

# Project IES - Integrating the Energy System

## Objective

The meta-objective of the IES project is to achieve interoperability of electronic data exchange for national and international smart grid software products.

## The IES-approach

IES strives to adapt and implement a vendor-neutral and cooperative method to achieve interoperability of ICT-systems in smart grids (see Fig. 1). It is based on an existing method from ICT in healthcare, where interoperability of systems has long been achieved. [Integrating the Healthcare Enterprise \(IHE\)](http://www.ihe.net/) is a global non-profit organisation that engages actors in the health system to achieve interoperability of ICT-systems in healthcare. IHE developed a fair, cooperative and participatory method to engage vendors, manufacturers and users alike. By initiating a cross-sector knowledge exchange, the IES team draws from years of IHE-experience and know-how in the health system.

As a project result, IES develops a manual and guidelines for the practical implementation of the adapted process as well as a software tool for interoperability testing. The project team designs and demonstrates a modular four-step process chain for data exchanges in the energy sector:

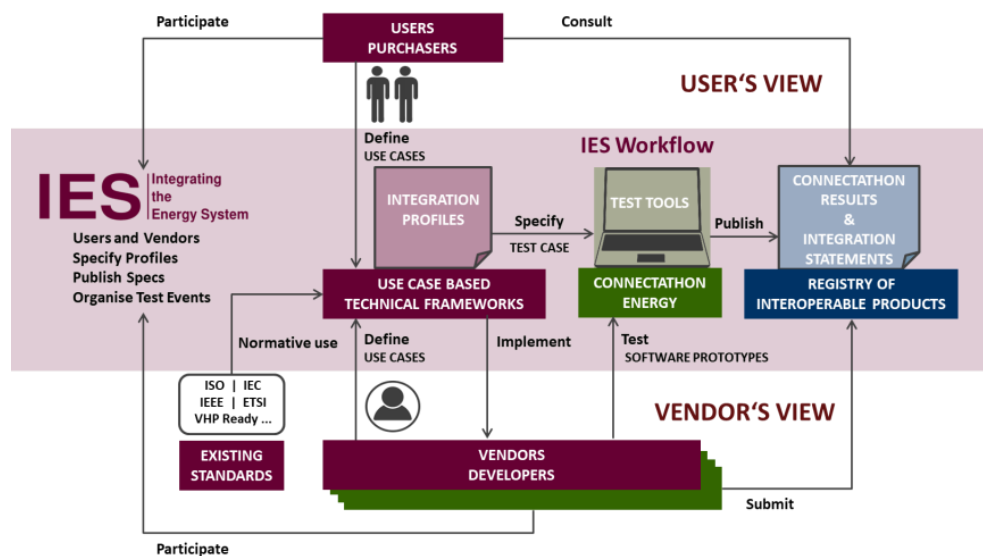


Fig. 1: IES process - generation of integration profiles and testing based on IHE-process (available at <http://www.ihe.net/>)

1. Definition of real world use cases
2. Generation of interoperability profiles to define and specify the normative use of existing standards to realise the selected use cases
3. Implementation of interoperability profiles in software solutions
4. Vendor-neutral testing for interoperability and publication of the results

The transparency of the processes and the open source platform used for technical specifications and profile development will be accessible by technology providers of interoperable products and services. Using this process helps foster investment protection and grow markets with increased competition for product innovation, quality and security.

## European Framework

IES builds on the well-established IHE-approach based on ISO/TR 28380 as well as the standards of the European standardisation organisations CEN-CENELEC-ETSI and the Smart Grid Architecture Model (SGAM) developed by the Smart Grid Coordination Group in the course of smart grid mandate 490.

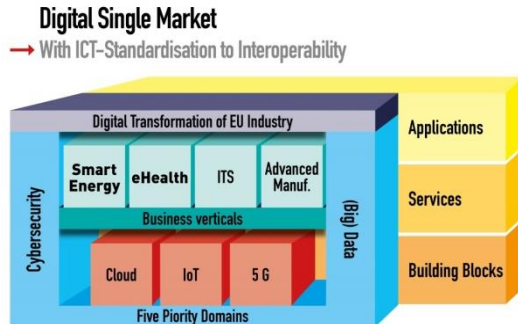


Fig. 2 : Image by the author, created from the source of EU-COM, ICT Standardisation Priorities for the Digital Single Market, available at: <https://ec.europa.eu/digital-single-market/en/news/communication-ict-standardisation-priorities-digital-single-market>

The objectives of the IES-project are in line with the targets of the European Commission and its [Europe 2020 strategy](#) to create a cross-sector and cross-border Digital Single Market. The “European Interoperability Framework (EIF) for European public services” recommends formalised cooperation arrangements in interoperability agreements addressing legal, organisational, semantic and technical interoperability. Both the IHE process and the TOGAF-based EIF process represent a proper way to assess and test for interoperability of sector-independent ICT solutions.

## IES project targets

- Implement a proven methodology for achieving interoperability of data exchanges in the energy system
- Select exemplary use cases to validate the interoperability process developed for the energy sector
- Build an open source test platform to assess the interoperability of smart grid components in respect to specific use cases
- Design integration profiles as reusable digital interoperability building blocks
- Increase stakeholders’ awareness of competitive advantages of interoperable solutions in smart grid development
- Make the methodology available for further use in all EU-supported smart grid projects

### Project duration

01.03.16 - 28.02.19

### Project details

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### Project partners

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FH Technikum Wien (eHealth und RES), AT  
OFFIS e.V., D  
AICO EDV-Beratung GmbH, AT  
Sprecher Automation GmbH, AT

### Qualifications

Head of consortium, R&I in smart grids, policies  
IHE, EIF, software/data exchange, ICT security/privacy  
IHE, interoperability, EnergyLab, renewable energies  
SGAM, smart grid standards, interoperability, IHE, EIF  
Software, platforms for testing, ICT standards/security  
EI-Equipment manufacturer, ICT standards, security

