IOTWeek

Dublin — June 20-23, 2022

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Data Spaces: Common data models for Energy, Home, Mobility

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GLOBAL VISION:

IoT TODAY AND BEYOND

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Building on use-cases from Energy, Home and Mobility domains

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- Use-cases: a design vector to specify the actions performed by a system, incl. identification of the participating actors and exchanged data
  - See in particular IEC 62559 series of standards for the Energy domain
- Several initiatives to consider, leading to 3 main use-cases over 3 domains

Home & building sector

Energy sector

Mobility & transport sector

Smart Built4EU
The European Smart Buildings Community

interconnect

bridge

IEC International Electrotechnical Commission

2ZERO

(see next slide)

Flexibility products for the energy markets

Smart buildings & smart appliances

Smart charging & V2G

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Sanchal Thakkar

Focus on some references

Initiative	Short description & references of interest	Website
BRIDGE	EC initiative gathering **90+ H2020 projets on smart grids**, with a total funding ≈ €1bn. One WG focusing on Data Management WG. A **use-case repository** has been developed.	https://bridge-smart-grid-storage-systems-digital-projects.ec.europa.eu/
InterConnect	Major H2020 project focusing on **interoperability for Smart Home, Building and Grid** (2019-2023, €30m funding) D1.3 defines the 112 HLUCs of the project. D2.3 defines the **InterConnect ontology** based on the 66 services and 166 APIs developed in the project.	https://interconnectproject.eu/
SmartBuilt4EU	**Community on Smart Building** innovation (H2020 CSA). TF2 Topic A white paper is on building interoperability TF3 Topic A white paper is on the provision of power flexibility by building to the grid	https://smartbuilt4eu.eu/
IEC SyC Smart Energy	IEC System Committee focusing on the **system definition of the Smart Energy** domain. Relevant series: IEC 62559, IEC 63200, IEC 62913, …	https://syc-se.iec.ch/

Required data exchanges based on use-cases

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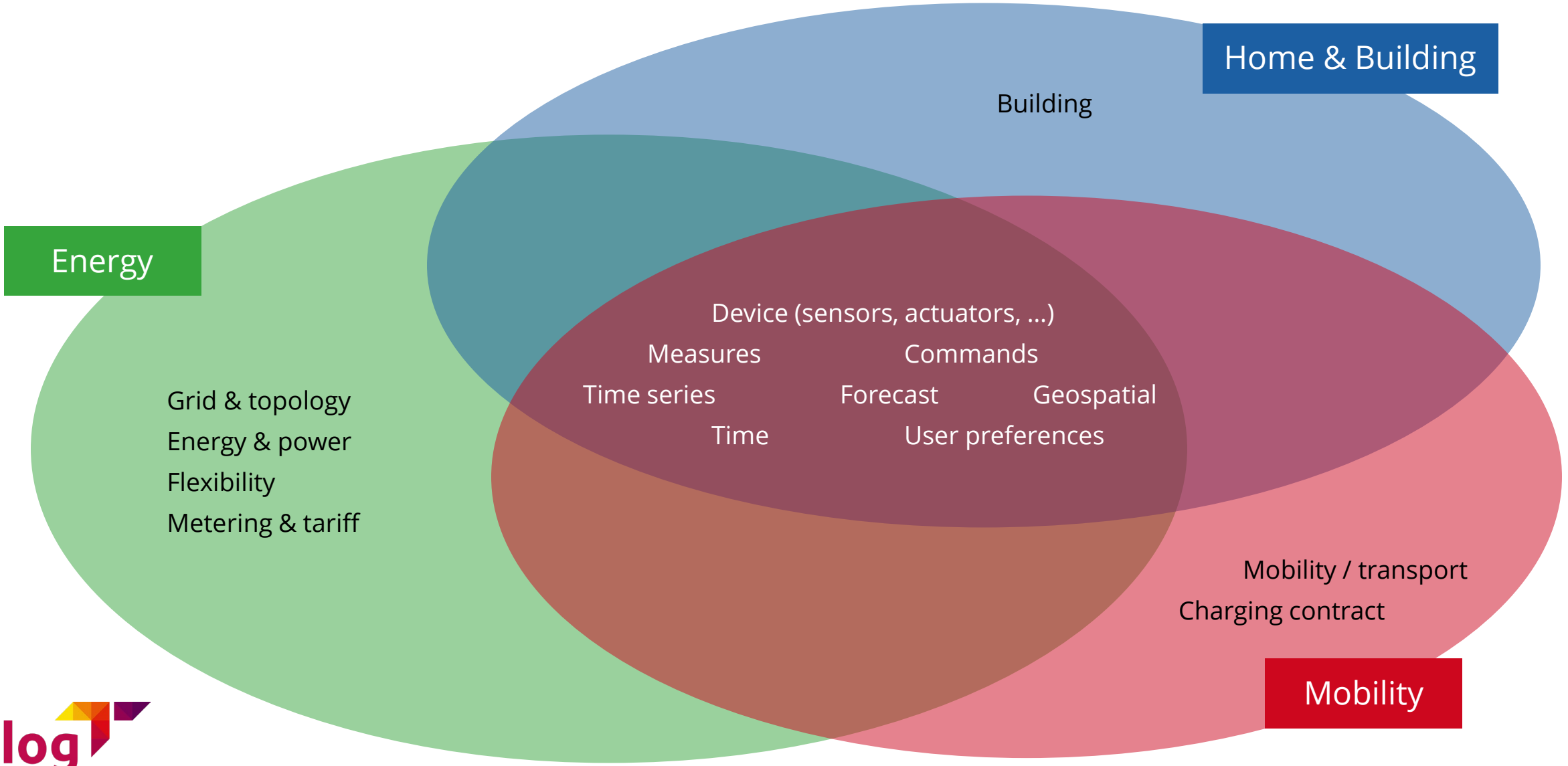

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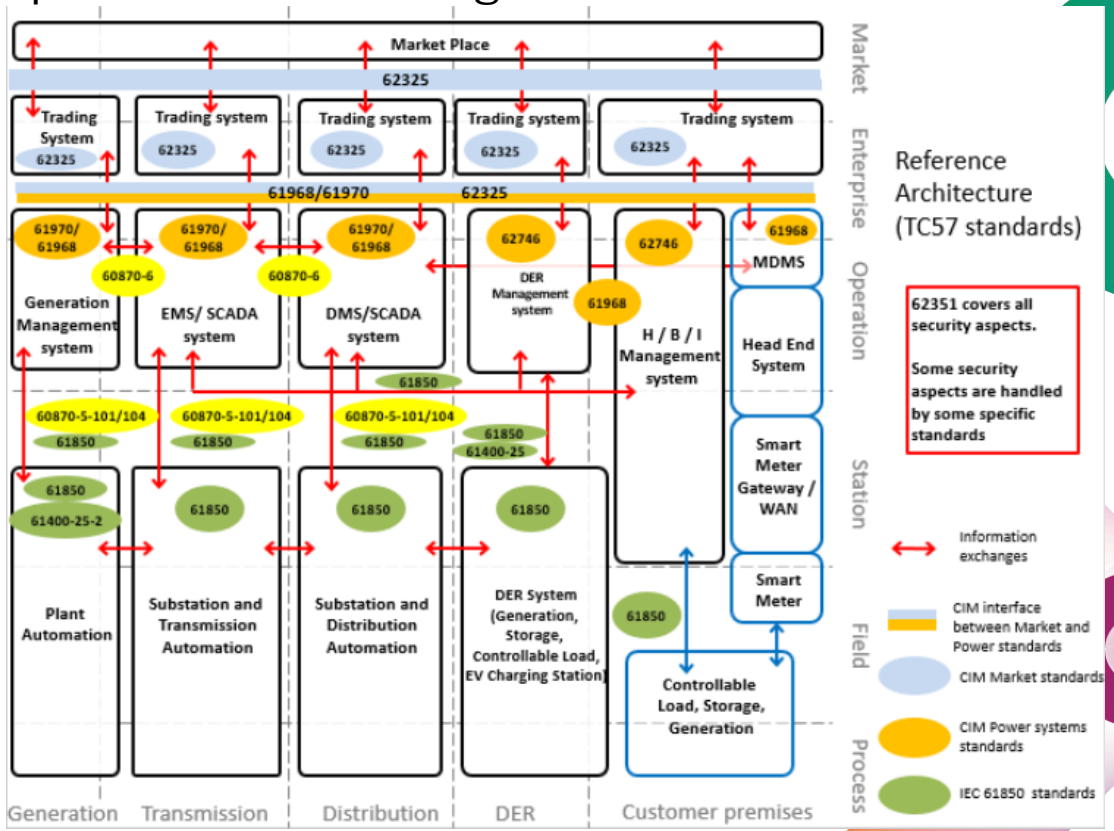
Enabling cross-sector data exchange

Cross-sector data exchange requires interoperability at every level:

- Business level: roles, governance, regulation, …
  - e.g. The HEMRM (Harmonized Electricity Market Role Model) includes data-related roles. It is therefore a good starting point from electricity perspective… How to bridge with other sectors?
- Function level: functional processes for data exchange
- Information level: data models, ontologies, …
  - One of the challenges is to “connect” sector-specific models together… This is where ontologies can help
  - e.g. IEC CIM (see opposite) covers very well the grid system, but is not suited to exchange data with e.g. mobility, building or water sectors



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Thank you!

Find more:

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