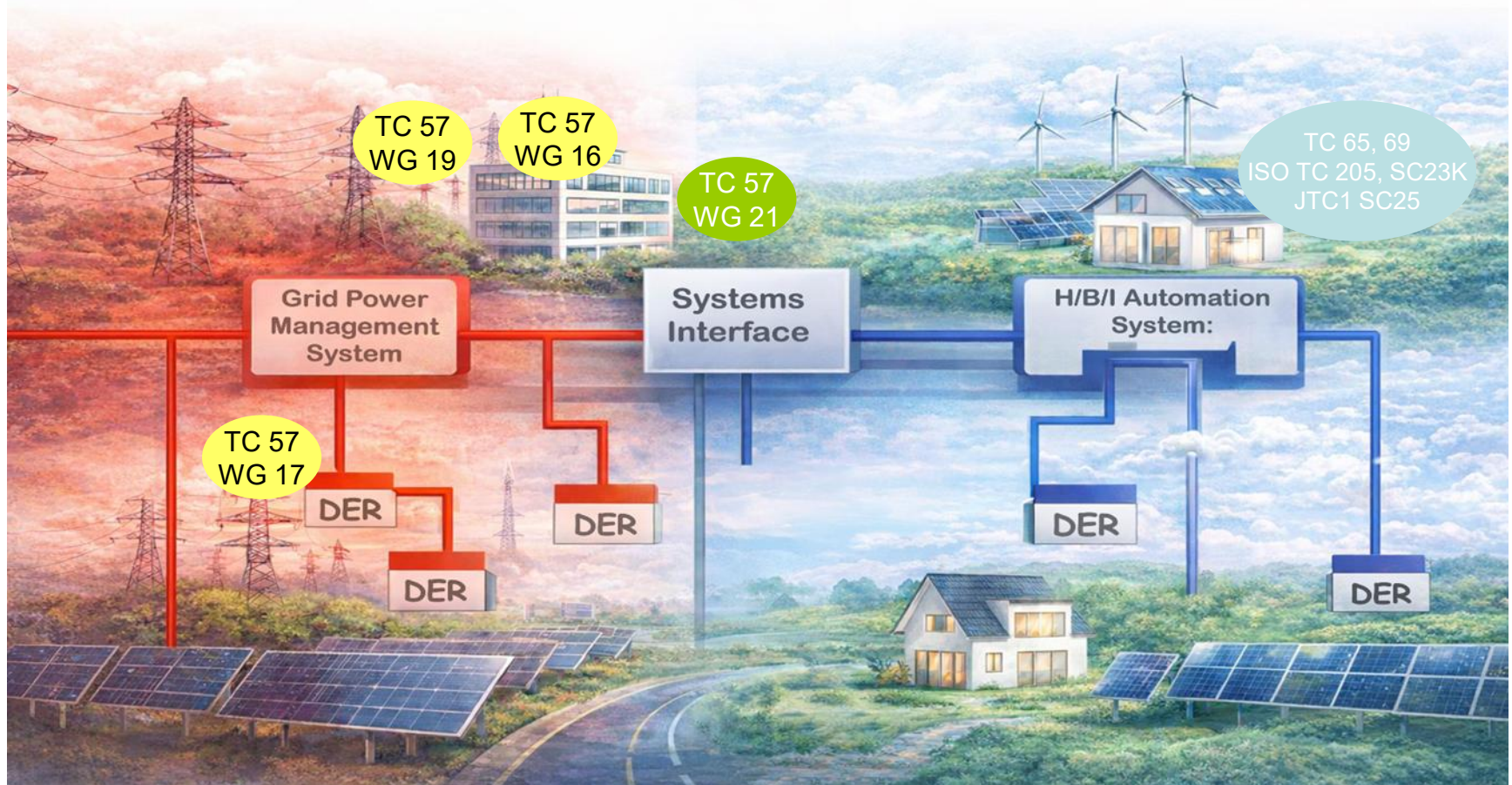


# IEC TC57 WG21 Introduction

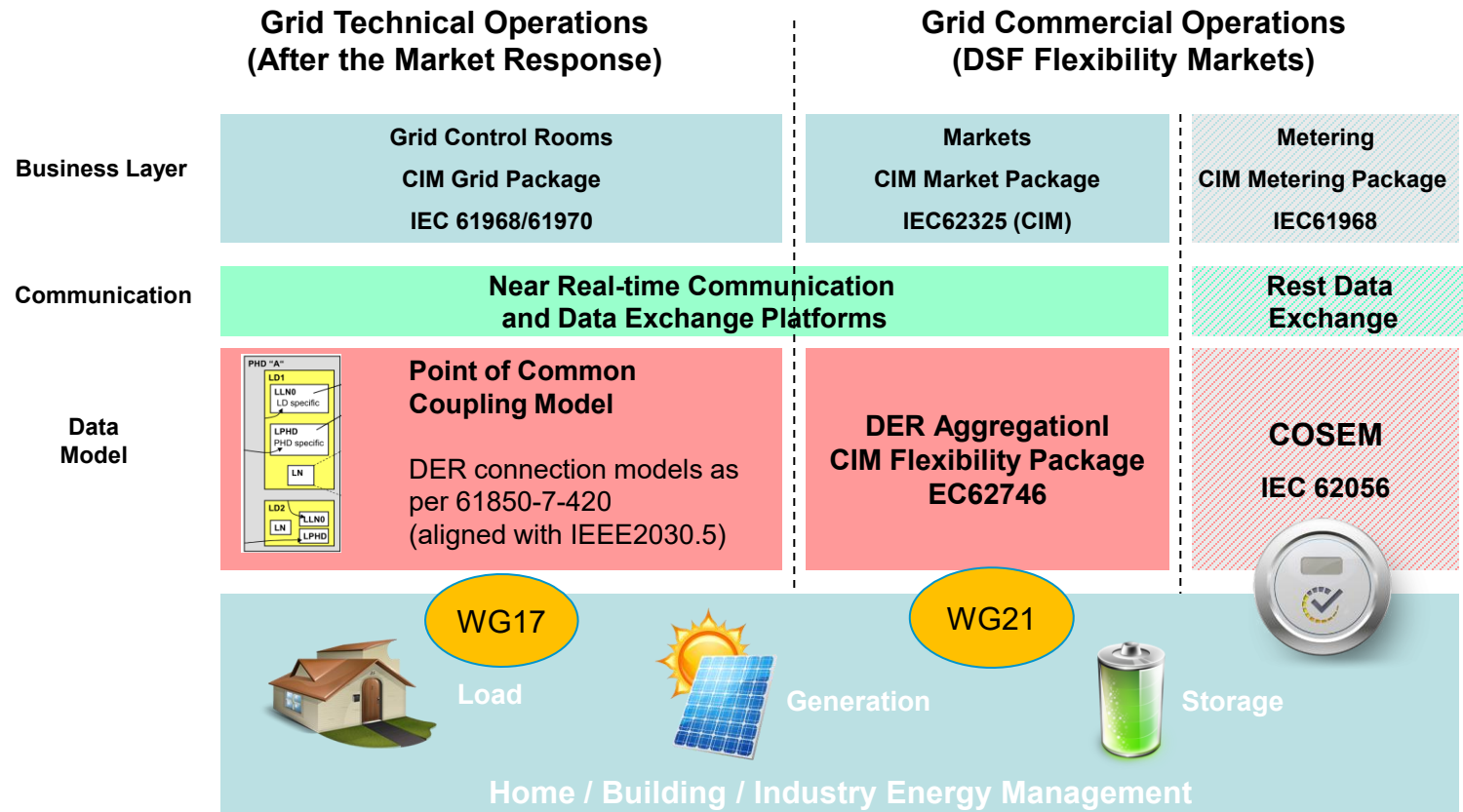


**L. Schmitt**  
**Convenor TC57 WG21**

**09<sup>th</sup> of July 2026**



# Key SmartGrid Domain split





# Pressing expectations towards DER Interoperability

## Data exchange standardisation



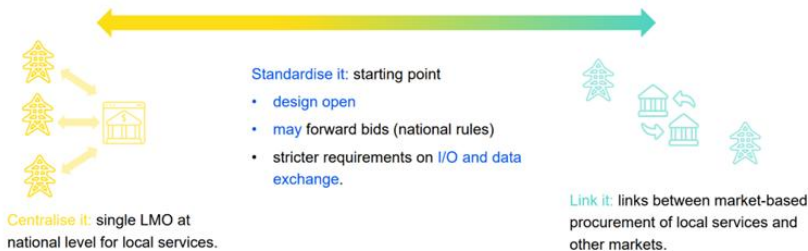
### For local services



- use of a **single standard at national level**, for data exchanges related to settlement, and
- requirement for European harmonisation of data exchange, in the **methodology** for the market-based procurement of local services (**European standardisation**, only if we have standardised products).

## Ensuring liquidity by not fragmenting

No **single or target design** prescribed for the market-based procurement of local services; it is left to be **decided at national level**, as there are very different conditions and maturity levels across MS.



## Recent D4E recommendations call for a Common Data exchange Infrastructure

### Regulatory Mandate

The European Green Deal and Data Strategy mandate secure, trusted energy data exchange across Member States.

### The Problem: Lack of Standardised Data Exchange

Energy data remains fragmented across national silos, preventing effective decarbonisation and market integration.

### Network Code on Demand Response

Key provisions for local and balancing services imply the necessity to account for standardized, secure and scalable data exchange.

### Strategic Response: CEEDS

A federated interoperability framework connecting national data spaces under shared governance.

*"Interoperable, secure and trusted energy data exchange is a prerequisite for Europe's clean energy transition."*

|               |                |                   |
|---------------|----------------|-------------------|
| EU Green Deal | Data Strategy  | Reg (EU) 2022/869 |
| Data4Energy   | Digital Decade | Competitiveness   |

**Regular inputs from the Joint Working Group ENTSO-E and EU DSO entity driving necessary data exchange procedure developments**



# CIM package for flexibility

## 1. DER Qualification

Resource Location, Resource Capability  
& Product Qualification

## 2. Energy Curve

Energy curve exchange (ex-ante baseline nominations,  
measurements, power envelopes)

## 3. Flexibility Offer

DER Flex Offer from TA to FSP or VPPs

## 4. Dispatch Instruction

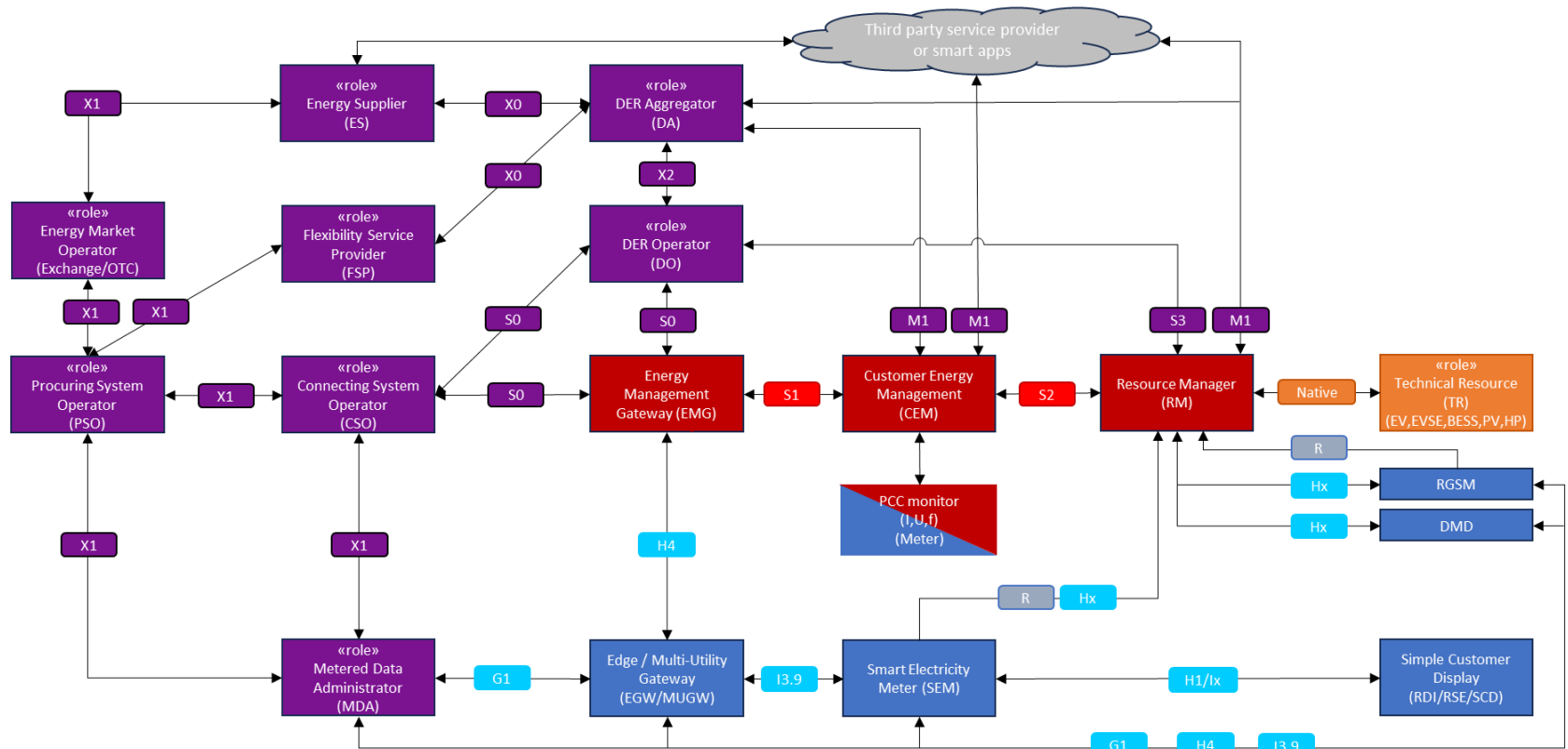
Activations (synchronous/asynchronous control)

*Explicit  
Flexibility*

## 5. Commodity & Price

Price-based transactive controls

*Implicit  
Flexibility*



|          |                   |                   |
|----------|-------------------|-------------------|
| IECTC 57 | IEC SC23K         | IECTC13           |
| Roles    | Logical functions | Logical functions |

X1

IEC62325-451 based profiles (as per ENTSO-E/DSO entity recommendations)

X0

Combination of IEC62325-451 and IEC62746 based profiles (as per D4 recommendations)

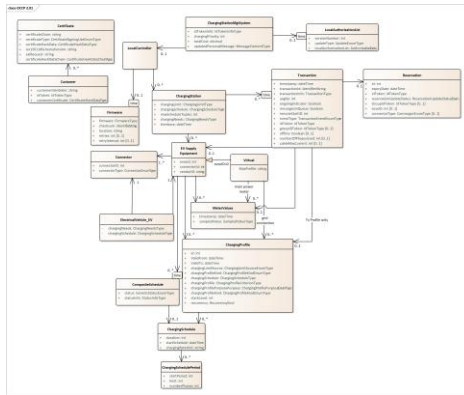
X2 / S0 / S0 / S1

IEC62746 based profiles (as per D4 recommendations)

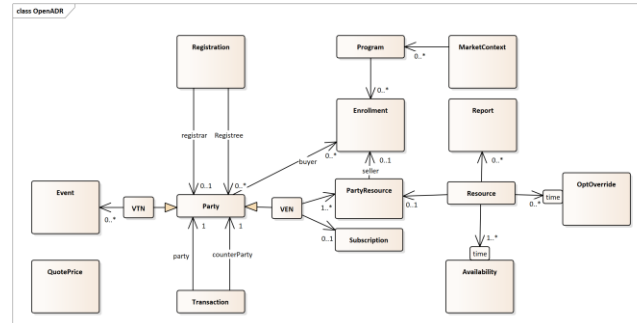
S3

Sector specific exchanges (EEBus, Matter 1.6, S2, OCPP2.0.1/ISO15118-20, IEC61850-7, MQTT)

# Use of CIM as a data ontology linking pin



OCA OCPP2.0.1 /  
ISO15118-20  
Draft Information  
Model



OpenADR2,0b/3.1  
Draft Information  
Model

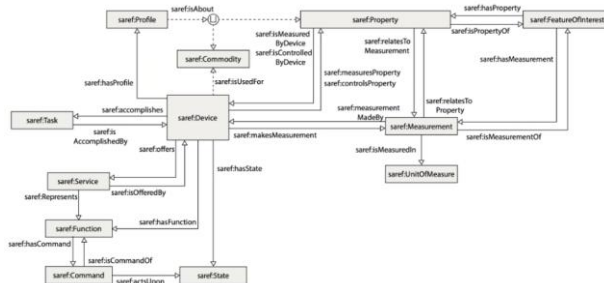


FIGURE 38 – OVERVIEW OF SAREF CORE ONTOLOGY [16]

ETSI SAREF4ENER  
Information Model

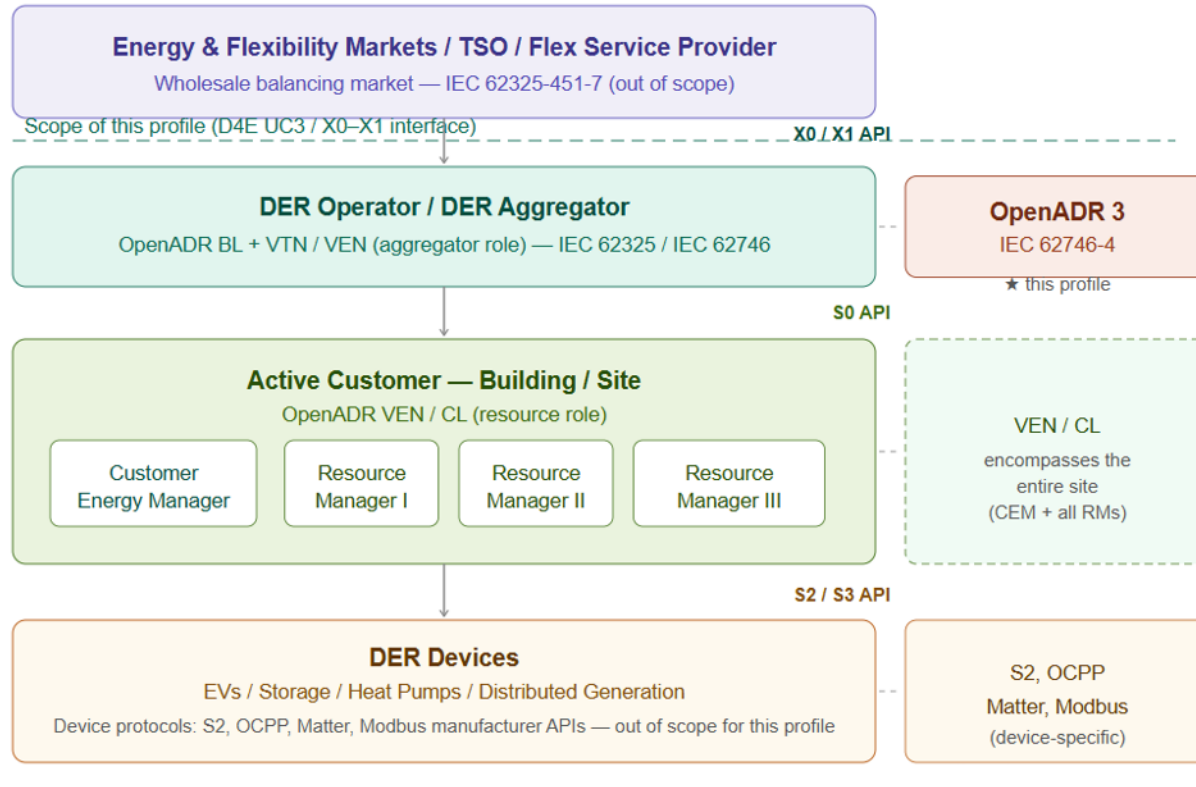
(mapping with EEBus,  
Matter 1.6 and S2)

- ✓ ProfilesIEC62325
  - > 62746 Ed1 - Official
  - > IEC 62746-4 Ed.1 ESMP
  - > IEC62746-4-1 Ed.1
  - > IEC62746-4-2 Ed.1
- ✓ CEEDS\_Profiles
  - ✓ CEEDS Request Permission Document
    - > CEEDS RequestPermission assembly model
    - > CEEDS RequestPermission contextual model
    - > CEEDS RequestPermission Version
  - ✓ CEEDS ValidatedHistoricalData Document
    - > Pre-standardised CIM version
    - > Project version VHDD
    - > CEEDS ValidatedHistoricalData Version
  - ✓ CEEDS RealTimeData Document
    - > Pre-standardised CIM version
    - > Project versionRTD
    - > CEEDS RealTimeData Version
  - ✓ CEEDS RedistributionTransactionRequest Document
    - > Project versionRTR
    - > CEEDS RedistributionTransactionRequest Version
  - ✓ «CIM-like» AccountingPoint
    - > «XSDSchema» MBIE EDDIE Accountingpoint
    - > AccountingPoint Version

- **Use case team / *George Hallak***
  - Analyse European D4E target usecases for future -2 releases
- **European Taskforce for Architecture & Data Modelling / *Francois Colet***
  - Joint modelling team with DMLS/ENTSO-E & EU DSO entity (JWG16 from TC13 DLMS Cosem/WG14 61968-9)
  - Alignment with D4E data exchange latest recommendations
  - Finalise last alignment requirements with IEC62325-451
- **Alignment with other key standards / *Laurent Schmitt***
  - Mapping exercise started with OpenADR3.1 and OCPP2.1/ISO15118-20
  - Investigate mapping requirements with SAREF4Ener/Matter-EeBus-S2



# OpenADR3.1 mapping exercise



D4E Use Case 3 (UC3): DER aggregation and activation for flexibility services.  
 The OpenADR VEN corresponds to the entire Active Customer layer (CEM + Resource Managers).  
 The X0/X1 API interface maps to OpenADR 3 / IEC 62746-4 — the scope of this profile.  
 SGAM information layer: IEC 62325/62746 at aggregator-operator level (Slides 3–5, UC3 architecture).

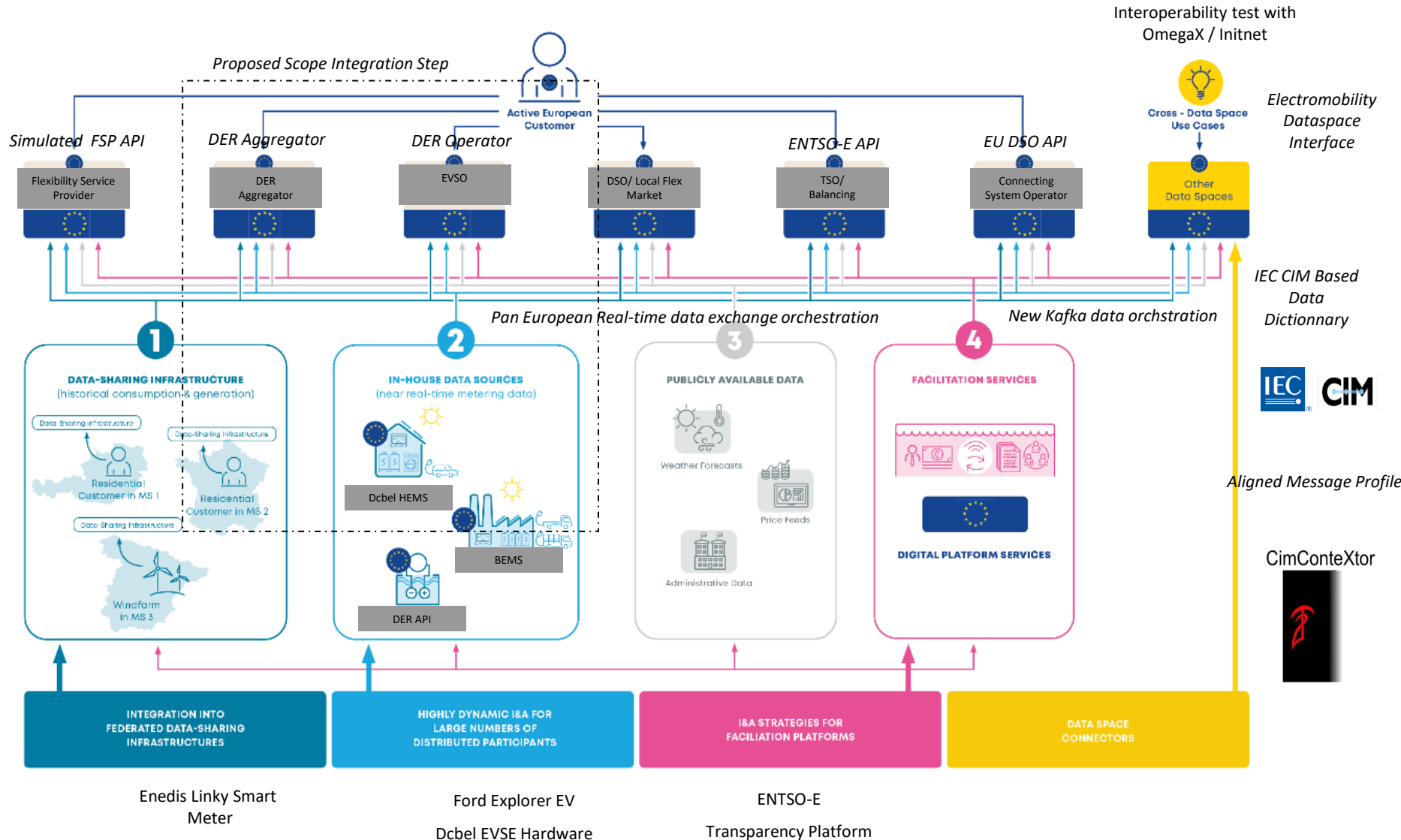
Objective to add message payload derived from CIM flexibility package IEC62746 integrating through OpenADR3.1 transport layers



**Thank you**

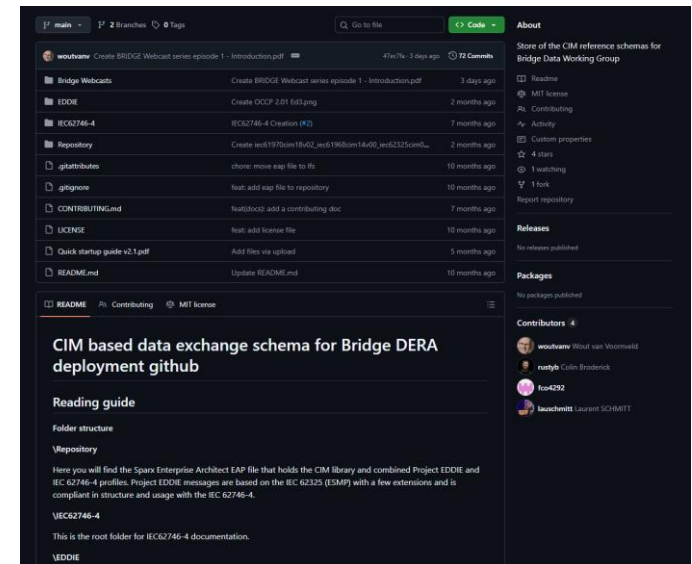


# New dataspace sandbox environment planned by September 2026





# Methodology and tooling in place to derive CIM based XSD/Json Profiles



*Open Github environment to share and map project specific models, bi monthly indepth modelling exchanges*