

InterOpEnergy

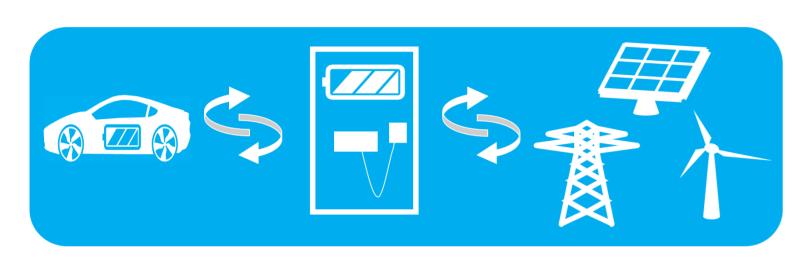
Testing Interoperability in the Use Case:



Time of Use Tariff for Smart Electric Vehicle Charging

Motivation

- Interoperability is the ability of two or more systems to exchange information
- One of the key problems in the system integration of smart grid technologies is the currently insufficient interoperability of smart grid components and solutions
- Interoperability Testing supports identifying issues, increase awareness and improve correct standard usage

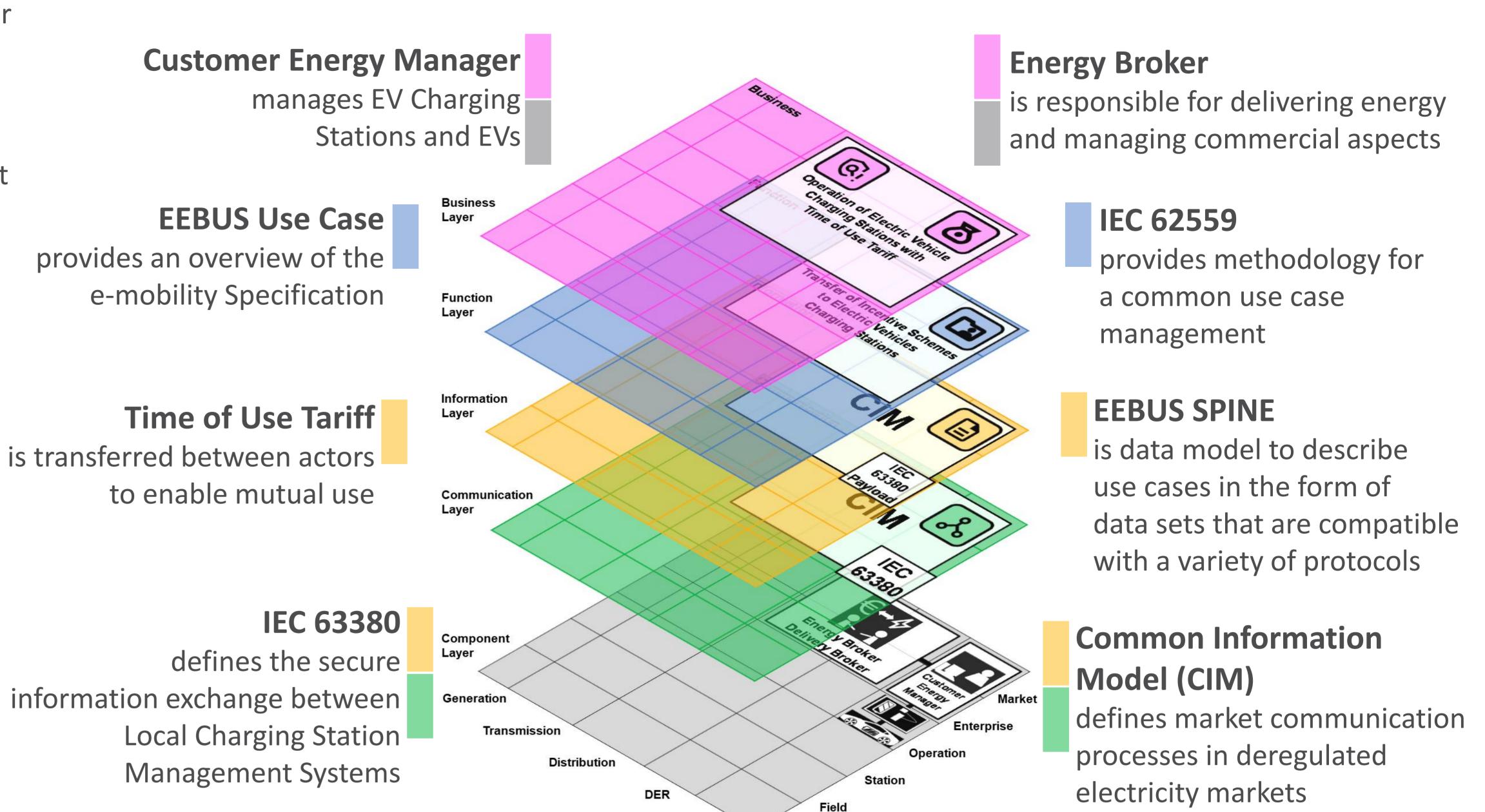


Goal of InterOpEnergy

Establish Interoperability Testing in the Energy Sector based on two use cases:

- Time of Use Tariff for EV Charging
- **CGMES** Data Exchange

Use Case: Time of Use Tariff with EV Charging



Process

Interoperability Testing with IES Approach

IES Technical Framework Template

- It is based on SGAM
- It defines how interoperability is to be implemented following a Top-Down Business Logic

Integration Profile

- provides informative descriptions of the functions
- provides normative specifications for data exchange with existing standards

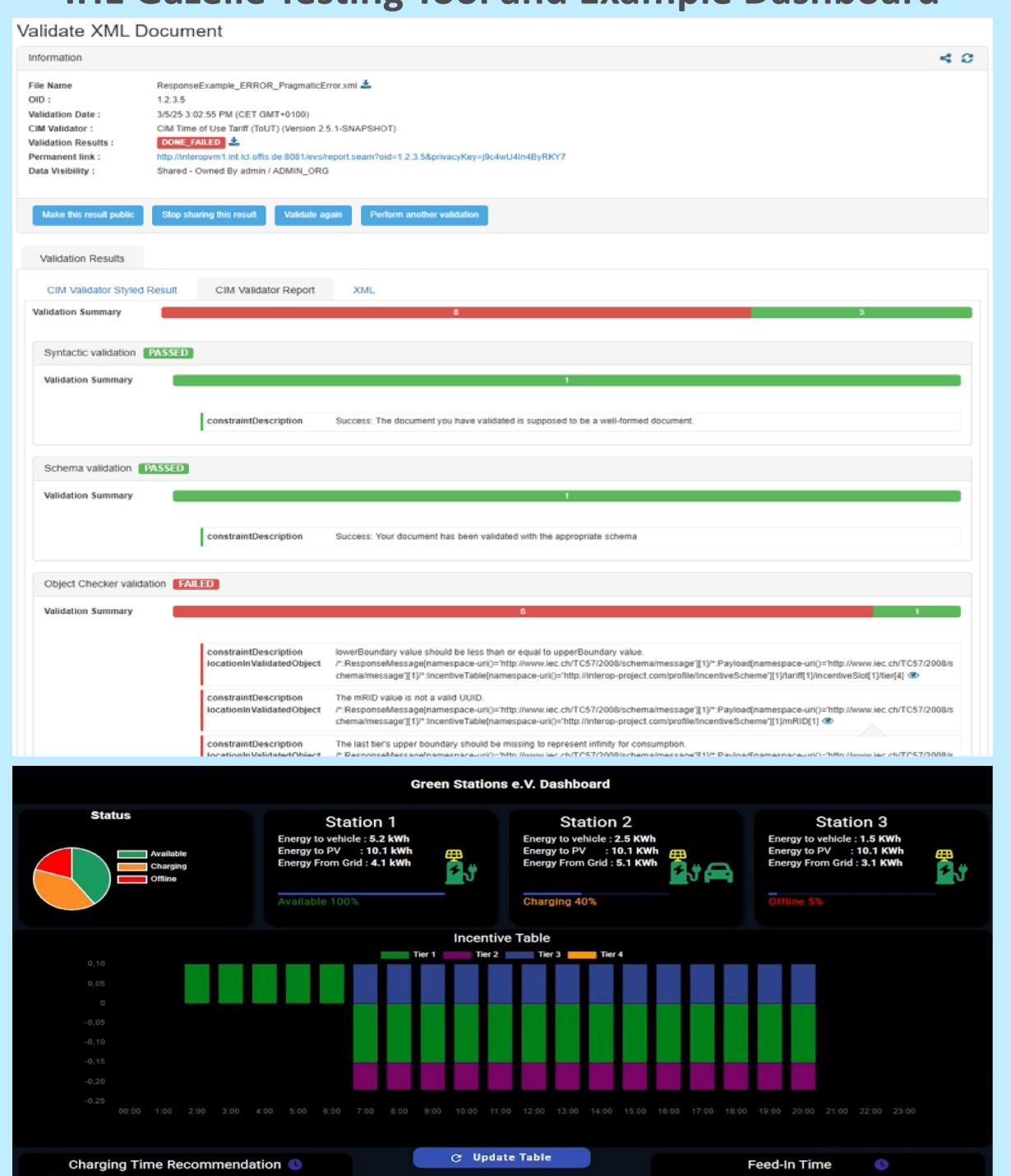
Integrating the Energy System **Profiles** Results **Tests** Technical Result Test Framework Tools Browser

IES Cookbook

is a practical guide to test interoperability of integration profile

Sell Marketplace for Interoperable Products

IHE Gazelle Testing Tool and Example Dashboard



Al-based Test Cases

- LLMs help participants to generate a larger number of test cases
- They also help standardise the process of documenting and formatting test cases

Data Space

- The Data Space Connector is a fundamental intermediary component within a data space
- It enables secure, compliant and interoperable data exchange between data providers and consumers

Asset Administration Shell (AAS)

- AAS is a standardised digital representation of assets
- It is the cornerstone of interoperability in Industry 4.0
- It can provide the digital basis for FAIR Data Space Connector

Join Our Upcoming Testing Events

- Optimise use case through test cases, e.g., Validation of the Summer/Winter Time changeover
- Gain recognition as a successful participant and share experiences with professionals from other domains
- Ensure products continue to meet the growing interoperability requirements driven by real-world challenges
- Contact us to participate on our upcoming test events!

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