



int:net

Interoperability Network for
the Energy Transition

Towards an Interoperability Roadmap for the Energy Transition

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16 March 2023, ComForEn Vienna

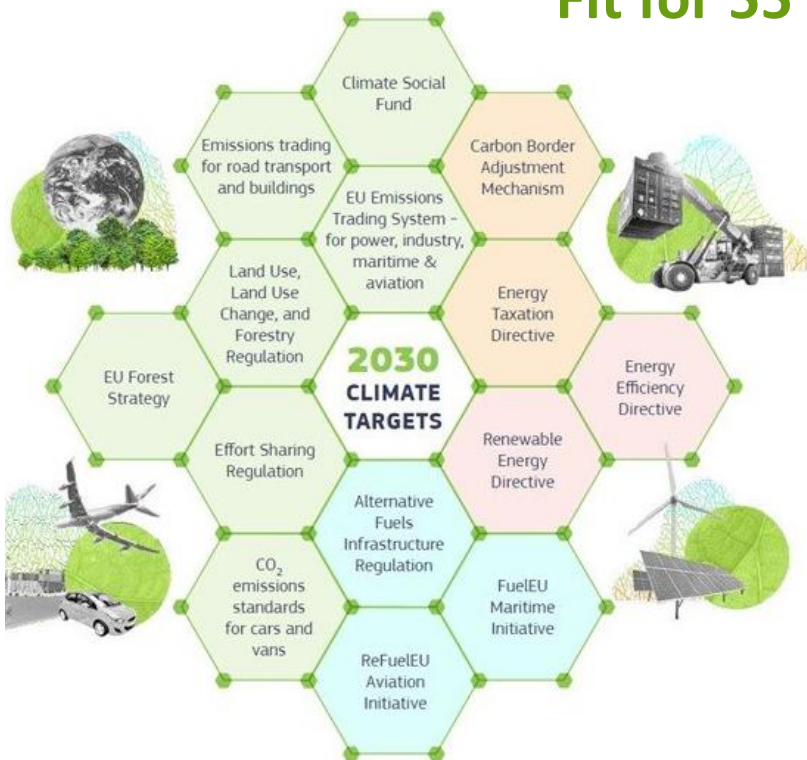
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The ambition: The twin digital and green transition for Europe

EUROPEAN GREEN DEAL

Fit for 55



Commission proposes 'new deal' for energy consumers, redesign of electricity market and revision of energy label for more clarity

TOWARDS AN ENERGY UNION

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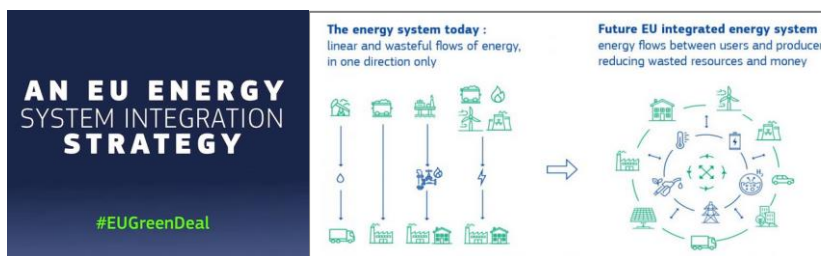
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The challenge: Interoperability within and beyond the energy sector

Electricity Directive (EU) 2019/944, Art. 24

Interoperability requirements and procedures for access to data

1. ... Member States shall facilitate the **full interoperability of energy services** in the EU.
2. EC shall adopt implementing acts specifying **interoperability requirements and procedures for access** to data
3. ...

HORIZON-CL5-2021-D3-01-14

Interoperability community

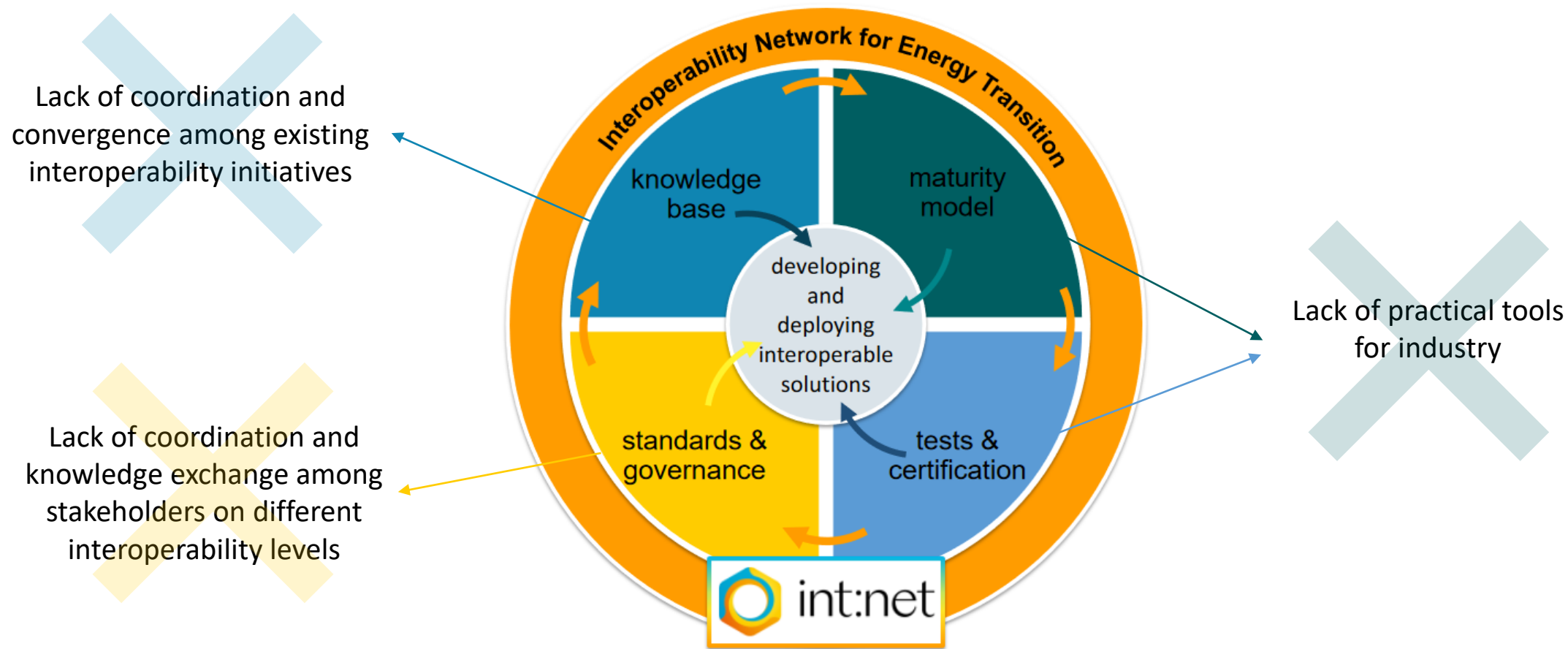
- ❖ **Ensure continuity** of the ongoing interoperability of **energy services** related activities
- ❖ Support a **community of practice**
- ❖ ...

Interoperability

The ability to exchange information across domains, organisations, actors and systems, and effectively use it to conduct mutual operations based on commonly agreed methods and processes in pursuit of joint objectives.

- Need to address all interoperability dimensions and include all relevant stakeholders
- Numerous activities and projects related to smart grid interoperability in recent years
- Heterogeneous and fragmented smart grid interoperability landscape

The int:net approach: Four cornerstones to address open interoperability issues



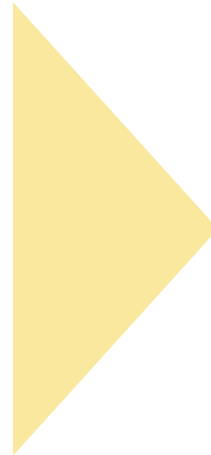
1/ A common knowledge base to facilitate convergence among initiatives

Two examples that show the **impact of uncoordinated action**:

Two or more initiatives may

*) develop **different protocols, models, or solutions for the same need**, thereby defining incompatible processes for the same requirements and causing scattering and weakening of interoperability.

*) despite their willingness to support and advance the ecosystem, end up developing **competitive tools or frameworks**, which further exacerbates the fragmentation of the solutions landscape.



The int:net knowledge base

- will be **more than a mere repository**
- will be **linked to existing platforms**
- will include **interoperability best practices, methodologies and reference use cases**
- will be supported through its **growing community of registered users**

Int:net
Interoperability
Initiatives (zip)



<https://intnet-project.eu/resources>

2/ An interoperability maturity model to provide practical tools for industry

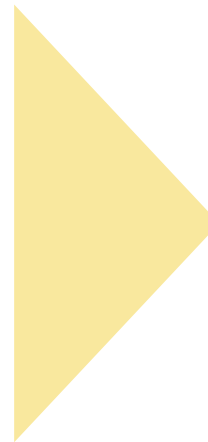
Int:net aims to

- develop an **interoperability maturity model** based on existing models
 - to **help organisations understand their level of maturity** in the integration of smart grid technologies, distributed generation and customers with the planning and operation of grids and markets
 - to **help the industry highlight gaps or identify priorities** for ongoing improvements in interoperability standards and approaches
- develop a **reference implementation** of the model
 - to **allow organisations assess their progress** in implementing important interoperability concepts
 - to **assist the industry in tracking its progress** over time in supporting interoperability for accelerated adoption of new technologies and systems

3/ A framework for interoperability testing to harmonise existing approaches

Currently,

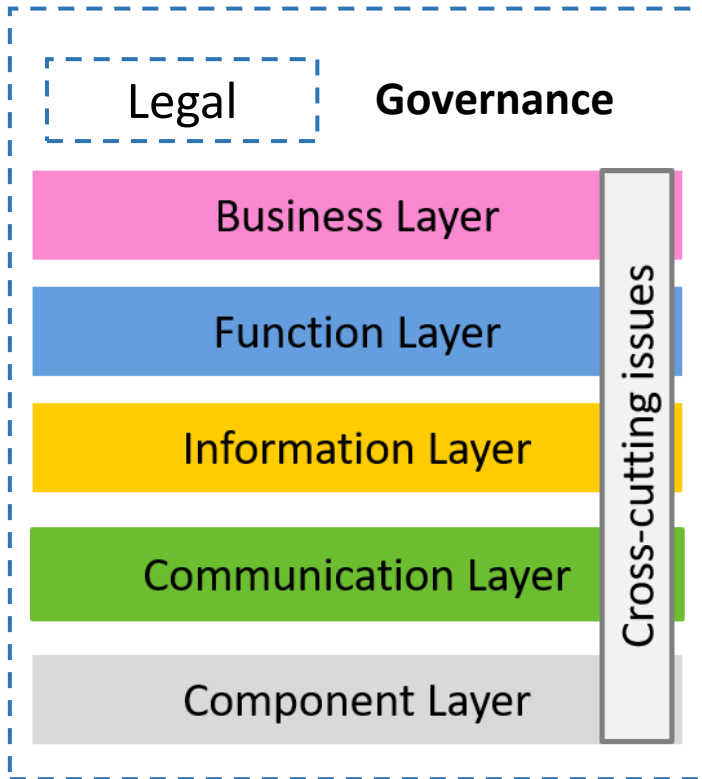
- testing procedures, categorisation, evaluation and assessment criteria of the existing interoperability initiatives are very diverse and serve a wide range of interests.
- the most advanced testing approaches are typically at component / device level.
- the testing approaches at system level are rather at the R&D stage (e.g. JRC, IES, ENTSO-E's CIM, ERIGrid)



The int:net framework for interoperability testing in a network of testing facilities will

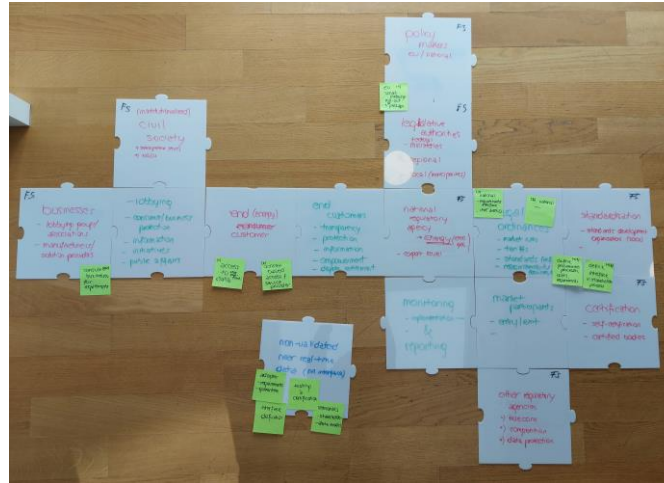
- provide an **overview** of existing interoperability testing approaches in smart grid and energy system research infrastructures and laboratories.
- aim to **harmonise** the existing testing procedures and concepts to the extent possible.
- Combine testing facilities and certification centres in a **pan-European network**.

4/ A governance process to bring together all relevant stakeholders



(Extended) Smart Grid Architecture Model (SGAM) Framework

Modified from: Smart Grid Coordination Group (2012)



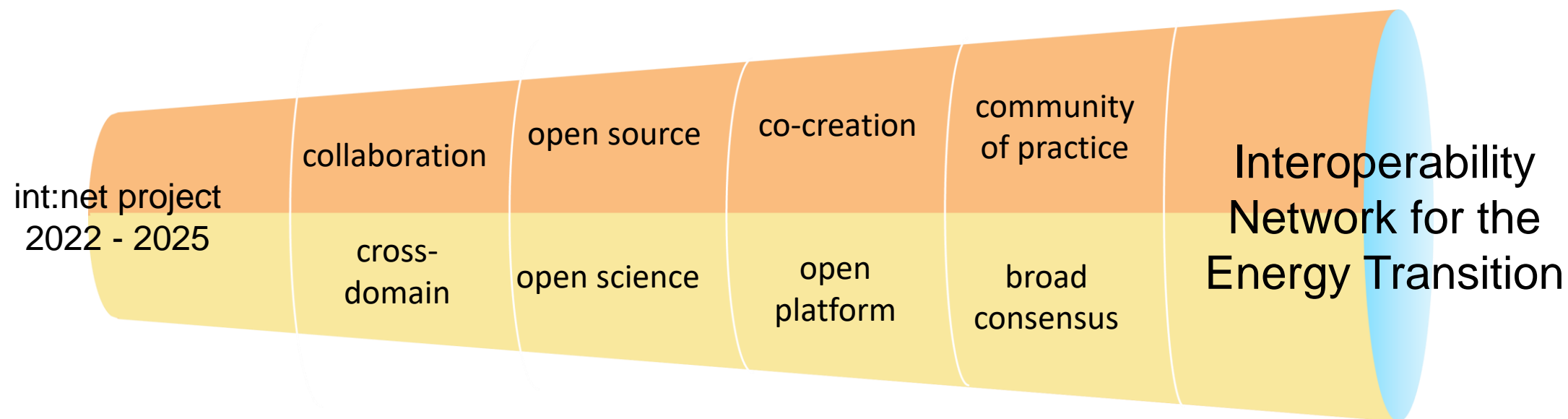
Impressions from the int:net workshop at ComForEn 15/03/2023

- Policy makers
- Legislative authorities (federal, regional, municipal)
- National regulatory agency for energy
- Other regulatory agencies (e.g. telecom, competition, data protection)
- Standardisation bodies
- Certification bodies
- End customers
- Prosumers (residential, commercial, industrial, municipal)
- Businesses
- Civil society
- TSOs
- DSOs (rural, urban)
- Manufacturers
- Developers
- Solution providers
- Academia / RD&I
- ...
- ...

Work in progress

Beyond the int:net project: Interoperability network for the energy transition

- Need to **continue the major activities** of int:net beyond the project lifetime
- A **formally established community** is considered best placed to do so
- Final **list of tasks** to be defined depending on the composition of the community





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Thank you.
And - get in touch!
We'd love to hear from you.

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<https://intnet-project.eu/>

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