

Die Zukunft der Industrie: Mehr Vernetzung = mehr Automatisierung – eine neue, symbiotische Verbindung?

Labs Network Industrie 4.0 e.V.

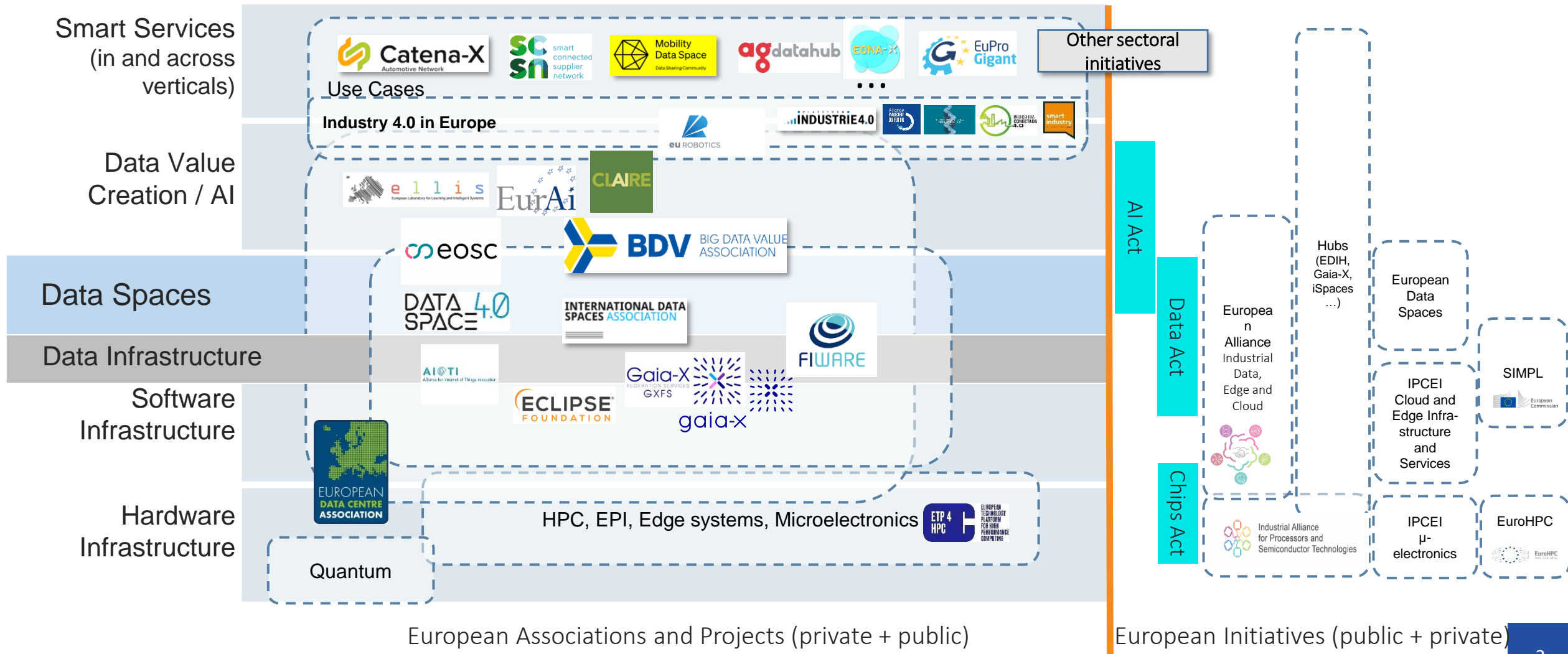
SME use cases and testbeds for Industrie 4.0 innovations

– *pre-competitive* – *non-profit* – *neutral* – *since 2015*

19 October 2023



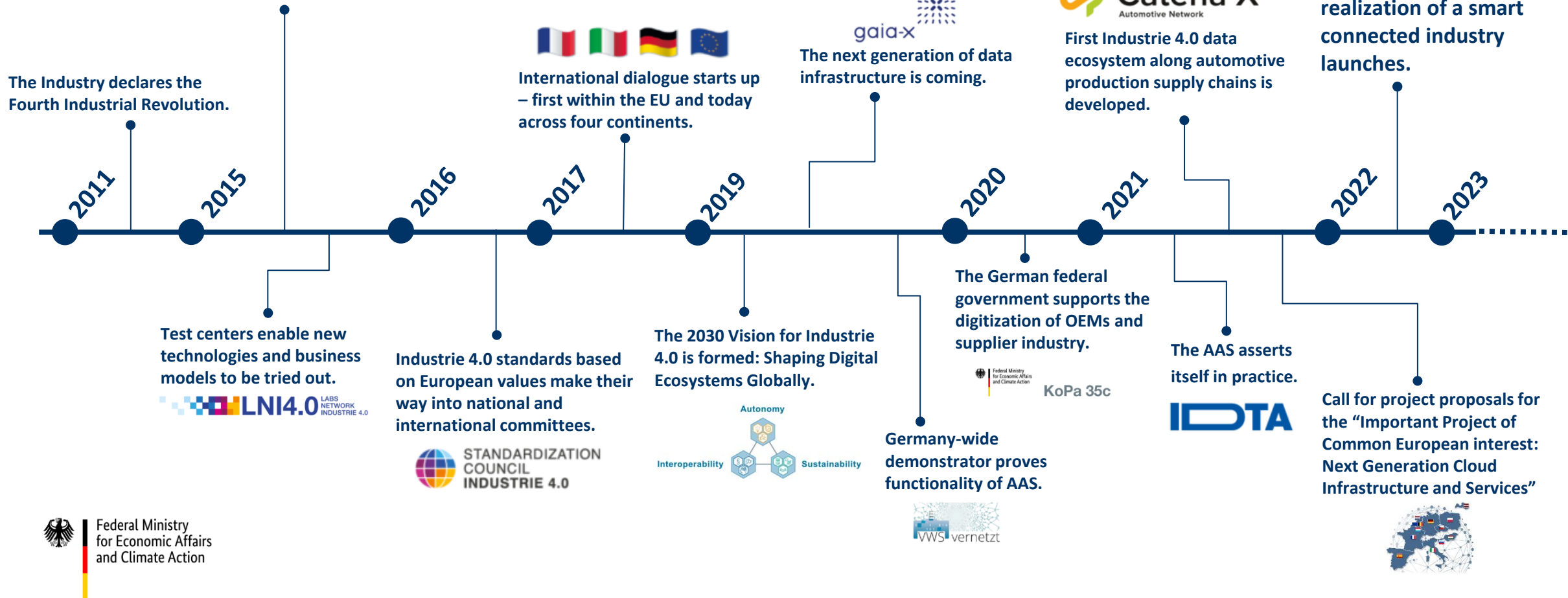
European Programs and Initiatives



Timeline Industrie 4.0 Ecosystem

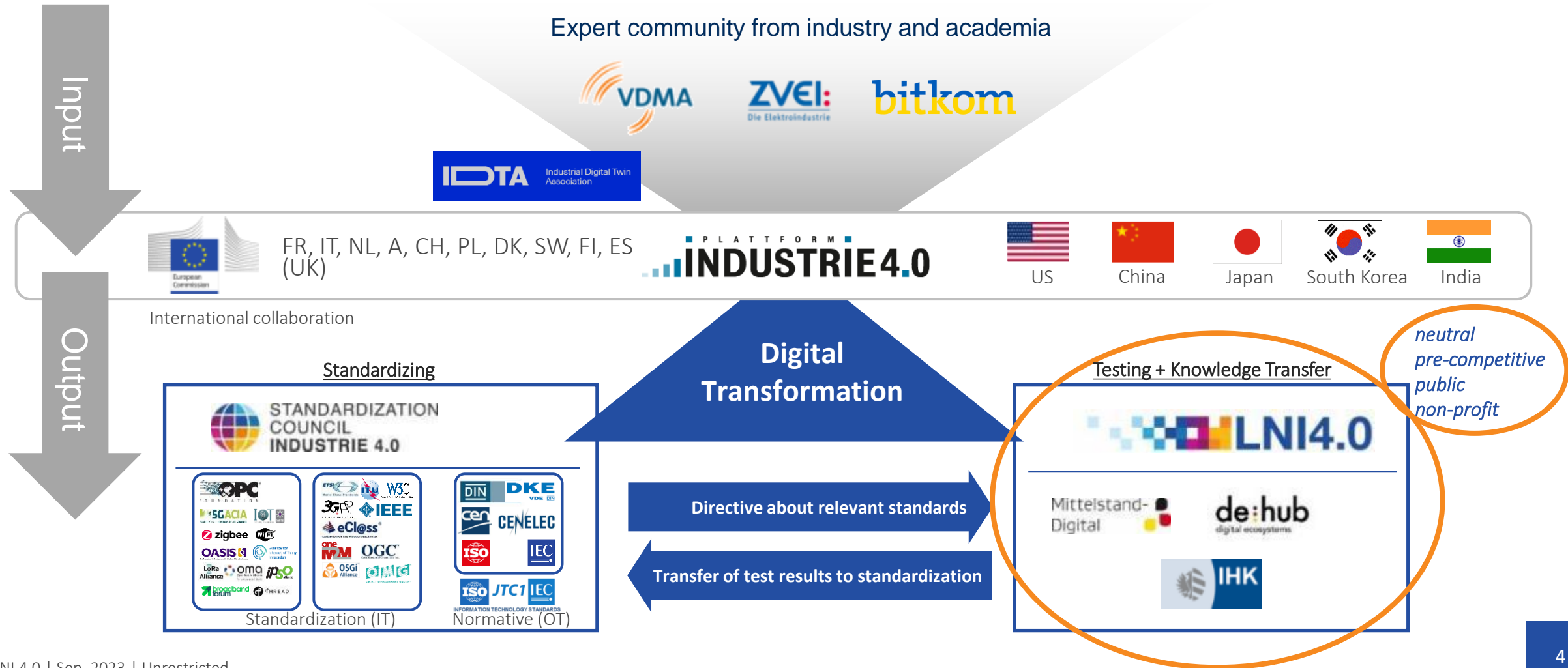


Plattform Industrie 4.0 is set up broadly in a close alliance of companies, trade unions, associations, science and politics.



Industrie 4.0 Stakeholders

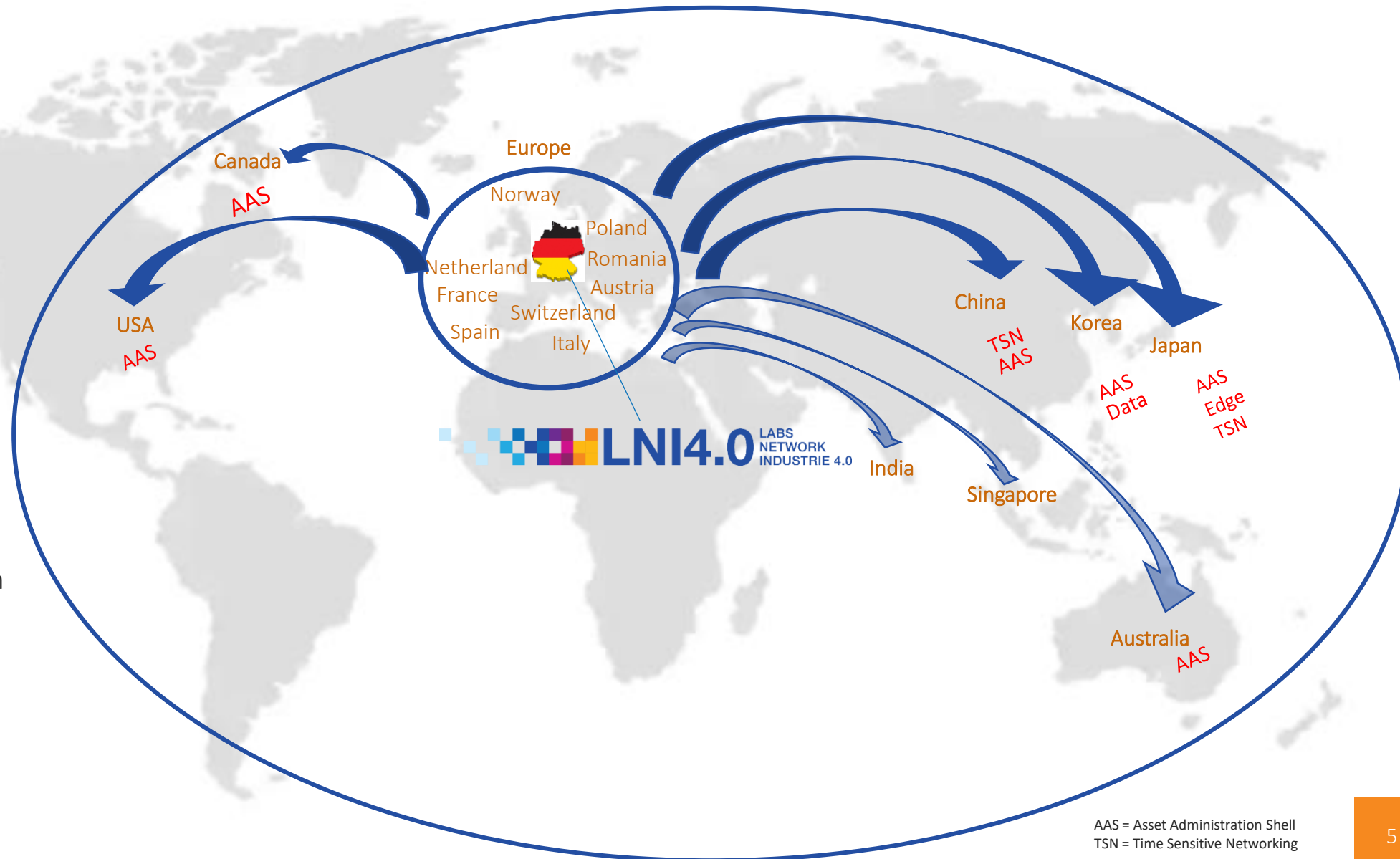
Setup in Germany



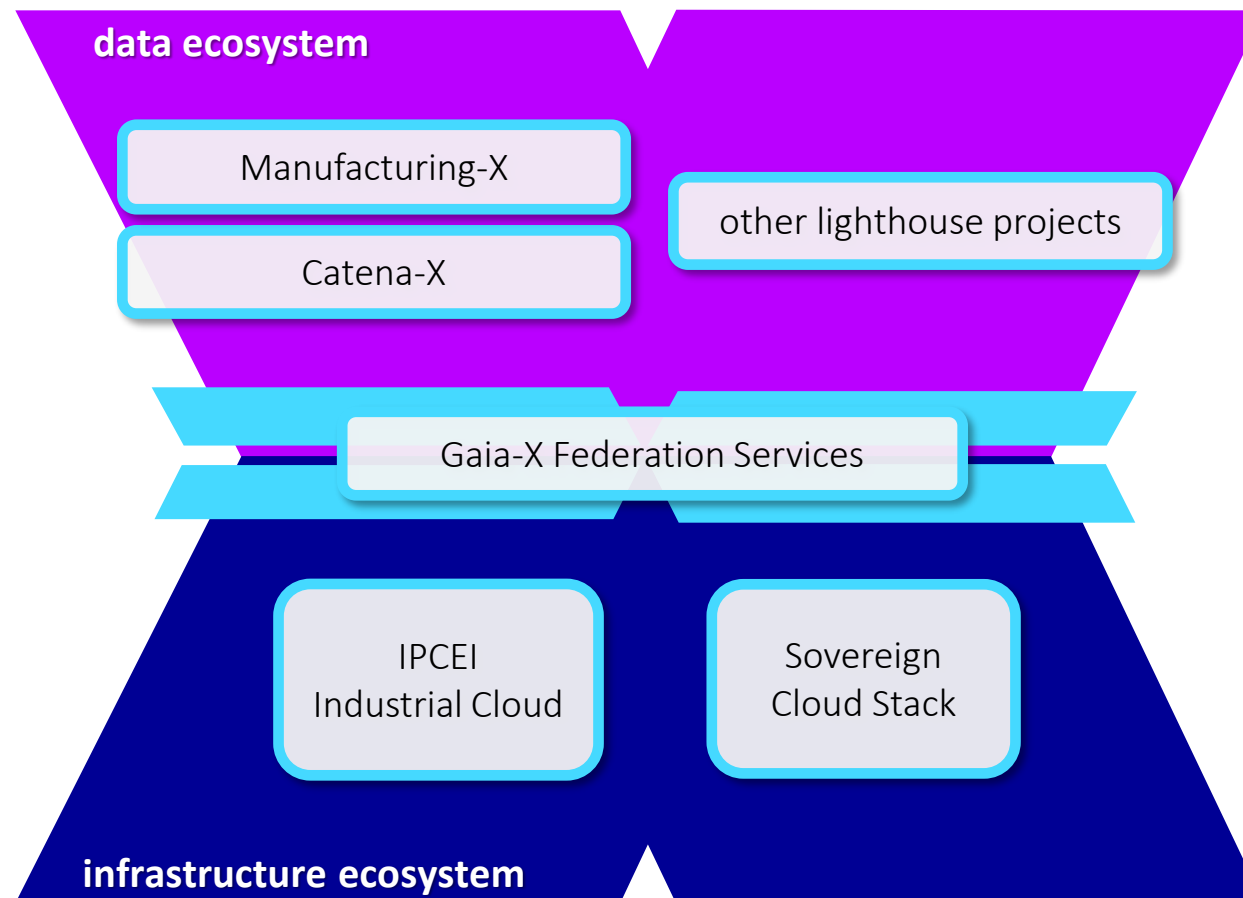
The international network of LNI 4.0 – together towards Industrie 4.0

Focus of International cooperation:

- International use cases & test scenarios
- Facilitate knowledge exchange
- Coordinate standardization effort



The X Program in Germany



Motivation & Industry example: Battery production

Manufacturing-X. Make Data Work.



Example: Battery production

- Massive ramp up of battery cell production
 - Battery production is enormously energy and water intensive
 - Minerals supply chain depends on other countries
 - **96% of the ingredients of a battery are recyclable per se**
- With consistent and transparent use of digital twins, we can design more sustainable products - and produce them more sustainably.
- Requires data transparency along the entire value chain
- Can technically be implemented by “**Data Spaces**” and requires **data economy**!

Data economy, data ecosystems and Data Spaces

Industrial context

Drivers of economy (examples)

Customer needs/values

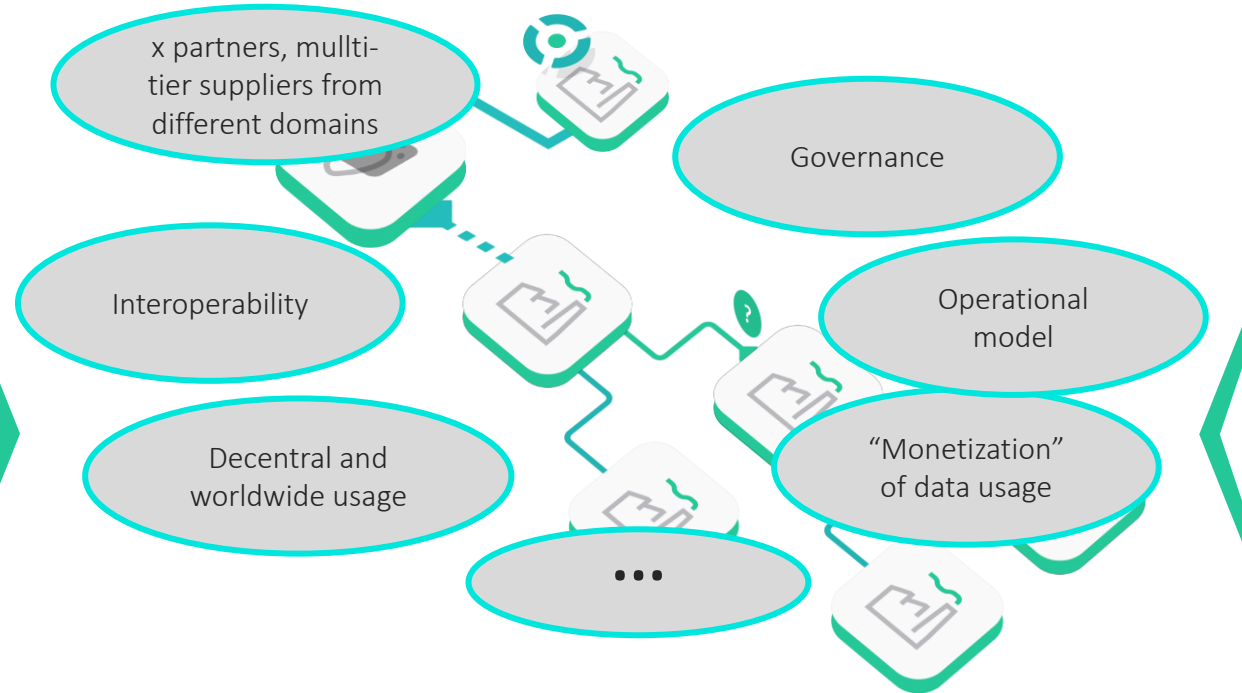
Market needs

Public needs/values

- Responsibility
- Sustainability
- Trust
- Sovereignty

Regulation

- Data Act
- Dig. Product pass



... reflected by companies (examples)

Company values

Competitive Advantage

- technology
- market access,
- resilience, supply chain, ...

Technology

- Towards a de-central architecture
- Enabling Trustworthiness

Business strategy

- Value creation
- business model
- IP protection
- partners

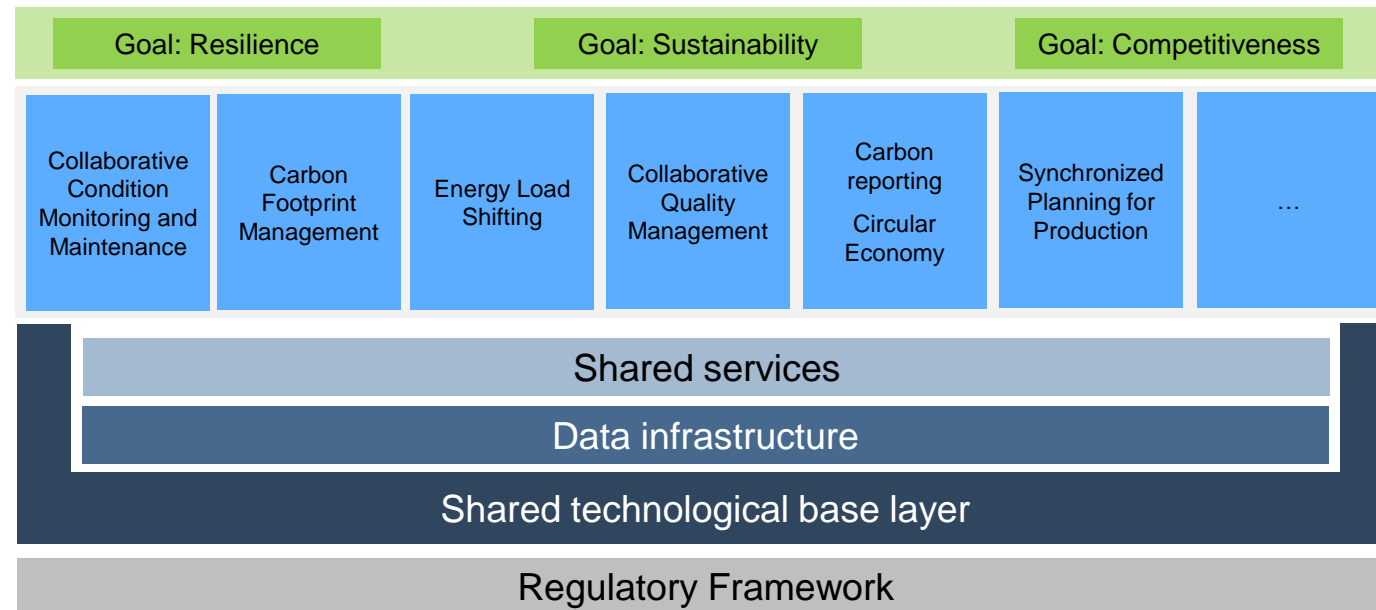
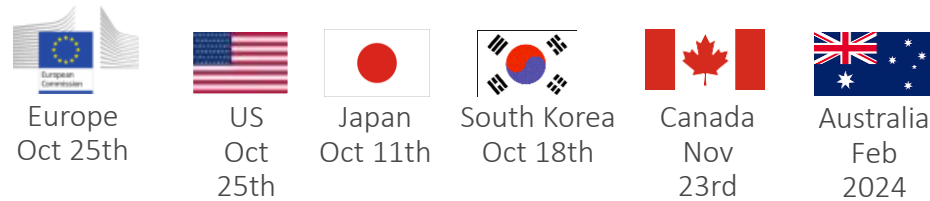
Pre-requisite: Trust across multiple (unknown) entities



Manufacturing-X - Framework

Global from Day 1

IM-X



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