Gaia-X SUMMIT 2025

DIGITAL ECOSYSTEMS IN ACTION

Porto, Portugal | 20 & 21 November

gaia-x

In partnership with

gaia-x Hub Portugal

tice.pt

PORTO DIGITAL

Porto.

Gaia-X
SUMMIT 2025

Day 2 - 21 November

gaia-x

AGENDA - BREAK

TECH THEATRE	**RIBEIRA 2 ROOM**
08:00 – 09:00	**Registration & Coffee**
09:00 – 09:30	**Danube 101**
09:30 – 09:45	**Ontologies – Gaia-X, DSSC, and Danube**
09:45 – 10:30	**Danube – Implementation Examples**
10:30 – 10:45	**Danube Q&A**
PARTNERS THEATRE	**BIBLIOTECA**
09:30 – 10:00	**Pontus-X and Ocean Enterprise leveraging Gaia-X to scale Pan-European Industrial Data Spaces**
10:00 – 10:30	**Way to success – how to scale a data space and onboard a heterogenous ecosystem in the aerospace sector**
10:30 – 11:30	**JTC25 – Maturity Model |Creating awareness and sharing insights about the ongoing standard on Maturity Assessment of data spaces**

DIGITAL ECOSYSTEMS IN ACTION

Gaia-X Institute – Addressing the Remaining Challenges for Data Spaces: Choosing the appropriate trajectory & Sorting Data Interoperability with AI

09:00- 09:30

Moderator: Hubert Tardieu, Independent Board Member, Gaia-X

Jakob Rehof, Professor of Computer Science, TU Dortmund University

Joelle Toledano, Professor Emeritus associated with the Governance and Regulation Chair, Paris Dauphine-PSL University

Feedback From the Economic Theater

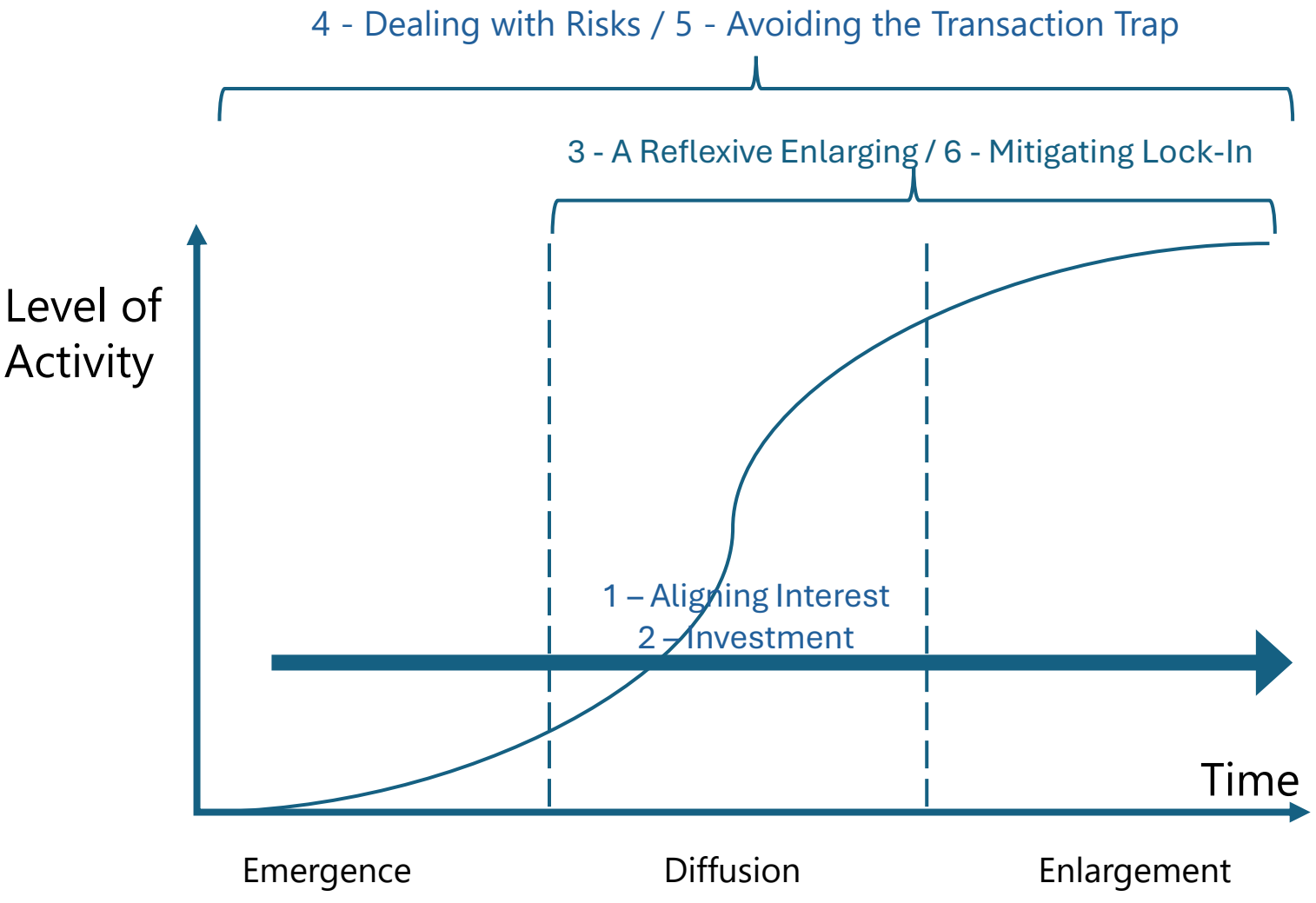
Joëlle Toledano

Lucas Eustache

Paris Dauphine – PSL University

6 Conditions Shaping DSE Viability

- Aligning Interest
- Investment in a context of innovation
- Enlarging the ecosystem at use case and value chain level
- Dealing with risks
- Avoiding the transaction trap
- Mitigating lock-in


4 - Dealing with Risks / 5 - Avoiding the Transaction Trap
3 - A Reflexive Enlarging / 6 - Mitigating Lock-In
Level of Activity
1 – Aligning Interest
2 – Investment
Time
Emergence
Diffusion
Enlargement

Economic Theater – Presentation

Thursday 20/11

- **Health Data Trust** (FR)
- **Aeroseed** (Airport / Infrastructure services)
- **AI European Project for Judicial Expertise**
- **SmartLivingNEXT** (Residential data sharing for energy and health)
- **European Health Data Alliance** (DE)
- **Cofinity-X** (Automotive data sharing)
- **UPCxels** (Multisectoral SpanishData space)

Friday 21/11

- ***MicelioData*** *(Compliance for non european companies)*
- ***Digital Ter-X*** *(Construction)*

Feedback Economic Theater – Chatam house

- **Technical** intermediaries remain today an *ad hoc* assembly of several suppliers. When will we see a one-stop shop? Season 2 or 3?

- Collective **value creation** does not guarantee the success of a **use case**. It is also necessary for this value to be extracted by the actors involved in the use case in order to encourage them to finance it.
  - *Tips: Build on proven data exchanges by improving them could be a good start*

- The development and viability of **use cases** are the rational of governance.

Thank you!

Gaia-X Summit 2025

DISCOVERY QUEST

AUGMENTED REALITY

Complete AR & real-world challenges to become the ultimate Data Wizard!

Visit the **Gaia-X Discovery Quest Booth** in the Expo area to find out more!

- **Connect** with fellow participants in a fun, new environment.
- **Explore** key Gaia-X concepts like trust, compliance, data economy, and interoperability.
- **Use Augmented Reality** to make these concepts come to life.
- Turn the summit into an **interactive**, **educational** adventure.

SCAN TO DOWNLOAD

Scan the QR code to download the ***Gaia-X AR app*** and compete in the Gaia-X Discovery Quest!

Portuguese Projects

09:30- 10:15

Moderator: António Salvado – TICE.PT, Gaia-X Hub Portugal, BoD Gaia-X

Testbed Espaços de Dados-X | Isabel Borges, TICE.PT

Agenda ATE – Aliança para a Transformação Energética | Fábio Coelho, INESCTEC

Agenda TEXP@CT – Pacto de Inovação para a Digitalização do Têxtil e Vestuário | César Toscano, INESCTEC

Test Bed ED-X:
Cooperation Beyond Competition!

Portugal's path toward trusted and collaborative Data Spaces

Isabel Borges

TICE.PT

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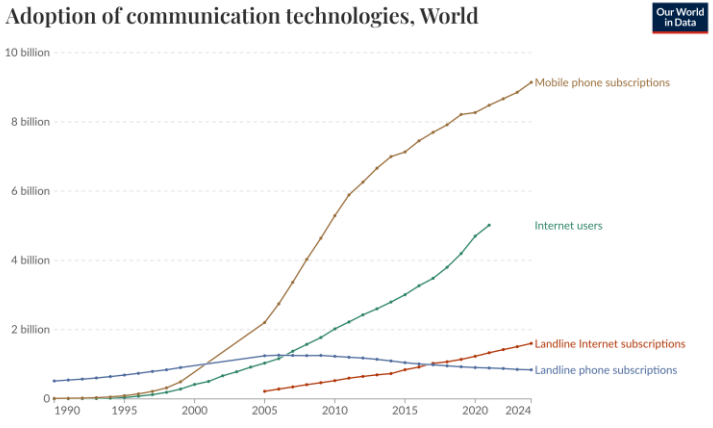
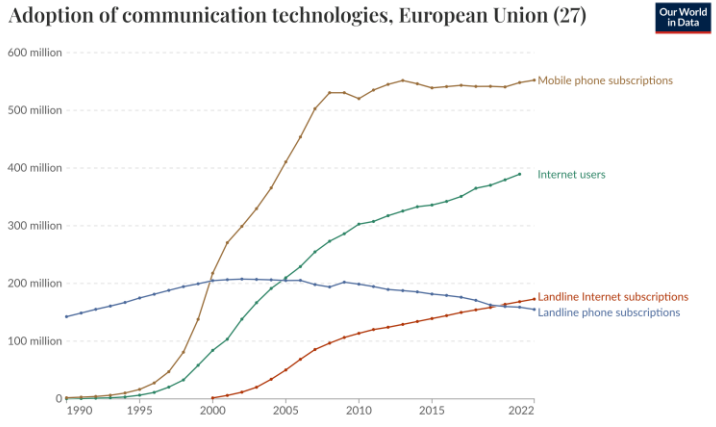
The Power of Data





Data transforms how we understand, decide, and create - turning information into impact!

The solution: a federated infrastructure towards data sovereignty, security, and interoperability.

Portugal is part of this movement, with initiatives such as the **ED-X** Test Bed!

Turning Challenge into Opportunity

What is a TestBed?

"Provision of infrastructures and technological capabilities that **SMEs and Startups** often do not have installed, which creates the necessary conditions for the development and testing of new products and services capable of reaching a TRL between **5 and 9**, with a strong digital and/or virtual or digital simulation component."

Instead of competing in isolation, Portuguese operators are choosing collaboration.

Test Bed ED-X creates a shared environment for experimentation, testing, training and innovation where competition and cooperation coexist.

Introducing Test Bed ED-X

gaia-x

What is ED-X?

A RRP Portuguese initiative enabling companies to test, experiment, and innovate within trusted infrastructures.

It provides:

- Infrastructures aligned with Gaia-X and IDSA standards and frameworks
- Opportunities for collaboration and innovation
- Real-world pilots driving digital transformation

Our aim:

- Clear business value & low entry barriers: demonstrate tangible RoI through real use cases while offering technical support, simple onboarding, and minimal cost.
- Trust, sovereignty & ecosystem access: promote secure data sharing under European standards and access to a collaborative ecosystem of partners, investors, and potential customers.

Introducing Test Bed ED-X

What services are available?

Demonstration

Data providers and Data consumers
Secure federation of data spaces
Data Space services

Experimentation

Gaia-X infrastructure configuration service
Assess Gaia-X compliance
Development, access, and Interconnection of Data Spaces
Service catalogue

Testing

Design, development and evaluation (hands-on)

Training

Identification and selection of SME and startup use cases
Match-making and infrastructure selection
Consulting service

Impact and Ambition

- ED-X empowers **43 pilot products and services** to be deployed over any Communications Service Provider (CSP) infrastructure or across CSPs.

- A potential pilot is the **DPP** across an industry value chain where data flows across the product lifecycle - from raw materials to recycling, with transparency and sustainability, while ensuring circular economy practices.

- It fosters collaboration among CSPs and accelerates Portugal's digital maturity, aiming to:
  - Boost innovation capacity
  - Build trust in data sharing
  - Support internationalization of Portuguese companies.

The Future Runs on Data!

- Test Bed ED-X is open to all. Join us in the creation of this community of collaboration, trust, and innovation.

- Together, we're building a digital ecosystem where data works for everyone.

ESPAÇOS DE DADOS
ED-X
TESTBED

Learn more at **ed-x.pt**

Data is the new language of progress - when spoken with wisdom, it transforms complexity into clarity and potential into purpose.

Isabel Borges
Isabel.borges@tice.pt

Alliance for the Energy Transition and Sovereign Data Exchange

Fábio André Coelho
<fabio.a.coelho@inesctec.pt>

Mail me with QR

Senior Researcher

PMP® Certified Project Manager

INESCTEC, PT

Ana Nunes Alonso
<ana.n.alonso@inesctec.pt>

Mail me with QR

Assistant Professor &
Senior Researcher

UMINHO & INESCTEC, PT

INESC TEC

4 DECADES LEADING
IN R&D ENGINEERING

HASLab
High Assurance Software Laboratory

High-Assurance Software Laboratory

DISTRIBUTED SYSTEMS

Large-Scale Database Systems

Storage Systems

Distributed Algorithms

Cloud and HPC

Systems Interoperability

SOFTWARE ENGINEERING

Logic and Formal Methods

Quantum Computing

Green Computing

User Interfaces and Usability

INFORMATION SECURITY

Applied Cryptography

Secure Outsourcing of Data and Computation

Computer Aided Cryptography

Post-Quantum Cryptography

Secure and Verifiable Computation

High-Assurance Cryptography Software

Consortium and Macro View

Alliance for the Energy Transition

45PPS	Up 80 products and services
274M€	4-year investment with 157M€ incentive
+550M€*	Expected Market Share by 2027
+420*	+ 700 qualified HR positions

* Expected impact

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INESC TEC

An innovative portfolio of new platforms and digital services

Verticals

AT 1 Smart Energy Grids	AT 2 Energy Communities and Micro Grids	AT 3 Sustainable Mobility	AT 4 Renewable Energy Production	AT 5 Transition to Educated and Eficient energy users	AT 6 Renewable Gases and Coupling
WP 1-2 Efacec	WP 3 Sonae MC	WP 4 Efacec	WP 5-7 Capwatt-Univ. Évora-Eternal	WP 8 SEL	WP 9-11 Tekever PRF Smartenergy

Cross-Cutting

AT 7 Digital Enabler Platform for the Energy Sector	Efacec WP 12
AT 8 Circularity in the Energy Sector	INEGI WP 13
AT 9 Energy Transition Laboratory	INESC ID WP 14

Transversal

AT 10 Centre for Advanced Trainning	INESC TEC WP 15
AT 11 Certification and business ramp-up	Efacec WP 16

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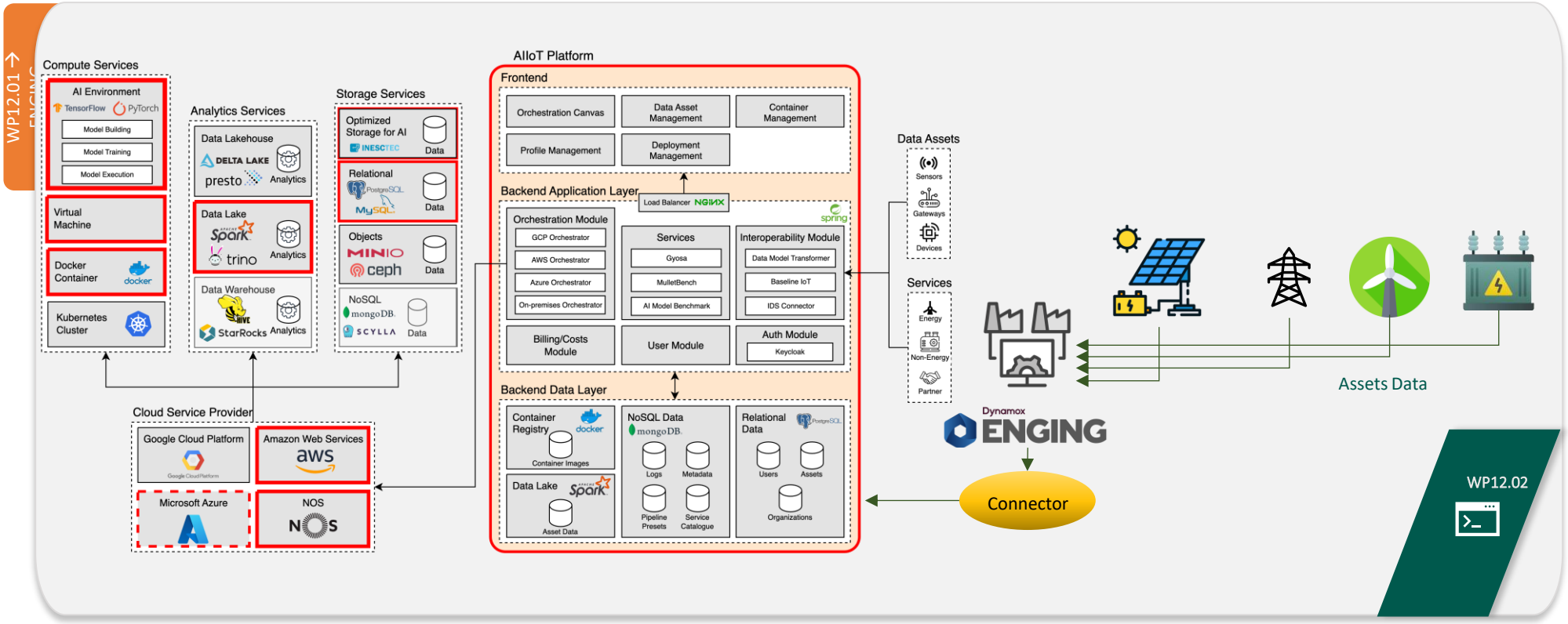
Use case



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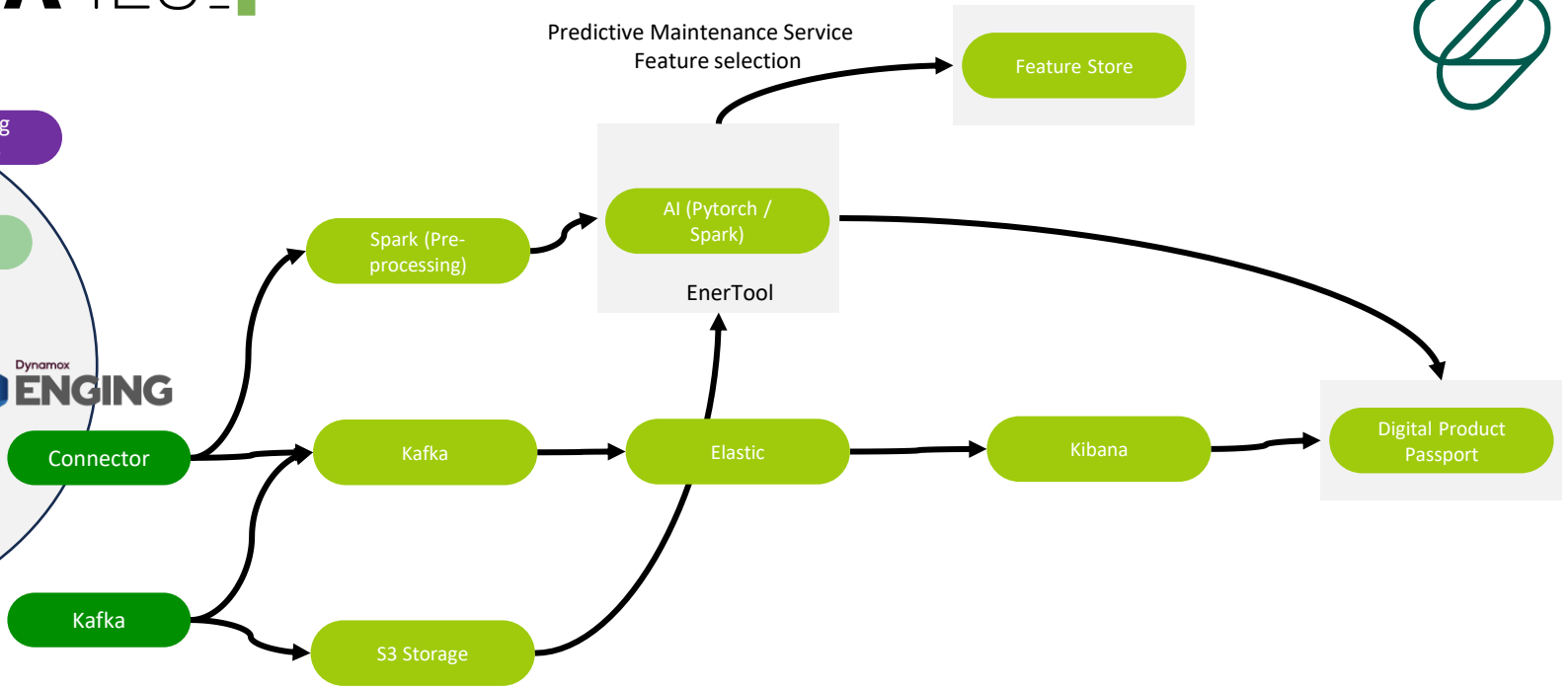
INESC TEC

CLOUDIA4EU

Objetives



Objetive 1 — **Simplify** cloud service usage, data management and interoperability for AI

Objetive 2 — **Simplify** the deployment process for ML pipelines using multi-source data from edge assets .

Objetive 3 — **Make interoperable data available** for services, linking with Data Spaces and relying on semanti interoperability.

Objetive 4 — **Simplify benchmarking of AI services** with standard and custom benchmark suites to improve sustainability

Objetive 5 — **Make way to include data sovereign** process for data centric services.

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Interoperability

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INESC TEC

Visit us today at Stand floor

gaia-x

Mail me with QR

Thank you!

Fábio André Coelho
Senior Researcher

INESC TEC

Business Information Systems interoperability on the Portuguese textile sector

Innovation Pact for the Digital Transition of the Textile and Clothing Sector

TEXP@CT

Pacto de Inovação para a Transição Digital do Setor Têxtil e Vestuário

César Toscano

RTD Project Leader

cesar.toscano@inesctec.pt

INESCTEC

#GaiaXSummit25

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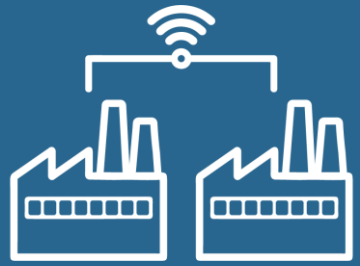
Motivation

- Communication remains largely manual, with minimal automation:
  - i.e., emails, texts, phone calls, in-person meetings, etc...
- Textile and clothing industry's supply chain is not connected digitally
- Very poor data-sharing

Objectives



- **Main Objective:**
  - Develop a comprehensive digital infrastructure for the textile and clothing industry that facilitates seamless data exchange among all supply chain stakeholders, while ensuring the integration of existing business processes and systems (ERPs, Integration portals,...).

- **How do we achieve this? 3 step system:**
  - Semantic Interoperability
  - Technical Interoperability
  - Strategic Alliance

With a strong consortium:

- Textile / Clothing companies
- ICT providers
- Research and Technology Development Organizations

Semantic Interoperability

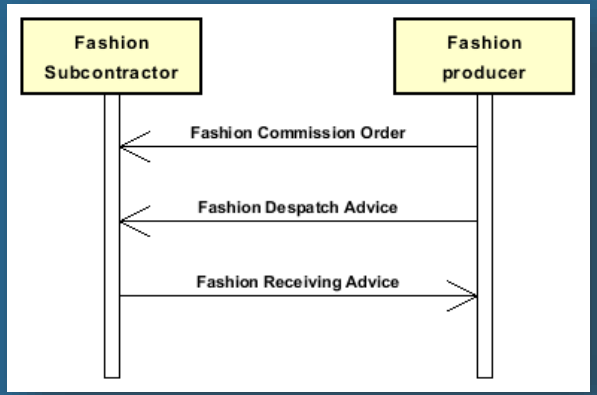
- Development of an Information Model for the Textile and Clothing Industry (focusing on the practices used in Portugal)
- Seven main collaboration processes:
  - Subcontracted Fashion Manufacturing
  - Yarn Supply
  - Subcontracted Fabric Manufacturing
  - Fabric Supply
  - Garment Accessory Supply
  - Subcontracted Knitwear Manufacturing
  - Subcontracted Yarn Manufacturing

Based on eBIZ 4.0:
https://www.ebiz.enea.it/ebiz

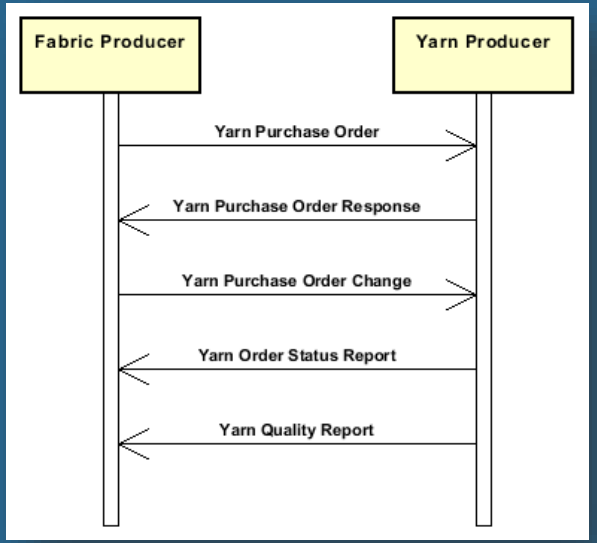
Semantic Interoperability

- Examples of Activities & Transactions:

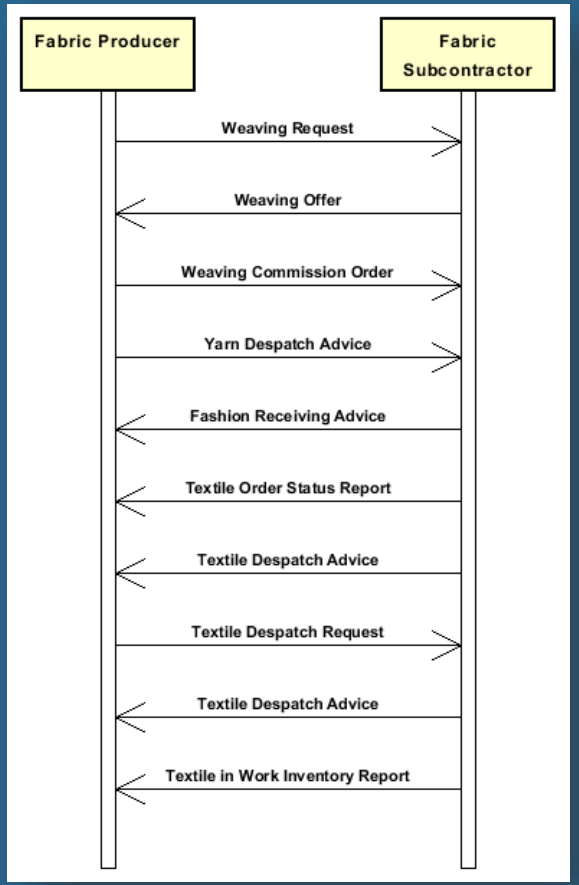
Subcontracted Fashion Manufacturing



Purchase of Yarns



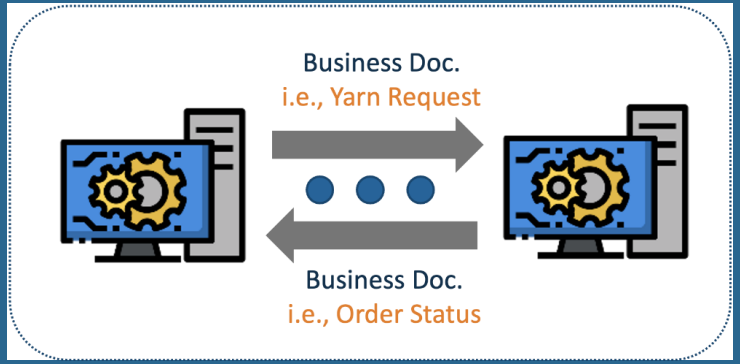
Subcontracted Weaving



Technical Interoperability - EDI scenario

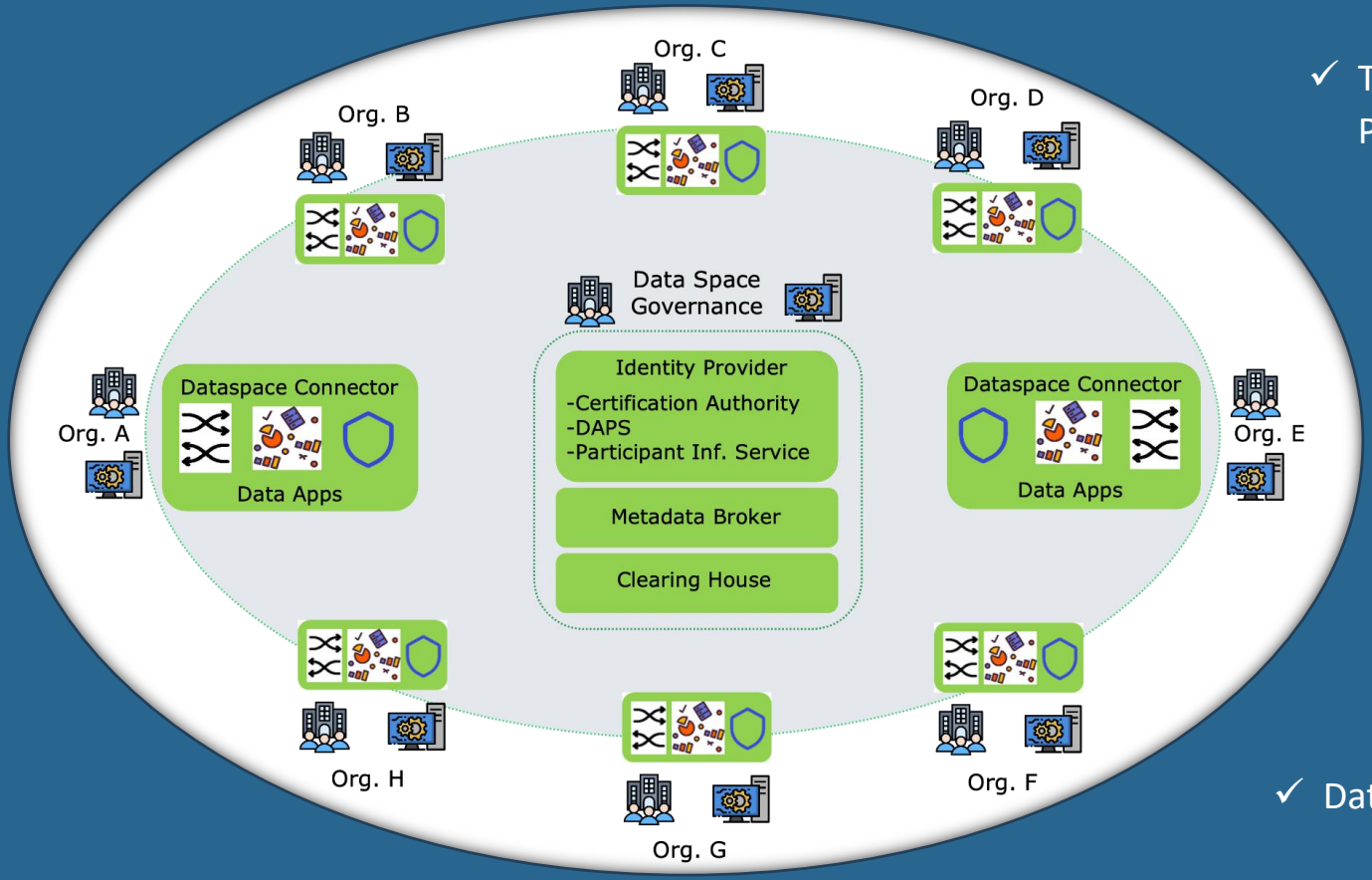
- Digitalization of business transactions in a supply chain

  (production plans, production orders, material flow, etc.)
- Business transactions encoded on digital documents, exchanged by the organizations' ERP systems



Technical Interoperability

TexPact Data Space



- ✓ Textile organizations and ICT Providers
  - ✓ Peer-to-Peer data sharing / exchange
    - ✓ Decentralized data storage
    - ✓ Trustworthy & Secure Communication
  - ✓ Data Sovereignty
  - ✓ Data Usage Policy & Contracts
- ✓ Dataspace Connector

Challenges and Final Remarks

- A true collaborative effort, involving a diversity of textile/clothing companies and the major software producers (ERP) in the Portuguese textile sector
- Development of an inclusive solution which will encompass everyone, from micro to large companies, with or without an ERP system, as well as future ERPs that may arise in the market
- Definition and establishment of a strategic alliance to secure the maintenance and further development of the ecosystem upon project completion

Thank you ...

César Toscano

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Gaia-X Hubs Focus

10:15 – 11:00

Moderator: Alberto Palomo, CSO, Gaia-X

Gaia-X Hub Portugal: António Salvado, TICE.PT, Gaia-X Hub Portugal, BoD Gaia-X

Gaia-X Hub Spain: Francisca Rubio, General Manager, Gaia-X Hub Spain

Gaia-X Hub Austria: Helmut Leopold, Head of Center for Digital Safety & Security, AIT Austrian Institute of Technology

9th Gaia-X Governmental Advisory Board (Paris, 14th Nov)

Time	Topic	Type
9:00 – 9:20	**0/ Introduction** a) Institutional welcome & introduction to the meeting b) Tour de table	I I
9:20 – 9:40	**1/ France's strategic priorities & actions in the digital sphere**	I
9:40 – 10:30	**2/ Update from Gaia-X AISBL** a) Advancements since last GovB meeting *[20min]* b) Methodologies for viable data spaces *[10min]* c) Questions & discussion *[20min]*	I I DU
10:30 – 11:45	**3/ Update from MS' data & cloud projects and calls** *[Each country rep takes 5min to update the board]*	I
11:45 – 12:30	**4/ The evolution of European data, infra & AI strategies** a) Status and info from the European Commission *[30min]* b) Views from Member States & discussion *[15min]*	I DU
12:30 – 14:00	*Lunch*	
14:00 – 14:30	**5/ Governmental approaches to Data Spaces Season 2** a) MS' strategies for Season 2, and relation with AI	DU
14:30 – 15:00	**6/ Gaia-X for European compliance** a) The *Gaia-X Compliance Extension* Framework *[10min]* b) A cartography of regulations that industries ought to comply with, illustrated with French Finance sector *[10min]* c) Sovereignty & timelines *[10min]*	I I DU
15:00 – 15:20	**7/ Executive Session** a) Internal deliberation for recommendations	DU
15:20 – 15:40	**8/ Wrap up & Next steps** a) Feedback to AISBL b) Election of GovB chair 2025-2026 c) Next GovB meeting	I V DU

Denmark – Danish Agency for Digital Government
European Commission – DG CNECT
France – Ministry of Economics and Finance
Germany – Federal Ministry for Digital Transformation and Government Modernisation
Luxembourg – Ministry of the Economy
Netherlands – Ministry of Economic Affairs and Climate Polic
Poland – Ministry of Digital Affairs
Slovenia – Ministry of the Economy, Tourism and Sport
Spain – Ministry for the Digital Transformation and of the Civil Service

GovB Recommendations

Representatives from EU Member States and the European Commission provided guidance on shaping sovereign and sustainable digital ecosystems rooted in European values:

- Contribute to the EC-led mission on defining and advancing **digital sovereignty**
- Introduce **'Season Two' of data spaces**
- Foster the development of a detailed and transparent **methodology for the economic maturity assessment** of data spaces
- Enable data spaces' **economic viability** with criteria commonly shared by the community
- Maximise **adoption and impact** of Gaia-X deliverables in the market

Gaia-X Hubs Focus

10:15 – 11:00

Moderator: Alberto Palomo, CSO, Gaia-X

Gaia-X Hub Portugal: António Salvado, TICE.PT, Gaia-X Hub Portugal, BoD Gaia-X

Gaia-X Hub Spain: Francisca Rubio, General Manager, Gaia-X Hub Spain

Gaia-X Hub Austria: Helmut Leopold, Head of Center for Digital Safety & Security, AIT Austrian Institute of Technology

Gaia-X Hubs Focus

Topics addressed:

- Situation on each Hub
- Tips for ecosystem building around the Gaia-X Trust Framework
  - Raising awareness and engagement
- Collaboration with key European projects
- Interaction with SMEs
- Insights about Gaia-X-based business models

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SUMMIT 2025
AGENDA - BREAK

DIGITAL ECOSYSTEMS IN ACTION

Day 2 - 21 November

gaia-x

11:00 – 11:45 Networking Coffee & Expo

EXPO AREA	Gaia-X HUBS BOOTH
11:00 – 11:30	Spain

EXPO AREA	Gaia-X LIGHTHOUSE PROJECTS BOOTH
11:05 – 11:13	RegenAg-X
11:13 – 11:21	Empower-X
11:21 – 11:29	Flex4Res
11:29 – 11:37	ACCURATE
11:37 – 11:45	COOPERANTS

EXPO AREA	Gaia-X DIGITAL CLEARING HOUSES BOOTH
11:00 – 11:20	Neusta Aerospace
11:20 – 11:40	Airenetworks

TECH THEATRE	RIBEIRA 2 ROOM
11:30 – 11:45	EDC with Gaia-X Trust Framework
11:45 – 12:00	OSAwards (“Open Source Awards”)
12:00 – 12:30	OSS Community
12:30 – 12:45	Gaia-X Version X
12:45 – 13:10	CTO Team Q&A

EXPO AREA	Gaia-X BOOTH
11:00 – 11:15	Academy
11:15 – 11:30	Domain & Geographical Extensions
11:30 – 11:45	Membership

PARTNERS THEATRE	BIBLIOTECA
11:45 – 12:15	Traffic Flow Data Space – Revolutionising Mobility Through Collaboration
12:15 – 12:45	From Gaia-X blueprint to Europe’s digital backbone: building real-world digital continuity
12:45 – 13:15	Institut de Recherche Technologique SystemX

Internationalisation by identifying region-specific regulatory challenges, opportunities, and best practices

11:45 – 12:15

Hiroshi Mano, Secretary General, Data Society Alliance

Michelle Robitaille, CEO, Digital Trust Canada (DTC)

Data Spaces in Japan

Hiroshi Mano
Data Society Alliance
IEEE SASB, IEEE DTSWG chair

Hiroshi Mano Phd
EverySense,Inc./EverySense Japan K.K. ,
Data Society Alliance, Secretary General

- Established Root Inc. in 1993.
- Developed digital wireless communication devices and proposed a total network solution for converging analog and digital technologies. In addition, he has been participating in numerous public and private councils and R&D initiatives for WLAN-based high-speed mobile communications system development, technology enabling and commercialization, wireless adaptation and local information networking.
- A chair for IEEE 802.11 TGai WG for international standardization since 2010. And awarded Japan Communication Minister's Award 2017 for Information and Communication Technology Prize for the standardization efforts.
- In 2014, established EverySense, Inc. In U.S. Silicon Valley. EverySense developed an IoT Data trading platform.
- Founder and Secretary General of Data Society Alliance (DSA) is an industry-academic-government alliance with the cooperation of Japan Cabinet Office, Japan Ministry of Internal Affairs and Communications, Japan Ministry of Economy.
- Has been deeply involved in Japan and overseas in standardization and rule proposals in wireless communications, Internet, data trading, etc. in Japan and overseas, and contributed to the Big Data strategy proposal in the G7 ICT Ministerial Meeting in Turin in 2017.
- Additionally, he serves as the chair of the IEEE DTS (Data Trading System) Working Group and is a member of the IEEE SASB (Standards Association Standards Board).
- In 2023, he is the chair of the data relations WG of SIP3 of CSTI.
- In 2024,2025, he is the chair of IOFDS (International Open Forum on Data Society)

Policy Proposal for Promoting the Data Governance Strategy

- Announced the proposal 2024 October to Public
- Joint with
  - Digital Society Alliance(DSA)
  - Digital Policy Forum（DPFJ)
  - Digital Trust Forum(JDTF)
- Abstract
  - https://data-society-alliance.org/wp-content/uploads/2024/10/241011Sumary.pdf
- Statement
  - https://data-society-alliance.org/wp-content/uploads/2024/10/241011Policy-Proposal-for-Data-Governan-ce.pdf

Collaboration for Improving Data Circulation

Digital Policy Forum Japan

DATA-EX Data Society Alliance

Data Circulation Promotion Law
Eliminating roadblocks against data flow

Data Collaboration Platforms

Public support for projects in the private sector (e.g. DATA-EX)

Collaboration of Data Collaboration Platforms and Trust Services
DSA & JDTF

New Public-Private Council
Functioning as a main entity to promote the strategy

Trust Services

electric signature

The competent minister accredits certification services that meet certain standards
Certified by the competent minister
(Electronic Signature Law)

e seals

Technical and operational standards
(guidelines by the government)

Collaboration between Eu and Japan
Enhancement of collaboration in ASEAN &APEC

timestamps

Time Certification Services that Meet Certain Standards authorized by the Minister of Internal Affairs and Communications
(Notification by the Ministry of Internal Affairs and Communications)

e -delivery

Proof of transmission and reception of electronic data and
ensuring authenticity of data
(no existing system)

JDTF JAPAN DIGITAL TRUST FORUM

Trust Services Law
Establishment of legal foundation for trust services

3

The need for international standardization on data spaces

- Announced the proposal 202 Mar 6 to Public
- Joint with
  - Digital Society Alliance(DSA)
  - Digital Policy Forum（DPFJ)
  - Digital Trust Forum(JDTF)
- Statement
  - https://en.data-society-alliance.org/press-release/12452/

DATA-EX & Data Spaces / Promotion Vide

We plan to create similar videos on trust mechanisms, data trading systems, connector technology etc,.

Background IOFDS.ORG

- Feb 2023 / Brussels
  - We agreed to continue this meeting at the February 1st Roundtable.
- Apr 2023 / Taksaski Gunma Japan
  - We recommended establishing a discussion body at the April G7 Digital Technology Ministerial Meeting.
- July 2023 / Berlin
  - We agreed to change the name of the meeting to “International Open Forum on Data Society.”
- Feb 2024 / Paris
  - We agreed to create an IOFDS website and logo.
- Oct 2024 /Tokyo on 1st Data Spaces Week
  - Approved
    - Fundamentals of membership.
    - IOFDS logo trademark handling policy
    - Operation of IOFDS website
    - Creating a report of activity
    - Next Data Space Week schedule
- Apr 2025 / Chennai, India 2nd Data Spaces Week
  - Approved
    - IOFDS_P_P_20250407.docx
    - Future meeting in Tokyo as Data Spaces Week
    - Elect Chair Hiroshi Mano
    - Elect Secretary Isamu Yamada
- Oct 2025 / Tokyo on 3rd Data Speces Week
  - Approved
    - Future meeting in Luxembourg as Data Spaces Week in March 2026
    - To create Standard for the Data Space Discovery Protocol between the DTS (Data Trading System) operator and the Data Space Authority
    - Elect Chair Hiroshi Mano
    - Elect Secretary Isamu Yamada

Data Spaces

- The IOFDS recommends the following definition of “Data Spaces” to its members.
  - A Data Space is a decentralized ecosystem with common policies and rules defined by a governance framework that enables secure and trustworthy data sharing among participants while supporting trust and data sovereignty.

Data Trading with Usage rights

Data trading market

DATA-EX

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i. The data trading market operators = A third-party intermediary

→Validity by third parties for trading data with benefit

ii. Data transaction through the data trading market to be with the data trading market operator

→ Transparency and common value evaluation standard

iii. The data trading market to be with a function to exchange data with benefits directly

→ Opportunity to monetize data

iv. Many data providers and data users with data catalog

→Effectively discover the appropriate participation entities with the data they want

Data usage rights

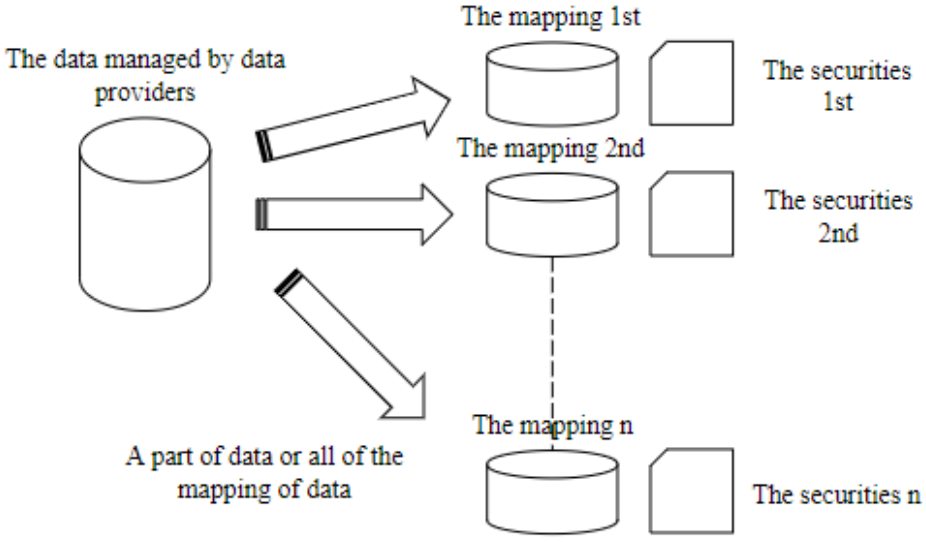
Divisible rights	Details
Right to read	The right for people to read data
Right to store	The right for people to store and manage data in the storage managed by themselves
Right to sell, publish, and transfer	The right for people to sell, publish, and transfer data to third parties
Right to process	The right for people to process data including deletion
Right to use secondary data	The rights above applied to the processed data

The divisible rights relevant to data usage

- **Our idea** = a concept of rights applicable to any data relevant to data usage

- **Definition** = "rights to user-interpretable and machine-readable representation of information generated or collected through the measurement or observation of the conditions or activities of nature, human beings, and organizations in a formalized manner suitable for communication, interpretation, or processing" (adopting ISO/IEC 2382-1:1993)

Data usage rights securities



Data trading with the data usage rights securities

- **Our idea** = tangible assets to prove our data usage rights
- **Definition**=“securities specifying standardized rights and obligations of data providers and users to the data traded in the data trading market, which is electronic and machine-readable”
- **Point**
  - ✓ Data usage rights securities must be bounded with any data one-to-one
  - ✓ it is a part of data or all of the mapping of data managed by data providers that are bounded with data usage rights securities

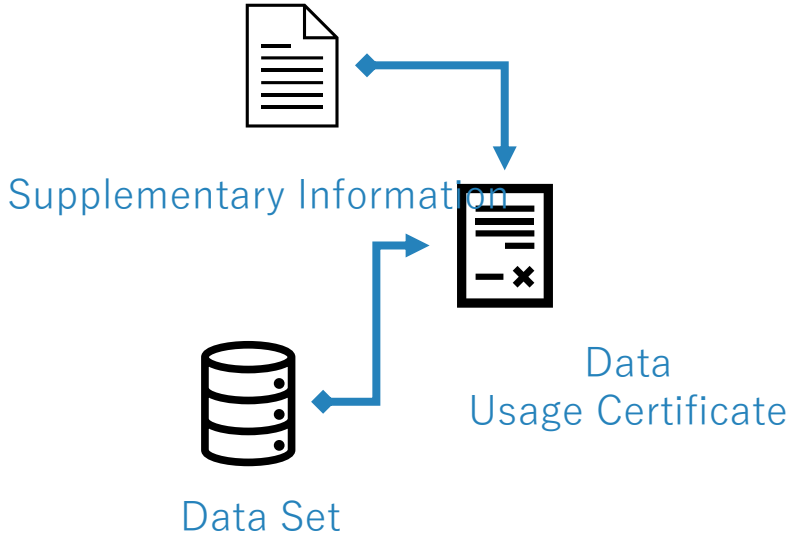
Structure of Data Distribution Packages binding to Data Usage Certivicate

A Data Usage Certificate is a document that defines rights related to data usage.

Ownership of a Data Usage Certificate enables the holder to trade it (as an asset) or utilize the data associated with the certificate.

A Data Usage Certificate uniquely links to the specific data (dataset) and associated information subject to the exercise of the corresponding data usage rights.

Data Usage Certificate	A certificate defining rights concerning the use of a dataset. It contains an identifier that uniquely points to the dataset subject to the exercise of the usage rights and the important explanatory document
Data Set	A collection of data in a form that can be handled by a computer. It may also contain metadata that defines and describes the data within the dataset.
Supplementary Information	Information regarding the acquisition or generation background, processing, editing methods, structure, etc., of the dataset in question.



Data usage rights securities

DATA-EX

IOFDS

ⅰ. Exclusivity

→To manage the number of issued to guarantee more exclusivity and scarcity

ⅱ. Tangibilization

→To treat data usage rights securities with the sign of data providers and data users attached

ⅲ. Traceability

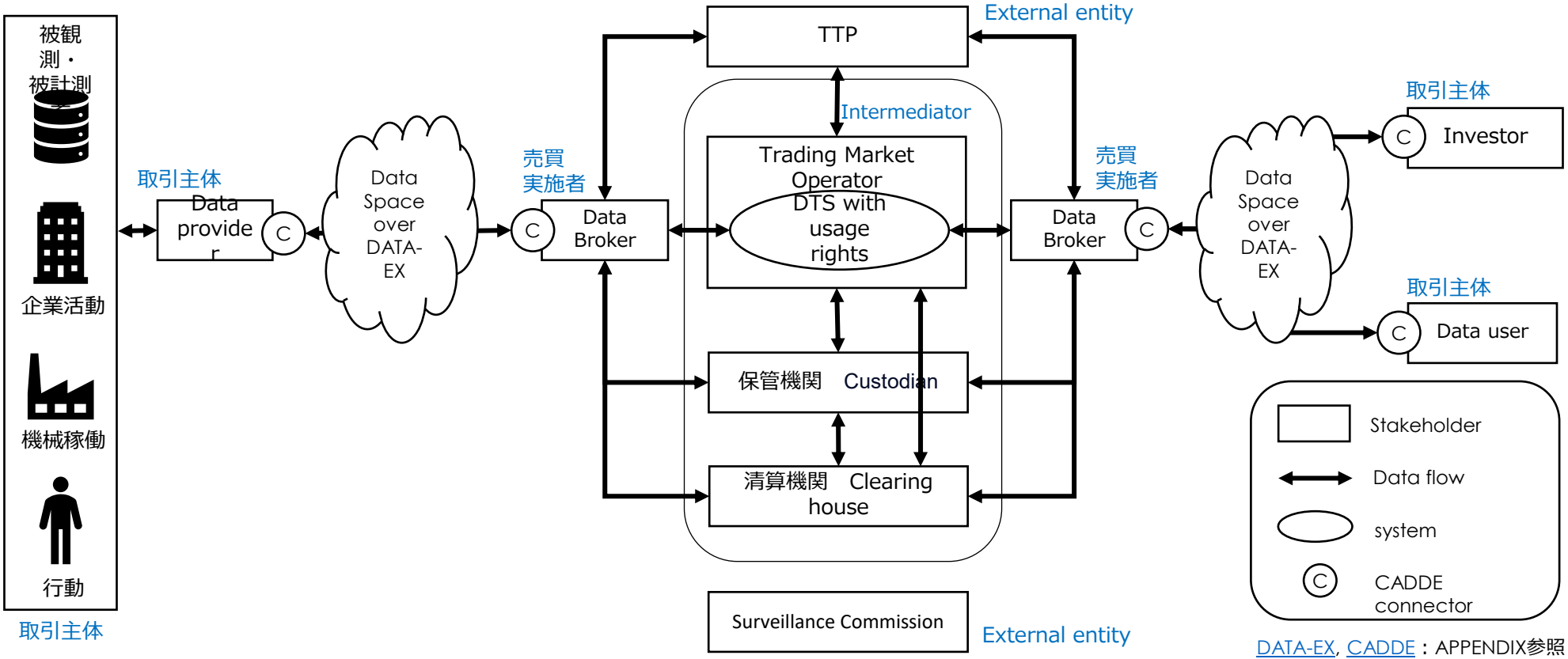
→To engage in data trading with one another in a safe manner

ⅳ. Identification

→To keeps identity of data providers even after the completion of data trading and its data evaluation in-between

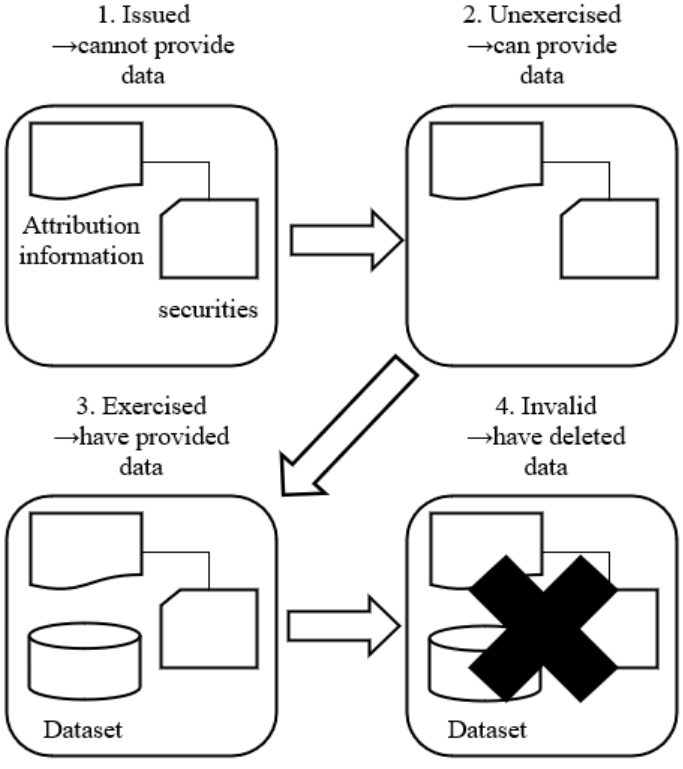
DATA-EX and Data Trading Market with usage rights

The data trading market with usage rights is a social system with multiple elements.



DATA-EX, CADDE：APPENDIX参照

Objects



Transformation of the state of dataset and data usage rights securities

i. **Dataset**

ii. **Data usage rights securities**

a. Issued: The state of the dataset cannot be provided with issued data usage rights securities or the state of being still before the deadline to exercise the rights specified in the data usage rights securities.

b. Unexercised: The state of the dataset can be provided, and data users not having the dataset while having exercised data usage rights.

c. Exercised: The state of dataset being able to be provided, and data users having the dataset after having exercised data usage rights.

d. Invalid: The state of data usage rights securities having expired and of the dataset being deleted electronically in a way data usage rights securities specified.

iii. **Attribution information**

Book building POC

Book building POC Results

As a result of the demonstration, the data listed by Company D (2023 wealth statistics data and 2023 Banking Service A transaction data) received the highest price.

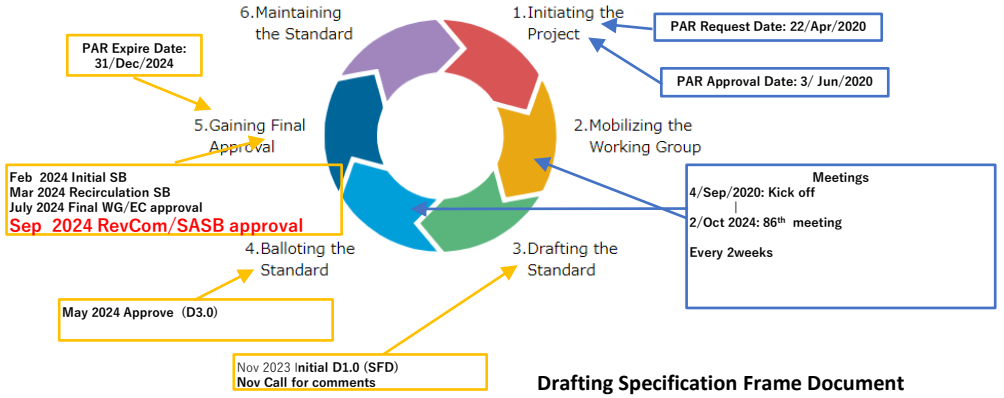
上場組織	銘柄名	発行口数	申請ユーザ組織名	取引主体ID	購入希望価格	購入希望口数
A社	A医療法人に属する医療機関での健診結果	50	1社入札	データブローカー自身	800	1
B社	天候データと移動人口データの関連データ（東京都v1）	10	1社入札	データブローカー自身	1	1
	天候データと移動人口データの関連データ（東京都v2）	3	1社入札	データブローカー自身	1	3
C社	中小企業ESGデータ2023	50	5社入札	データブローカー自身	100,000	1
				データブローカー自身	10,000	1
				仲介	60,000	20
				仲介	50,000	10
				データブローカー自身	20,000	1
D社	2023年富裕層統計データ	50	4社入札	データブローカー自身	1,000,000	5
				データブローカー自身	520,000	1
				仲介	500,000	1
				仲介	800,000	10
	2023年銀行サービスAの取引データ	50	4社入札	仲介	1,000,000	30
				データブローカー自身	600,000	50
				データブローカー自	500,000	10

International Standard Activities

IEEE SA DTS WG

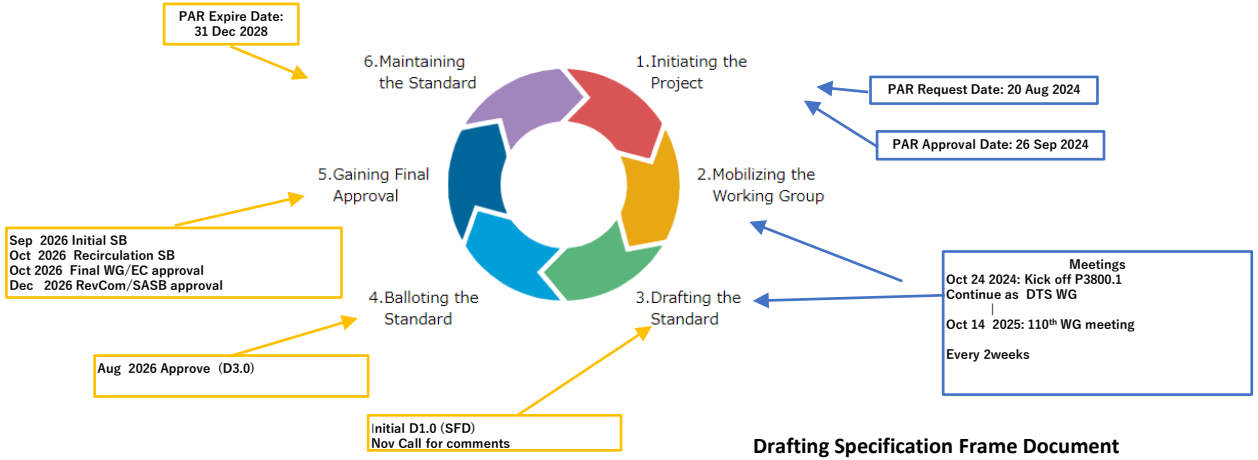
IEEE DTS WG status P3800

- IEEE 3800-2024 DTS has been approved on Sep SASB and published.
- IEEE 3800.1 PAR has been approved in Sep 2024 SASB



IEEE DTS WG status P3800.1

- IEEE 3800.1 PAR has been approved in Sep 2024 SASB



What is IEEE 3800-2024

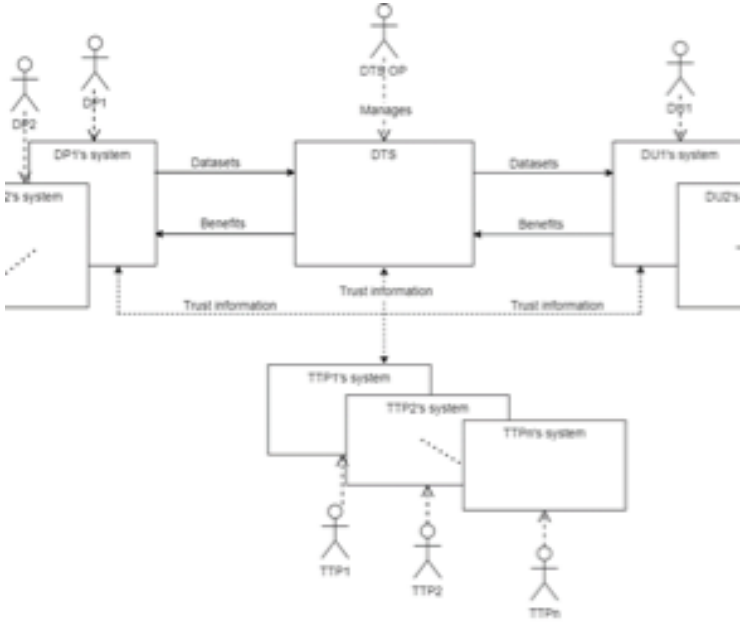
- Abstract:
  - In this document, a standard is defined for setting up and operationalizing a data trading system (DTS) to trade data through a domain-independent and principled marketplace under a unified architecture. The document contains: definitions and specifications for stakeholders, relevant external entities, and objects; definitions of the reference model, trading terms, functional and non-functional requirements to operate a DTS; overview of the data trading via the DTS. These provides the foundation for operationalizing a data trading system that allows data trading among multi-stakeholders.

Scope & Purpose

- 1.1 Scope
  - This standard establishes a system designed to trade data through domain-independent and principled marketplaces operating under a unified architecture. It defines terminology, a reference model, and the roles and functions of data providers, data users, and data marketplaces. The standard provides an overview of the data trading system using its reference model.
- 1.2 Purpose
  - This standard provides the foundation for a data-trading system that allows multilateral exchanges of data.

System Structure

- 5.1 System structure
- The DTS reference model is an abstract framework consisting of a system, designed to exchange data through a domain-independent and principled marketplaces operating under a unified architecture, and participating stakeholders; the system, DTS, is built and operated by the DTS OP. This system mediates between DPs and DUs and realizes the exchange of data and benefits in a secure, safe, and trusted manner. A stakeholder is an entity directly connected to the DTS and handles objects between different DTSs.
- This clause presents the reference architecture of the DTS and each stakeholder and the objects handled by each stakeholder. Figure 1 shows the highest level of system structure of DTS.



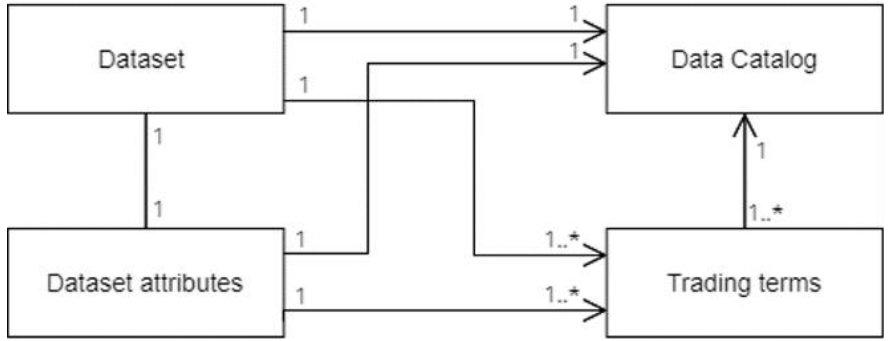
Stake holders

- Data provider (DP)
- Data user (DU)
- DTS operator (DTS OP)
- Trusted third party (TTP)

Objects

The object is an item handled among the stakeholders through the DTS. The objects include:

- Dataset
- Trading terms
- Dataset attributes
- Data catalog
- Benefit
- Trust information



P3800.1 overview Standard for a Data Trading System: Protocol and Object Framework

PAR(Project Authorization Request) has been approved on Sep SASB

5.2 Scope of proposed standard:

- This standard specifies a protocol and object framework for a data trading system based on an architecture provided in IEEE 3800 standard.

5.4 Purpose:

- This standard provides the foundation for a data-trading system that allows multilateral exchanges of data.

5.5 Need for the Project:

- To facilitate the adoption of IEEE 3800 standard, the specification of protocol and object framework for Data Trading System (DTS) is essential. This will facilitate consistent and efficient implementation of the specifications developed based on 3800 reference architecture, ensuring that DTSs are interoperable and meet regulatory requirements.

5.6 Stakeholders for the Standard:

- DTS designers, developers and operators, data cooperation standard developers, data space participants, users of third-party data sources, data producers and sellers, IoT device manufacturers, mobile app developers, consumer data privacy advocates, and government agencies.

IEEE 3800.1 Protocol and Object Framework

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This standard aims to advance the social implementation of the IEEE P3800 standard.

5.2 Scope of proposed standard: This standard specifies a protocol and object framework for a data trading

system based on an architecture provided in IEEE P3800 standard.

5.3 Is the completion of this standard contingent upon the completion of another standard? Yes

Explanation: This standard aims to advance the social implementation of the IEEE P3800 standard. Then this standard depends on P3800.

5.4 Purpose: This standard aims to advance the social implementation of the IEEE P3800 standard.

5.5 Need for the Project: To facilitate the adoption of IEEE P3800 standard, the specification of protocol and object framework for Data Trading System (DTS) is essential. This will facilitate consistent and efficient implementation of the specifications developed based on P3800 reference architecture, ensuring that DTSs are interoperable and meet regulatory requirements.

5.6 Stakeholders for the Standard: DTS designers, developers and operators, data cooperation standard developers, data space participants, users of third-party data sources, data producers and sellers, IoT device manufacturers, mobile app developers, consumer data privacy advocates, and government agencies.

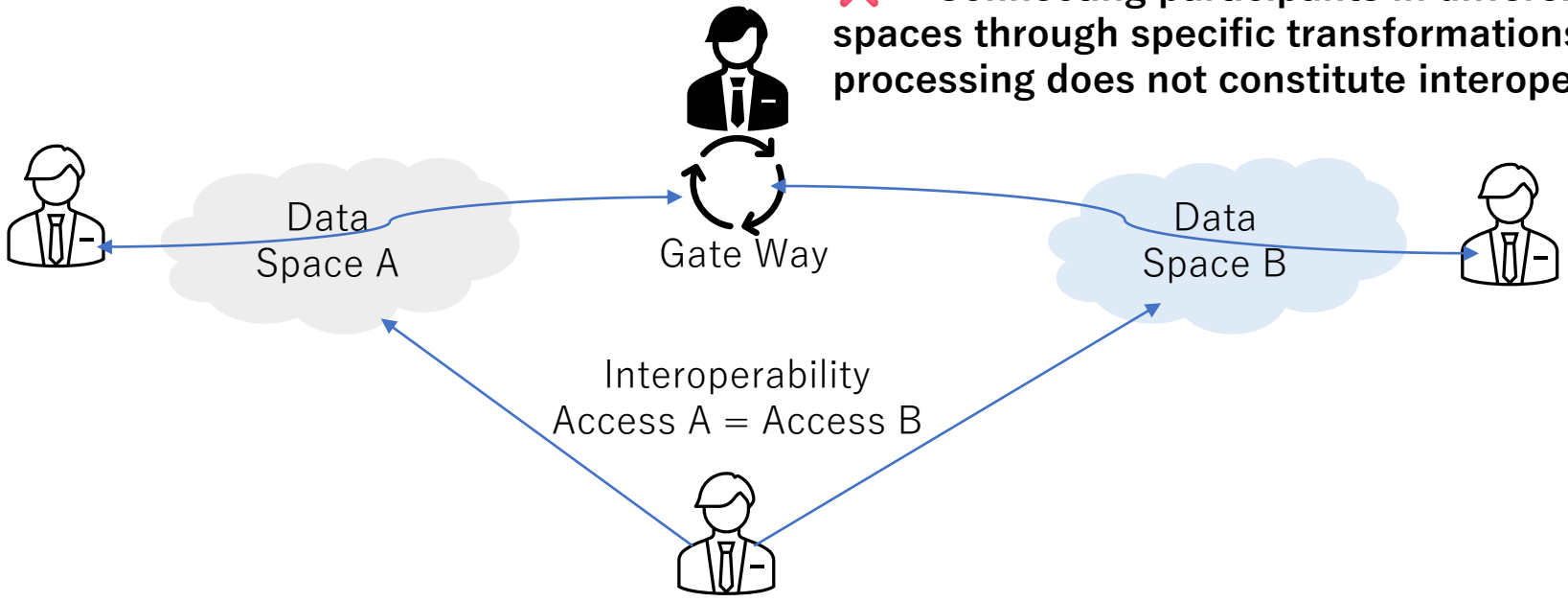
Next Step to IEEE 3800.2

What is the DTS

- DTS (Data Trading System) is a system for exchanging data and other assets among different participants.
- DTS is built and operated by DTS operators.
- The DTS Operator is a neutral and impartial intermediary independent of participants in the data space and never processes or holds the data it mediates.

What is the Interoperability in case of the autonomous deployment system

❌ **Connecting participants in different data spaces through specific transformations or processing does not constitute interoperability.**

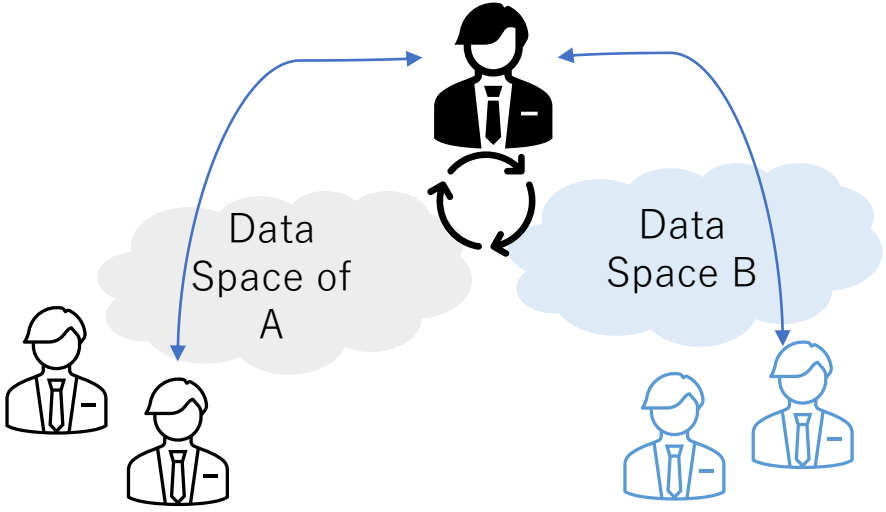


Participants can access A and B with a unified method and technologies

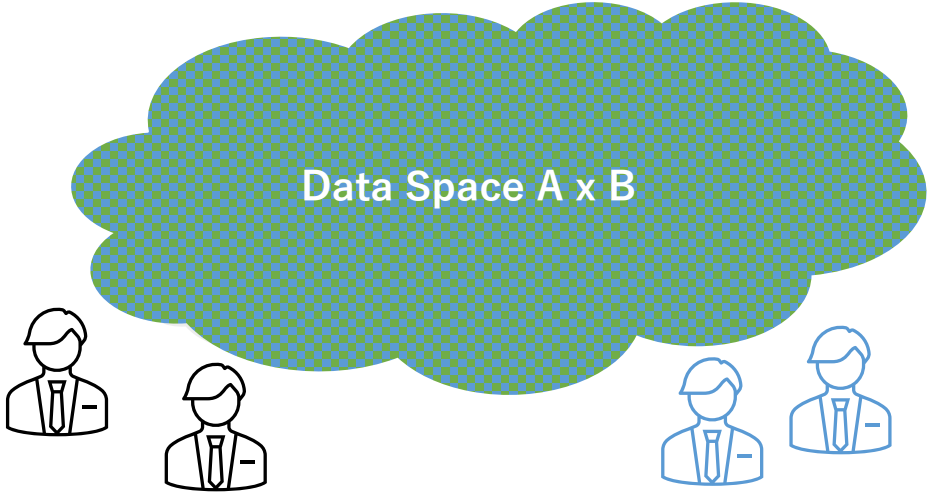
⭕ **Interoperability is precisely the provision of a unified access method to different data spaces.**

Multimodal data space

Participants of data spaces A and B are interested in common topics.
A combination of data from spaces A and B makes a new benefit.
How can we create the appropriate data space?



❌ Collaborated under control by an intermediary who may take over participants' sovereignty.



⭕ Create a new Data Space A x B, maintain participants' sovereignty.

Does DTS provide interoperability?

- The data trading market does not retain or process data from other participants to ensure neutrality and fairness.
- In other words, the data trading market is a participant that uses an interoperable unified access method rather than performing data conversion for interconnection.

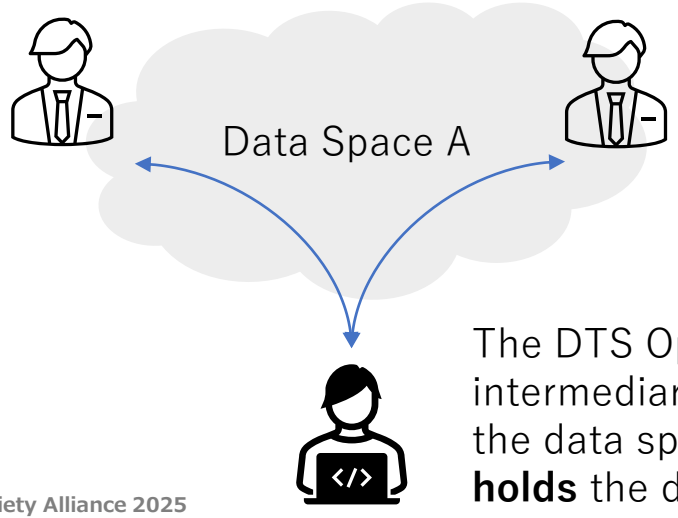
Functions provided by DTS/DTS Operator

- Advertisement
  - Function to notify other participants of the existence of data under its own sovereignty
- Discovery
  - Function to discover appropriate data under the sovereignty of other participants
- Authentication Function
  - Function to guarantee the authenticity of the other participants
  - Function to guarantee the authenticity of data
  - Function to guarantee the integrity of data
  - Function to guarantee the integrity of data and transaction conditions

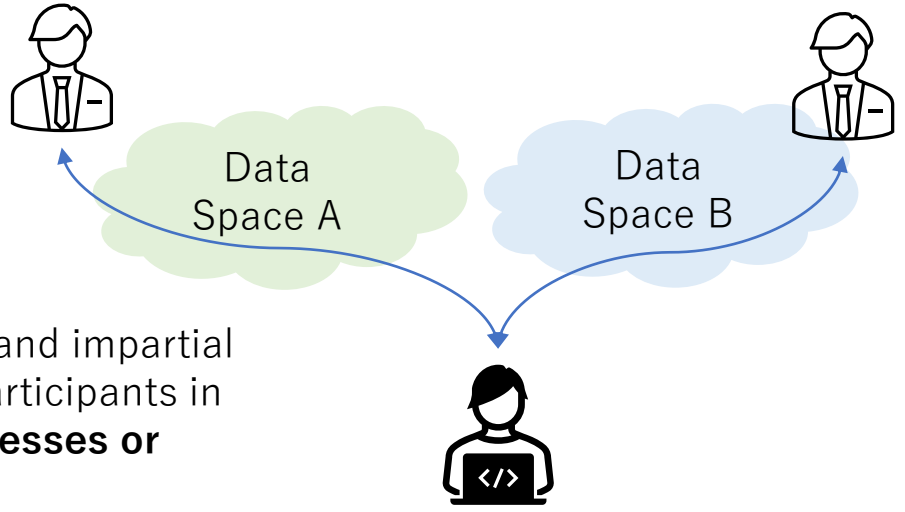
DTS/DTS Operator on Data Spaces

- Internal Data Space Operations

- Mediation of data trading between participants within a specific data space.



- Multi-Data Space Operations
- Mediation of data trading between participants across different data spaces



The DTS Operator is a neutral and impartial intermediary independent of participants in the data space and **never processes or holds** the data it mediates.

Assumption

- Every data space has its own operational environment and policies.
- For examples
  - Legal area
  - Regulation
  - Target domain
  - Language
  - Vocabulary
  - Semantics
  - Implementation technology: such as Connectors, APIs, etc.
  - Credential used
  - Trust mechanism
  - .....

Problem statements

- DTS operators must recognize the necessary conditions for participation before joining an appropriate data space.
- The information required for this recognition should ideally be advertised and discoverable through a standardized method.
- Currently, no such standard exists.

Liaison and partnership

- Adopt the existing standard as a Normative Reference.
  - Gaia-X Digital Clearing House (GXDCH)
  - IDSA Protocol
  - CEN/CENELEC
  - IISO/IEC DIS 20151
  - ..

  - Etc,.

DTS provides a notary service as a trust anchor in the data space.

The following functions provided by DTS are precisely notarization functions.

- Authentication function
  - Function to guarantee the authenticity of other participants
  - Function to guarantee the authenticity of data
  - Function to guarantee the integrity of data
  - Function to guarantee the integrity of data and transaction conditions

These are the primary functions of trust.
Therefore, DTS functions as the bearer of trust for participants in the data space.

Data tampering and arbitrary bias are the root causes of fake news and AI hallucinations, posing significant threats to national security.

Therefore, we request that the regulator establish a public assurance mechanism. This mechanism would require intermediaries to meet specific criteria to ensure the authenticity, integrity, and consistency of data and its terms of use, particularly for data that is widely reused and circulated, including open data and public data.

2.1 Project Title:

- Standard for Data Space Discovery Protocol between the DTS (Data Trading System) operator and the Data Space Authority.

5.2 Scope of proposed standard:

- This standard establishes the Data Space Discovery Protocol between the DTS (Data Trading System) operator and the Data Space Authority, enabling the DTS operator to discover the appropriate Data Space and be aware of the requirements and methods for participating in the target Data Space.
- It defines the protocols and object framework for the advertisement and discovery processes of data spaces.

5.4 Purpose:

- This standard provides the foundation for a data-trading system that enables multilateral data trading across heterogeneous data spaces.

5.3 Is the completion of this standard contingent upon the completion of another standard? Yes

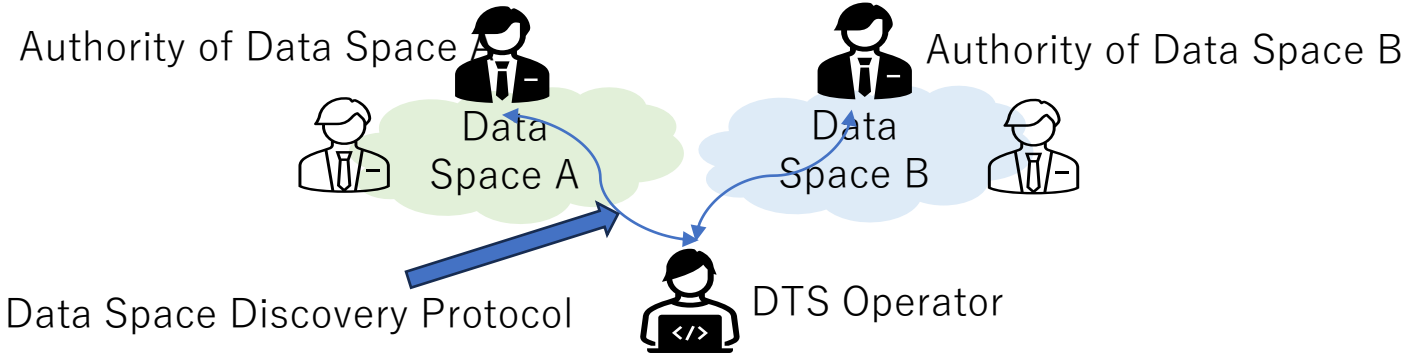
- Explanation: This standard aims to advance the social implementation of the IEEE 3800-2024 standard and P3800.1.
- Then this standard depends on IEEE 3800-2024 and P3800.1 .

5.4 Purpose:

- This standard aims to advance the social implementation of the IEEE 3800-2024 and IEEE P3800.1 standard.

5.5 Need for the Project:

- To facilitate the adoption of IEEE 3800-2024 and P3800.1 standard, the specification of Data Space Discovery Protocol between the DTS (Data Trading System) operator and the Data Space Authority is essential.
- This will facilitate the consistent and efficient implementation of specifications developed based on the IEEE 3800-2024 reference architecture and P3800.1, ensuring that DTSs are interoperable and meet regulatory requirements across multiple data spaces.

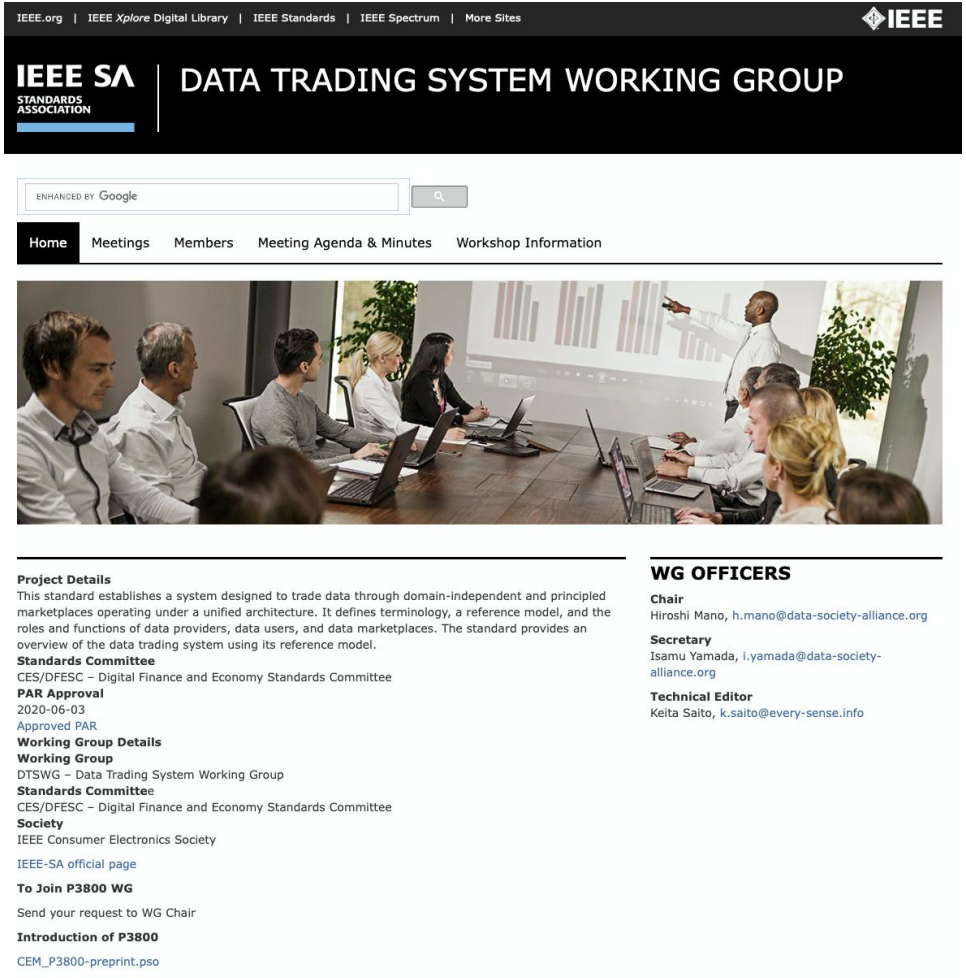


5.6 Stakeholders for the Standard:

- Data Space Authority, Data Space participants, DTS designers, developers, and operators, data cooperation standard developers, data space participants, users of third-party data sources, data producers and sellers, IoT devices manufacturers, mobile app developers, consumer data privacy advocates, and government agencies.

For more information

- P3800 official HP
  - https://sagroups.ieee.org/3800/
- **Introduction of P3800**
  - CEM_P3800-preprint.pso



Internationalisation by identifying region-specific regulatory challenges, opportunities, and best practices

11:45 – 12:15

Michelle Robitaille

CEO, Digital Trust Canada (DTC)

Data Sharing and Industrial Transformation

12:15 – 12:45

Moderator: Hubert Tardieu, Independent Board Member, Gaia-X

Catherine Jestin, BoD Chairwoman, Gaia-X; Executive Vice President Digital, Airbus

Susanne Dehmel, Managing Director Law and Security and AI, Bitkom

Thomas Hahn, Chief Expert Software, Siemens AG (online participation)

Boris Otto, Professor for Industrial Information Management, TU Dortmund University: Director, Fraunhofer ISST

Eyes on Tomorrow: A Visionary Closing Address

12:45 – 13:15

Catherine Jestin, BoD Chairwoman, Gaia-X;
Executive Vice President Digital, Airbus

Mario Campolargo, Independent Board Member, Gaia-X

Eyes on Tomorrow: A Visionary Closing Address

12:45 – 13:15

gaia-x

Catherine Jestin

BoD Chairwoman, Gaia-X; Executive Vice President Digital, Airbus

Eyes on Tomorrow: A Visionary Closing Address

12:45 – 13:15

gaia-x

Mario Campolargo

Independent Board Member, Gaia-X

Closing Remarks

13:15 – 13:30

Ulrich Ahle, CEO, Gaia-X