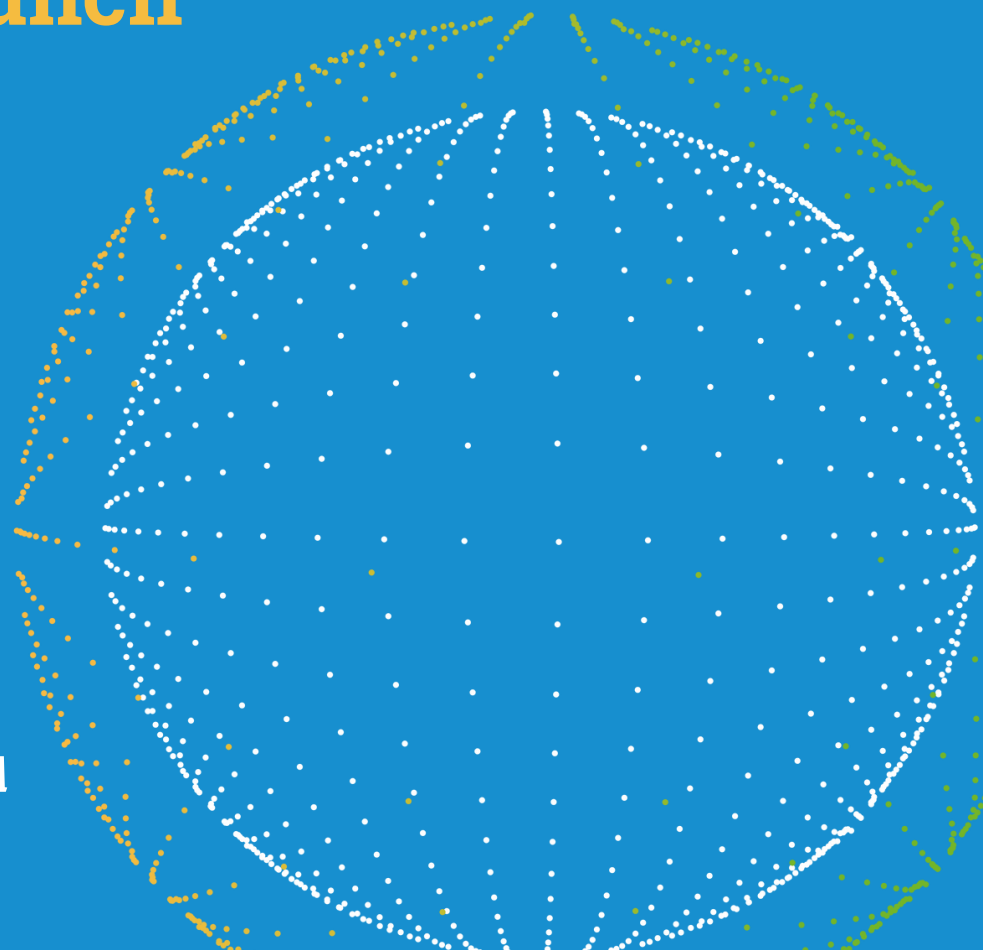
Data Spaces Symposium

International Manufacturing-X Council
Make Data Work!

March 12, 15:30 - 16:30



Moderator: Davide Dalle Carbonare

Business Developer at Engineering

Board of Directors & Smart Manufacturing Industry at BDVA

Data Spaces Symposium

Unite. Innovate. Adopt.

International Manufacturing-X Council

Make Data Work!

12 March 2024 | 15:30 - 16:30

Darmstadt, Germany

Davide Dalle Carbonare
Engineering

Oscar Lázaro
Innovalia
Intro on International Manufacturing-X

Thomas Hahn
Siemens
Deep Dive on Factory-X

Sicco Lehmann-Brauns
Siemens

Reinhard Heister
VDMA

Sergio Gusmeroli
Politecnico Milano

SM4RTENANCE

Circular TwAIn

Data Spaces Symposium
Unite. Innovate. Adopt.

SM4RTENANCE: Implementing Manufacturing-X Foundational Framework in Italy: the MADE Competence Center and Circularity-X Model

12 March 2024

Sergio Gusmeroli. Politecnico di Milano & MADE Competence Center

Co-funded by the European Union

SM4RTENANCE GA n. 101123490* in Grant Preparation

MADE Competence Center I4.0

Deploying DS for Manufacturing in Italy

MADE Competence Center I4.0

Factories & Ecosystems *(Asset Owner Industrial Data, Provider & Ecosystem Onboarding Service Provider)*

MADE Competence Center I4.0 · INTELLIMECH® CONSORZIO PER LA MECCATRONICA · Cefriel · eit Manufacturing

Platform & Service Providers *(Asset Management, Application & Maintenance Service Provider)*

COMAU · domina data management

Data Space Operators *(Core Data Space Service, Provider & Data Space Enabling Service Provider)*

top-ix · TXT

Manufacturing Assets & Automation System OEMs *(Asset OEM Industrial Data Consumer)*

PIACENZA 1733 · itemalab

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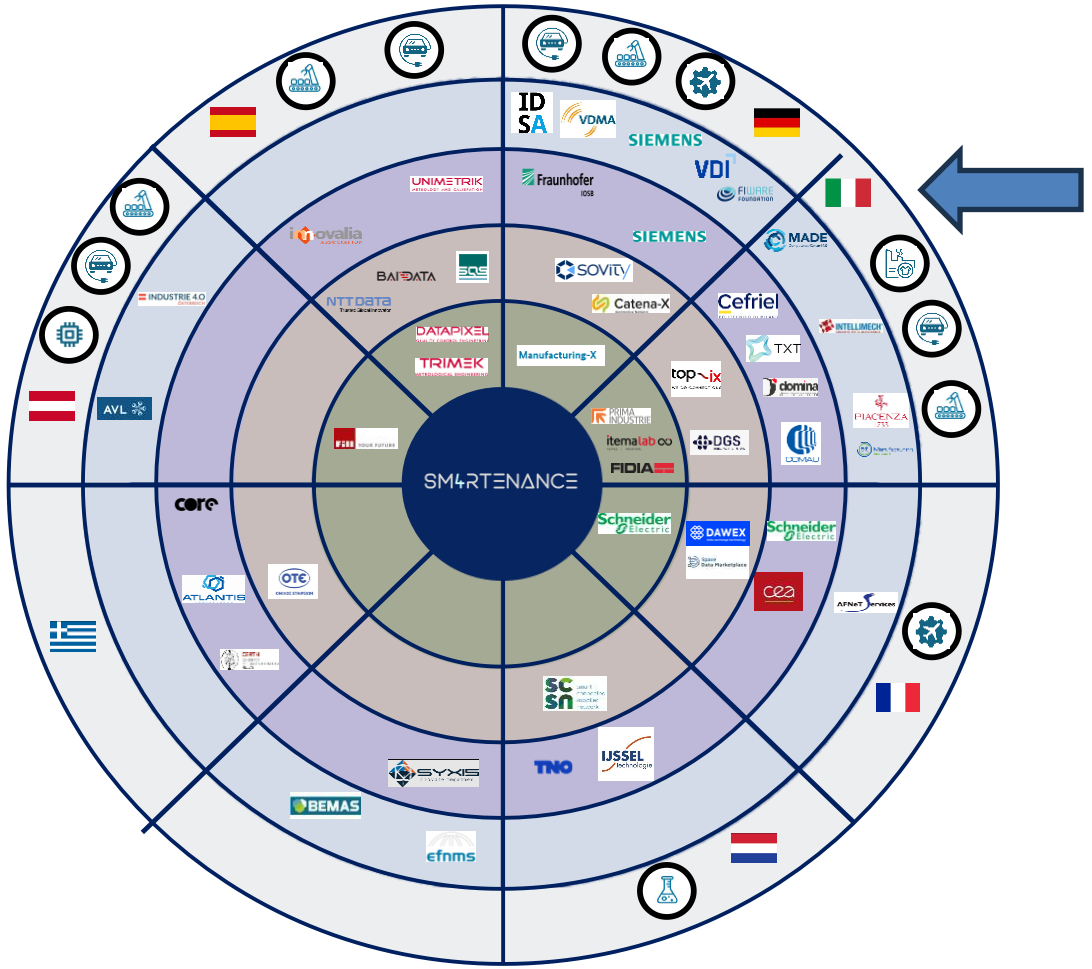


Motivation & Big Picture

Foundational Framework for IM-X

A common guideline for IM-X activities and international stakeholders.

Strategic Goals

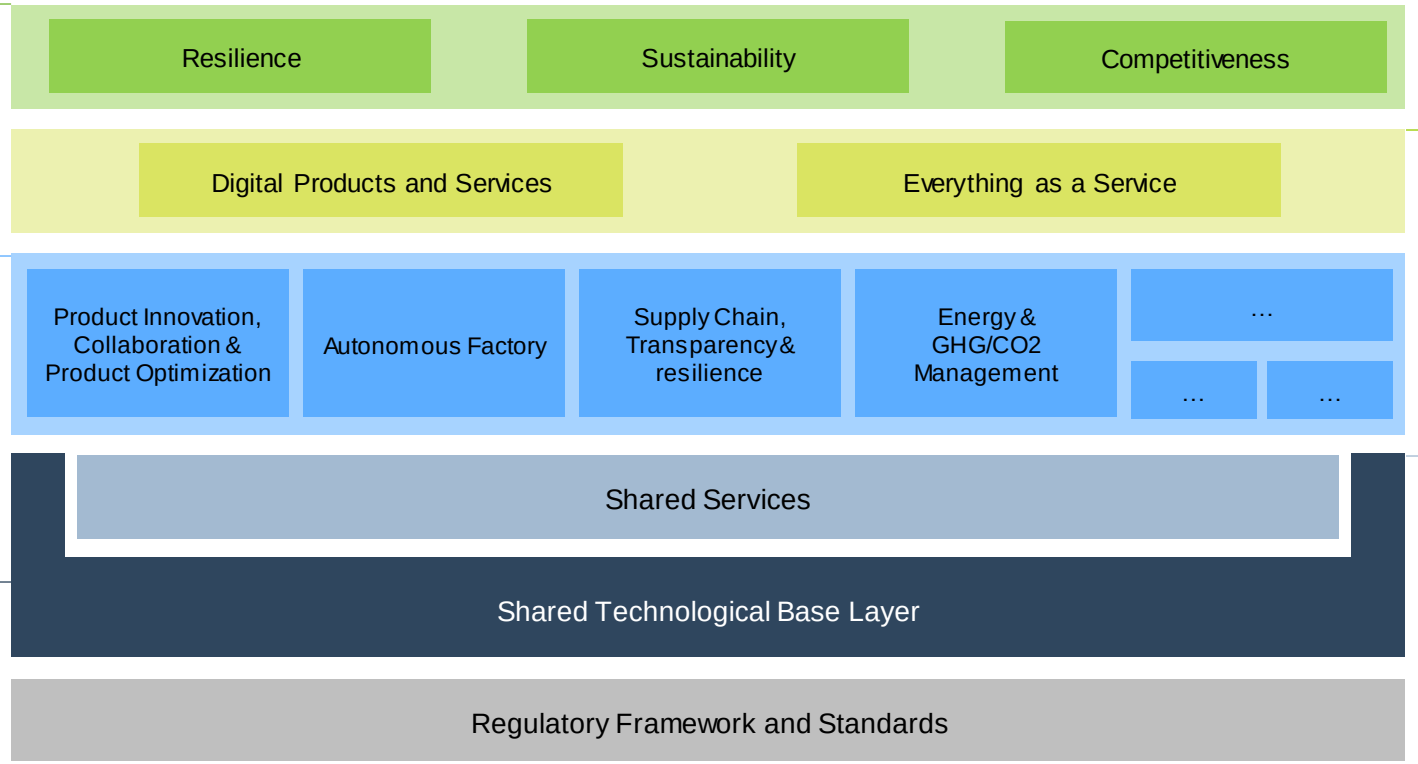
International Manufacturing-X develops the foundations for a resilient and competitive industry in a sustainable society.

Exemplary Cross-Industry Use Cases

International Manufacturing-X addresses cross-industry use cases based on a collaborative use of data with high economic and ecological impact.

Foundation

International Manufacturing-X defines global standards and runs a basic technical infrastructure to guarantee interoperability and sovereignty.



Business Models

International Manufacturing-X enables innovative business models based on a interoperable data-ecosystems

Capabilities

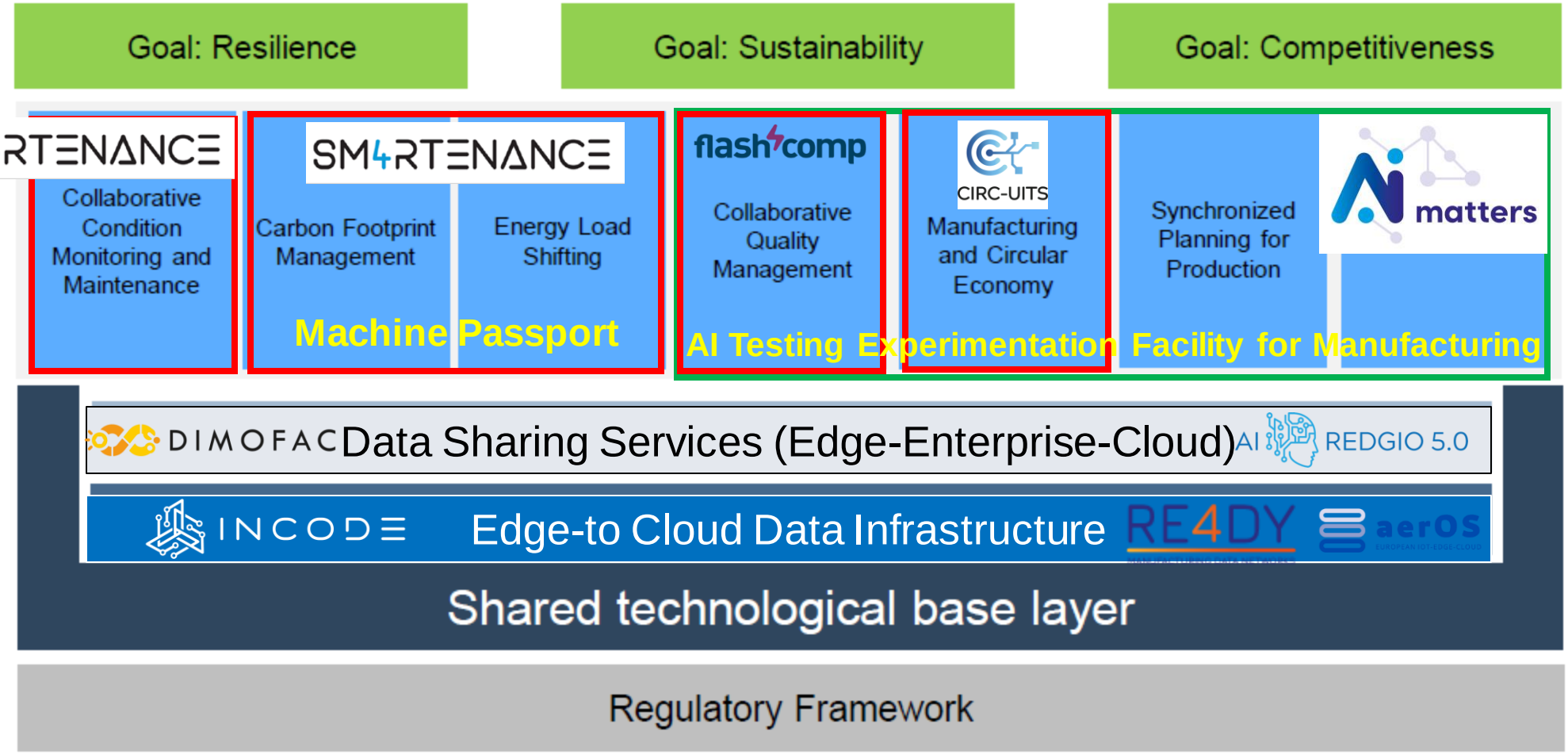
International Manufacturing-X enables development and deployment of fundamental services driving the federated data ecosystem.

Requirements

International Manufacturing-X builds on a common technical, organizational and legal framework and contributes to the future development in cooperation with international law.

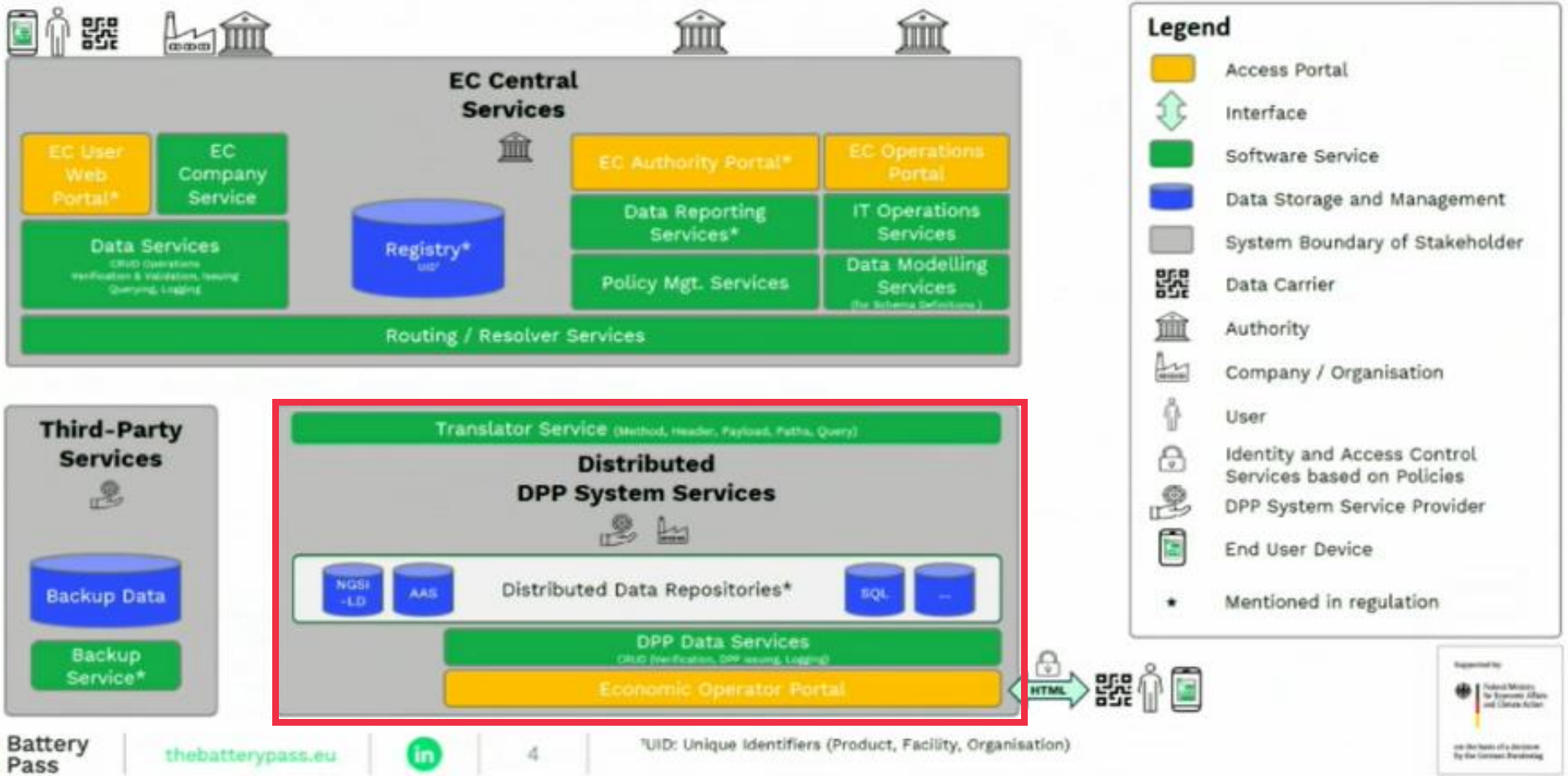
INDUSTRIA-X at the MADE Competence Center

Manufacturing-X aims to implement important cross-industrial use cases on a common framework.



Federal Ministry for Economic Affairs and Climate Action

A variety of building blocks beyond the regulation are needed for an operational system



Battery Pass | thebatterypass.eu | 4

*UID: Unique Identifiers (Product, Facility, Organisation)

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MANUFACTURING-X

A BATTERY Lifecycle Data Space with Process data sharing flows

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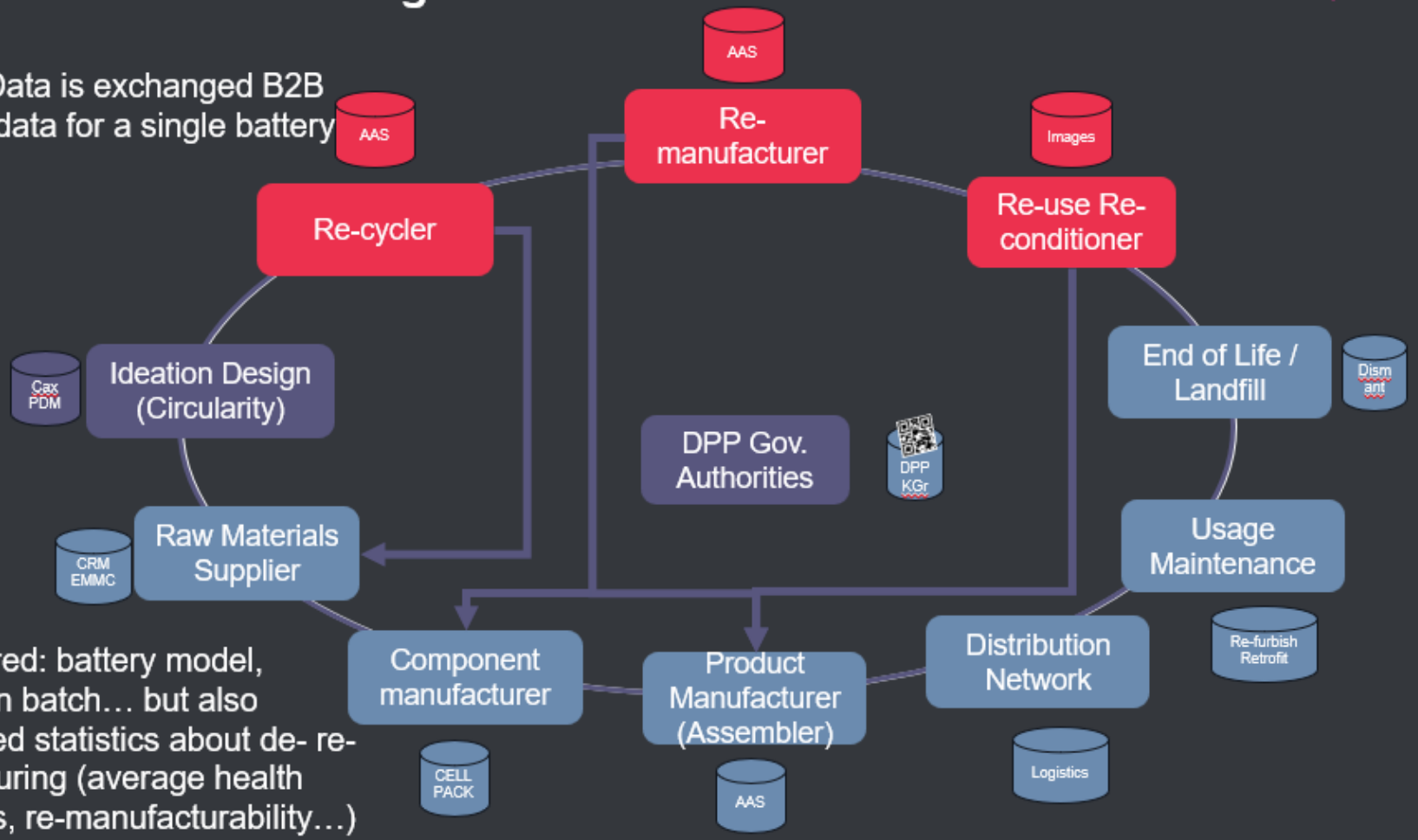
Process Data is exchanged B2B including data for a single battery instance.



Data shared: battery model, production batch… but also aggregated statistics about de- re-manufacturing (average health conditions, re-manufacturability…)

CESMII · INDUSTRIE4.0 · INDUSTRIE 4.0 ÖSTERREICH · KOSMO · CONFINDUSTRIA

CIRCULARITY-X Foundational Framework for BATTERY Circular Data Spaces

Strategic Goals

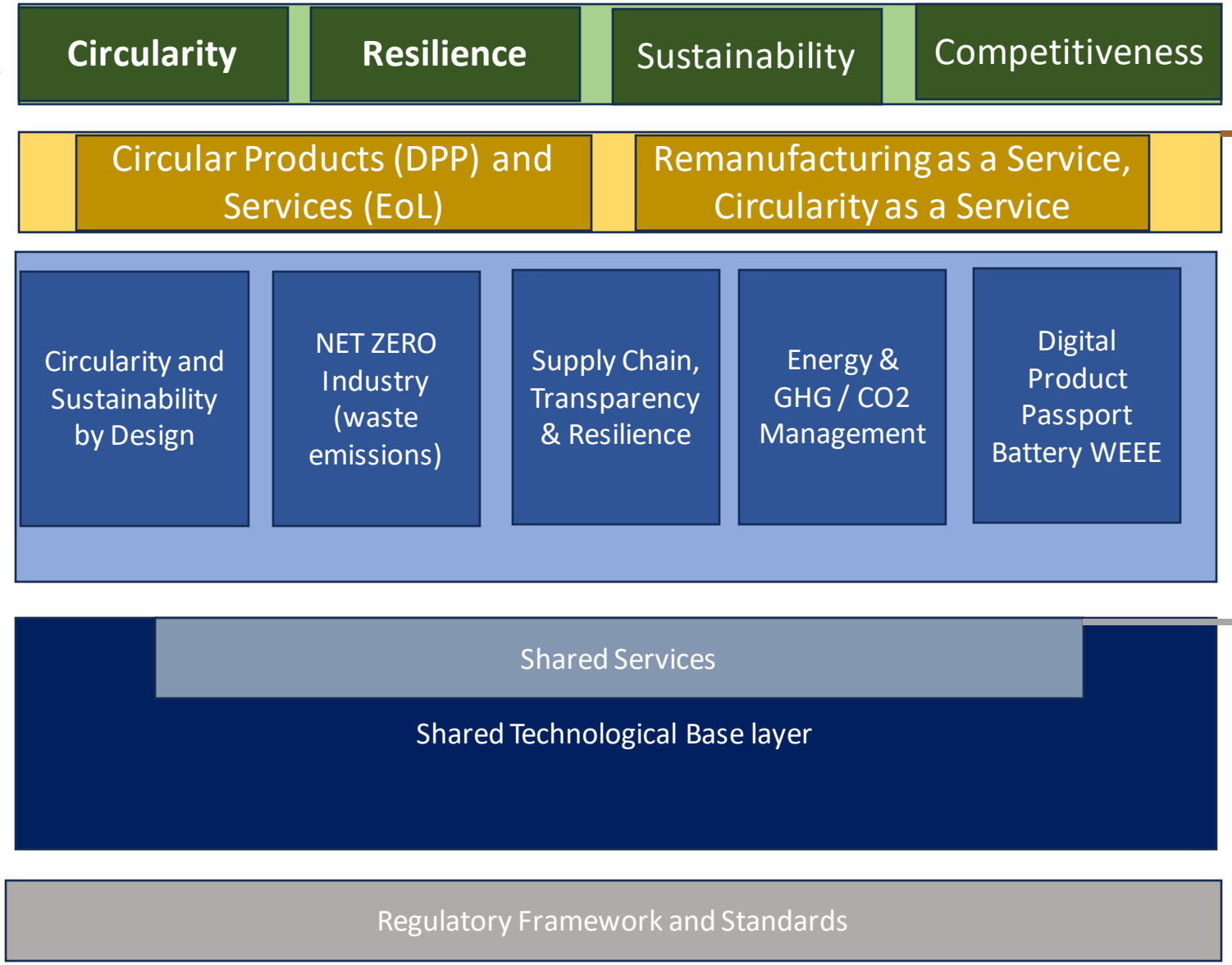
CTW develops the foundations for a circular, resilient, competitive industry in a sustainable society (Battery WEEE industrial pilots)

Exemplary Cross-Industry Use Cases

CTW addresses cross-industry use cases based on a collaborative use of data with high economic and ecological impact (Discrete vs. Process Industry)

Foundation

CTW defines global standards and runs a basic technical infrastructure to guarantee interoperability and sovereignty (GAIA-X CATENA-X inspired)



Business Models

CTW enables innovative business models based on interoperable Data Spaces and B2G B2C interactions

Capabilities

CTW enables development and deployment of fundamental DATA and SOFTWARE services driving the circular data ecosystem

Requirements

CTW builds on a common regulatory legal framework and contributes to the international law (non-EU partners) CIRPASS

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THANK YOU!!!

Sergio Gusmeroli. Politecnico di Milano & MADE Competence Center