

WEBINAR

Data spaces: experience from the European Health and Common Energy data spaces

The logo for Data Europa Academy, featuring the text "data.", "europa", and "academy" stacked vertically. The word "data." has a yellow dot above the 'a', and "europa" has a yellow dot above the 'o'. The text is white on a dark blue background.

data.
europa
academy

22 November 2024

10.00 — 11.30 CET

Rules of the game



The webinar will be recorded and published on the data.europa academy



For questions, please use the ClickMeeting chat.



Please reserve 3 min after the webinar to help us improve by filling in our feedback form



Introduction



Flora Kopelou
Data.europa.eu
Publications Office
of the EU



Melodie Bernaux,
Policy officer Digital
Health,
European Commission



Pascal Derycke
Data Engineer,
Sciensano



Stavros Stamatoukos
Policy Officer at DG
Energy,
European Commission



Antonello Monti
Professor,
Institute Director,
RWTH Aachen
University

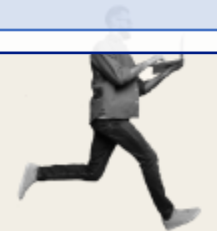


Shievam Kashyap
Research Associate
and Project Manager,
University of Applied
Sciences Upper Austria



Agenda

10.00 - 10.05	Opening and introduction – <i>Flora Kopelou</i>
10.05 - 10.35	European Health Data Space and Health-DCAT – <i>Melodie Bernaux and Pascal Derycke</i>
10.35 - 11.05	Common European Energy Data Space and use cases – <i>Stavros Stamatoukos, Antonello Monti and Shievam Kashyap</i>
11.05 – 11.25	Q&A session
11.25 – 11.30	Closing remarks – <i>Flora Kopelou</i>





European Health Data Space

Harnessing the power of health data for people and innovation

Data spaces: experience from the European Health and Common
Energy data spaces

22/11/2024

EC – SANTE C1



European Commission - Press release



Commission welcomes European Parliament's adoption of the European Health Data Space and regulation on substances of human origin

Brussels, 24 April 2024

The Commission welcomes the adoption by the European Parliament today of the [European Health Data Space \(EHDS\)](#) and new rules to **increase the safety and quality of substances of human origin (SoHO)**. These are two cornerstones of a **strong European Health Union** which protects the health of citizens and improves the resilience of healthcare systems.

The European Health Data Space (EHDS)

This groundbreaking initiative, put forward by the Commission in May 2022, has two main aims:

- to place citizens at the centre of their healthcare, granting them full control over their data, with the goal of achieving **better healthcare across the EU**;
- to allow the use of health data for **research and public health** purposes, under strict conditions.

Thanks to the new rules, **citizens will benefit from immediate and simple access to their digital health data when in the EU, regardless of their location**. For instance, when a patient seeks healthcare abroad, healthcare professionals will be able, when necessary, to access key information from the patient's home Member State. This will **improve evidence-based decision making, reduce repetition of tests and examinations and enhance patient care**.

The EHDS also establishes a **strong legal framework for the re-use of health data** for research, innovation and public health purposes in full compliance with strict EU data security and access criteria, fundamental rights and cybersecurity rules. The data will help **develop life-saving treatments and personalised medicines** and improve European crisis **preparedness**.

Substances of human origin

The new regulation, proposed by the Commission in July 2022, provides a holistic approach for the regulation of substances of human origin. The new rules notably **include better protection of recipients and donors of substances of human origin, as well as children born from medically assisted reproduction**. The new framework foresees:

- Clear rules covering **all substances of human origin** except solid organs, such as faecal microbiota and human breast milk;
- **Registration of all entities** that carry out activities that could affect the safety and quality of SoHO;
- **Reinforced expertise**, building on existing technical bodies, notably [the European Centre for Disease Prevention and Control \(ECDC\)](#) and the [European Directorate for the Quality of Medicines & HealthCare \(Council of Europe\)](#), to keep technical guidelines up to date;
- **More innovation**, with a common procedure to assess and authorise SoHO preparations, proportionate to the risks these bring;
- Strengthened **national oversight**, and EU support for national authorities (such as training and IT);
- New measures supporting **supply continuity** that will help Member States to take action when the supply of critical SoHO is threatened;
- A **SoHO Coordination Board (SCB)** will be established, with and for Member States. It will support the implementation of the new regulation and provide legal clarity;
- Finally, the **digital EU SoHO Platform** will be created, to gather all required information, streamline reporting and increase visibility to citizens.

Next steps



-conditioning COVID-19: first

rs in closed spaces;
ating, ventilation and air-
asing potential airborne

nsidered to reduce potential
COVID-19 sources in closed spaces;
d naturally ventilated closed spaces;

g (HVAC) systems in closed spaces in

ck of SARS-CoV-2 transmission in

national guidance; and
of COVID-19 based on an inquiry sent
and NFPs for Influenza and other

U/EEA) and the United Kingdom (UK).

tilation and air-conditioning systems in

Personal data spaces

High Value Datasets from public sector

Testing and experimentation facilities



EHDS in a nutshell

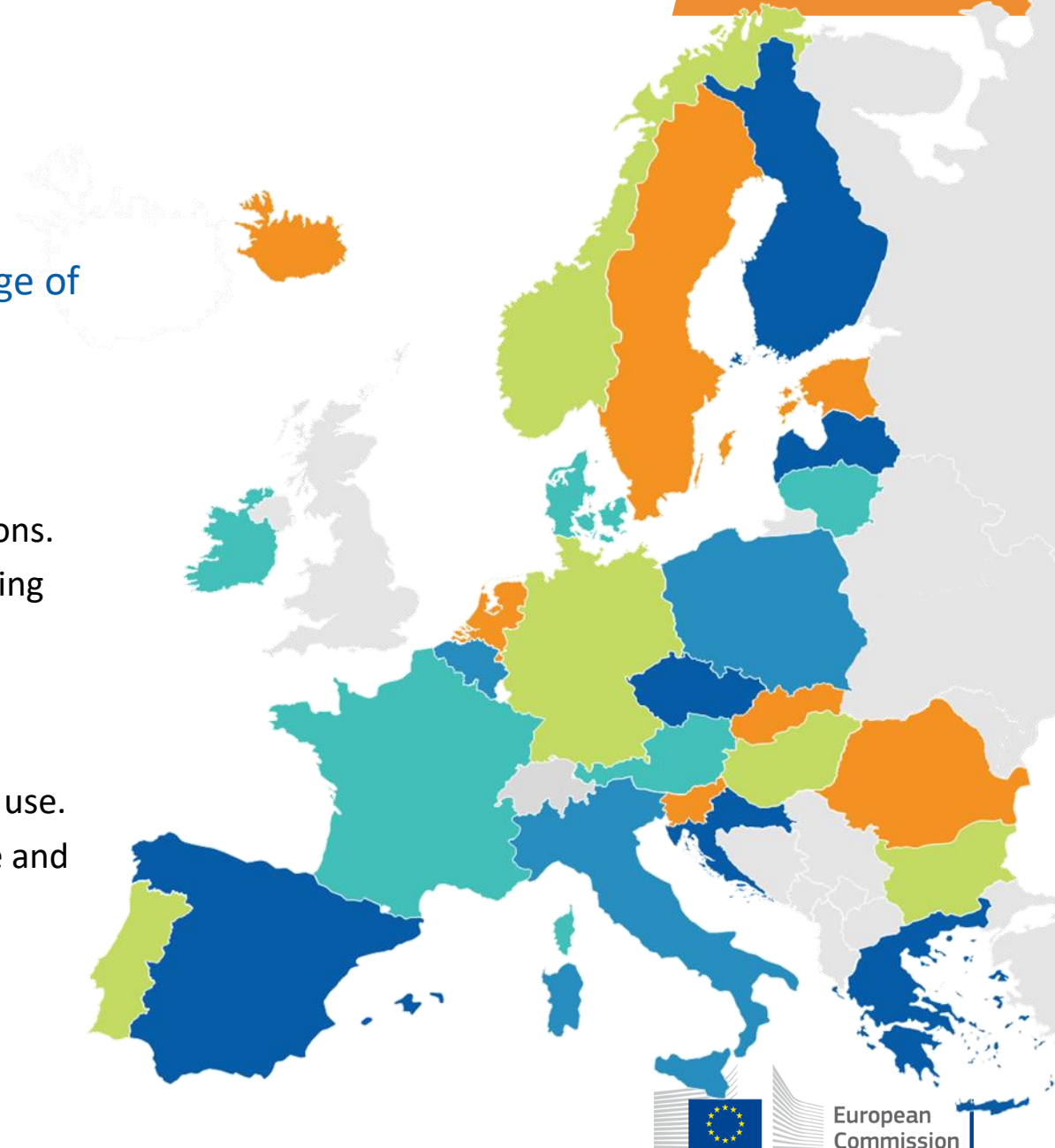
What ? To create a unified framework to facilitate the exchange of electronic health data across Europe for secondary use.

Why ?

- Enable large-scale health research and innovation.
- Support evidence-based policy making and public health interventions.
- Cross-Border collaboration, promote interoperability and data sharing across EU member states.

How ?

- Data governance: clear policies and regulations for data access and use.
- Technical infrastructure: robust platforms for secure data exchange and analysis.
- Stakeholder engagement: involvement of healthcare providers, researchers, policymakers, and patients.



Secondary use in practice

Common European rules on who has to make which data available for which purposes and under which conditions

How ?

A mandatory connexion of all MS to a common infrastructure

Data catalogues of available datasets

Permits for data use, common safeguards

What's in it for *data users* ?

Increased data discoverability

- Access to a rich, diverse, and high-quality dataset that supports research and public health actions.
- A single platform / EU catalogue

A streamlined procedure to access data across EU

- Single application form
- Single permit template
- Fees determination based on the complexity and duration of data access.
- Timely access



European data

data.europa.eu The official portal for European data

Home Data Academy Community Publications Documentation

Home > Datasets

Datasets

Data scope [Ⓢ]
- Any -

Provenance [Ⓢ]
- Any -

Publisher [Ⓢ]

Search

Datasets found (1 729 857)

Bornes de Recharge pour Véhicules Électriq
Data Bornes de Recharge pour Véhicules Électriques Wattzhub

Obligations

- **Approved Purposes:** Use data only for the purposes defined in the data permit
- **Data Protection:** Process data in secure environments, ensuring privacy and protection (anonymization/pseudonymization)
- Strictly adhere to **security and ethical standards**, and avoid any re-identification attempts.
- **Transparency:** Publish results in a way that contributes to public knowledge while respecting privacy rules.

What's in it for *data holders* ?

OBLIGATIONS

Dataset description

- communicate to the HDAB a description of their datasets
- accurate and kept up to date
- Compliant with **EHDS metadata standards**
- + **data quality and utility label**

Make data available

- upon request of the HDAB - according to a data access
- Timely provision : within a reasonable time frame (3 months)

Respect obligations towards natural persons



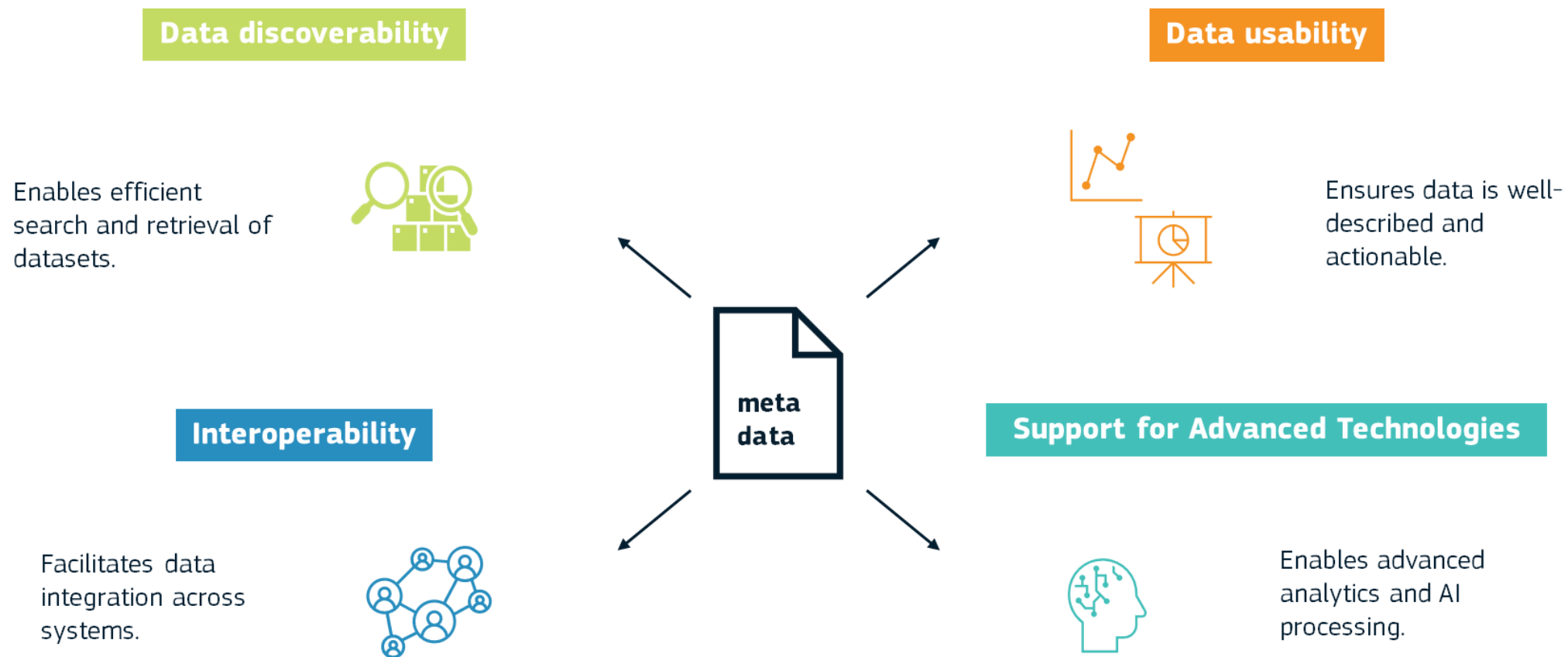
Benefits

- Contribution to advancing public health and research
- **Recognition** and potential collaborations within the EHDS network.
- Participation in building a resilient European health system.
- Increased visibility of their datasets.

Protection

- **Charge fees**
- Protection of **trade secrets and IP rights**

The need for a health-specific metadata standard



The path towards healthDCAT-AP

Idea of EHDS 2

Facilitate electronic health data crossborder sharing for research, policy making, innovation



TEHDAS Recommendations

Highlighted the need for a metadata standard

EHDS regulation proposal

2022



Provides for common rules to describe datasets



EHDS2 Pilot project

Development of the healthDCAT-AP standard

EHDS regulation adoption

2024



First implementation & TEHDAS 2 Joint Action

Testing and refining healthDCAT-AP



Implementing act

Formal adoption and dissemination of the standard

2026-2027



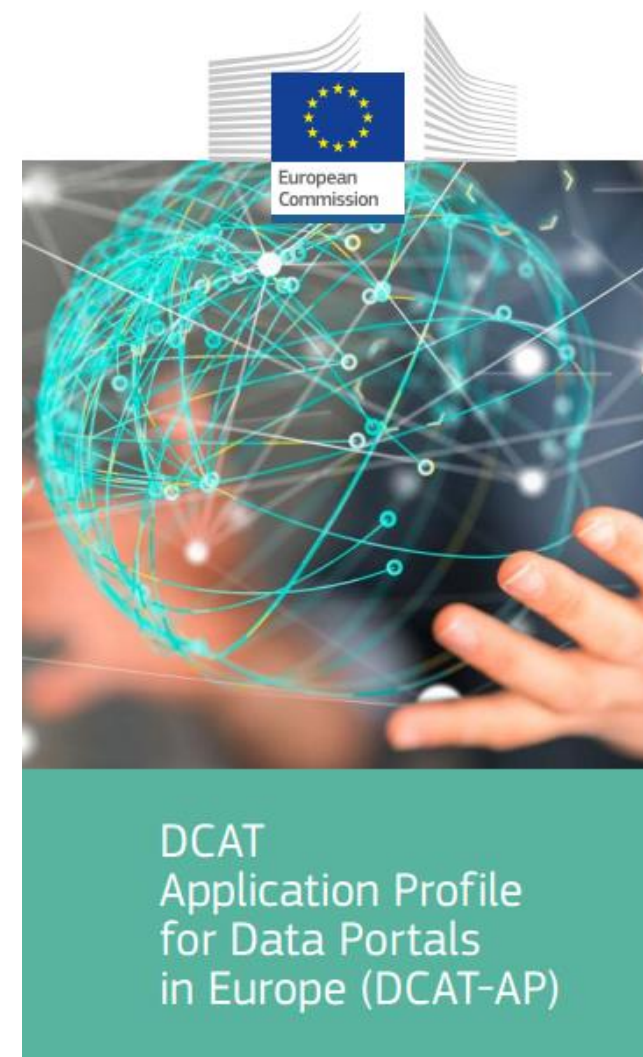
Evolution

Continuous updates

Choosing and extending DCAT-AP

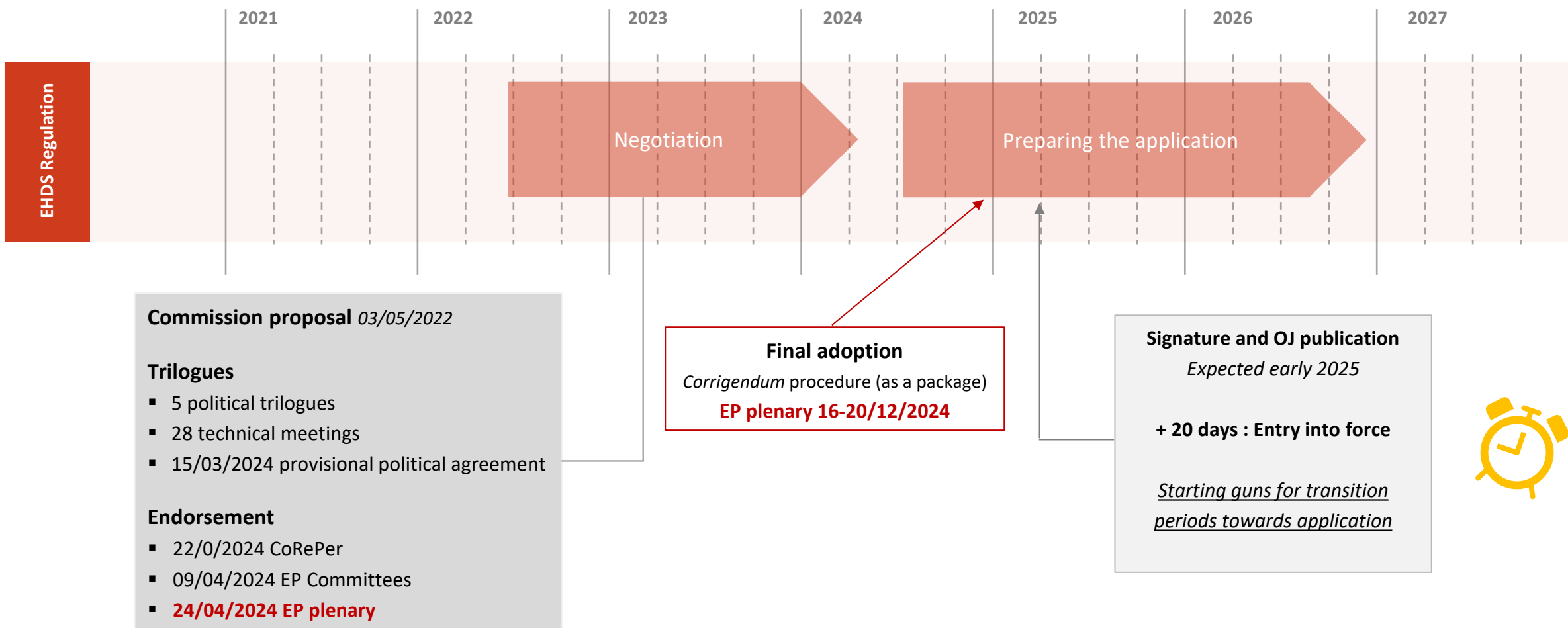
- **Proven framework**
 - Established Standard: widely adopted for data cataloging, ensuring reliability and robustness.
 - Flexible / easily adapted to meet specific needs.
- **Interoperability and compatibility**
 - Ensures compatibility with existing data catalogs and systems.
 - Facilitates data sharing and promotes data exchange within and across sectors.
- **HealthDCAT-AP**
 - Adds health-specific properties and vocabularies to DCAT.
 - Improved Metadata Quality: Provides detailed and relevant metadata for health datasets.

[DCAT Application Profile for data portals in Europe | ISA²](#)



EHDS2 – Legislative process

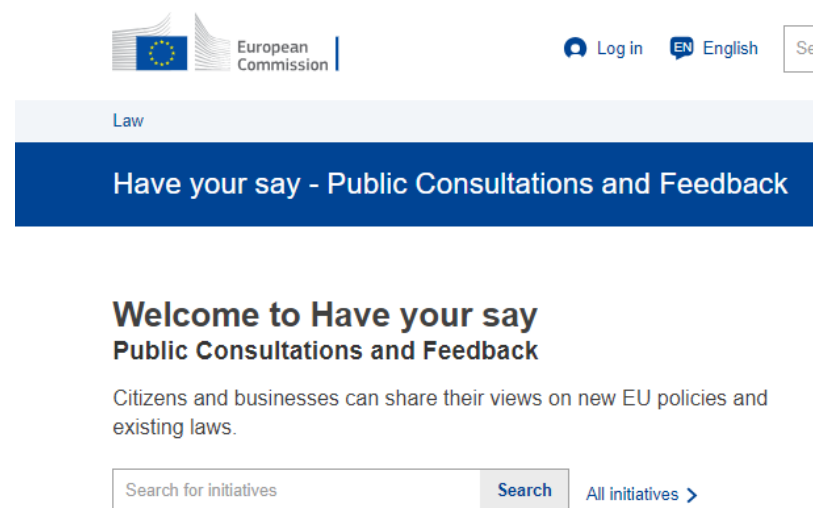
Timelines are indicative.



How can you make your voice heard?

TEHDAS2

- Public consultation on all milestones (three waves)
- External advisory board** with stakeholder representatives (closed)
- Save the date: Open **TEHDAS2 stakeholder forum** (hybrid) on 31/01/25
- Two others stakeholder forum aligned with the public consultations



Implementing/delegated acts

- standard better regulation rules apply,
- Expect public 4-week public consultations

Thank you



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Slide xx: [element concerned](#), source: [e.g. Fotolia.com](#); Slide xx: [element concerned](#), source: [e.g. iStock.com](#)

Data discovery in the European Health Data Space: HealthDCAT-AP for findable health data



sciensano (Belgium)

Pascal DERYCKE, Data & Semantic Engineer

**Data spaces: experience from the European
Health and Common Energy data spaces**
22/11/2024



Agenda

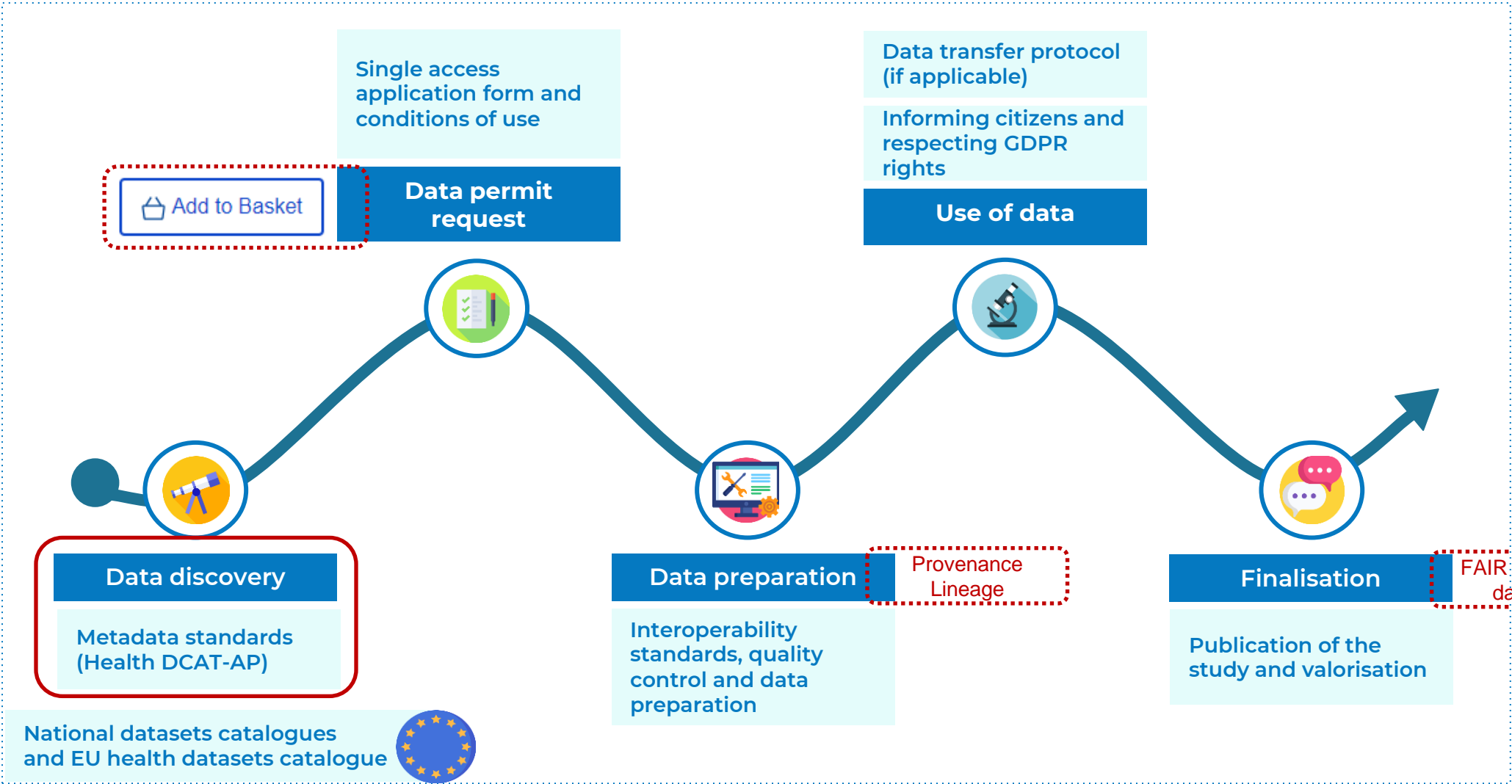
- **Why HealthDCAT-AP?**
 - EHDS User Journey
 - Data in scope of the European Health Data Space Regulation
 - Extending DCAT-AP
 - EU health Datasets catalogue
- **HealthDCAT-AP in a nutshell**
 - New properties from existing vocabularies
 - New HealthDCAT-AP properties
 - New Controlled Vocabularies (Standardised Terms)
 - New rules for the minimum metadata elements for describing datasets
- <https://healthdcap.github.io>
- Q&A

Why HealthDCAT-AP?

European Health Data Space



User journey of the European Health Data Space for secondary use



Data in scope of the European Health Data Space Regulation

EHDS Regulation Article 33 Minimum categories of electronic data for secondary use

Health data holders shall make the following categories of electronic data available for secondary use in accordance with the provisions of this Chapter:

- (a) electronic health data from EHRs;*
- (b) data on factors impacting on health, including socio-economic, environmental and behavioural determinants of health;*
 - (ba) aggregated data on healthcare needs, resources allocated to healthcare, the provision of and access to healthcare, healthcare expenditure and financing;*
- (c) pathogen data, impacting on human health;*
- (d) healthcare-related administrative data, including dispensation, claims and reimbursement data;*
- (e) human genetic, epigenomic and genomic data;*
- (ea) other human molecular data such as proteomic transcriptomic, metabolomic, lipidomic and other omic data;*
- (f) automatically generated personal electronic health data, through medical devices ;*
- (fa) data from wellness applications;*
- (g) data on professional status, specialisation and institution of health professionals involved in the treatment of a natural person;*
- (h) population-based health data registries (public health registries);*
- (i) data from medical registries and mortality registries;*
- (j) data from clinical trials, clinical studies and clinical investigations subject to Regulation (EU) 536/2014, Regulation [SOHO], Regulation (EU) 2017/745 and Regulation (EU) 2017/746, respectively;*
- (k) other health data from medical devices ;*
- (ka) data from registries for medicinal products and medical devices;*
- (l) data from research cohorts, questionnaires and surveys related to health, after the first publication of results;*
- (m) health data from biobanks and associated databases. □.*

DCAT

A data standard for cataloguing metadata descriptions of datasets.

DCAT -AP

DCAT-AP

A growing ecosystem:
<https://github.com/SEMICEu/DCAT-AP/>

Annex DCAT-AP HVD

Annex BregDCAT-AP

GeoDCAT-AP

StatDCAT-AP

DCAT-AP Heath



EU health Datasets catalogue

<https://acceptance.data.health.europa.eu/>

HealthData@EU EU Dataset Catalogue

Home | EU Dataset Records | EU Dataset Catalogues

Home > EU Dataset Records

EU Dataset Records

Formats [ⓘ]

Select

EU Dataset Records | EU Dataset Catalogues

Last modified | Relevance | Name ascending

Catalogues [ⓘ]

Select

4 dataset records found

Keywords [ⓘ]

Select

Data scope [ⓘ]

Select

Licences [ⓘ]

Select

Health Data Access Body [ⓘ]

Select

Publisher [ⓘ]

Select

EHDS2 Pilot - Demo - National Dataset 0

Example description of the dataset record.

Updated: 07 October 2024 Created: 07 October 2024 EHDS2 Pilot node

[Adapted] Antimicrobial resistance in the ECDC atlas

Data covering EU/EEA countries, currently from 2000 and onward, and collected by the European Antimicrobial Resistance Surveillance System (EARSS), and later, from 2010 by the European Centre for Disease Prevention and Control (ECDC) through the European Antimicrobial Resistance Surveillance Network (EARS-Net...

Updated: 09 October 2024 Created: 22 September 2022 [Test] EU datasets

Categories [ⓘ]

Coding Systems [ⓘ]

Data models [ⓘ]

Age Range [ⓘ]

Population size [ⓘ]

Update frequency [ⓘ]

Quality and utility label [ⓘ]

More filters

[Adapted] Finnish Care Register for Health Care (Terveys-Hilmo, Hilmo)

The purpose of the register is to collect data on the activities of health centres, hospitals and other institutions providing inpatient care and on the clients treated in them as well as on home-nursing clients for the purposes of statistics, research and planning. The Care Register for Health Care started in 1994 as a continuatio...

Updated: 29 February 2024 [Test] Finnish National HDAB

[Adapted] Linking of registers for COVID-19 vaccine surveillance

The LINK-VACC project links selected variables from existing registries for COVID-19 vaccine surveillance, in order to ensure the monitoring of COVID-19 vaccines in the phase following their marketing authorization (post-authorization surveillance). This includes the measurement of uptake and coverage of the...

Updated: 09 October 2024 Created: 20 January 2023 [Test] Belgian National HDAB

< Previous 1 Next >

Items per Page: 10

HealthDCAT-AP extends DCAT-AP data catalogues with new health-centric properties!

Draft HealthDCAT-AP

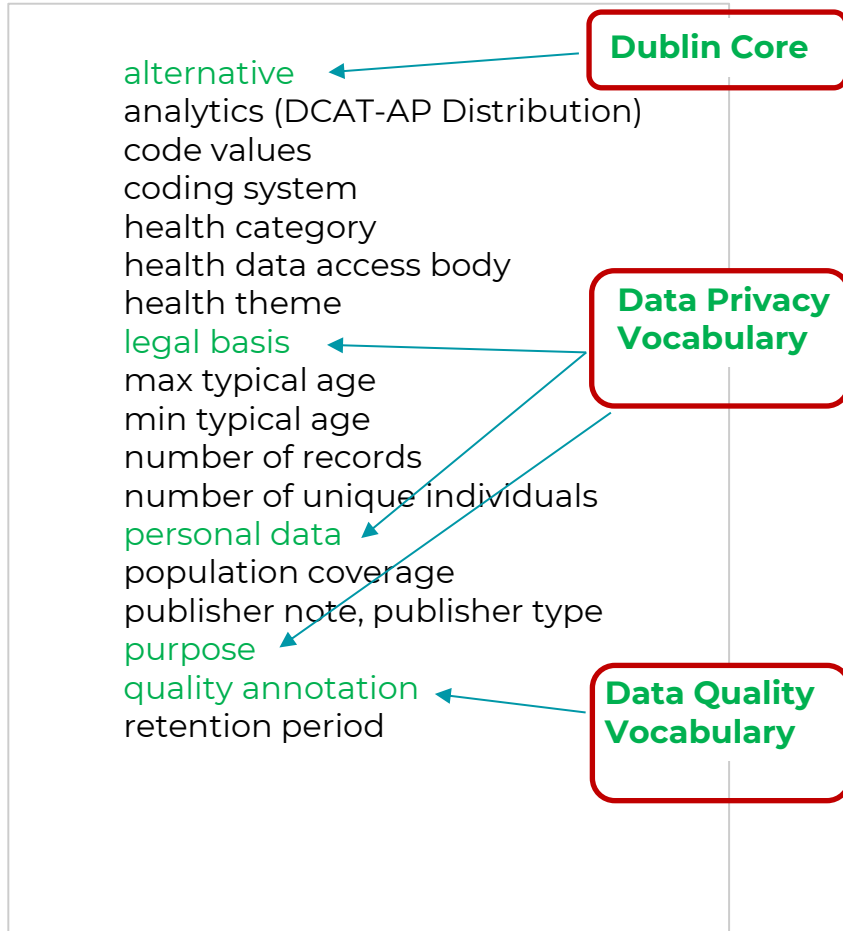
in a nutshell:

- ❑ New properties added to DCAT-AP
- ❑ New Controlled Vocabularies
- ❑ New rules for the minimum metadata elements



New properties added to DCAT-AP from existing vocabularies

NEW PROPERTIES



NEW CONTROLLED VOCABULARIES

Based on Art. 51 (datasets in scope of the EHDS Regulation)

Contact Point Registry of the Health Data Access Bodies, the Union data access service and authorised participants of the healthData@EU infrastructure

Wikidata as an ontological health database

Health Publisher type

NEW CARDINALITIES & USAGE NOTES

General increase of the cardinalities to create rich metadata:

- Open data
- Protected Data
- Sensitive data

Mandatory Sample Distributions for sensitive data:

- use of synthetic or anonymized subsets
- use of CSVW terms for RDF-izing variable descriptions

New HealthDCAT-AP properties

NEW PROPERTIES

alternative analytics (DCAT-AP Distribution)
code values
coding system
health category
health data access body
health theme
legal basis
max typical age
min typical age
number of records
number of unique individuals
personal data
population coverage
publisher note, publisher type
purpose
quality annotation
retention period

**HealthDCAT-AP
Name space**

NEW CONTROLLED VOCABULARIES

Based on Art.33 (51) (datasets in scope of the EHDS Regulation)

Contact Point Registry of the Health Data Access Bodies, the Union data access service and authorised participants of the healthData@EU infrastructure

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Health Publisher type

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New Controlled Vocabularies (EHDS Standardised Terms)

NEW PROPERTIES

alternative analytics (DCAT-AP Distribution)
code values
coding system
health category
health data access body
health theme
legal basis
max typical age
min typical age
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population coverage
publisher note, publisher type
purpose
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New minimum metadata elements for describing datasets

NEW PROPERTIES

alternative analytics (DCAT-AP Distribution)
code values
coding system
health category
health data access body
health theme
legal basis
max typical age
min typical age
number of records
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Health Data Holders must provide information on Access Rights

HealthDCAT-AP editor v2.9

Antimicrobial resistance surveillance data in the EU/EEA - ECDC (EARS-Net)

Customise Your Editor

Dataset Access Rights ?

Open Data

Protected Data

Sensitive Data

Metadata Default Language

English

Recover Your Session

Load Backup

Track Your Progress

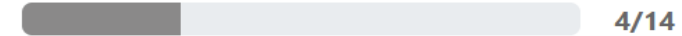
Mandatory



Recommended



Optional



Validate



Publish

Dataset Discovery

Contacts

Documentation

Categorisation

Data Access

Technical Metadata

Dataset Discovery

A set of metadata properties that describe essential attributes of the dataset, facilitating its intelligibility, relevance, and usability for a variety of purposes. These properties provide insights into the content, scope, context, etc.

Mandatory



Recommended



Optional



Source: HealthDCAT-AP editor
(<https://healthinformationportal.eu>)

HealthDCAT-AP Mandatory Properties by Access Rights

OPEN DATA

dcat:Dataset
"mandatory"
dct:description: rdfs:Literal [1..n]
dct:title: rdfs:Literal [1..n]
dct:identifier: rdfs:Literal: xsd:anyURI [1..n]
dcatap:applicableLegislation rdfs:Resource [1..n]
dcat:theme (dct:subject): skos:Concept [1..n]
dct:accessRights: dct:RightsStatement [1..1]
dcat:distribution: dcat:Distribution [1..n]
healthdcatap:hdab foaf:Agent [1..1]
healthdcatap:healthCategory: (dct:subject) skos:Concept [1..n]

PROTECTED

dcat:Dataset
"mandatory"
dct:description: rdfs:Literal [1..n]
dct:title: rdfs:Literal [1..n]
dct:identifier: rdfs:Literal: xsd:anyURI [1..n]
dcatap:applicableLegislation rdfs:Resource [1..n]
dcat:theme (dct:subject): skos:Concept [1..n]
dct:accessRights: dct:RightsStatement [1..1]
dct:publisher: foaf:Agent [0..1]
dcat:distribution: dcat:Distribution [1..n]
healthdcatap:hdab foaf:Agent [1..1]
healthdcatap:healthCategory: (dct:subject) skos:Concept [1..n]

SENSITIVE DATA (Personal level-data)

dcat:Dataset
"mandatory"
adms:sample: dcat:Distribution [1..n]
dcat:contactPoint: vcard:Kind [1..n]
dcat:distribution: dcat:Distribution [1..n]
dcat:keyword: rdfs:Literal [1..n]
dcat:theme (dct:subject): skos:Concept [1..n]
dcatap:applicableLegislation rdfs:Resource [1..n]
dct:accessRights: dct:RightsStatement [1..1]
dct:description: rdfs:Literal [1..n]
dct:identifier: rdfs:Literal: xsd:anyURI [1..n]
dct:provenance: dct:ProvenanceStatement [1..n]
dct:publisher: foaf:Agent [1..1]
dct:spatial: dct:Location [1..n]
dct:title: rdfs:Literal [1..n]
dct:type: skos:Concept [1..1]
dpv:hasPurpose dpv:Purpose [1..n]
healthdcatap:hdab foaf:Agent [1..1]
healthdcatap:healthCategory: (dct:subject) skos:Concept [1..n]
healthdcatap:healthTheme: (dct:subject) skos:Concept [1..n]

At least one Dataset Distribution is mandatory, regardless of the Access Rights.


Sensitive data (Personal electronic health data)

For Sensitive data, the dataset distribution is the landing page of the National Health Data Access Body. It is linked to the EU common Data Access Application.

SENSITIVE DATA (Personal level-data)

dcat:Dataset	
"mandatory"	
adms:sample:	dcat:Distribution [1..n]
dcat:contactPoint:	vcard:Kind [1..n]
dcat:distribution:	dcat:Distribution [1..n]
dcat:keyword:	rdfs:Literal [1..n]
dcat:theme (dct:subject):	skos:Concept [1..n]
dcatap:applicableLegislation:	rdfs:Resource [1..n]
dct:accessRights:	dct:RightsStatement [1..1]
dct:description:	rdfs:Literal [1..n]
dct:identifier:	rdfs:Literal xsd:anyURI [1..n]
dct:provenance:	dct:ProvenanceStatement [1..n]
dct:publisher:	foaf:Agent [1..1]
dct:spatial:	dct:Location [1..n]
dct:title:	rdfs:Literal [1..n]
dct:type:	skos:Concept [1..1]
dpy:hasPurpose:	dpy:Purpose [1..n]
healthdcatap:hdab:	foaf:Agent [1..1]
healthdcatap:healthCategory:	(dct:subject) skos:Concept [1..n]
healthdcatap:healthTheme:	(dct:subject) skos:Concept [1..n]

HealthData@EU EU Dataset Catalogue

Home | EU Dataset Records | EU Dataset Catalogues | Applications |  1

Home > Dataset basket > Applications > Application Intro Form

Important information for creation of a data access application

Glossary	▼
General Information about data access	▼
Type of data access	▼
Availability of data in different EU countries	▼
Penalties for misuse of electronic health data	▼
Attachments	▼
Fees	▼
Data privacy statement	▼

Cancel Next

Sensitive data (Personal electronic health data)

For Sensitive data, it is mandatory to have a Sample Distribution of the dataset in the form of a synthetic or anonymized subsets.

SENSITIVE DATA (Personal level-data)

```
dc:Dataset
  mandatory
  adms:sample: dcat:Distribution [1..n]
  dcat:contactPoint: vcard:Kind [1..n]
  dcat:distribution: dcat:Distribution [1..n]
  dcat:keyword: rdfs:Literal [1..n]
  dcat:theme (dct:subject): skos:Concept [1..n]
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  dct:identifier: rdfs:Literal; xsd:anyURI [1..n]
  dct:provenance: dct:ProvenanceStatement [1..n]
  dct:publisher: foaf:Agent [1..1]
  dct:spatial: dct:Location [1..n]
  dct:title: rdfs:Literal [1..n]
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  dpv:hasPurpose dpv:Purpose [1..n]
  healthdcatap:hdab foaf:Agent [1..1]
  healthdcatap:healthCategory: (dct:subject) skos:Concept [1..n]
  healthdcatap:healthTheme: (dct:subject) skos:Concept [1..n]
```

Nº	Nombre	Otros n...	Biograf...	Criterio...	Objetivo...	Autorid...	Autorid...	Agentes...	Dinero	Ruta ha...	Fechas (...)	Docume...	Cuestio...	Séquito	Resulta...	Cultu
10	Side Abd...	Agentes	Negociar...	Jequés y...	Pedro N...					Argel-Bu...	1510/0100				Se firma...	En ^
58	Acosta, ...	Caballer...	Negociar...	Enrique I...	Ahmad ...	Luis Fer...	Regalos ...			Lisboa-S...	1579/07/...				Luis Fer...	Rescate ... Pr
6	Alarcón (...)	Excautiv...	Experien...	Rescatar...	Gonzaga...	Barbaro...	Alfonso ...			Mesina...	1539	Salvaco...				
5	Alarcón, ...	Excautiv...	Experien...	Mantene...	Barbaro...	Doria, A...	Diagut R...			Cabo de ...	1537-1538					A finales...
29	Andrónico	Agente d...	Seguir la...	Alonso d...	Barbaro...						1538					
38	Angulo, ...	Excautiv...	Experien...	Negociar...	Peralta, ...	Hadim H...	Pedro de ...			Bugia-Ar...	1543					
31	Aragón (...)	Excautiv...	Experien...	ira Arge...	Gonzaga...	Hadim H...					1540/07/...					
26	Aragón (...)	Excautiv...	Experien...	Continua...	Gonzaga...	Barbaro...				Palermo...	1540/12/...	Carta de...			Se piens...	
35	Aragón (...)	Excautiv...	Experien...	Continua...						Mesina...	1541-1542					
53	Barell, ...	Juan Bar...	Caballer...	Confianz...	Negociar...						1,576					
4	Bernard...	Ejcadad...		Confianz...		Francisc...	Yusuf al...			Nicolas ...					Cinco co...	
22	Camugio...	Anfrano ...	Agente d...	Presenta...	Gonzaga...	Muley H...	Un jueq...			Sicilia-Tr...	1534-1535		A través...		Camugio...	
30	Chapon		Negociar...	Doria, A...	Barbaro...	Isa Ferra...				Genova...	1543/11/...	Salvoco...			Trae con...	
5	Consep...	Sustituy...			Felipe IV	Muham...	IX duq...			Cádiz-M...	1644/06/18	Cartas p...			Alicantar...	
49	Femand...	Capitán...	Confianz...	1) Negoc...	Austria...	Catayaç...				Nápoles...	1573/04/...				La peste...	
24	Gallego (...)	Contado...	Habilita...	Altraer a...	Doria, A...	Barbaro...				Mesina...	1540	Salvoco...			Antonio ...	
21	Gallego, ...	Contado...	Bajo la l...	Doria, A...	Barbaro...	Alonso d...				Mesina...	1539/09/22	Carta de...			Audienci...	Renegad ...
46	Ganguzza	Amigo d...	Amistad...	Negociar...	Alcalá, I...	Uluç Ali	Juan de ...			Nápoles...	1569				No tenie...	Re
50	Gasparo...	Mercade...	Confianz...	Negociar...	Mondéja...	Arab Ah...	Andrea ...				1,573				Francisc...	Se
47	Gasparo...	Mercade...	Habilita...	Negociar...	Felipe II	Abd al-M...	Francisc...				1,572				Los fran...	Us

It is also mandatory to use the Tabular data on the Web Vocabulary (CSVW terms) for RDF-izing variable descriptions.

HealthDCAT-AP draft specification

W3C ReSpec



Draft version of HealthDCAT-AP: <https://healthdcat-ap.github.io>

← → ↻ 🏠 <https://healthdcat-ap.github.io/#personal-electronic-health-data> ☆

10.1 Requirements for controlled vocabularies
10.2 Controlled vocabularies to be used
10.3 Wikidata as an ontological medical database

11. Support for implementation
11.1 In scope of EHDS
11.2 Denoting a health Dataset
11.3 Health data categories
11.4 Access rights
11.4.1 Non-personal electronic health data
11.4.2 Personal electronic health data
11.5 Distribution
11.6 Sample distribution
11.7 Identifiers as persistent URIs

12. RDF Examples

13. Validation

A. Quick Reference of Classes and Properties
A.1 HealthDCAT-AP tabular overview
A.2 DCAT-AP 2.x vs 3.0 deprecated properties and classes

B. Acknowledgments

HealthDCAT-AP

Unofficial Draft 22 December 2023

ReSpec

▼ **More details about this document**

Latest published version:
<https://healthdcat-ap.github.io/>

Latest editor's draft:
<https://healthDCAT-AP.github.io>

History:
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Charles-Andrew Vande Catsyne (Sciensano)
Truls Korsgaard (Folkehelseinstituttet)
Hans Aage Huru (Folkehelseinstituttet)

Author:
Pascal Derycke (Sciensano)

Feedback:
[GitHub healthDCAT-AP/draft](#) (pull requests, [new issue](#), [open issues](#))

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Thank you!



Pascal.Derycke@sciensano.be



Co-funded by
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<https://www.ehds2pilot.eu/>



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ehds2pilot@health-data-hub.fr



<https://twitter.com/ehds2pilot>

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Common European Energy Data Space - CEEDS

Stavros STAMATOUKOS

DG ENER.B4 – Digitalisation, Competitiveness, Research & Innovation

Digitalisation of energy Action Plan

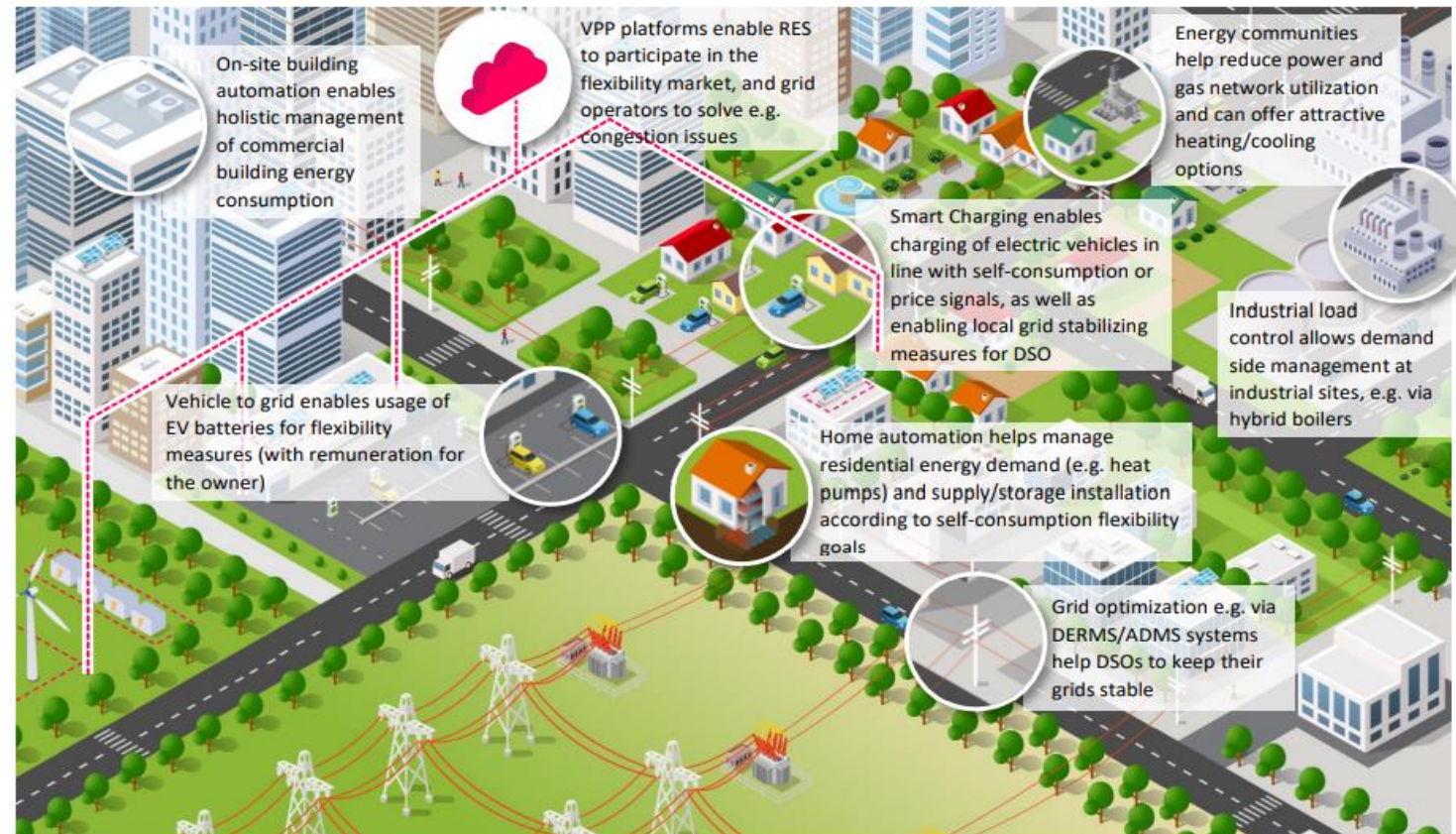


CEEDS - vision and objectives

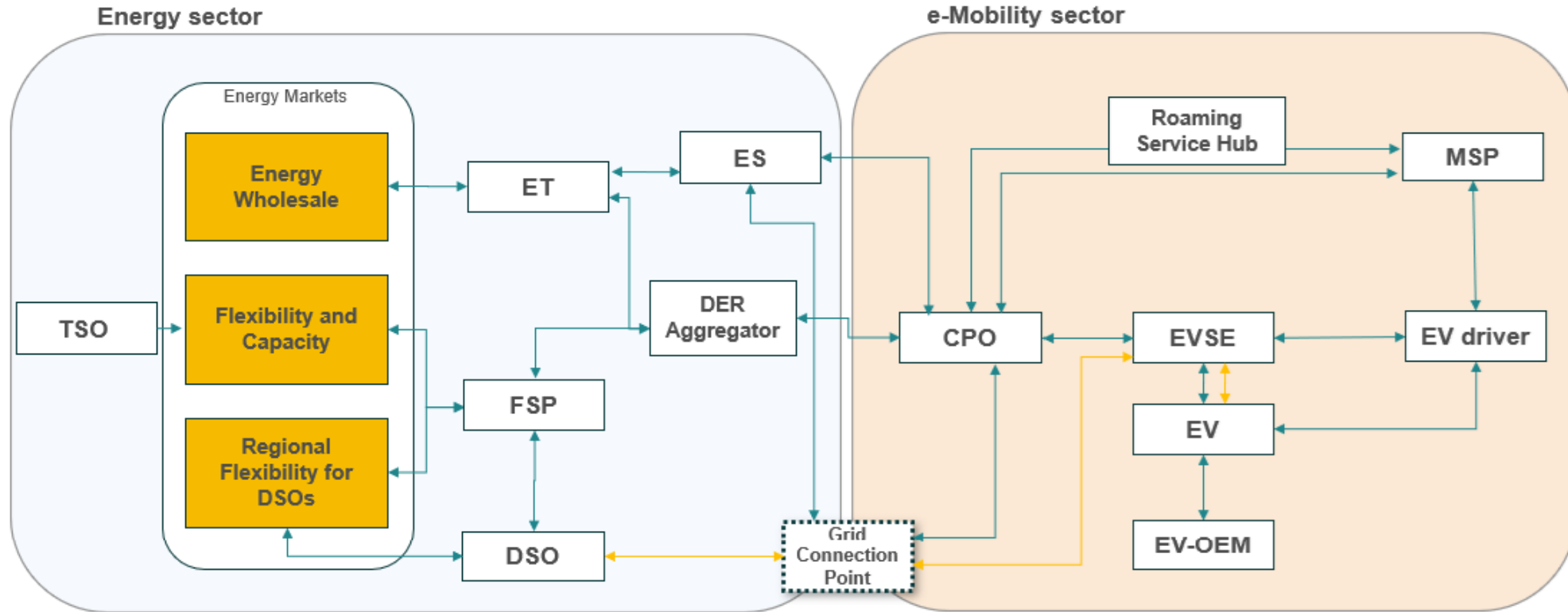
Vision: Develop a European data sharing framework to support innovative energy services

Objectives: 3 high level use cases

- Flexibility services
- Smart and bidirectional charging
- Energy efficiency in buildings



Example: Smart charging ecosystem



EVSE : Electric Vehicle Supply Equipment
 EV : Electric Vehicle
 CPO : Charge Point Operator
 MSP : Mobility Service Provider
 EV-OEM : Car Manufacturer

ES : Energy Supplier
 (in this context CPO Energy supplier)
 TSO : Transport System Operator
 DSO : Distribution System Operator
 FSP : Flexibility Service Provider
 ET : Energy Trader
 DER Aggregator: Distributed Energy Resource
 Aggregator

↔ Data
 ↔ Energy

**Data Service
 Provider**

As this role is potentially connected to each of the other roles in this ecosystem, no link is shown here

CEEDS - architecture

Components:

- distributed data exchange platforms layer: regulated or non-regulated infrastructures
- Federated layer: access and usage policies, identity management, logs, vocabulary hub, contracting, discovery
- data space connector” orchestrates interconnection and exchanges of data and metadata

Actors: DSOs, TSOs, market operators, OEMs, energy communities, charge point operators, customers, BRPs, BSPs etc.

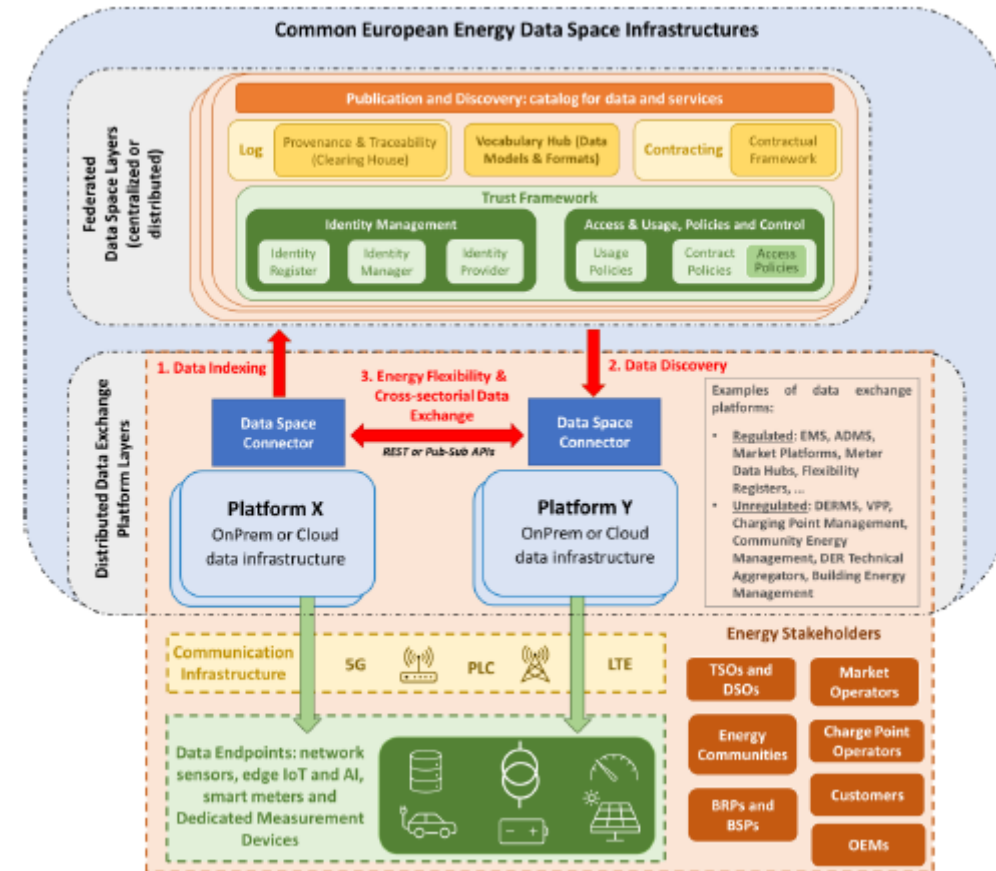
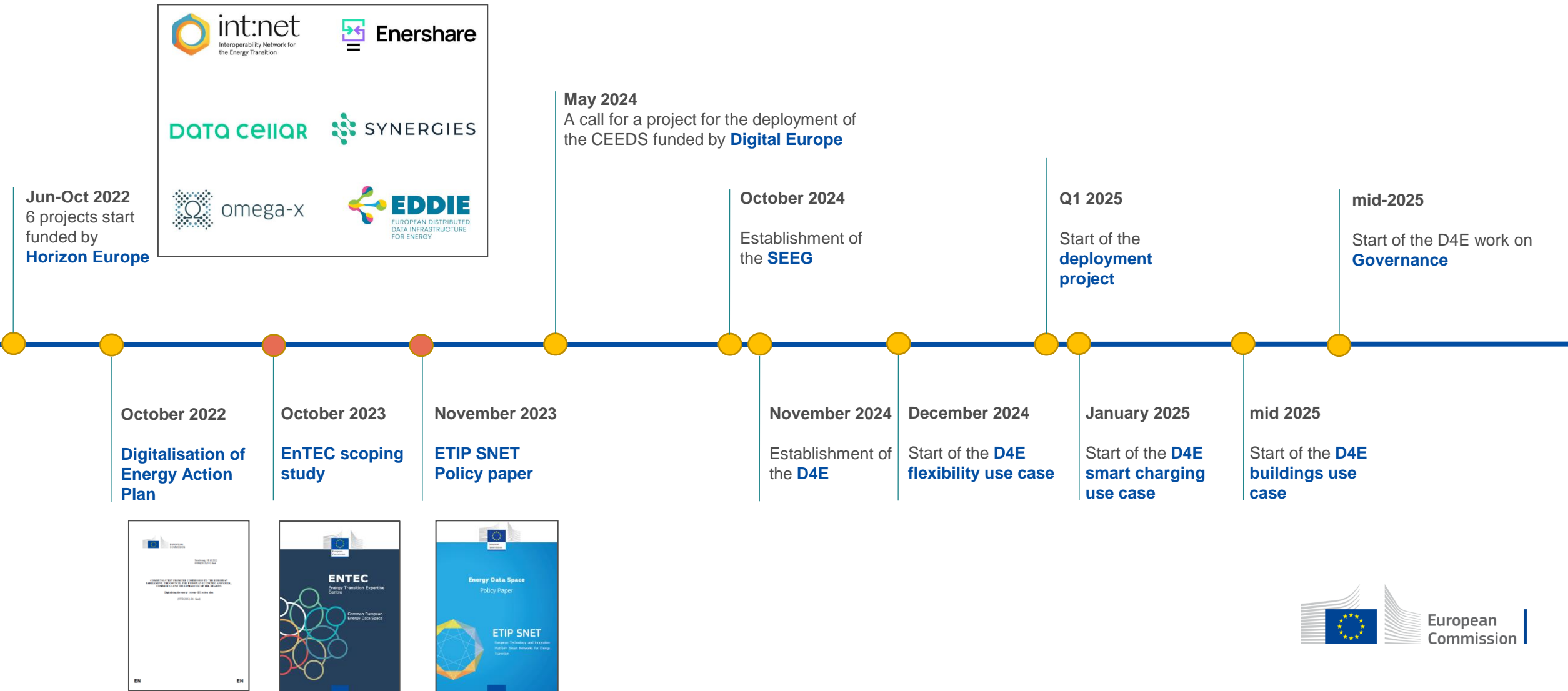


Figure 12 – Complete CEEDS architecture.

CEEDS - timeline



int:net
Interoperability Network for the Energy Transition

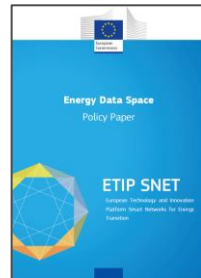
Enershare

DATA CELLAR

SYNERGIES

omega-x

EDDIE
EUROPEAN DISTRIBUTED DATA INFRASTRUCTURE FOR ENERGY



Smart Energy Expert Group

- Announced in the DoEAP as a successor to the Smart Grids Task Force (SGTF)
- Coordinated by ENER / CNECT
- Established in Oct 2024
- 3 subgroups: Data for energy (D4E), Cybersecurity, Consumers
- 69 members
 - Type C: 37 associations from energy and digital domains
 - Type D: 27 Member States
 - Type E: ENTSO-E, ENTSO-G, EU-DSO ENTITY, ACER, BEREC
 - Observers & invited experts

Type C members of SEEG

- AIOTI (Alliance for Internet of Things and Edge Computing Innovation)
- CEDEC (European Federation of Local and Regional Energy Companies)
- CEER (Council of European Energy Regulators)
- CEN CENELEC ETSI CG
- ChargeUp Europe
- COGEN Europe (Association for the Promotion of Cogeneration)
- CurrENT
- DLMS UA (DLMS User Association)
- DR4Eu (Demand Response for Europe)
- EASE (European Association for Storage of Energy)
- ECOS (Ecostandard: environmental coalition on standards)
- E.DSO for smart grids
- ElaadNL
- ESMIG (The European Smart Energy Solution Providers)
- EU.BAC (European Building Automation and Controls Association)
- EUREC (European research and development in renewable energy technologies)
- Eurelectric
- Eurogas
- Euroheat & Power
- European Heating Industry
- E.V.V.E (European Association for the consumption-based billing of energy costs)
- European Energy Retailers
- European Heat Pump Association
- European Energy Information sharing and analysis Centre (EE-ISAC)
- European Network for Cybersecurity
- EUTC (European utilities telecom Council)
- Fraunhofer-Gesellschaft
- GAIA-X
- Gas Infrastructure Europe (GIE)
- GEODE
- IEEE
- ORGALIM
- SmartEN
- Solar Power Europe
- T&D Europe
- TNO
- VTT Technical Research Centre of Finland

D4E working group: objectives

- Overall objective

*“to assist the Commission in developing a comprehensive and coherent **data exchange framework** in the energy sector”*

- Concrete objectives

- To elaborate the **3 high-level use cases** identified in the Digitalisation action plan and
- To develop the **technical building blocks** for the defined use cases
- To agree on the potential pathways for the **governance** of the data sharing framework
- To support **Member States** exchange best practices, learn from each other and seek technical assistance in implementing national data exchange standards

Member States workstream

- Objective: to facilitate the exchange of best practices among Member States
- Indicative actions:
 - Webinars presenting national practices
 - Maintain a database of data sharing infrastructures
 - Twinning/matchmaking actions

Thank you



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int:net

Interoperability Network for
the Energy Transition

Developing an interoperability community: the int:net project

Prof. Antonello Monti

Fraunhofer FIT – Center for Digital Energy

Aachen, Germany

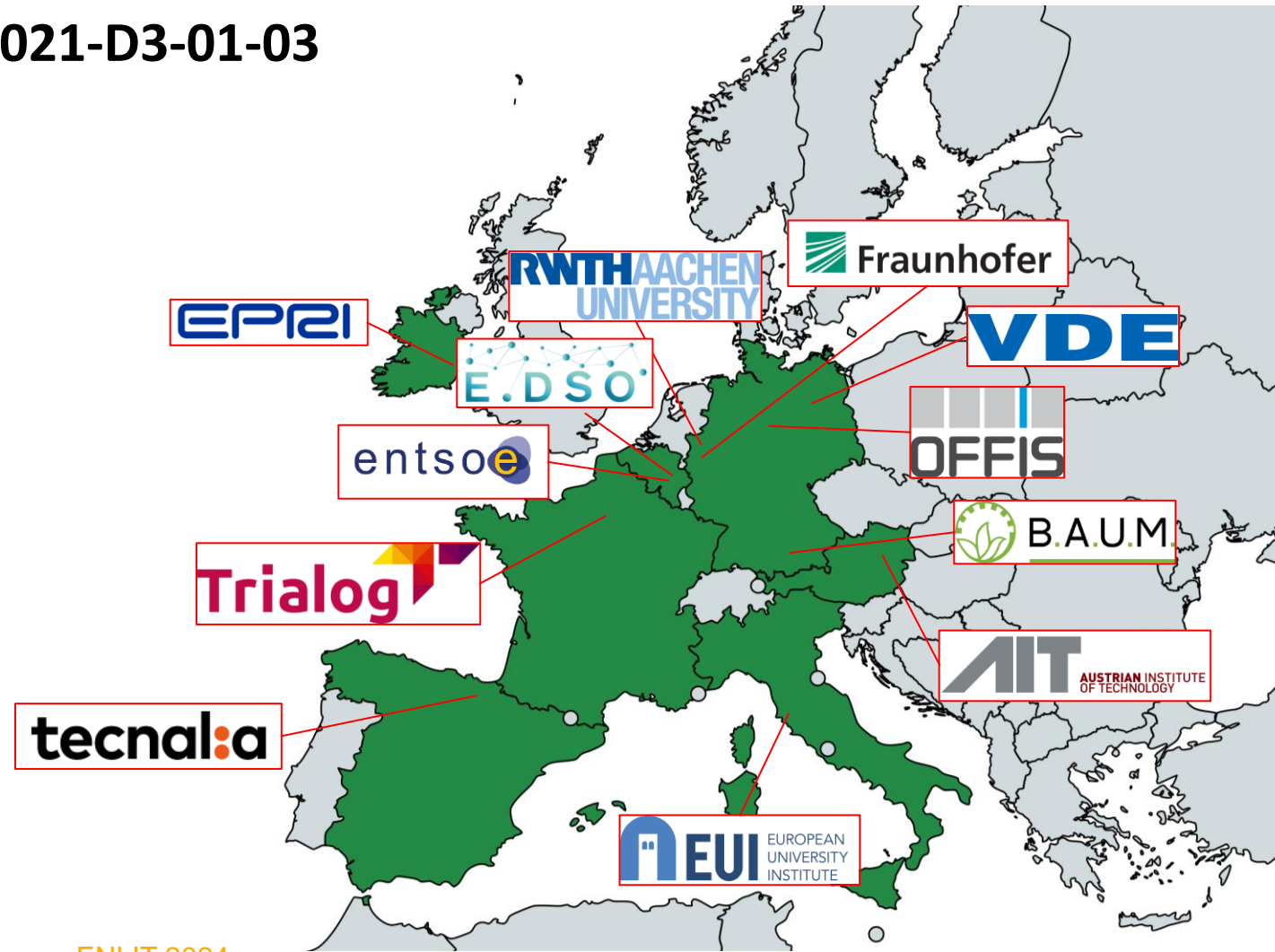


This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101070086

Interoperability Network for the Energy Transition

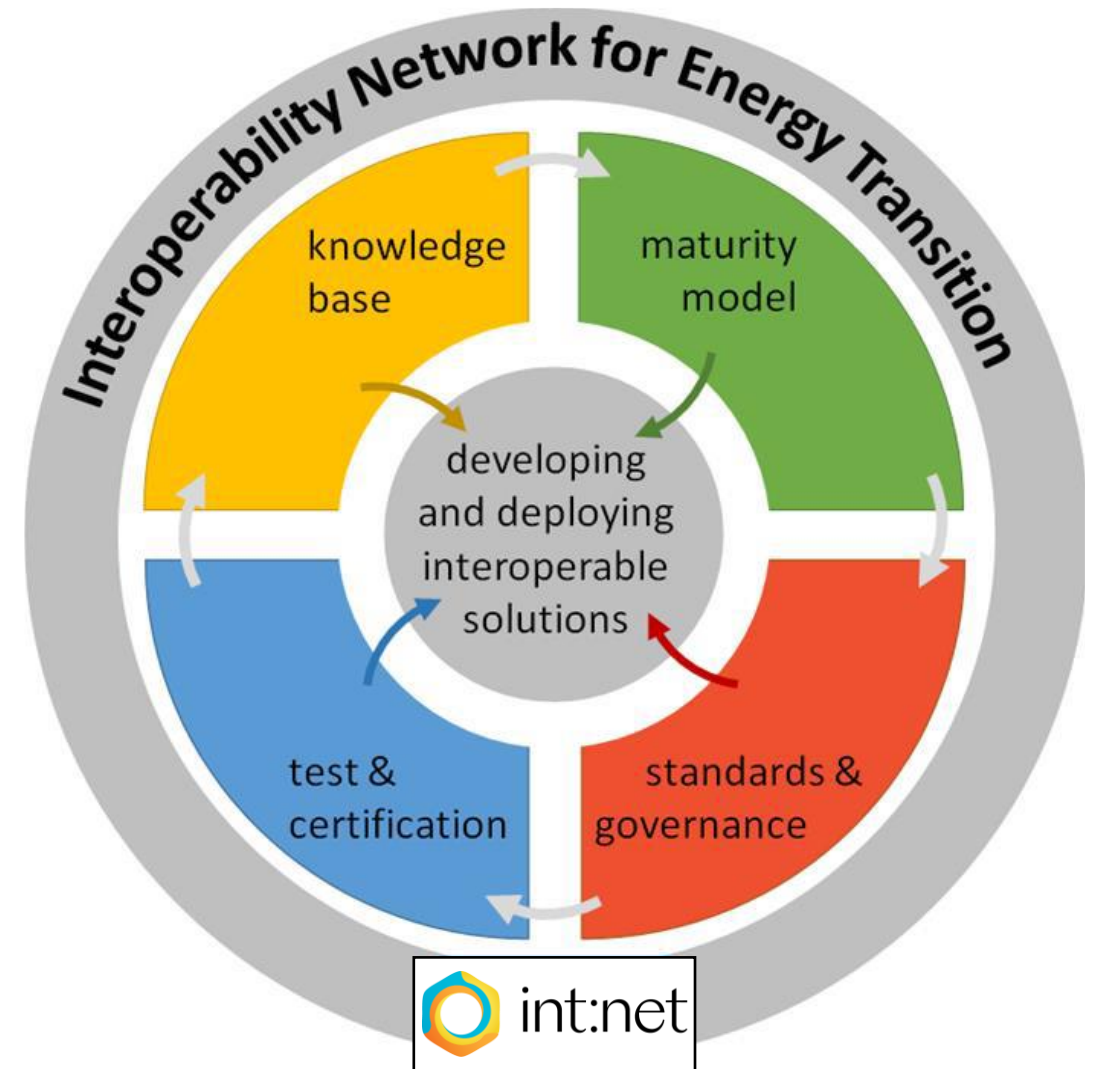
- **Horizon Europe call HORIZON-CL5-2021-D3-01-03**

- **Coordination & Support Action (CSA)**
- **Duration: 36 months**
- **Runtime: 01.05.2022 – 30.04.2025**
- **Consortium: 12 Partners**
 - 7 Countries
 - 1 Associated Partner
- **Budget: 5 M€**



Project objectives

- 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 laboratories and testing facilities
- Fostering a community network of standards and regulatory environment for a European interoperability ecosystem



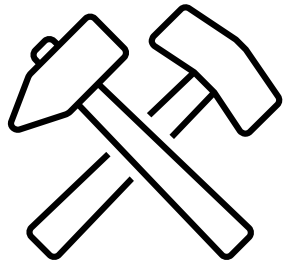
Analysis of interoperability initiatives

- Repository with **more than 100 international initiatives** analyzed and described

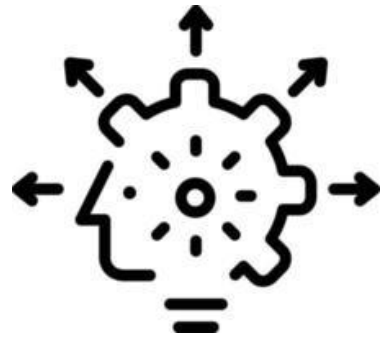
The image shows a screenshot of the int:net website's 'Technical Resources' page. The page features a navigation menu with 'Who we are', 'Events', 'News', 'Partners', 'Resources', and 'Get connected'. The main content area is titled 'Interoperability Initiatives (zip)' and contains a description of the document, followed by a 'Download' button. Below this, there is a section for 'Interoperability Framework in Energy Data Spaces' with another 'Download' button, and a 'Deliverables' section with 'Deliverable 2.1' and its 'Download' button. To the right, a table titled 'Categorization' is partially visible, with columns for 'Working group', 'Ongoing standards activity', 'Policy', and 'Best practice'. The table content is mostly obscured by a large, semi-transparent image of a document cover. The cover features a hexagonal pattern and the text: 'Accompanying document', 'Repository of interoperability initiatives', and the int:net logo with the tagline 'Interoperability Network for the Energy Transition'.

What is EMINENT?

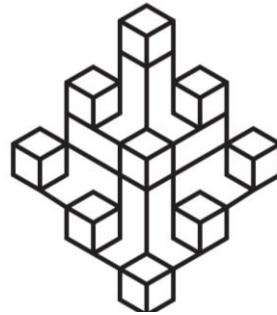
EMINENT (Evaluating the **M**aturity of **I**Nteroperability for the **E**Nergy **T**ransition)



Provide Tools to
Assess
Interoperability



Improve
Capability



Improve
Interoperability



Tracking
Interoperability
maturity



Provide
Guidance and
Support

EMINENT allows organizations to assess and improve their interoperability capabilities over time, ensuring that they can keep pace with the rapidly changing energy landscape.

Community of interoperability testing facilities

- Identification IOP enablers for harmonization

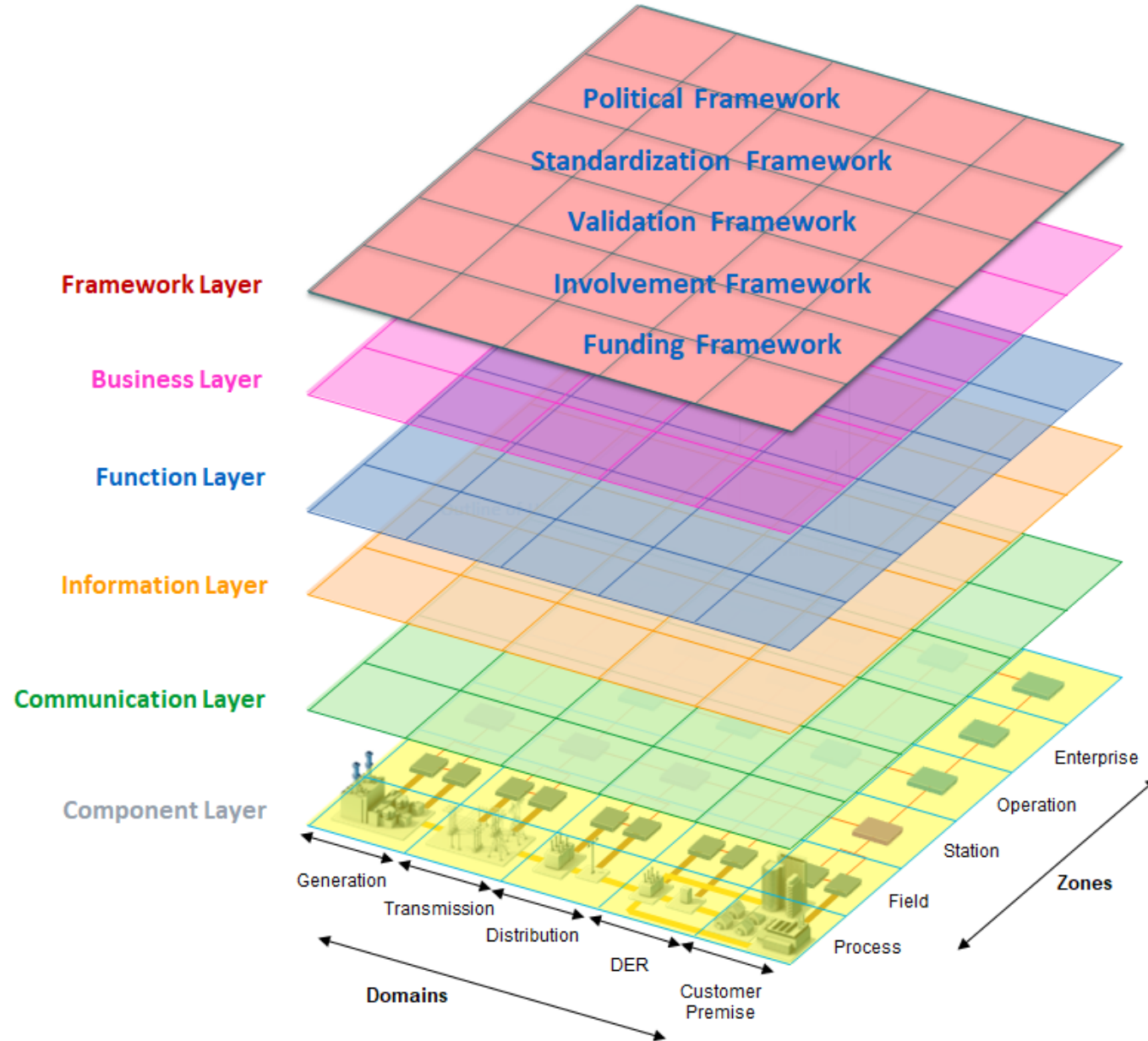
		IOP layers			
		technical	semantical	organizational	legal
IOP Testing Challenges	Applications	open technology stacks	open interface standards	system-level functional testing user acceptance	regulatory sandboxes GDPR
	Testing Infrastructure	lab dataspace open standards for HIL / digital twins	open domain ontologies	IOP testing community	labelling
	Procedures	IOP testing frameworks	common IOP profiles inventory ontology	IOP testing methodologies connectatons	certification

“WHAT needs to be covered by IOP testing?”

“WHICH testing infrastructure (physical/virtual) is required for IOP testing?”

“HOW should IOP testing be done?”

6th SGAM layer: Frameworks

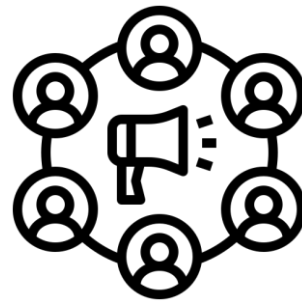


Community network for a European interoperability ecosystem

- Horizontal coordination, support, up-take of energy services related to **interoperability, data spaces and digital twins**:
 - Legal and regulatory framework setters in cross-domain modelling and interoperability testing exercises (e.g., connectathons)
 - Cross-fertilization process for regional testing infrastructures
 - Initiatives external to the project (Gaia-X, ISGAN, ETIP SNET, BRIDGE, EIRIE, etc.)
- int:net community as formal institution (association) to be self-maintained in the long term



Engage Stakeholders

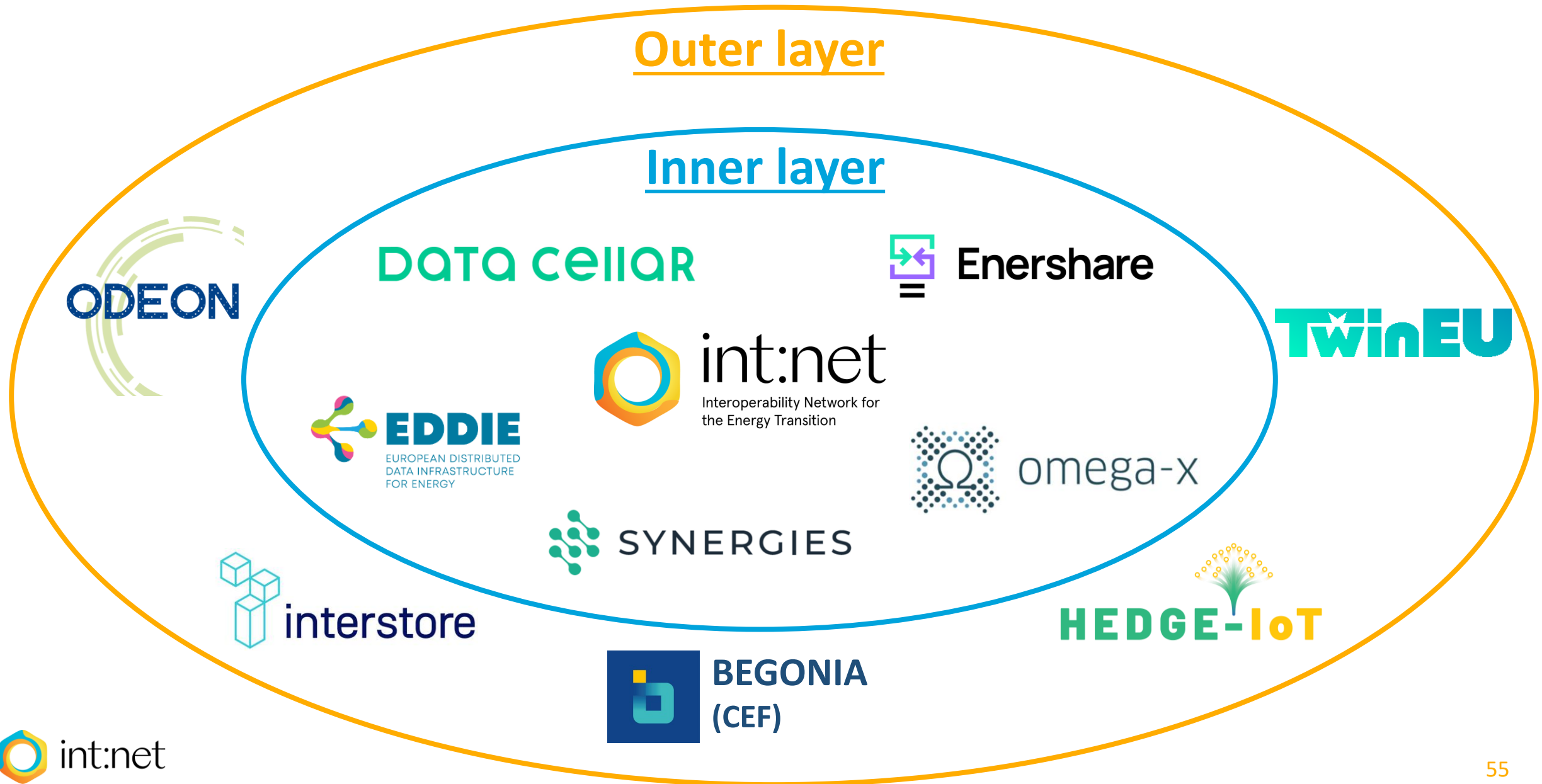


Disseminate Results



Create a Community

The two layers of the cluster:



Blueprint of the CEEDS

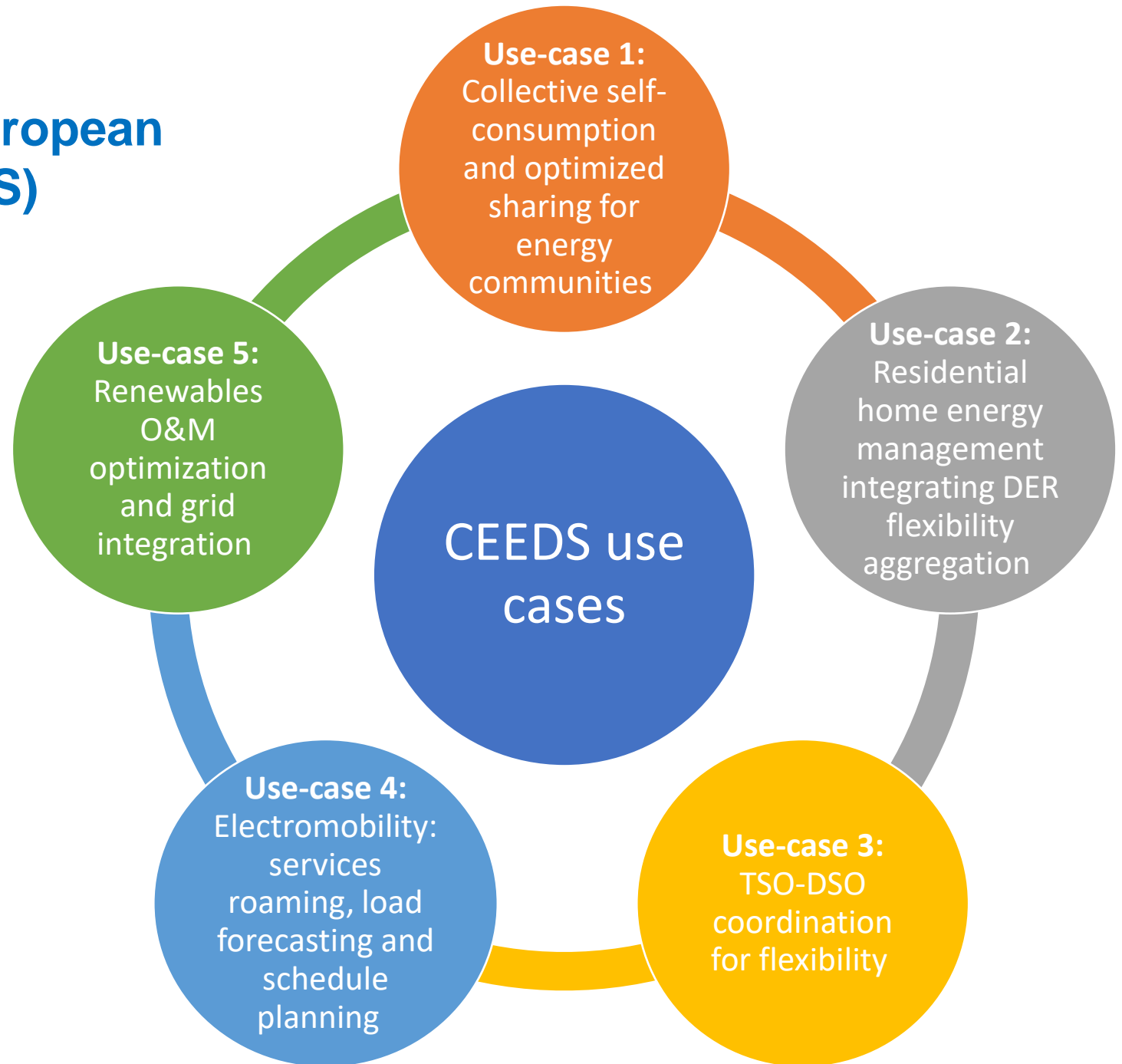
Goal: from Innovation Actions to **national initiatives and large-scale deployments** of data spaces

Content:

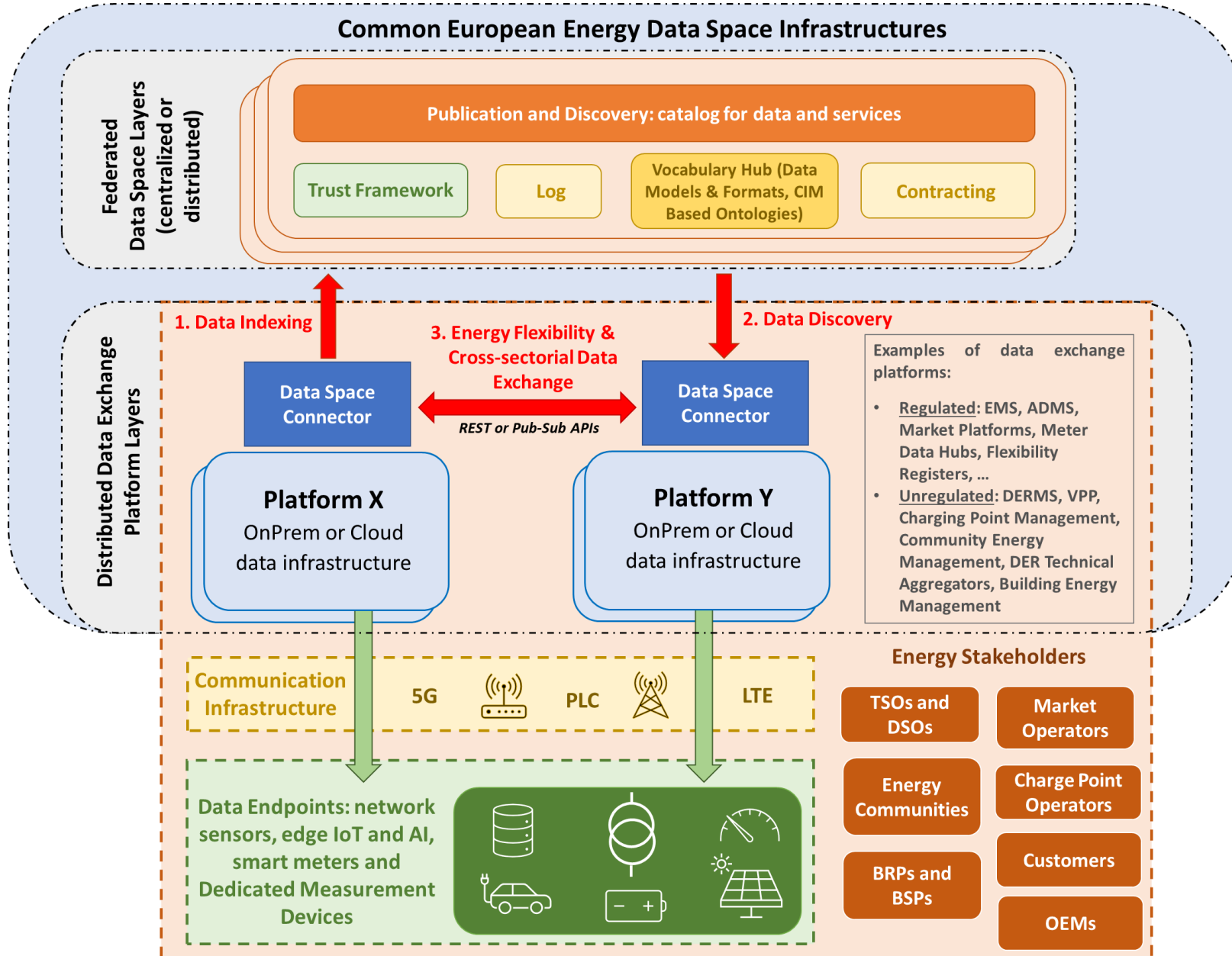
- **Business use-cases:**
 - Scenarios, Actors, Exchanged Data
- **Architecture for data exchange**
- **Interoperability:**
 - Technical
 - Semantic
 - Governance



Use cases for Common European Energy Data Space (CEEDS)

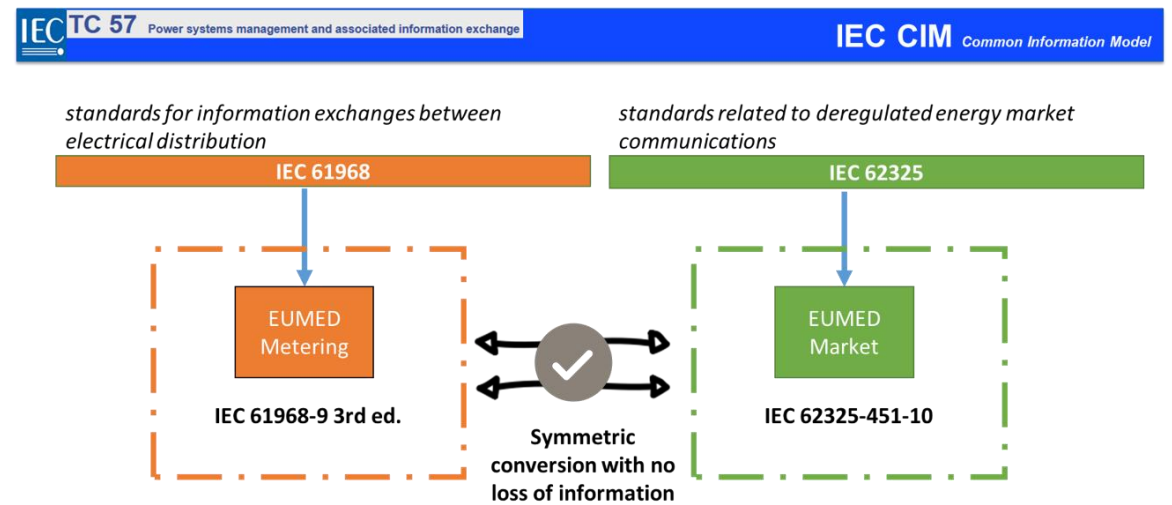
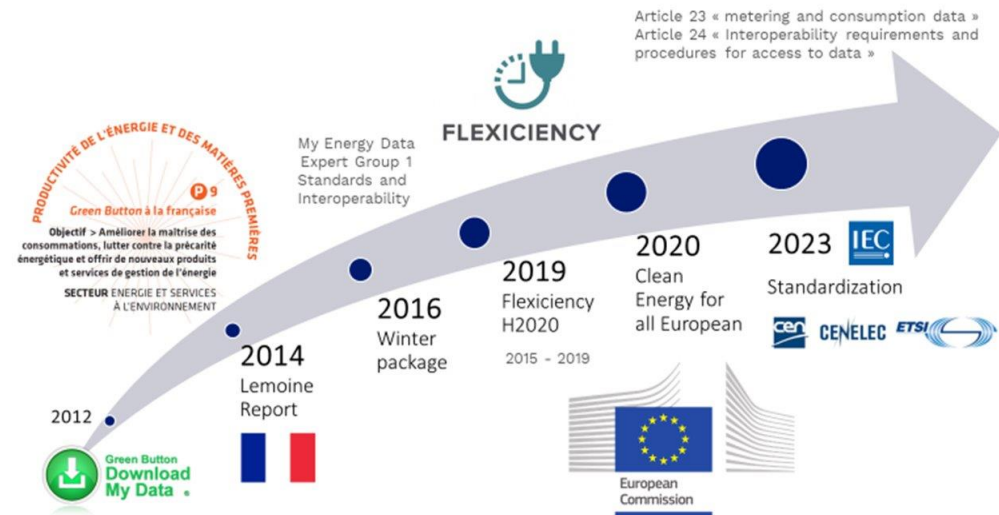


Proposed Architecture



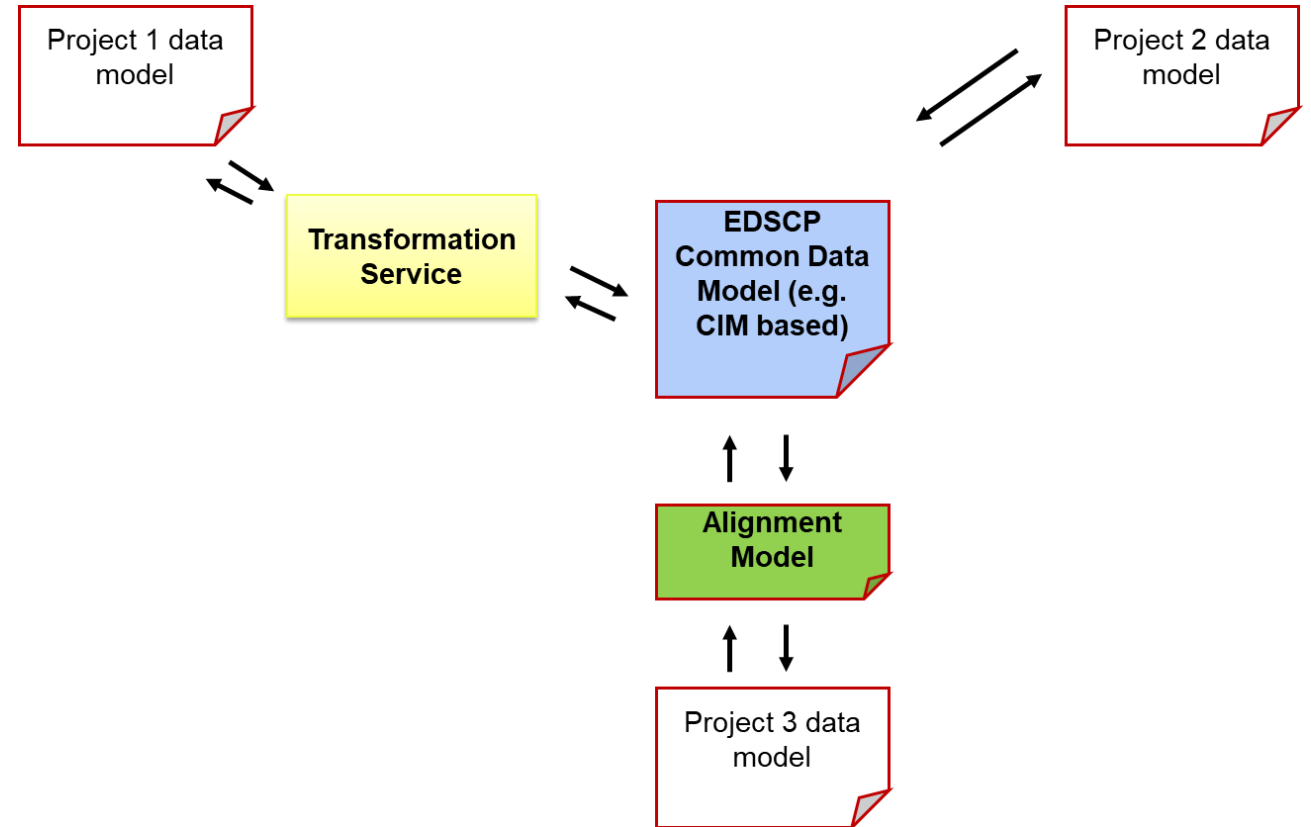
Dataset and Semantic Model

- Focus on smart meter data exchange
- EUMED Metering and Market as common EDSCP data model
- Strongly linked to European My Energy Data Initiative
- EUMED has been integrated in Omega-X Common Semantic Data Model (CSDM)



Semantic Interoperability

- Definition of Mapping between Data Models of different projects into common EDSCP data model
- Allow different formats (JSON using UML, JSON-LD, XML)
- **Next Steps:**
 - Projects are defining mapping between their data model and EUMED
 - Live Demo in Q1 '25





int:net

Interoperability Network for
the Energy Transition

Thank you for your
attention

Prof. Antonello Monti
Fraunhofer FIT
antonello.monti@fit.fraunhofer.de



<https://intnet-project.eu/>



EDDIE

EUROPEAN DISTRIBUTED
DATA INFRASTRUCTURE
FOR ENERGY

SELECTED USE CASES

Shievam Kashyap

Research Associate & Project Manager

University of Applied Sciences
Upper Austria

22nd November 2024

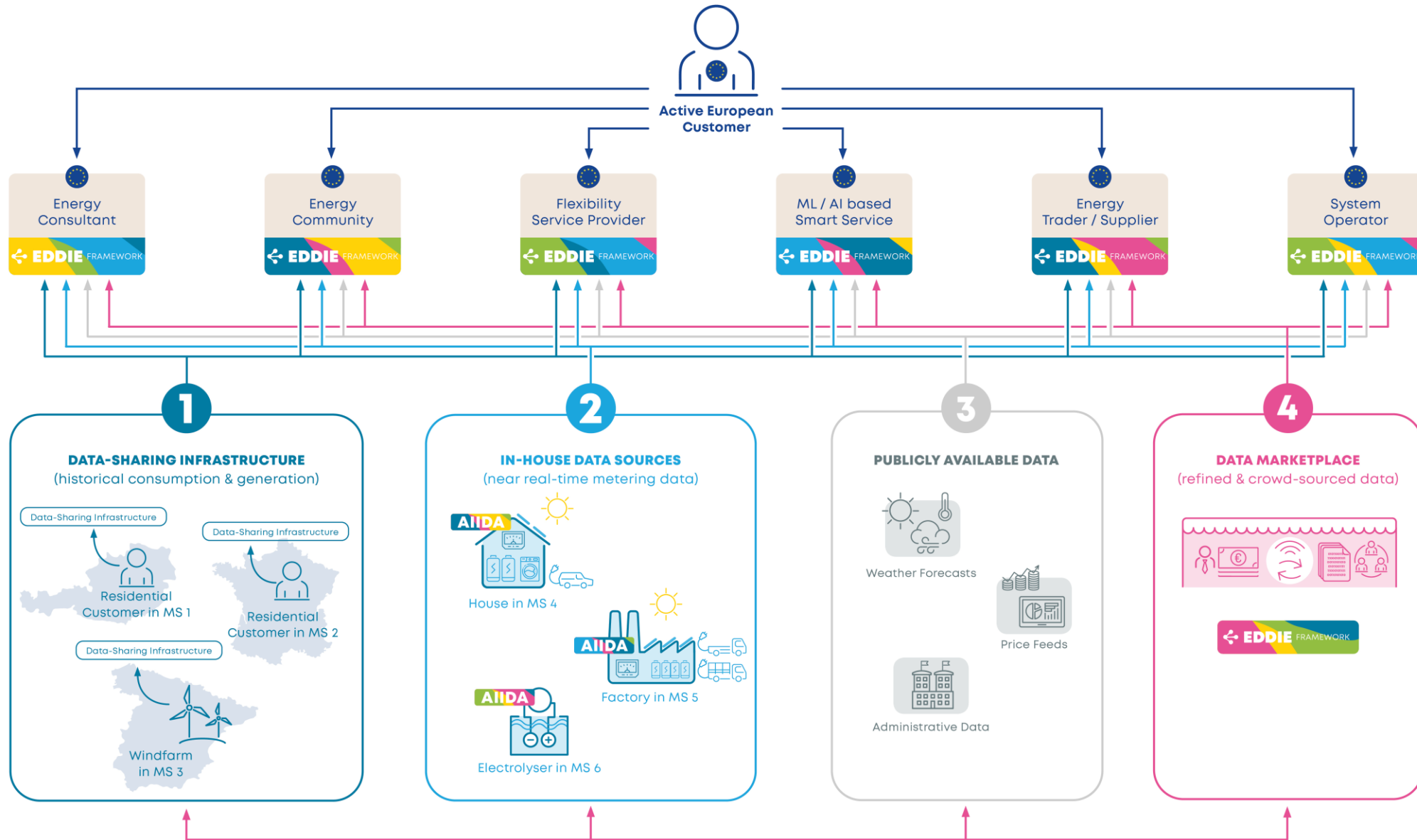


- 1** University of Applied Sciences Upper Austria – Campus Hagenberg – Research and Development, Hagenberg
- 2** Copenhagen School of Energy Infrastructure, Department of Economics, Copenhagen Business School, Copenhagen
- 3** European University Institute, Florence
- 4** University of Vienna, Faculty of Computer Science, Cooperative Systems Research Group, Vienna
- 5** Austrian Institute of Technology, Center for Digital Safety & Security, Competence Unit Cooperative Digital Technologies, Vienna
- 6** The Lisbon Council for Economic Competitiveness and Social Renewal asbl, Brussels
- 7** PONTON GmbH, Hamburg
- 8** Asociación de Empresas de Energía Eléctrica (aelec), Madrid
- 9** DEDA – Public Gas Distribution Networks – Single Member S.A., Athens

- 10** EDA Energiewirtschaftlicher Datenaustausch GmbH, Vienna
- 11** Südtiroler Energieverband, Bozen
- 12** FlexiDAO, Barcelona
- 13** Digital4Grids, Paris
- 14** EASEE Gas, Paris
- 15** Entarc.eu, Waidhofen/Ybbs
- 16** ETA+ GmbH, Stuttgart

- Support:
- S1** Enedis, Paris
 - S2** Energinet, Copenhagen
 - S3** Plataforma Datadis C.B., Madrid

EDDIE Core Vision – An Integrated Distributed Energy Data Space



Selected Use Cases

Use case 1



Use case 2



Use case 3

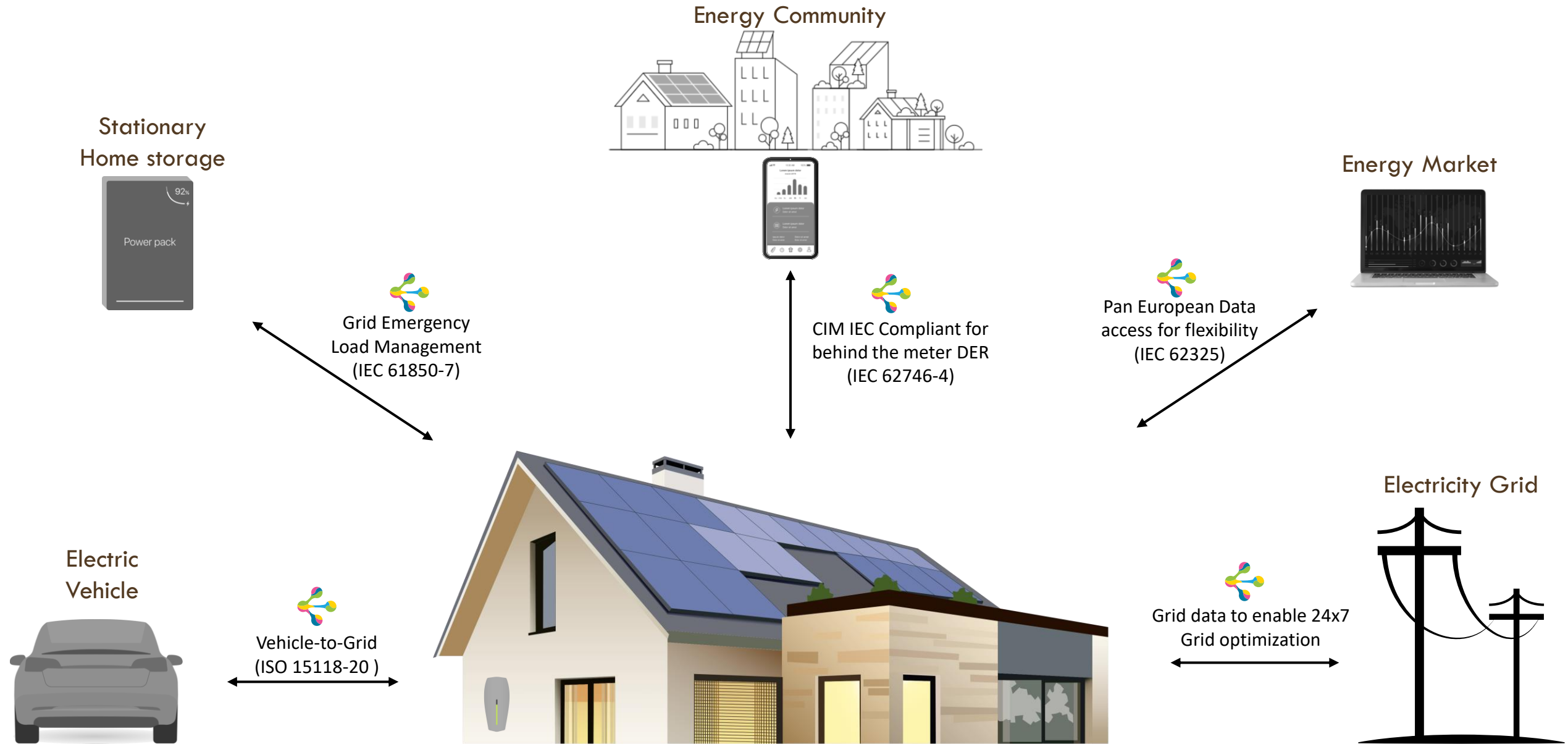


Use case – 1

ENERGY DATASPACE

for Residential Energy Optimisation in future NetZero homes

Integrating PV self-consumption, storage and V2X







Use case – 2

ENERGY DATASPACE
for Granular Carbon Accounting

24x7 Carbon-free Energy Matching

Data Collection

FlexIDAO can automate the collection of granular "Scope 2" data on its clients' behalf from different sources, or allow for manual upload.

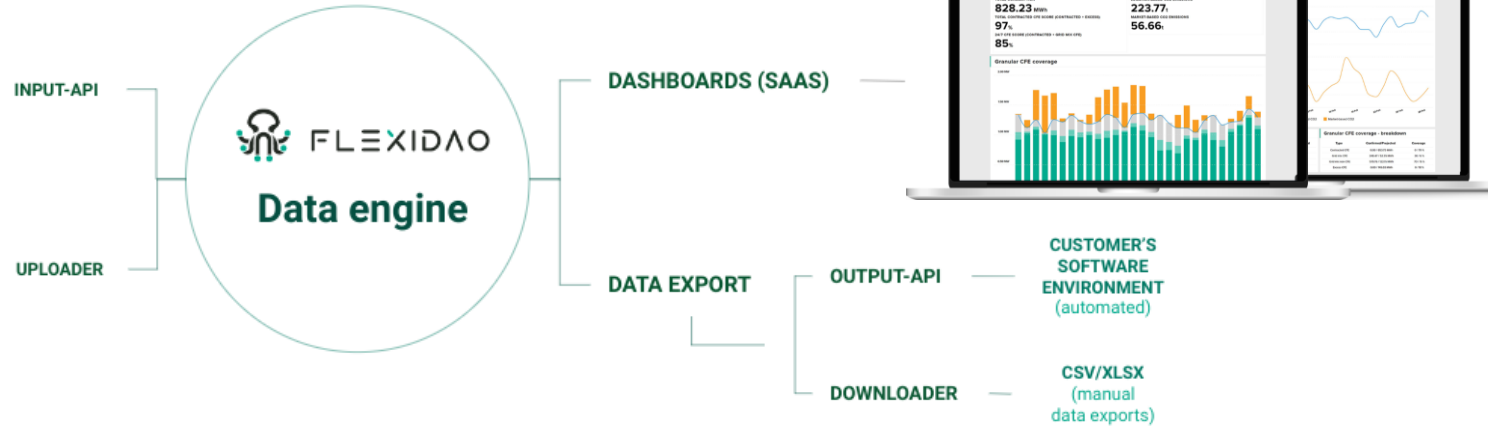
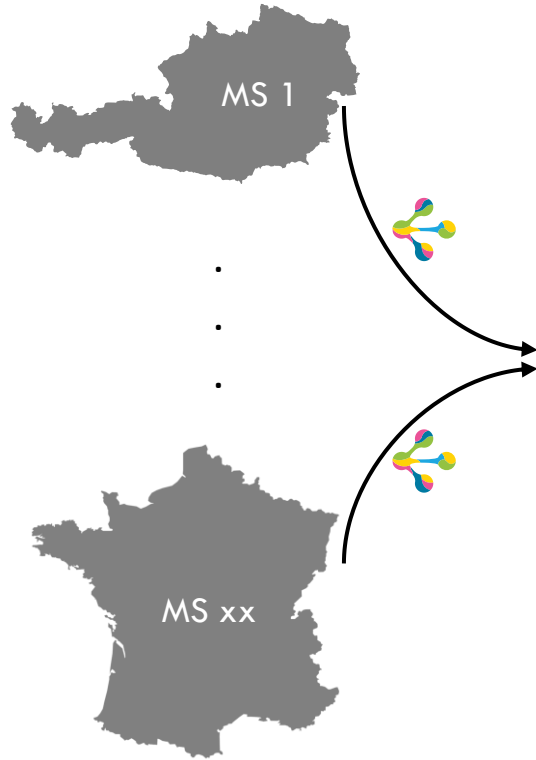
-  **ENERGY CONSUMPTION**
(hourly/monthly)
-  **ENERGY PRODUCTION**
(hourly/monthly)
-  **CO2 EMISSIONS**
(hourly/monthly)
-  **ENERGY ATTRIBUTE CERTIFICATE (EACs)**
(annual/hourly)

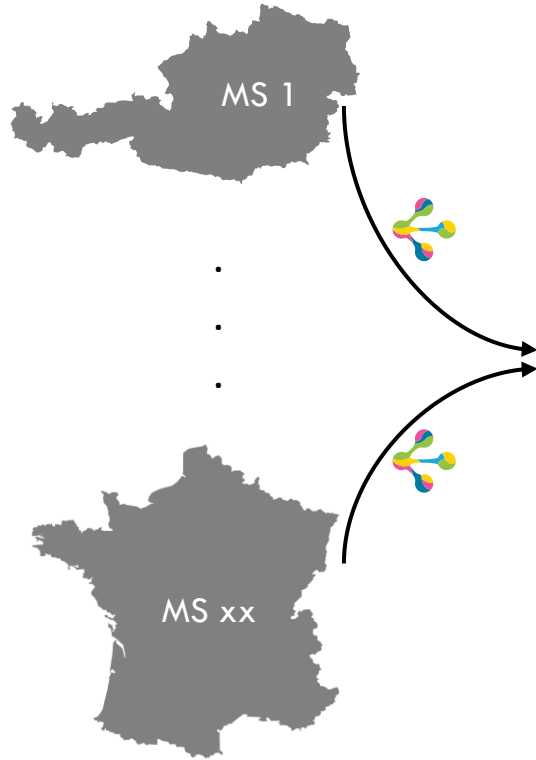
Data Aggregation

Data is ingested, cleaned and processed into relevant insights for decision making and reporting

Data Analysis





Customers can use Flexidao's SaaS dashboards to analyse information or can export the data to their software platforms to enable other use cases





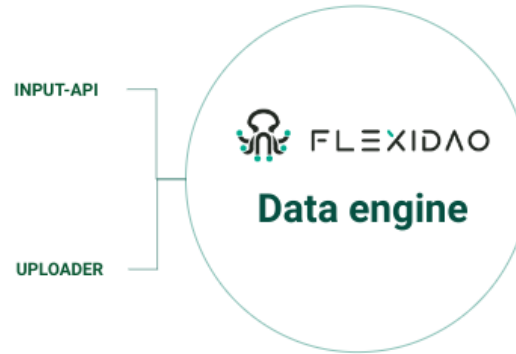
Data Collection

FlexIDAO can automate the collection of granular "Scope 2" data on its clients' behalf from different sources, or allow for manual upload.

-  **ENERGY CONSUMPTION**
(hourly/monthly)
-  **ENERGY PRODUCTION**
(hourly/monthly)
-  **CO2 EMISSIONS**
(hourly/monthly)
-  **ENERGY ATTRIBUTE CERTIFICATE (EACs)**
(annual/hourly)

Data Aggregation

Data is ingested, cleaned and processed into relevant insights for decision making and reporting



Data Analysis

Customers can use Flexidao's SaaS dashboards to analyse information or can export the data to their software platforms to enable other use cases



 **EDDIE** enables

Granular Scope 2 Carbon Accounting

Renewable energy procurement decisions

Renewable energy contracts, certificates and emissions in one place

Understand your 24x7 Carbon free performance and KPIs.

Use case – 3

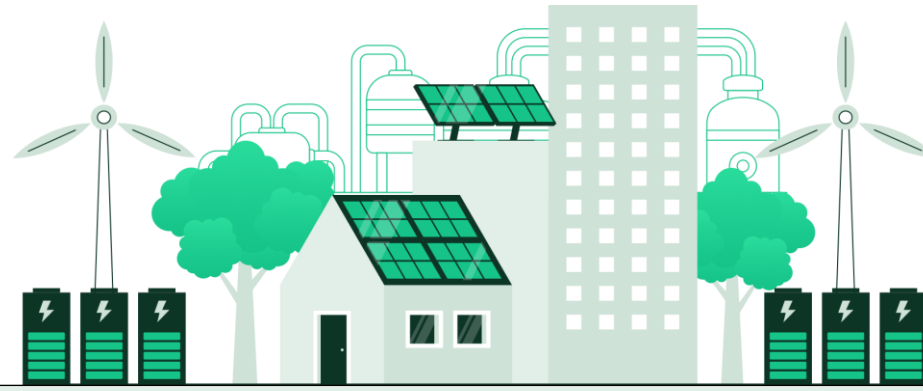
ENERGY DATASPACE
for Virtual Power Plants

Facilitating Renewable Integration and Demand side flexibility



Facilitation of Virtual Power Plants and Demand-side Flexibility





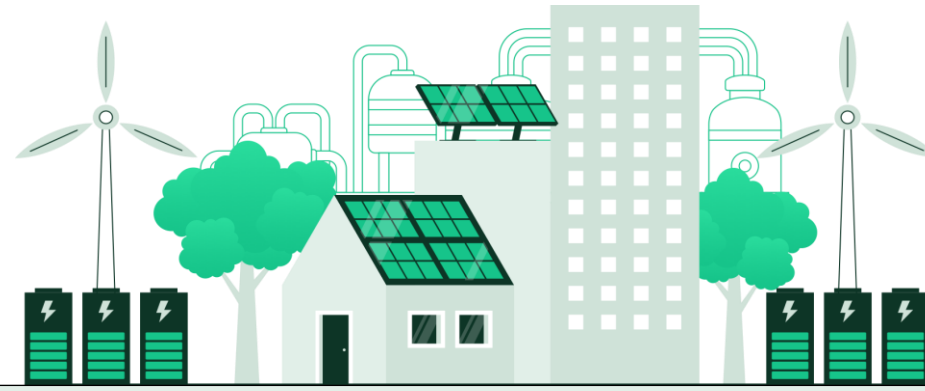
Facilitation of Virtual Power Plants and Demand-side Flexibility



Current State

Envisioned State

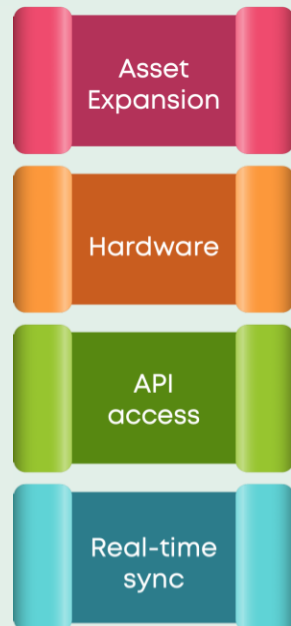


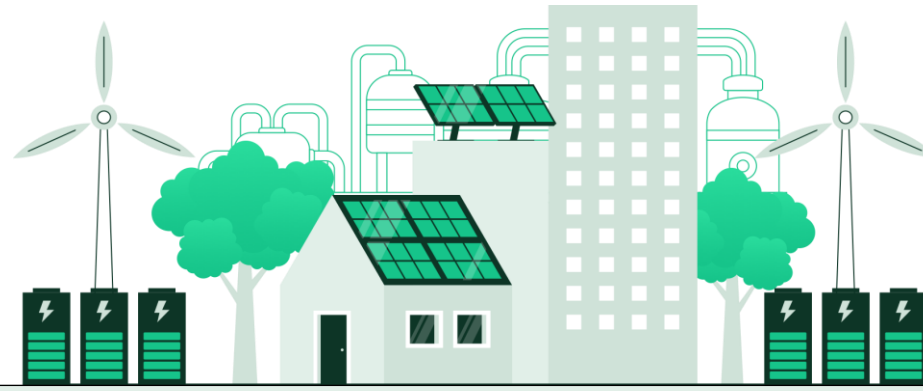


Facilitation of Virtual Power Plants and Demand-side Flexibility

Current State

Envisioned State





Facilitation of Virtual Power Plants and Demand-side Flexibility

Current State

Envisioned State

< 1,000 assets



Asset
Expansion

Proprietary hardware for
connectivity



Hardware

Limited spread across
Member States

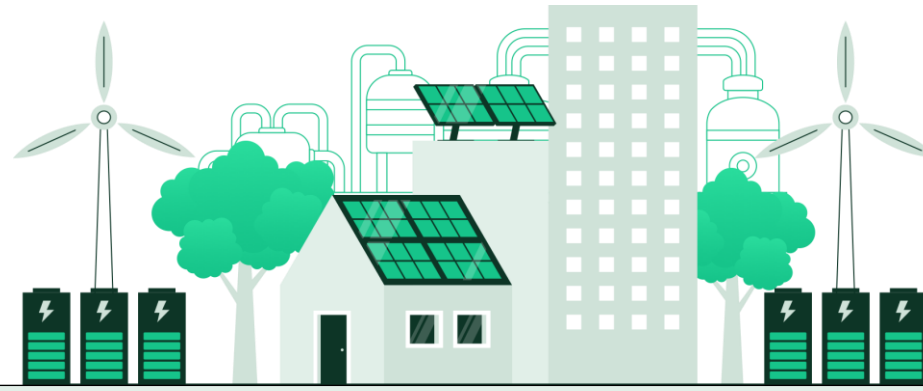


API
access

Difficulty to synchronize
master data



Real-time
sync



Facilitation of Virtual Power Plants and Demand-side Flexibility

Current State

Envisioned State

< 1,000 assets



Asset
Expansion



> 10,000 assets

Proprietary hardware for
connectivity



Hardware



Open hardware APIs

Limited spread across
Member States



API
access



Harmonize market APIs
across Member States

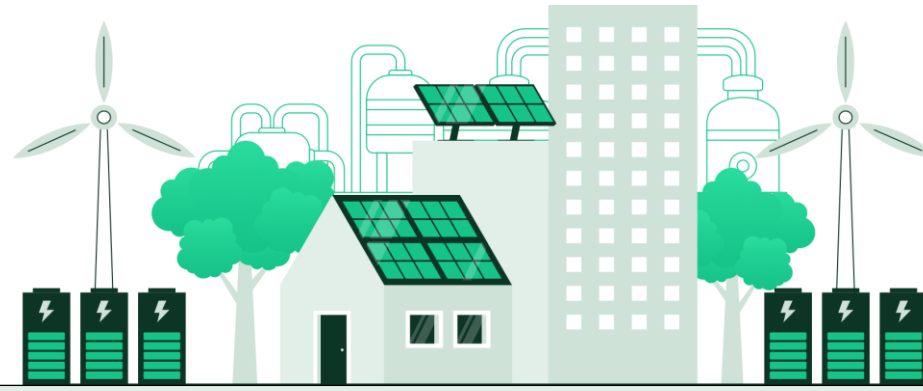
Difficulty to synchronize
master data



Real-time
sync



Real-time DER switching and
master data synchronization
with Guarantees of Origins



Facilitation of Virtual Power Plants and Demand-side Flexibility

Current State

Envisioned State

< 1,000 assets



Asset Expansion



> 10,000 assets

Proprietary hardware for connectivity



Hardware



Open hardware APIs

Limited spread across Member States



API access



Harmonize market APIs across Member States

Difficulty to synchronize master data



Real-time sync



Real-time DER switching and master data synchronization with Guarantees of Origins

How EDDIE supports?

DER Master data synchronization

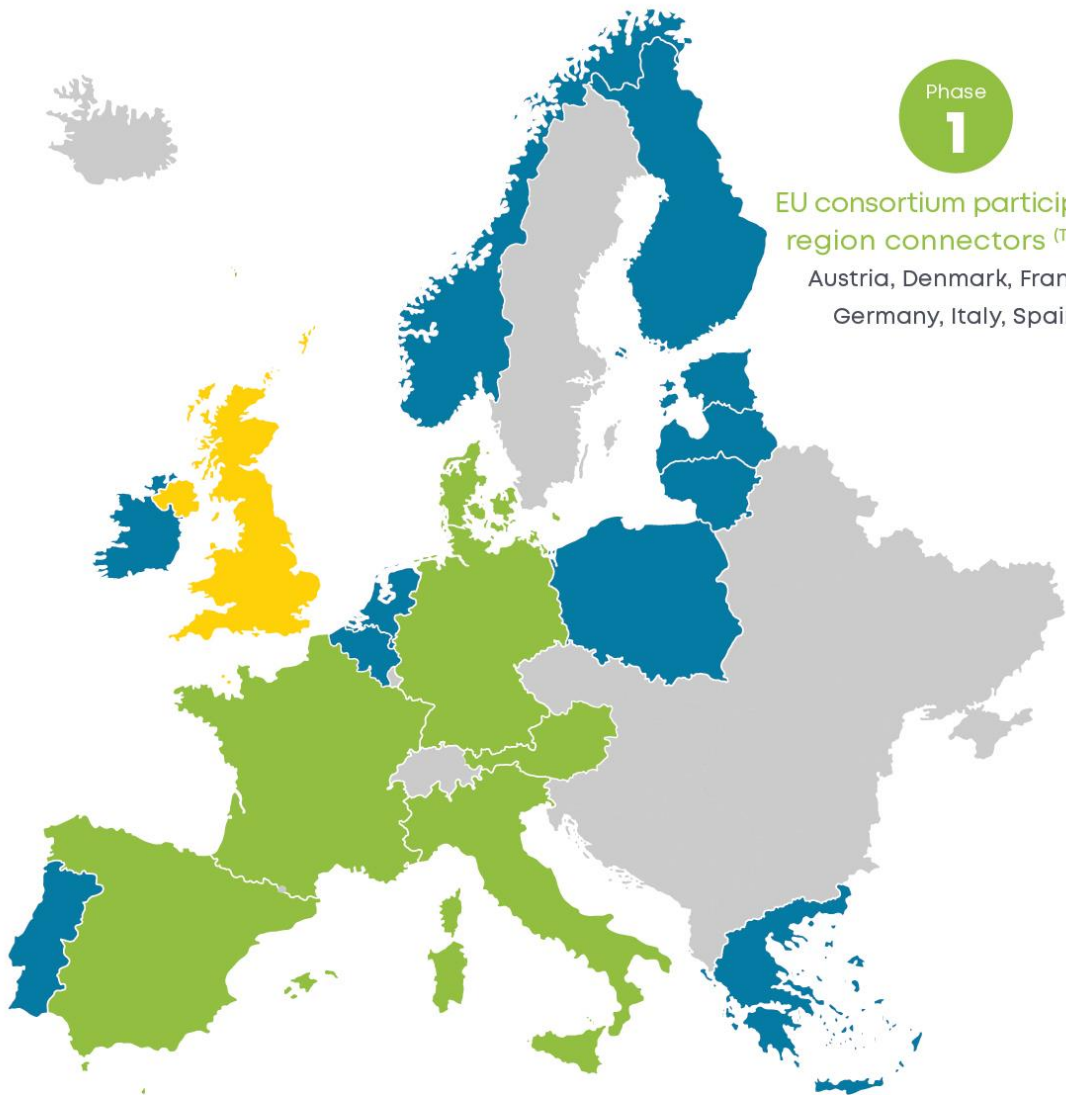
Operate across multiple MS through harmonized interfaces

Automatic metering & consumption data acquisition

Real-time DER performance monitoring

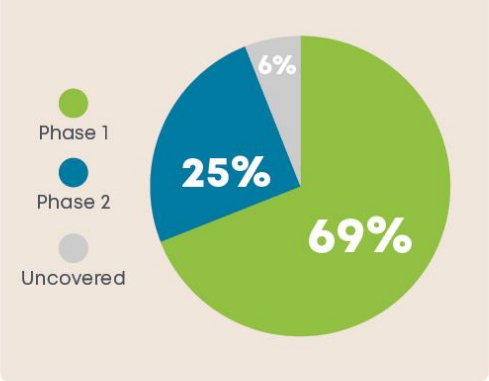
Automatic - BRP Switching

Tracking of Guarantees of Origins across value chains



Phase
1

EU consortium participants
region connectors (Task 5.2)
Austria, Denmark, France,
Germany, Italy, Spain



Phase
2

Other EU Member State
connectors (Task 5.3)
Belgium, Estonia, Finland, Greece,
Ireland, Latvia, Lithuania, Netherlands,
Norway, Poland, Portugal

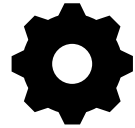
Phase
3

Non-EU connector
integration (Task 5.4)
Australia, UK, US





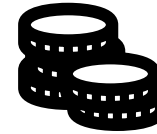
INSIEME



14 deployments
across 16 countries



60 European
Partners



€ 16 M Budget



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EUROPEAN DISTRIBUTED
DATA INFRASTRUCTURE
FOR ENERGY

Shievam Kashyap

Research Associate & Project Manager

University of Applied Sciences Upper Austria

<https://eddie.energy/>

[linkedin.com/company/eddie-energy](https://www.linkedin.com/company/eddie-energy)

shievam.kashyap@fh-hagenberg.at

[linkedin.com/in/shievam-kashyap/](https://www.linkedin.com/in/shievam-kashyap/)

Q&A



Flora Kopelou
Data.europa.eu
Publications Office
of the EU



Melodie Bernaux,
Policy officer Digital
Health,
European Commission



Pascal Derycke
Data Engineer,
Sciensano



Stavros Stamatoukos
Policy Officer at DG
Energy,
European Commission



Antonello Monti
Professor,
Institute Director,
RWTH Aachen
University



Shievam Kashyap
Research Associate
and Project Manager,
University of Applied
Sciences Upper Austria



Stay up-to-date with our
2024 activities!

The logo for Data Europa Academy is located in the bottom left corner. It consists of the words "data.", "europa", and "academy" stacked vertically in a white, lowercase, sans-serif font. The word "data." has a small yellow dot above the 'a'. The word "europa" has a small yellow dot above the 'o'. The word "academy" has a small yellow dot above the 'a'. The logo is set against a dark blue circular background that is part of a larger graphic design of overlapping circles in various shades of blue.

data.
europa
academy

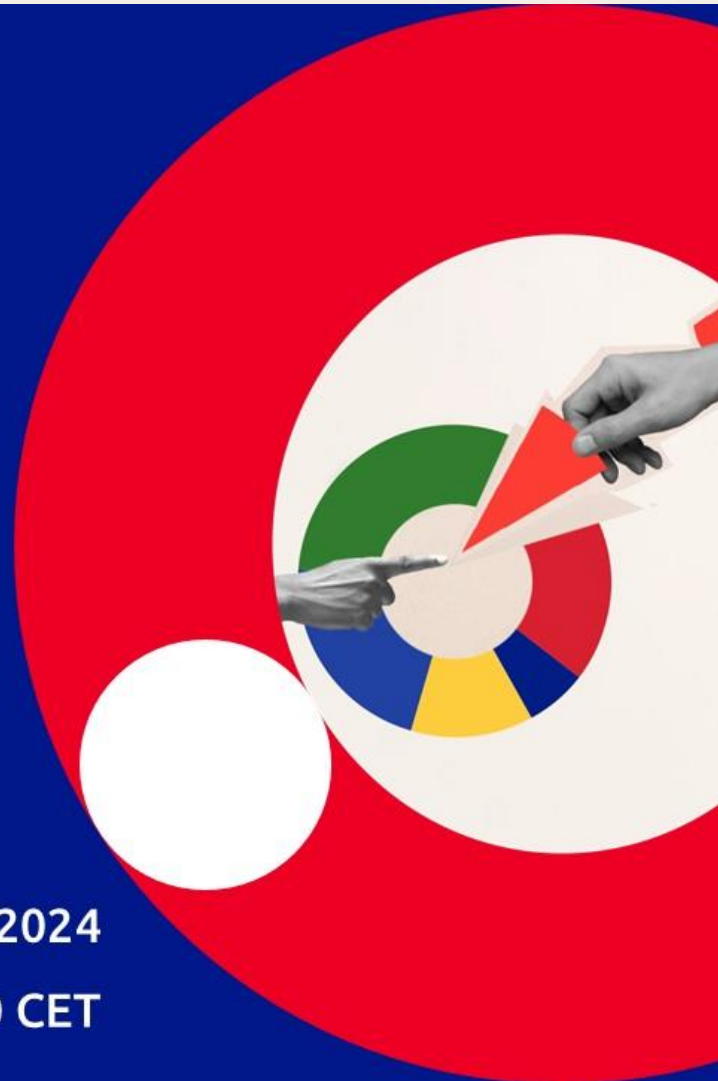
WEBINAR

Smart cities and digital twin technology: the case of Rotterdam

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6 December 2024

10.00 – 11.00 CET



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Thank you!

