

International Manufacturing-X Council

Playbook

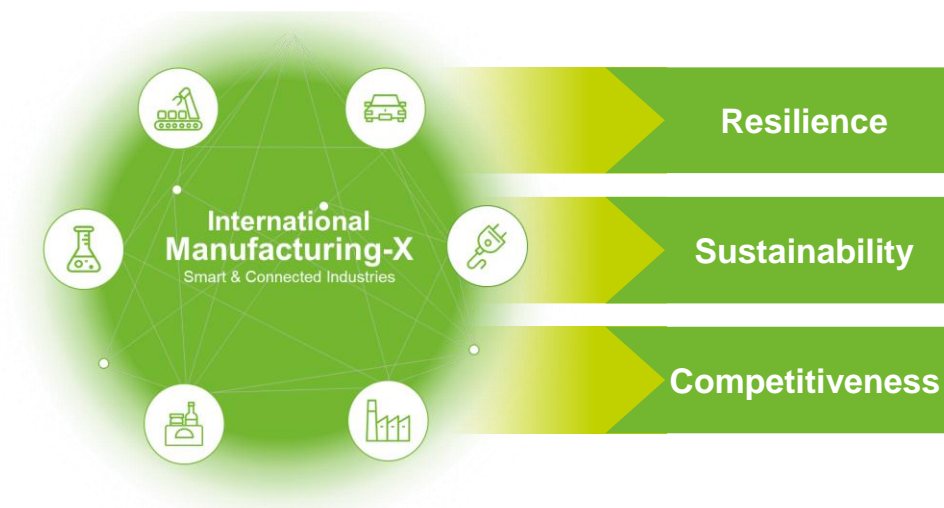
International Manufacturing-X: Make Data Work

In light of increasing digitalization and the resulting requirements, manufacturing throughout the world is facing unprecedented challenges and opportunities. The real and virtual world will continue to coalesce. **The entire value chain will be integrated and supported by digitalization**, from product, production and process design to on-site customer service and circularity – across locations as well as company and national boundaries. **No country, no initiative, no company can achieve this on its own.**

- Deployment needs customization across an infrastructure continuum from cloud to edge, depending on the applications.
- Information sharing and data-driven collaboration among manufacturing initiatives are becoming more relevant for impactful manufacturing data networks.
- Harmonized standards facilitate business scale-up of data ecosystems, which are becoming essential.

International Manufacturing-X (IM-X) will implement a federated, decentralized and collaborative data ecosystem for smart manufacturing. It aims to enable open, global and cross-sector international operation of cost-effective data networks. This will result in:

- *Resilience:* Reorganize and increase flexibility and autonomy of industrial value chains and networks.
- *Sustainability:* Increase efficiency and enable data-driven solutions for CO₂ balancing and circular economy.
- *Competitiveness:* Accelerate digital innovations and enable new data-driven business models to create new value for manufacturing.



The **IM-X Mission** is to realize this vision through **three main lines of activity**:

- Facilitate use cases on the collaborative use of industrial data for all manufacturing industries.
- Develop the requirements, influence international standardization and framework development for basic infra-structure to deploy federated data-ecosystems for manufacturing.
- Provide guidelines to leverage easy-to-use applications and dynamically scale the ecosystems.

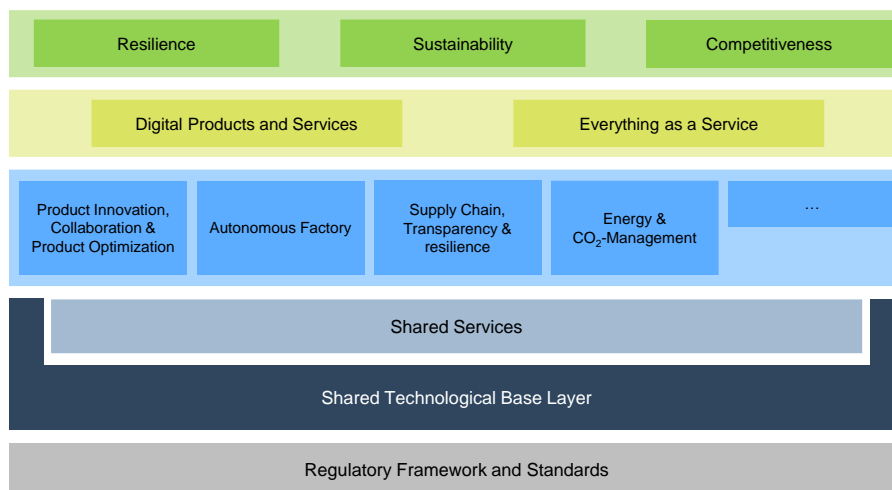
The Threefold Vision Behind International Manufacturing-X

CONNECT value chains and manufacturing data networks across industries and countries.

IMPLEMENT global foundations for data-driven resilient, sovereign and climate-neutral production covering the full life cycle of production and products.

ENABLE innovative value creation in an interoperable and sovereign data ecosystem.

IM-X will build on a **foundational framework**, which serves as a **common guideline** for activities and international stakeholders:



- **Strategic Goals:** IM-X develops the foundations for a resilient and competitive industry in a sustainable society.
- **Business Models:** IM-X enables innovative business models based on an interoperable data-ecosystems (digital products and services; Everything-as-a-Service; etc.).
- **Exemplary Cross-Industry Use Cases:** IM-X addresses cross-industry use cases based on a collaborative use of data with high economic and ecological impact (product innovation, collaboration and product optimization; autonomous factory; supply chain, transparency and resilience; energy & CO2-management; etc.)
- **Capabilities:** IM-X enables development and deployment of fundamental services driving the federated data ecosystem.
- **Foundation:** IM-X defines global standards and runs a basic technical infrastructure to guarantee interoperability and sovereignty.
- **Constraints:** IM-X builds on a common technical, organizational and legal framework and contributes to the future development in cooperation with international law.

International Manufacturing-X Council: Enable Global Cooperation

The IM-X Council is a **unified effort** driven by an **international ecosystem** to:

- develop a joint understanding of data-spaces;
- connect and cooperate with other initiatives that are relevant to manufacturing (e.g. energy, logistics, mobility, etc.);
- facilitate open exchange of regional initiatives (specific projects, opportunities, etc.);
- define a joint framework for interoperable IM-X (technology, standards, etc.) that manufacturing product/solution architecture can build upon;
- drive international harmonization and standardization (consensus based and de-facto based);
- enable discussion of use cases and joint projects where appropriate;
- organize joint conferences and events;
- and other topics.

Open collaboration, inclusiveness, transparency and equal treatment of all the partners inside this ecosystem are key. The IM-X Council will determine collectively what is needed, what to do and who will be responsible.

IM-X will **build on existing initiatives and standards**. The intention is to trigger international R&D, partnerships, cooperation, standardization, and deployment with and for customers globally.

- *Manufacturing initiatives* (Plattform Industrie 4.0, CESMII, Industry Associations, RRI, ...): Global smart manufacturing initiatives are building the foundation for the requirements and needs of infrastructure initiatives and working together to shape standards.
→ IM-X Council will **orchestrate and cooperate**.
- *Infrastructure initiatives* (EDC/Eclipse, DATA-EX, IDSA, Gaia-X, ...): Data and digital infrastructure initiatives have to provide building blocks to fulfill manufacturing needs – from cloud to edge to connected devices.
→ IM-X Council will **influence and use**.
- *Standards and regulations* (OPC UA, AAS, ECLASS, PCF reports, Battery Passport, ...): Standards are essential for scaling-up. Cooperation and influence are essential for IM-X. Regulations are a given. Lobbying is needed.
→ IM-X Council will **define and lobby**.

IM-X Council Structure – First Ideas

COUNTRIES are represented by council members, selected by their respective industry initiatives, and speaking with one voice.

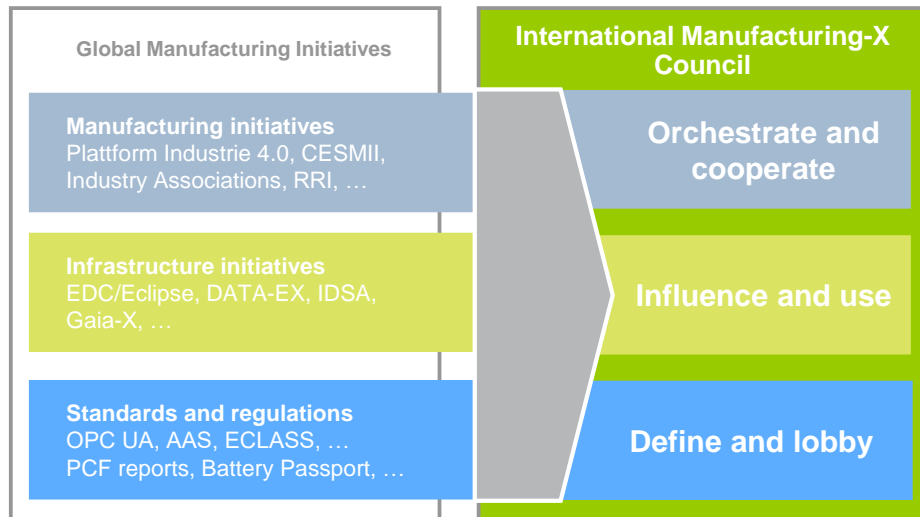
ONE COUNTRY, one vote. Agreements should be consensus based.

THE COUNCIL will have 2 speakers, from 2 different countries and at least one from industry. They are selected every 2 years on a rotating basis.

GOVERNMENT involvement is highly welcomed (national and regional level).

MEMBERSHIP in the IM-X Council is open to additional countries.

THE EXACT STRUCTURE of the IM-X Council will be further developed together.



The following **initiatives** are **currently involved** in establishing the IM-X Council:

- Alliance Industrie du Futur, France
- CESMII The Smart Manufacturing Institute, USA
- Confindustria, Italy
- Korea Smart Manufacturing Office Kosmo, Korea
- Offensive de Transformation Numérique, Canada
- Plattform Industrie 4.0, Germany
- Plattform Industrie 4.0 Österreich, Austria
- RRI Robot Revolution & Industrial IoT Initiative, Japan
- Smart Industry Program, the Netherlands

International Manufacturing-X Council: Call for Participation

If you are interested in collaboration or would like to know more, please contact us!



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