European data space

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The path to a European approach for energy

2021-06-03

A plurality of European players are already gathering to create value thanks to data sharing and shape an energy data space
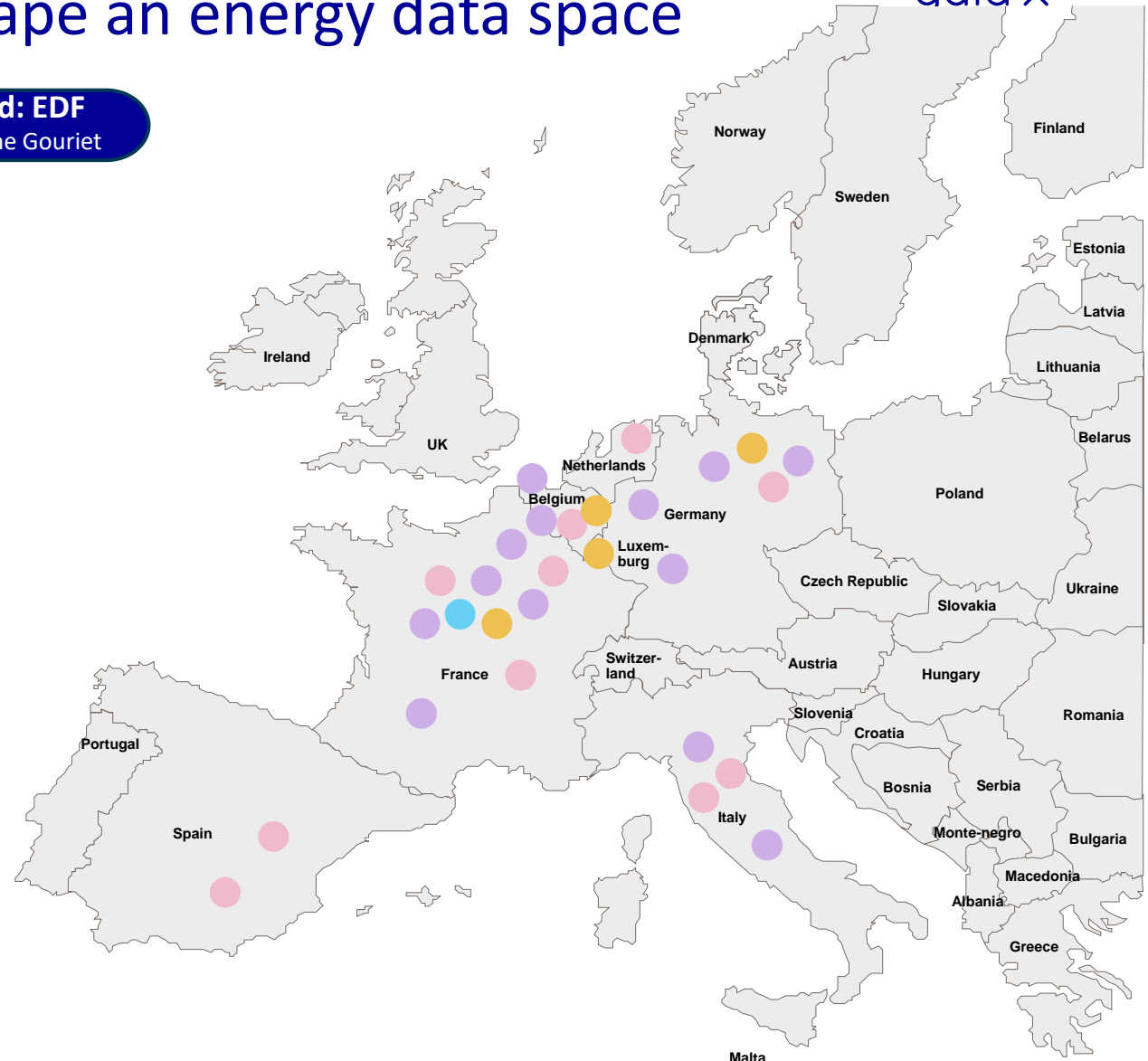
Lead: EDF
Martine Gouriet

❶ Key stakeholders

- 50 hertz (GER)
- Arge Netz (GER)
- EDF (FR)
- Elia (BEL)
- Enedis (FR)
- Engie (FR)
- E.ON (GER)
- Westenergie (GER)
- Acatech (GER)
- Agoria (BEL)
- Cigref (FR)

- Ins. Mines Telecom (FR)
- Advaneo (GER)
- Atos (FR, SPA, IT, GER)
- Capgemini (FR, SPA, IT, GER, NL, BEL)
- Examesh (GER)
- Fraunhofer (GER)
- IBM (FR)
- Offis (GER)
- Siemens Energy (GER)
- Sopra Steria (FR)

❷ Participants to be confirmed

- Air Liquide (FR)
- Enel (IT)
- Total (FR)
- EBRC (LUX)

- HPE (FR)
- IBM (FR)
- Ingegneria (IT)

Legend:
- International public organisation
- National public/academic organisation
- Large firm
- Technological partners
- Start ups / SMEs
- GAIA-X national hub coordinator

The European energy dataspace proposes to foster the European system optimization and the energy transition

1 | Value proposition…

Thanks to data-driven solutions:

1. Help managing the **transition towards a decarbonized energy and carbon neutrality**

2. Foster **energy efficiency and sector coupling** (green energy fluids, integration of mobility and building/heating systems…)

3. Enable **more flexibility** and renewable energy integration to the European electric system

4. Ease and accelerate the sector **digitalization**

5. **Address valuable use cases** thanks to data-sharing so that **new services** can be deployed

2 | …leveraging GAIA-X principles

- **Cross-border common data knowledge representation and semantics, data collection** and **sharing data capabilities**

- **Data access in trusted and collaborative cloud infrastructures** to provide comprehensive offerings under high security standards

- **Access** to aggregated, federated and interoperable **trusted cloud services and AI services** through the setting of common policy rules to ensure data interoperability and portability

3 | …and various data sources

Large amount of data can be gathered to address the most valuable use cases, from all stakeholders:

- **Energy providers**

- **Contractors, partners and engineering service providers**

- **Gas, power and heat network operators (DSO/TSO/Stadtwerke)**

- **Aggregators**

- **Energy consumers** (households, local collectivities, industrials)

- **EV stations managers**

- **Safety and certification bodies**

- **Open services**

"Energy Domain" Data Space
Position Paper
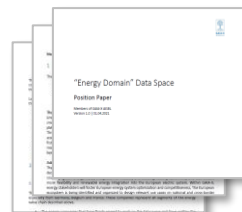
Collaborative position paper

The European energy community has identified high potential use cases at national and international scales

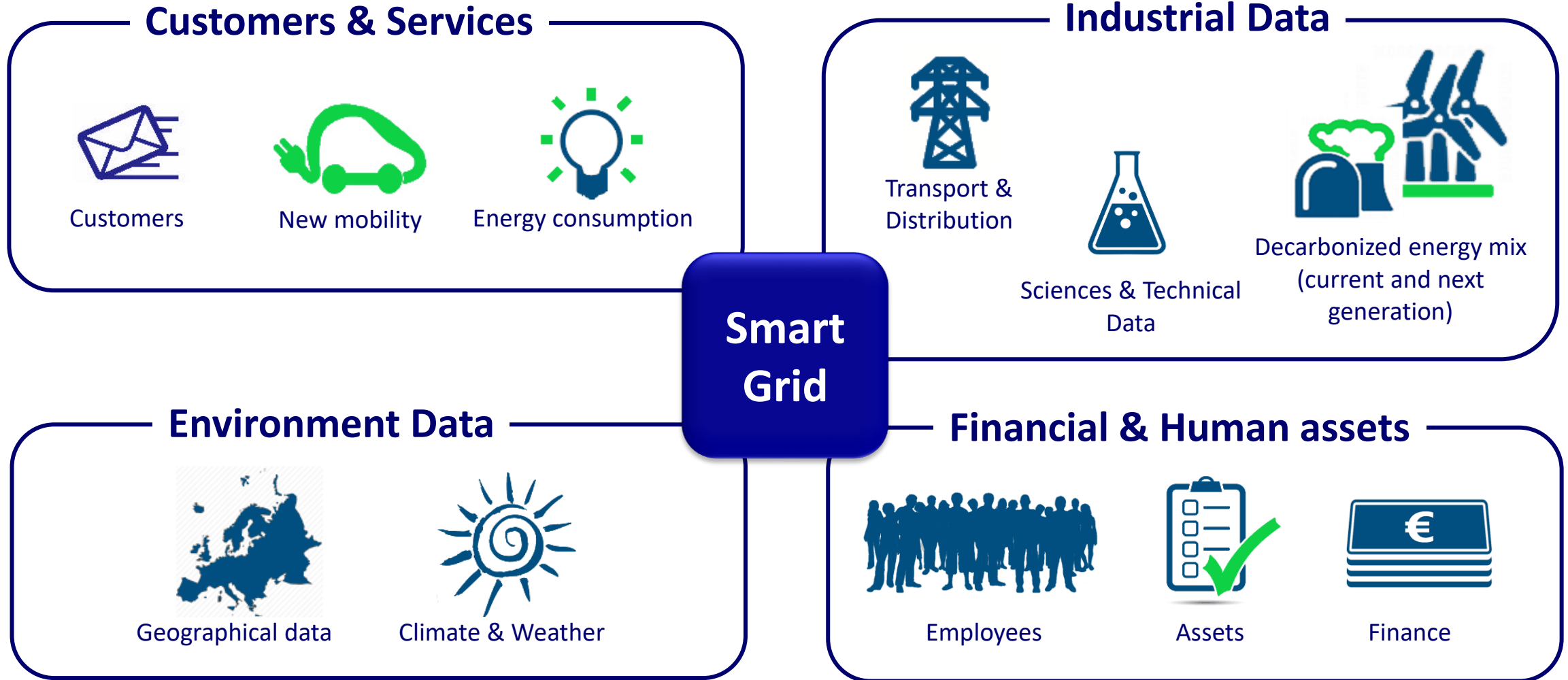| Value chain theme	Use cases macro-categories
Renewables	Wind and solar assets description model, works risk prevention, common taxonomy definition - IEC standards
Nuclear	Day-to-day collaboration capabilities with GIFEN, Industry observatory: capabilities mapping & related data analytics services, ESPN digital platform for the nuclear sector, eWork platform, digitalization of nuclear waste management
Low carbon hydrogen	Import/export international routes setting up, station networks information sharing, mobility asset monitoring
Energy efficiency	Energy renovation: boost trust in building renovation
Recharge of electric vehicles (EV)	EV energy roaming, EV new services, EV CPO and DSO investment & planning
Local energy communities	Local communities of energy setting up and decentralization, stadtwerke/local open data for business models
Energy networks	Long-term scenarios, OrtoPhotos, real-time data exchange for EaaS market design cross-border, congestion management through TSO-DSO traffic light, cross-TSO failure or labelled image database for predictive maintenance training, energy data-X
Compliance and traceability	"Green" certifications, infrastructure data for new business models, existing standards integration to GAIA-X, trusted HUB

A wide range of data sets will be required to enable the targeted use cases

Customers & Services
- Customers
- New mobility
- Energy consumption

Industrial Data
- Transport & Distribution
- Sciences & Technical Data
- Decarbonized energy mix (current and next generation)

Smart Grid

Environment Data
- Geographical data
- Climate & Weather

Financial & Human assets
- Employees
- Assets
- Finance

Initiatives have been launched locally in 2021 with the ambition of extending across Europe

February

March & April

Next steps

National scale

- Exchange with the energy national ecosystems to get organized

- Use cases identified and prioritized nationally

- Funding identification at national levels

FR-GER-BEL scales

- FR and GR workshops with use cases mutualization

- FR, GER and BEL collaborative sectorial position paper written (v2)

- Presentation to DG ENER

- Other international exchanges (IT, LUX…) to gather a broader ecosystem

European scale

- Ecosystem expansion

- Common governance & roadmap definition (at use cases & technical levels)

- Use cases deep-dive and first demonstrators

- Application to Horizon Europe / national funding programs

gaia-x