	2	1	4	1	3	5
Implementation cost	15	5	4	3	2	1	1
Cost-effectiveness for environmental outcomes	10	5	4	3	1	1	2
Sensitivity and risk resilience	10	5	4	3	1	1	2

NPV – Net present Value
BCR – Benefit-cost Ratio

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Technical feasibility

Sub-criterion	Weights	Weighted scores					
		UCI	UCII	UCIII	UCIV	UCV	UCVI
Technology readiness	17.5	4	5	3	2	4	3
Integration complexity	17.5	2	3	4	2	5	2
Infrastructural availability	22.5	4	5	2	4	3	4
Interoperability potential	20.0	3	3	3	2	5	3
Scalability & modularity	22.5	3	5	3	2	5	3
Total score	**100**	**3.23**	**4.25**	**2.95**	**2.45**	**4.37**	**3.05**

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Regulatory and stakeholder feasibility

Sub-criterion	Weighted scores						
	Weights	UCI	UCII	UCIII	UCIV	UCV	UCVI
Regulatory alignment and compliance of the UC concept	20	3	4	4	4	4	5
Regulatory alignment of the data management and sharing	20	5	5	5	5	4	4
Alignment with EU priorities	20	5	5	5	3	4	5
Stakeholder alignment	30	5	5	4	1	3	4
Stakeholder support for UC deployment	10	3	5	4	1	2	4
Total score	**100**	**4.40**	**4.80**	**4.40**	**2.80**	**3.50**	**4.40**

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Regulatory and stakeholder feasibility

Sub-criterion	Weighted scores						
	Weights	UCI	UCII	UCIII	UCIV	UCV	UCVI
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Regulatory alignment of the data management and sharing	20	5	5	5	5	4	4
Alignment with EU priorities	20	5	5	5	3	4	5
Stakeholder alignment	30	5	5	4	1	3	4
Stakeholder support for UC deployment	10	3	5	4	1	2	4
Total score	**100**	**4.40**	**4.80**	**4.40**	**2.80**	**3.50**	**4.40**

This project has received funding from the European Commission under grant agreement N°101133306.

Three shortlisted use cases

Proof of concept development

Selection orders / Use cases	Name
UCII	AI-driven ODP for integration of EVs, ETs, RES and Grid
UCI	Electricity customers-centric OPD
UCIII	Digitalisation of data centres

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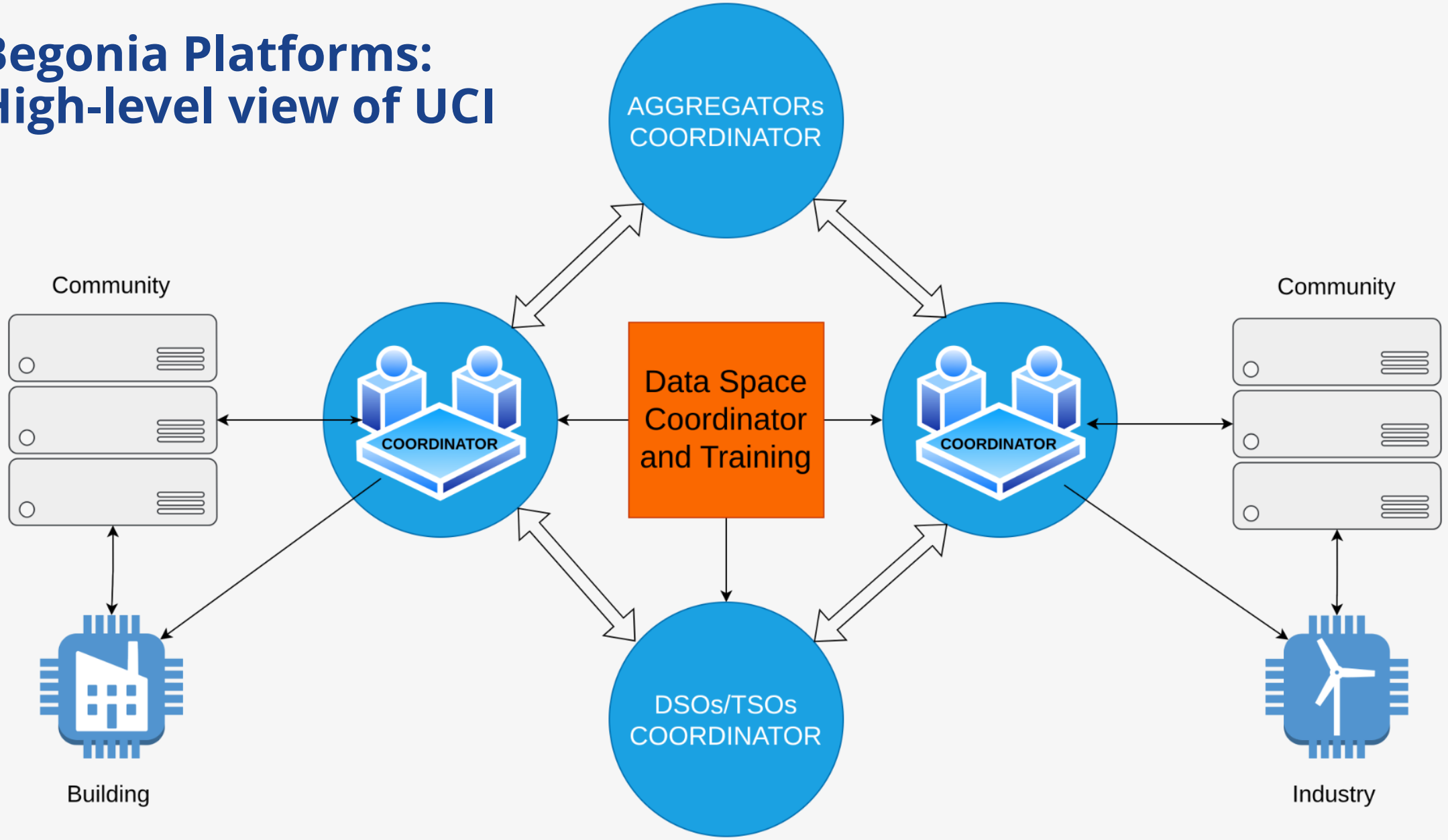
Begonia Platforms: High-level view of UCI



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Begonia ODP: Compute Infrastructure

Local platform supports scalable provision:

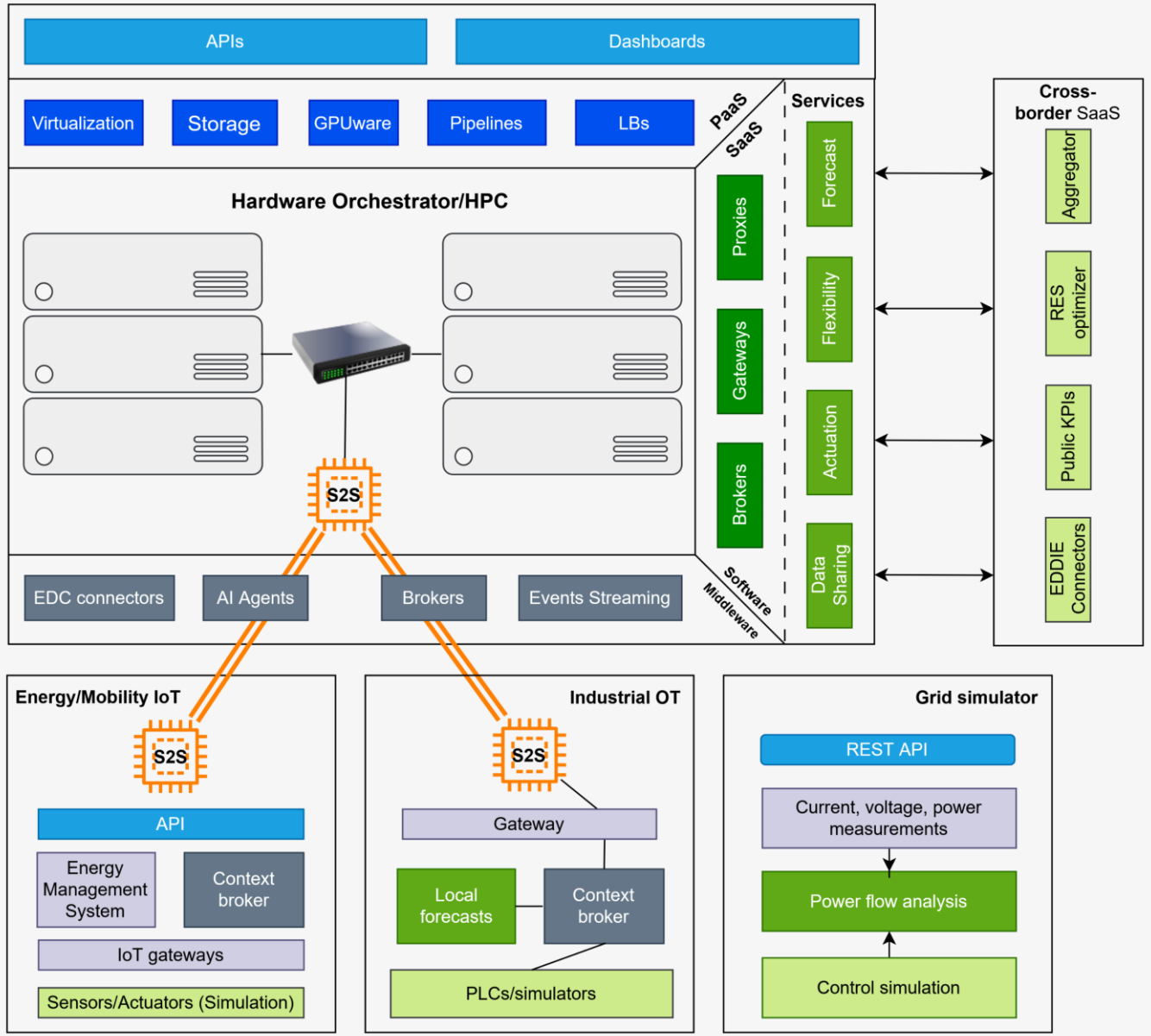
Energy and data sharing services and their on-click deployment in a dashboard replacing vendor-locked providers (AWS, Asure, etc.)

Three infrastructural types of platform users: IoT (UCI, UCII), OT (UCIII, UCI) and grid simulator/TSO/Aggregator (UCI, UCIII).

Eclipse connectors, brokers, authority providers and other data space components to connect edge (IoT).

Global platform provides

Visualization and optimization services across virtual communities (UCI) and support aggregation between member state. In UCIII they support RES-based load transfer.



This project has received funding from the European Commission under grant agreement N°101133306.

Webinar · Discover the Begonia Operational Digital Platforms

This project has received funding from the European Commission under grant agreement N°101133306.

Thank you!

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Begonia

Thank you!

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Niccolo Fattirolli	niccolo@olivoenergy.com

INSIEME

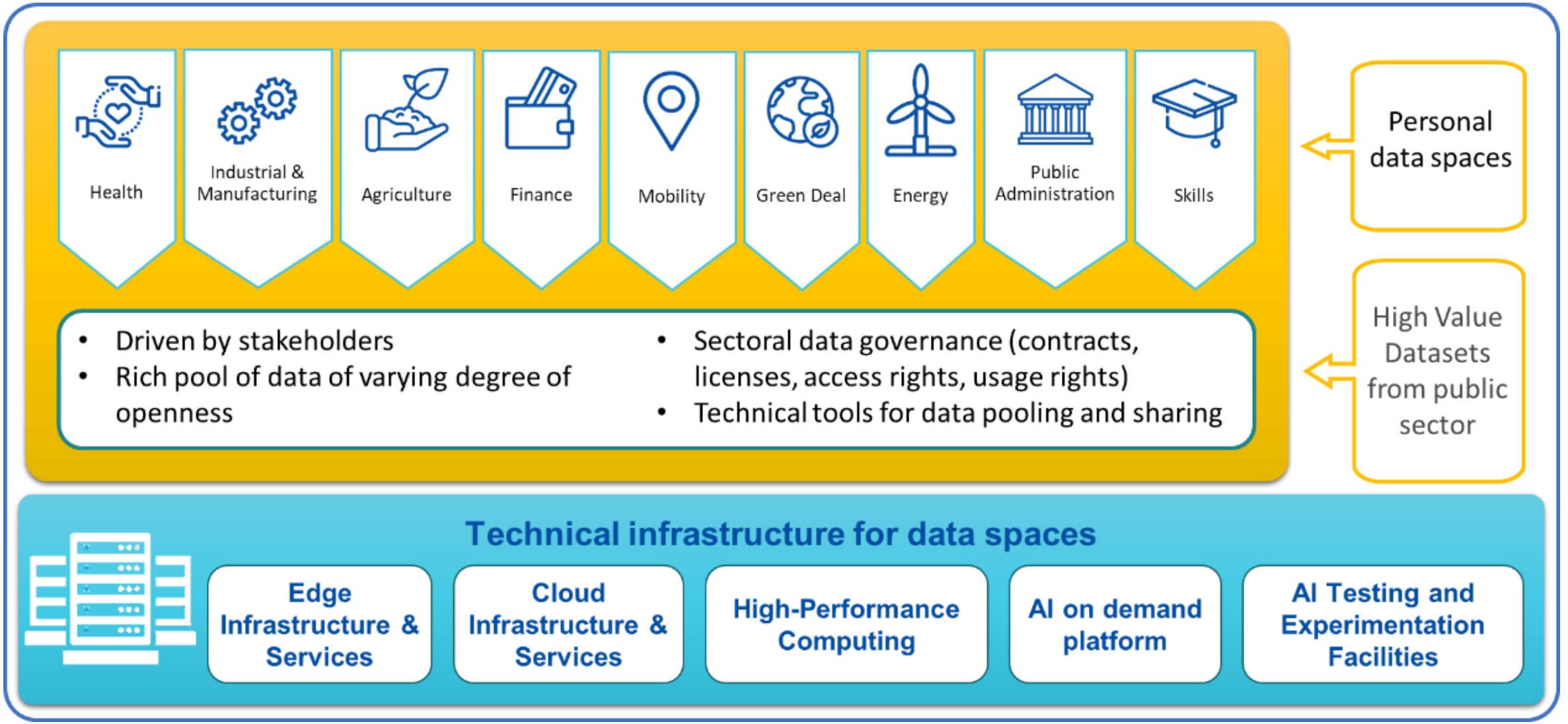
TOGETHER TOWARDS THE COMMON EUROPEAN ENERGY DATA SPACE

From Data to Action: How Digitalisation Accelerates the Energy Transition

- Shievam Kashyap
- University of Applied Sciences Upper Austria

- 29th January, 2026

This work has been co-funded by the European Union's Digital Europe Programme under grant agreement No. 101194952.



Source: https://digital-strategy.ec.europa.eu/en/library/building-data-economy-brochure

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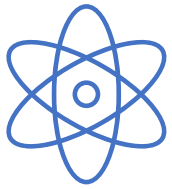
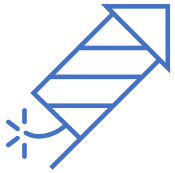
TOGETHER TOWARDS THE COMMON EUROPEAN ENERGY DATA SPACE

April 2025 – March 2028



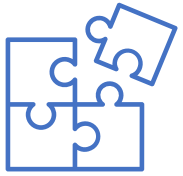
Data Space
“by the Sector for the Sector”

54 Partners from 15 EU Member States



16 M EUR Budget

(8 M EUR Co-funding from the *Digital Europe Programme*)



14 Deployments in 16+ European countries

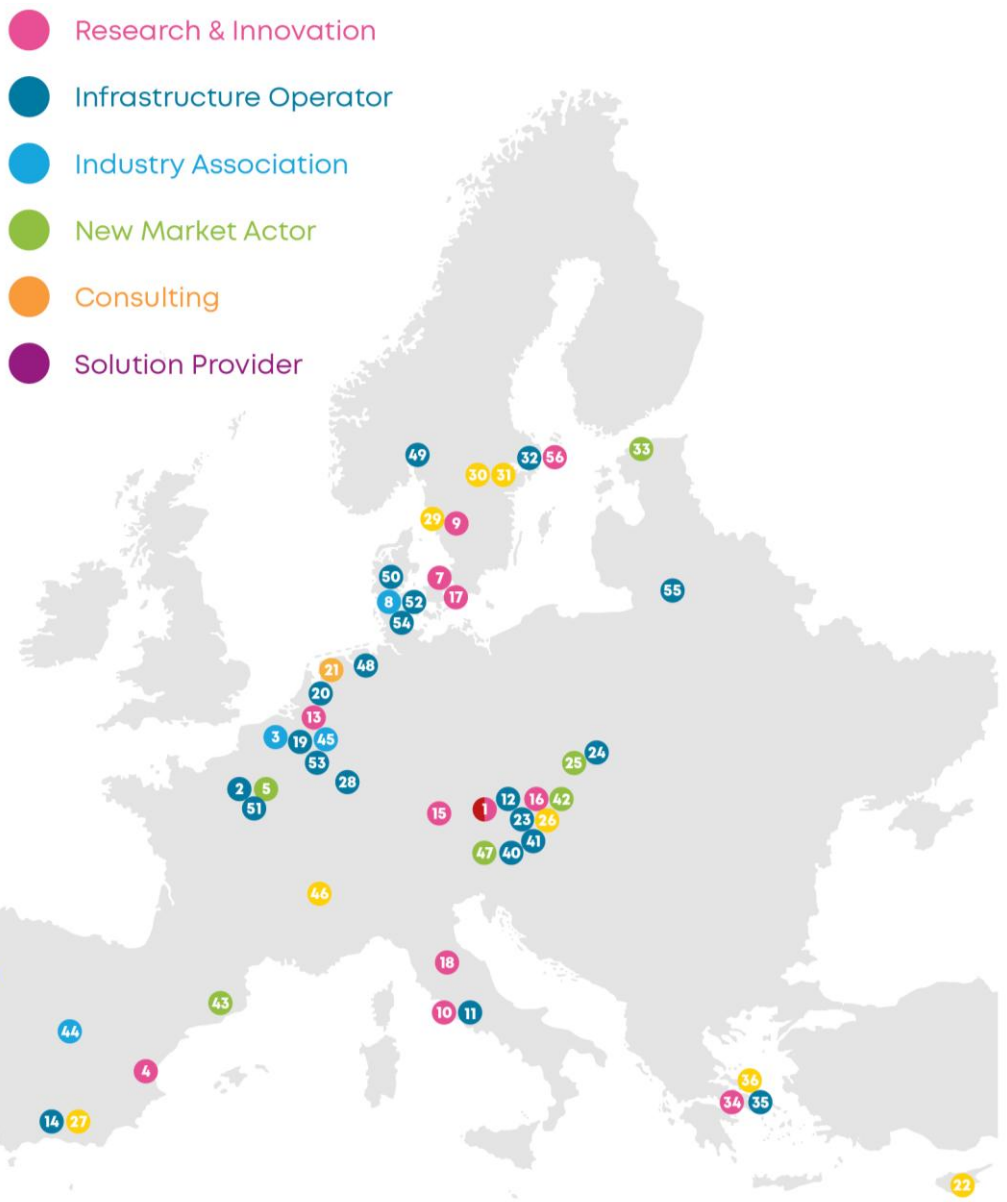
INSIEME = Together

Together instead of national nutshells

A Common European Energy Data Space (CEEDS) in full respect of the European principle of subsidiarity as a minimal invasive and slim federation service

• THE CONSORTIUM

INSIEME TOGETHER TOWARDS THE COMMON EUROPEAN ENERGY DATA SPACE



1. University of Applied Sciences Upper Austria (FHOOE); FH OO FORSCHUNGS & ENTWICKLUNGS GMBH (FHOOE)
2. ENEDIS
3. EUROPEAN RENEWABLE ENERGIES FEDERATION (EREF)
4. ETRA INVESTIGACION Y DESARROLLO SA
5. DIGITAL4GRIDS
6. ENERCOUTIM - ASSOCIACAO EMPRESARIALDE ENERGIA SOLAR DE ALCOUTIM
7. DANMARKS TEKNISKE UNIVERSITET
8. CENTER DANMARK DRIFT APS
9. RISE RESEARCH INSTITUTES OF SWEDEN AB
10. ENGINEERING - INGEGNERIA INFORMATICA SPA
11. ARETI S.P.A.
12. EDA ENERGIEWIRTSCHAFTLICHER DATENAUSTAUSCH GMBH
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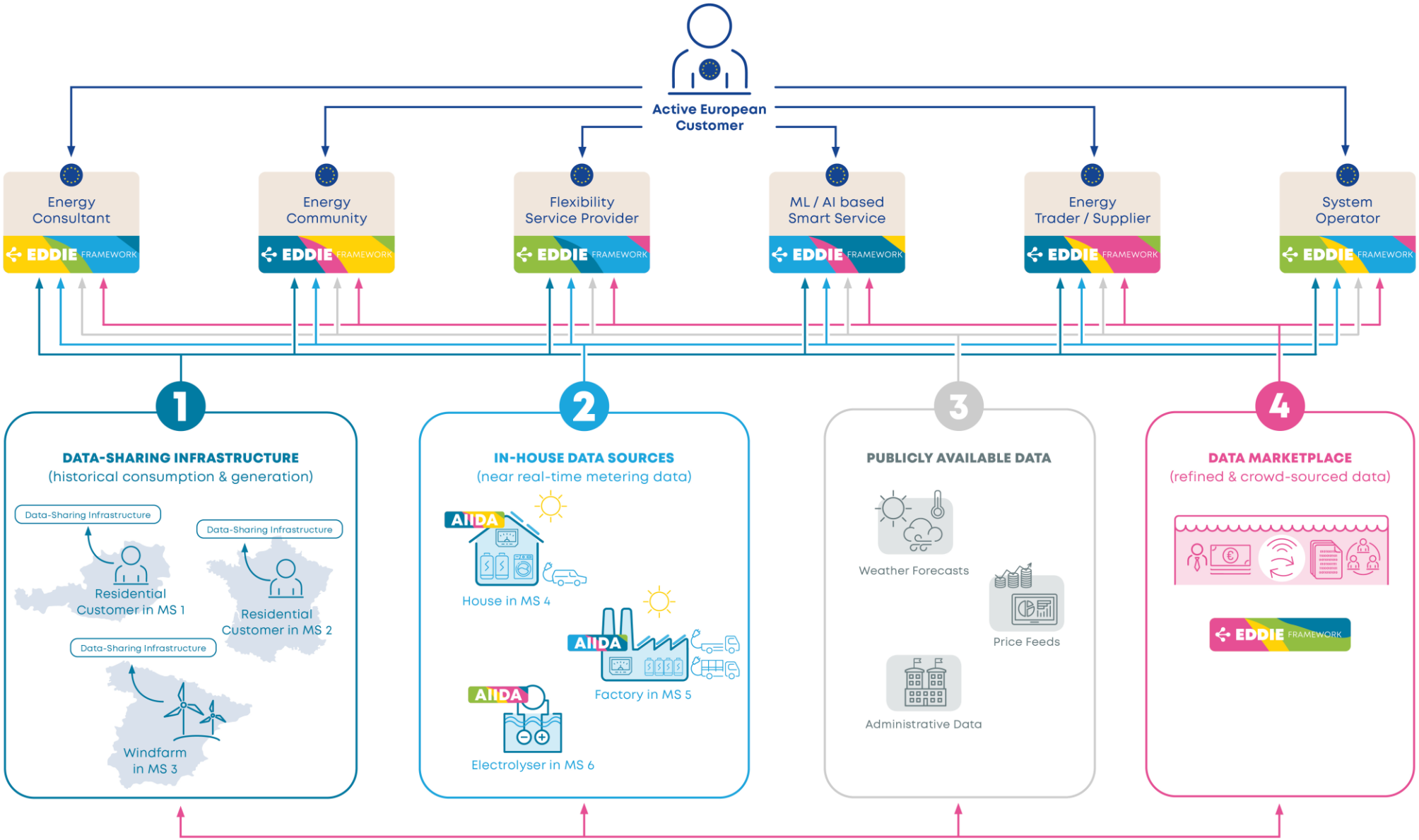
14. CUERVA ENERGIA SLU
15. FRAUNHOFER GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG EV
16. UNIVERSITAT WIEN
17. COPENHAGEN BUSINESS SCHOOL
18. EUROPEAN UNIVERSITY INSTITUTE
19. EUROPEAN DISTRIBUTION SYSTEM OPERATORS FOR SMART GRIDS
20. ALLIANDER NV
21. Expert Modeller
22. SUITES DATA INTELLIGENCE SOLUTIONS LIMITED
23. AUSTRIAN POWER GRID AG
24. TAURON DYSTRYBUCJA SPOLKA AKCYJNA
25. Operator Klastra Energii Sp. z o.o.
26. EnliteAI GMBH
27. ADAION SMART GRID SOLUTIONS SL
28. Luxembourg National Data Service (PNED GIE)
29. VOLVO TECHNOLOGY AB
30. STATISTISKA CENTRALBYRAN
31. STATENS ENERGIMYNDIGHET
32. VATTENFALL ELDISTRIBUTION AB
33. R8 Technologies OÜ
34. ETHNICON METSOVION POLYTECHNION
35. IRON ANONYMI ETAIREIA ENERGEIAKON YPIRESION - HERON SOCIETE ANONYME ENERGY SERVICES
36. ORGANISMOS TILEPIKOINONION TIS ELLADOS OTE AE
37. REN - REDE ELECTRICA NACIONAL SA
38. INESC TEC - INSTITUTO DE ENGENHARIADE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA
39. COOPERATIVE ELECTRICA DO VALE DESTE CRL
40. ENERGIENETZE STEIERMARK GMBH
41. NETZ NIEDEROSTERREICH GMBH
42. backbone.one GmbH
43. COMERCIAL VALLESANA DE SUMINISTROS SA
44. ASOCIACION DE EMPRESAS DE ENERGIA ELECTRICA
45. SMART ENERGY EUROPE
46. RENAULT TRUCKS SAS
47. ENIXI GMBH
48. ENFOR AS
49. STATNETT SF
50. EWII A/S
51. RTE RESEAU DE TRANSPORT D'ELECTRICITE
52. ENERGINET
53. ELIA TRANSMISSION BELGIUM
54. TREFOR EI-NET A/S
55. Litgrid
56. Vattenfall AB R&D

• THE COMMON EUROPEAN ENERGY DATA SPACE AS A “SET OF COMMON APIS”

INSIEME TOGETHER TOWARDS THE COMMON EUROPEAN ENERGY DATA SPACE



- EMERGED FROM THE MOST RELEVANT NATIONAL AND EU INITIATIVES

INSIEME TOGETHER TOWARDS THE COMMON EUROPEAN ENERGY DATA SPACE

EDDIE
EUROPEAN DISTRIBUTED DATA INFRASTRUCTURE FOR ENERGY

Enershare

EDSN
energiedata voor iedereen

eclipse

datadis

ENEDIS

ENERGINET

omega-x

SYNERGIES

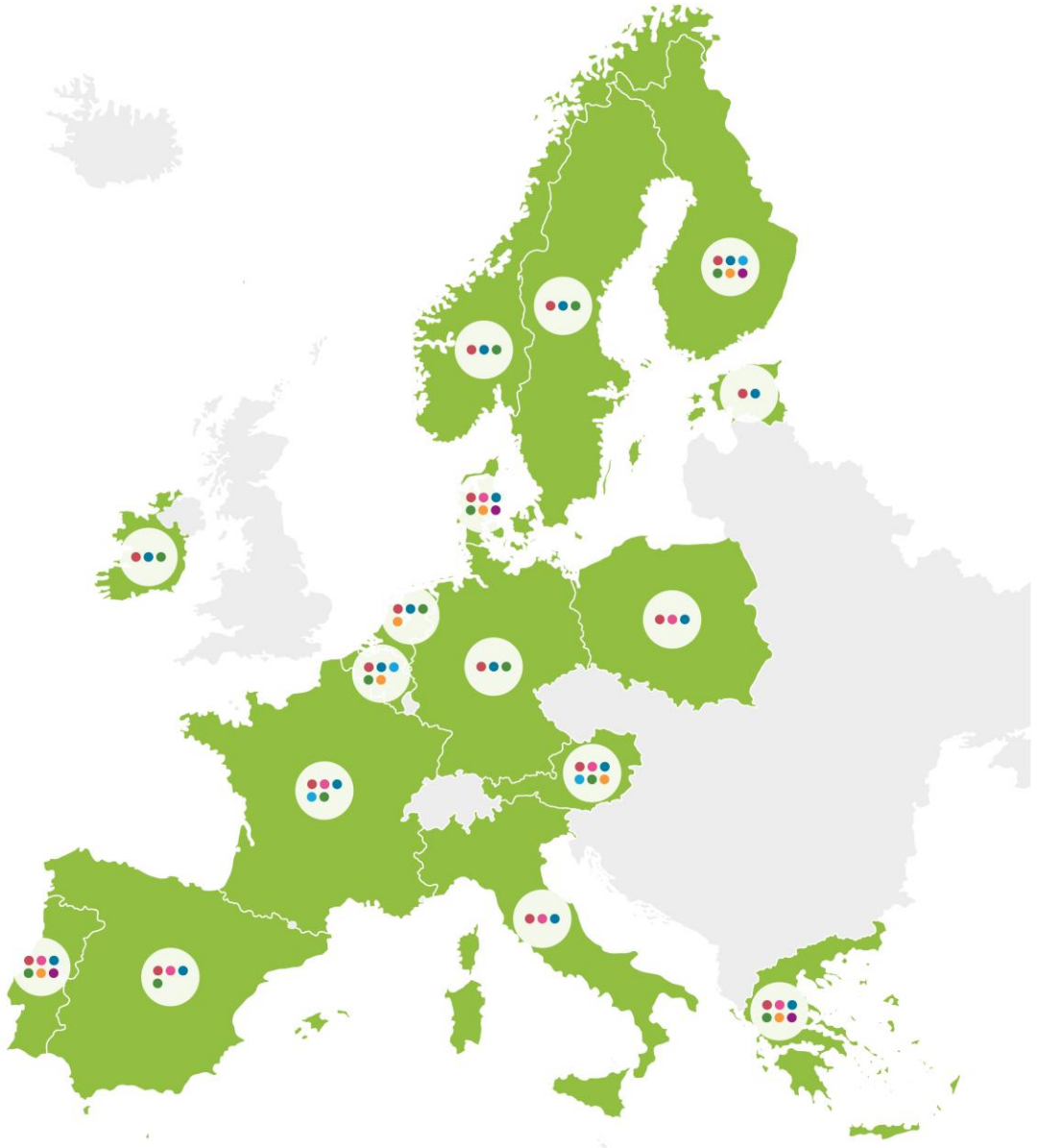
ONENET
one network for Europe

DATA CELLAR

EDA energie wirtschaftlicher datenaustausch

• INSIEME SOLUTION DEPLOYMENTS IN 16 EUROPEAN COUNTRIES

INSIEME TOGETHER TOWARDS THE COMMON EUROPEAN ENERGY DATA SPACE



Coverage & Use Cases

1. Energy Efficiency and Flexibility Management
2. Collective Self-Consumption
3. Grid Flexibility Services
4. Electromobility
5. Renewables Integration
6. Networks and Integration Planning
7. Smart Sector Integration

Two projects – With an Analogy

ECLIPSE shows what works, INSIEME makes sure it can work everywhere

• INSIEME WITHIN THE EUROPEAN STRATEGY FOR DATA

INSIEME
TOGETHER TOWARDS THE COMMON EUROPEAN ENERGY DATA SPACE

2020
European Strategy for Data

2022 – 2025
Design and evaluation of critical data space components

2025 – 2028
Deployment and final pilots for the CEEDS

2030
Operationalisation of the Common European Energy Data Space (CEEDS)

ONENET
one network for Europe

Enershare

EDDIE
EUROPEAN DISTRIBUTED DATA INFRASTRUCTURE FOR ENERGY

DATA CELLAR

omega-x

SYNERGIES

INSIEME

TOGETHER TOWARDS
THE COMMON EUROPEAN
ENERGY DATA SPACE

Thank you

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- shievam.kashyap@fh-hagenberg.at

LinkedIn

This work has been co-funded by the European Union's Digital Europe Programme under grant agreement No. 101194952.

eclipse

www.eclipse-digital.eu

FROM DATA TO ACTION: HOW DIGITALISATION ACCELERATES THE ENERGY TRANSITION

29th January 2026

opentunity

Begonia

DEON

INSIEME
TOGETHER TOWARDS THE COMMON EUROPEAN ENERGY DATA SPACE

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Questions from the Audience

It's your turn! Do you have any questions for our speakers?

Drop them in the chat and we'll take them live.

Panel Discussion

What is the biggest technical hurdle to achieving true interoperability across different European energy markets, and how is your project addressing it?

What makes a digital energy solution truly replicable across countries? Which are the biggest barrier to scaling those digital energy solutions?

How are your projects simplifying the user experience to ensure that citizens and small businesses actually trust and engage with these new digital energy services?

How do you plan to exploit the results of your project?

eclipse

www.eclipse-digital.eu

FROM DATA TO ACTION: HOW DIGITALISATION ACCELERATES THE ENERGY TRANSITION

29th January 2026

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