Digitalising the energy system: EU Action Plan
- *A single market for data*

Energy Data Space - SCOPING

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Rolf Riemenschenider,
Head of Sector IoT, CNECT.E4
European Commission

Data Challenges for Smart Grids

Energy Data Exchange – heart of Fit for 55

- Decarbonisation requires a quantum leap in managing DER and flexibility
- Optimisation of carbon footprint across different domains

Still a long way to digital and green transition

- The energy transition is being nurtured from outside the regulated grid: “Behind the Meter”
- In the range of concurrent business models, establish open standards

Opportunities through the Energy Data Space

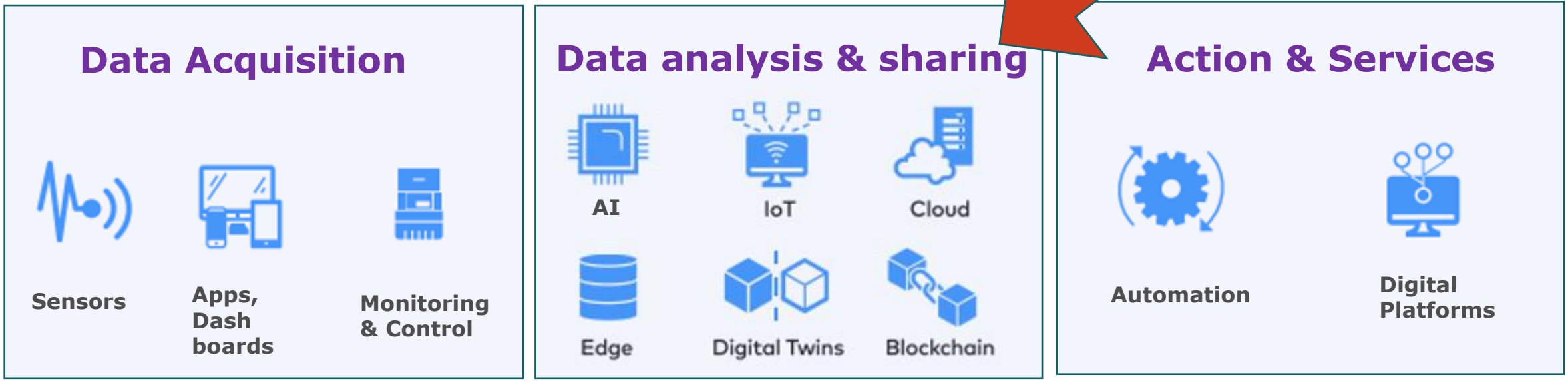
- Creating a federated, democratic and interoperable data ecosystem
- Novel level-playing field for aggregators, energy service providers, communities, ..
- Promoting best practice and leapfrogging of national data hubs

Data Challenges for Smart Grids

Courtesy: Greenbird

Hierarchical Grid Networks: Need to zoom-in into local demand-response balancing

Data Economy for Energy



- **Data Sharing: → The Imperative for Flexibility management**
- Data operational space → mixed cloud – edge
- *Smart Demand Response« with a potential for managing flexibility of ~185GW, → leading to savings for infrastructure investments of ~ 270 bn. USD (»Digitalisation and Energy«, IEA, 2017)*

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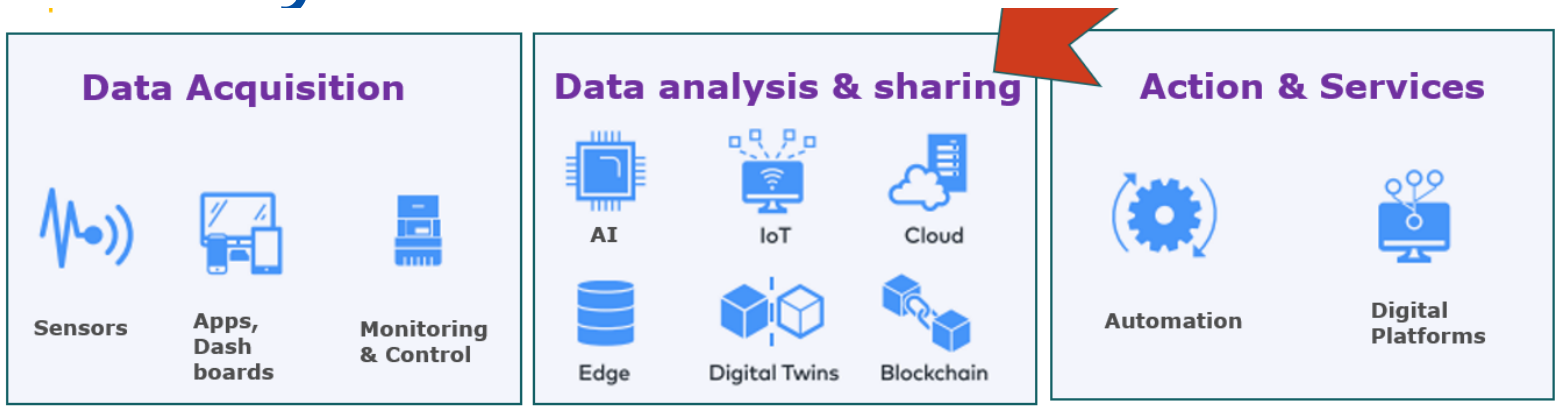
Energy Data Economy



- **access to data** needed to develop innovative energy services that would help to balance and optimise the energy grid and improve the energy efficiency of the built environment
- enable data exchange **to facilitate demand side flexibility, smart charging and building renovations**
- NB: General purpose cloud spaces // data hubs **focus on static data** using REST APIs etc.
- Exploit **advances in data analysis**, cloud tools and AI algorithms

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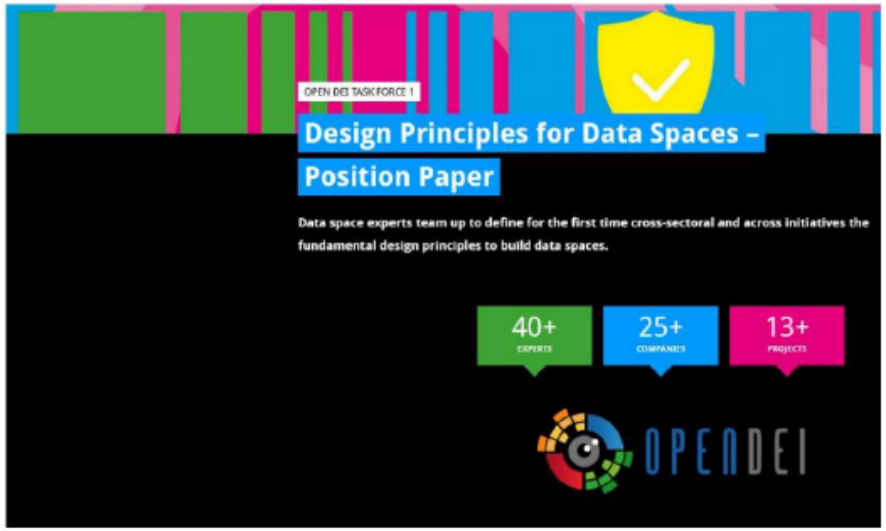
The IntNet / Cluster approach

T3.4 Identify Common Building Blocks for mobility Dataspaces

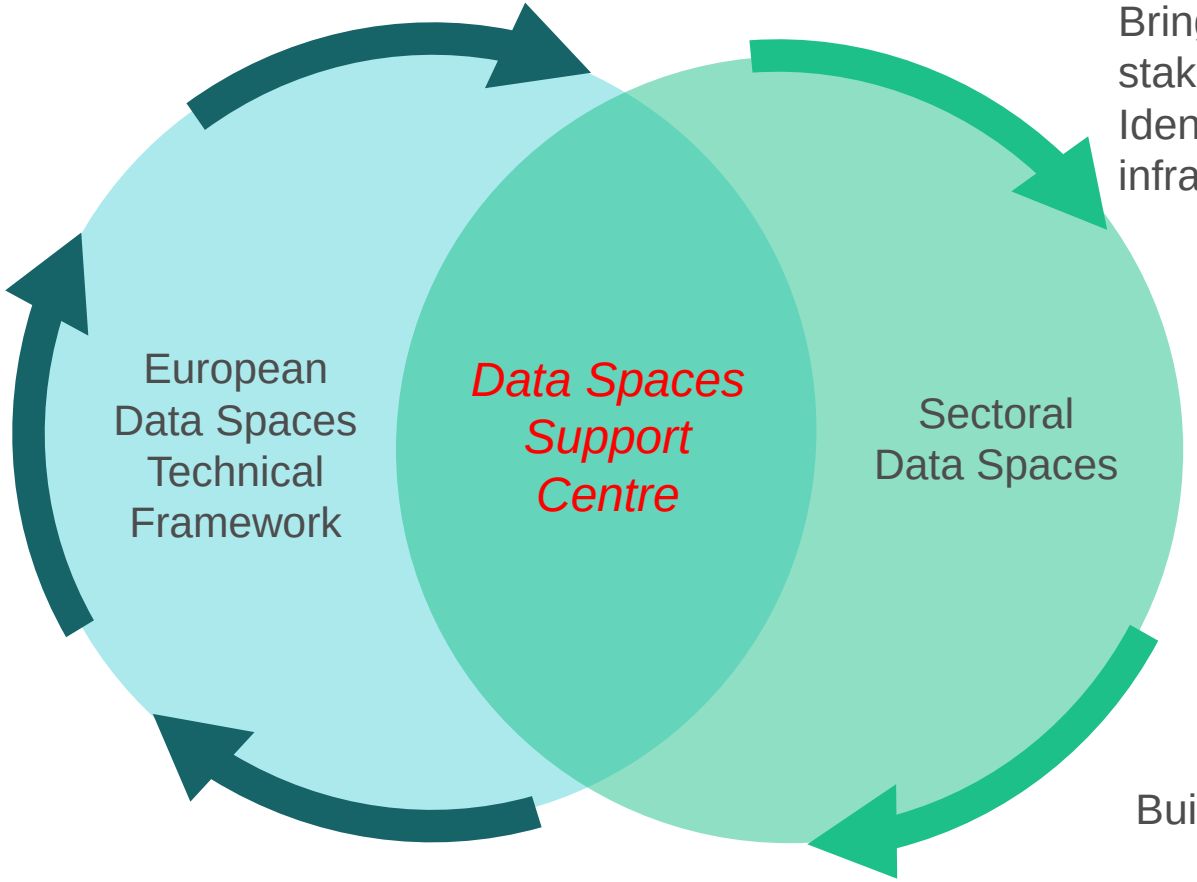
- The reference will be the Open Dei building blocks description to initiate the analysis.

- The set of technical building blocks listed and specified here after is not exhaustive. Data space architects may incorporate more building blocks into their specific architecture.



Data Spaces deployment in DIGITAL

DEP WP2024



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THANK YOU

Useful links:

- **European Data Strategy**:

  https://ec.europa.eu/digital-single-market/en/policies/building-european-data-economy

- **BRIDGE Framework**:

  https://www.h2020-bridge.eu/

- **GAIA-X Initiative**:

  https://www.data-infrastructure.eu/GAIAX/

- Coordination & Support Action OPEN DEI

  → **https://www.opendei.eu/**

- The Alliance of Internet of Things Innovation AIOTI

  https://aioti.eu/news/

BACKUP SLIDES

Scope of a Data Space project under DEP

"Use a commonly agreed **data reference architecture** as a blueprint for replicability"

"**reuse of** possible **common building blocks** which could contribute to the **long-term convergence** of existing and new data-related initiatives in mobility, transport, energy et al., serving **private, public and industrial data sharing**.

Explore possible **options** for suitable sustainable **frameworks for sharing, managing data exchange across existing and emerging data initiatives** in relevant domains.

Establish **a governance system** for overseeing the operations according to the defined business models and reflect on **incentives schemes** to motivate participants to provide data

Building blocks: Indicative timeframe and methodology

Q4 2022	Q1 2023	Q2 2023	Q3 2023

Inventory of existing data platforms and marketplaces which allow sharing data relevant for mobility

Interview of main DS associations such as IDSA, BDVA, Fiware, Gaia-X; Liaise with DSSC

Analysis of EU Smart Middleware components

Overview of IPCEI CIS components

European Dataspace Technical Framework

Definition of threshold and KPIs

In-depth analysis based on information collected for draft inventories

Analysis of gaps and overlaps of data

Identify and propose potential common building blocks, including governance and financial setups

Opportunities for integration

Interactive map/catalogue inventorying mobility and logistics data marketplaces and platforms ('data ecosystems')

Report presenting data gap analysis, proposed common building blocks and governance, opportunities for integrating the mobility data ecosystems in the emerging European data and cloud services infrastructure

Incorporate feedback from Advisory Board and 4 expert workshops organised by FIWARE and ERTICO