DATAWEEK

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# Digital technologies and processes for sustainable and secure data management, use and re-use of data

EUHUBS4DATA

BDV BIG DATA VALUE ASSOCIATION

MobiSpaces
new data spaces for green mobility

# Hello! My name is Matteo Falsetta, and I will moderate the session

I am MobiSpaces Project Manager from GFT Technologies

# Agenda

| Time | Description | Speakers |
|---|---|---|
| 15:30 - 15:35 | Welcome & Introduction | Matteo Falsetta (GFT) |
| 15:35 - 15:45 | Setting Up the Scene – Value from collaborating with the Data Spaces | Edward Curry (GU), BDVA/DSSC |
| 15:45 - 16:45 | Panel Session | • Aidan O' Mahoney (DELL), GLACIATION<br>• Konstantina Bereta (MT), MOBISPACES<br>• Alessandro Paciaroni (LC), TANGO<br>• Sebastian Werner (TB), TEADAL<br>• Evangelos Markakis (HMU), TRUSTEE |
| 16:45 - 16:55 | Q&A | Roundtable |
| 16:55 - 17:00 | Wrap up & next steps | Matteo Falsetta (GFT) |

# Background

This session brings together **5 Horizon Europe projects** (Glaciation, MobiSpaces, Tango, Teadal and Trustee) working on "*Technologies and solutions for compliance, privacy preservation, green and responsible data operations*".

The projects are **shaping** with their contributions **the future of Data Spaces**, a concept included in the European Data Strategy and defined as **secure and trusted environments** for the exchange, sharing, and use of data.

# Objectives

This session aims to **endorse the digital technologies**, methods, architectures and processes implemented by the projects for offering a user-friendly, safe, trustworthy, compliant, fair, transparent, accountable and environmentally **sustainable collection, storage, processing, querying, analytics and delivery of data**. Within this context, this session will illustrate:

- how sharing and **transformation of data in compliance with prevailing and emerging legislation** (e.g. GDPR) for data processors and data subjects/right holders and other stakeholders should be facilitated,
- the technologies and solutions which should enable **safe and secure data handling**, sharing, and re-use in the context of **common European data spaces** in various situations and application areas,
- the combination of technological and social innovation, technologies and solutions that **enable environmentally sustainable data operations as well as** technologies and solutions for **ensuring human, fair and ethically** sound collection, processing and manipulation of data, in line with the principles of responsible/trustworthy AI.

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# BDVA: setting up the scene

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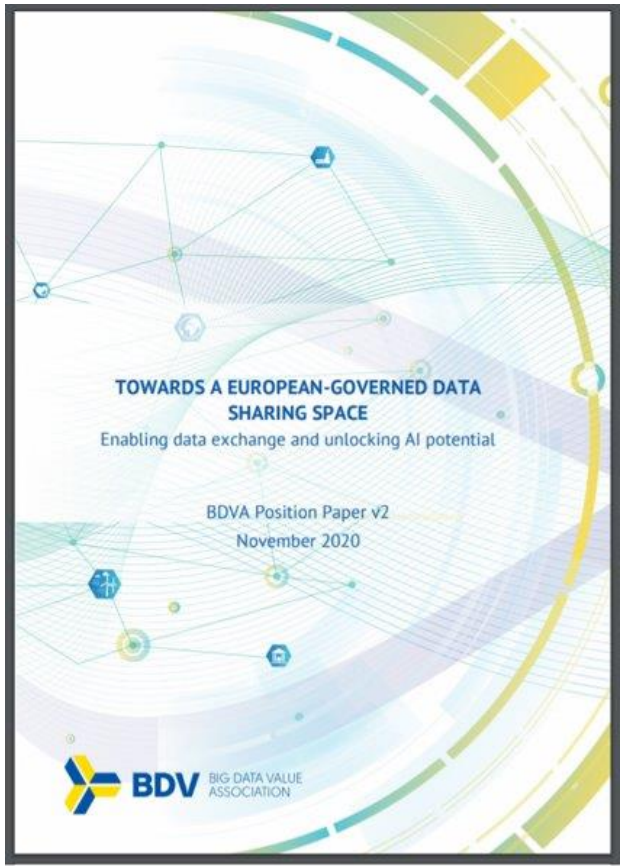
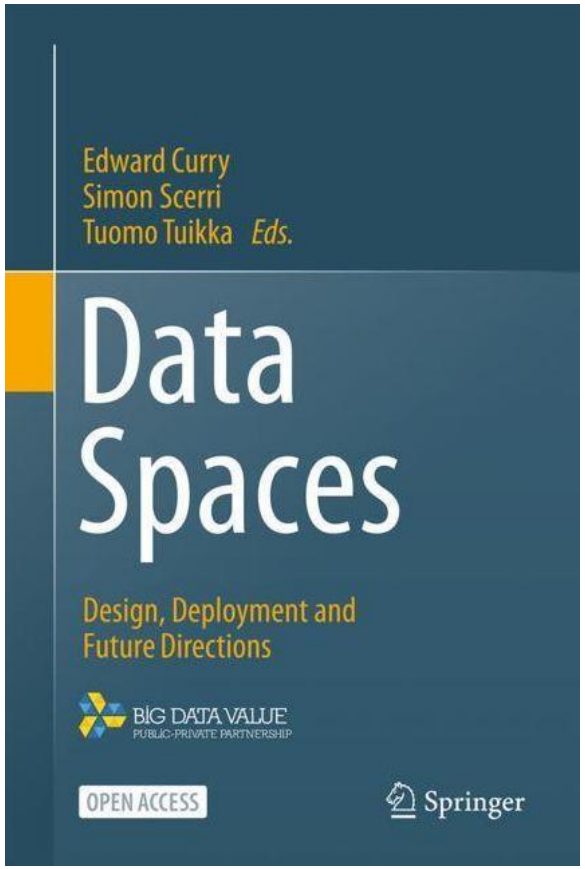
# Prof. Edward Curry

University of Galway

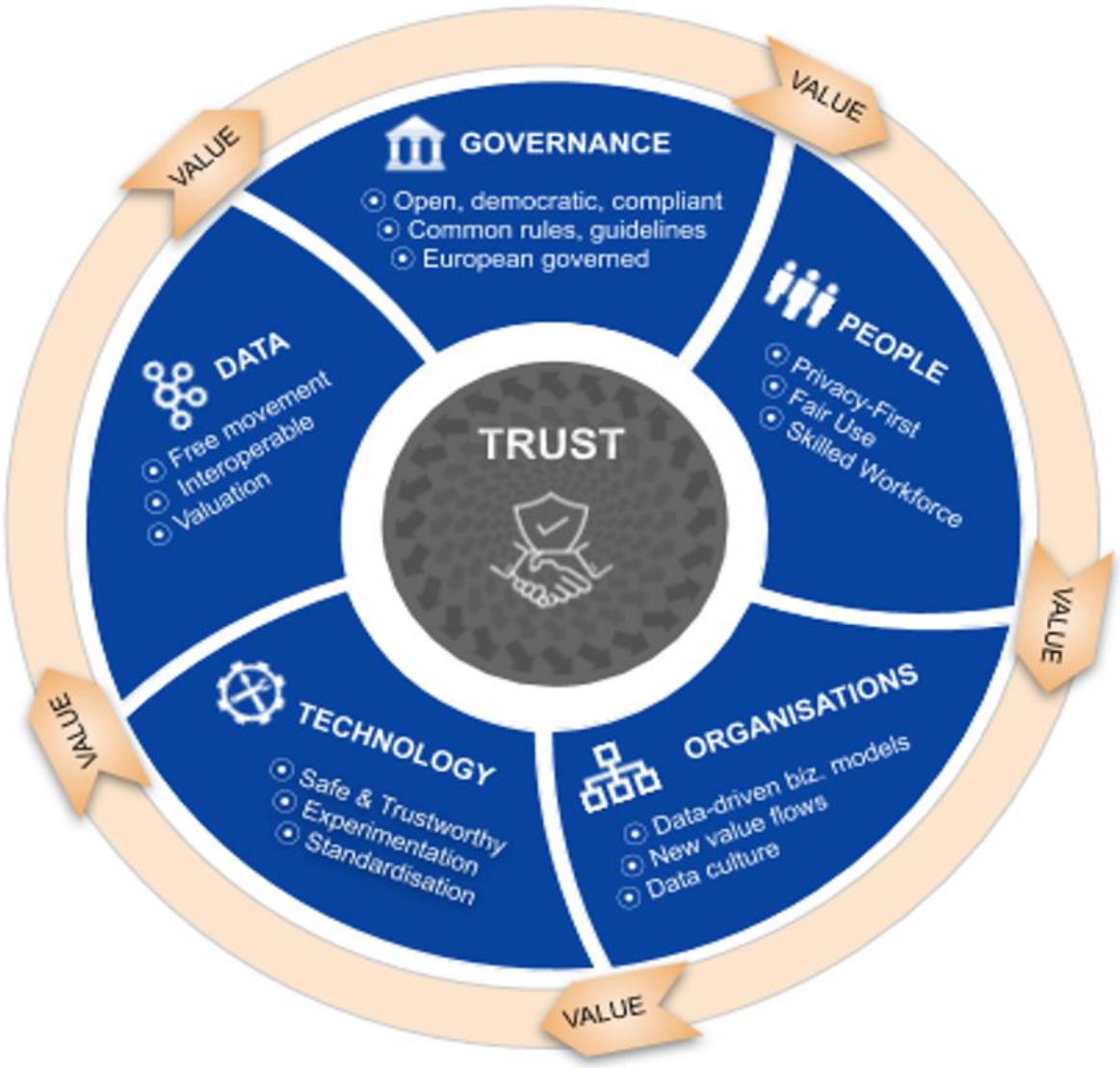
Insight SFI Research Centre for Data Analytics

# Task Force Data Spaces

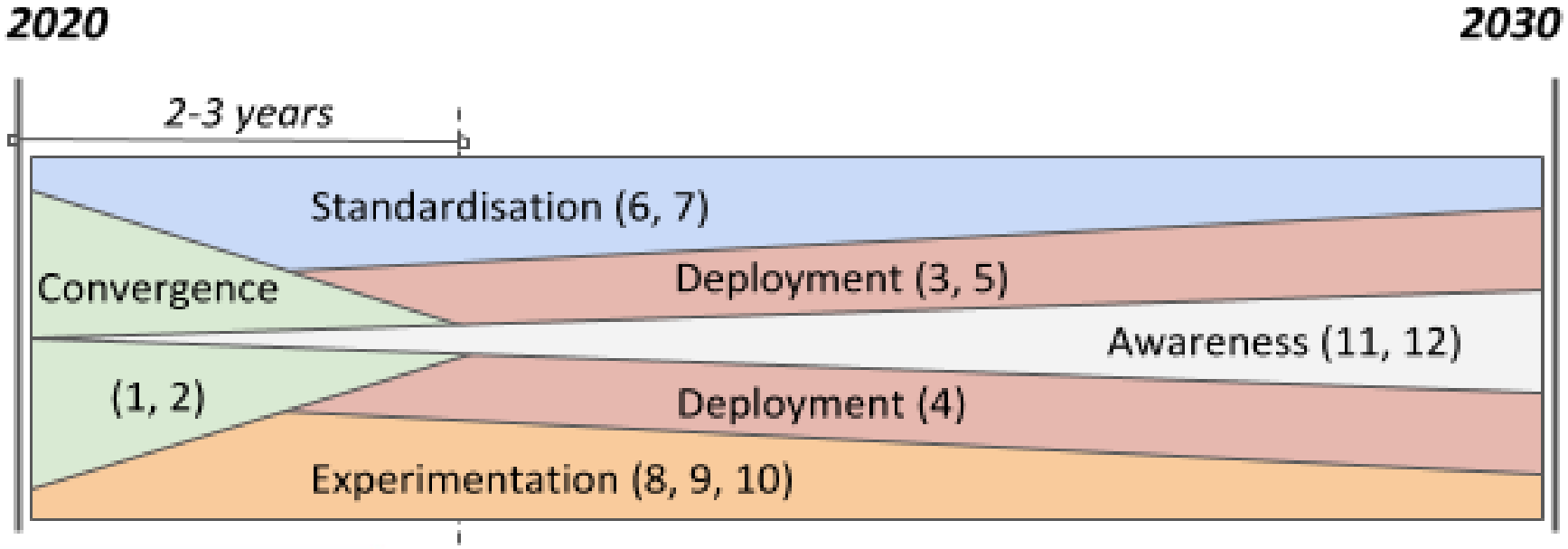


# BDVA Data Sharing Wheel



# Common European Data Spaces
# …….A Ten Year Journey




Data Spaces Business Alliance
Unleashing the Data Economy

interoperable europe

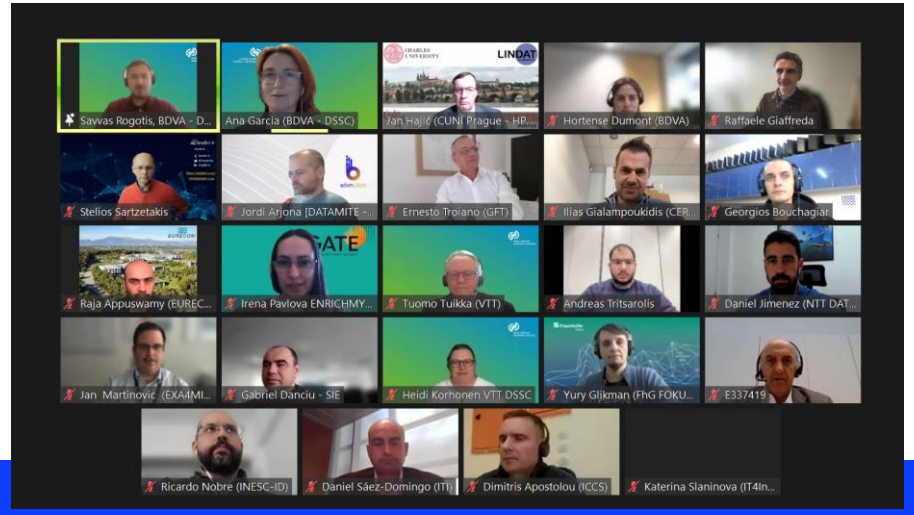
DATA SPACES SUPPORT CENTRE

# HE Cluster 4 Projects

- These projects are designing, implementing and deploying some of the tools, services and blocks that will be a **key part of the future data spaces.**
- In the process, they are **contributing** to initiatives producing **references models, blueprints, standards**, etc … but also considering those models in their respective developments.
- Data spaces can be a path **to exploitation and sustainability** of the assets produced by those projects.
- BDVA as a supporter / facilitator

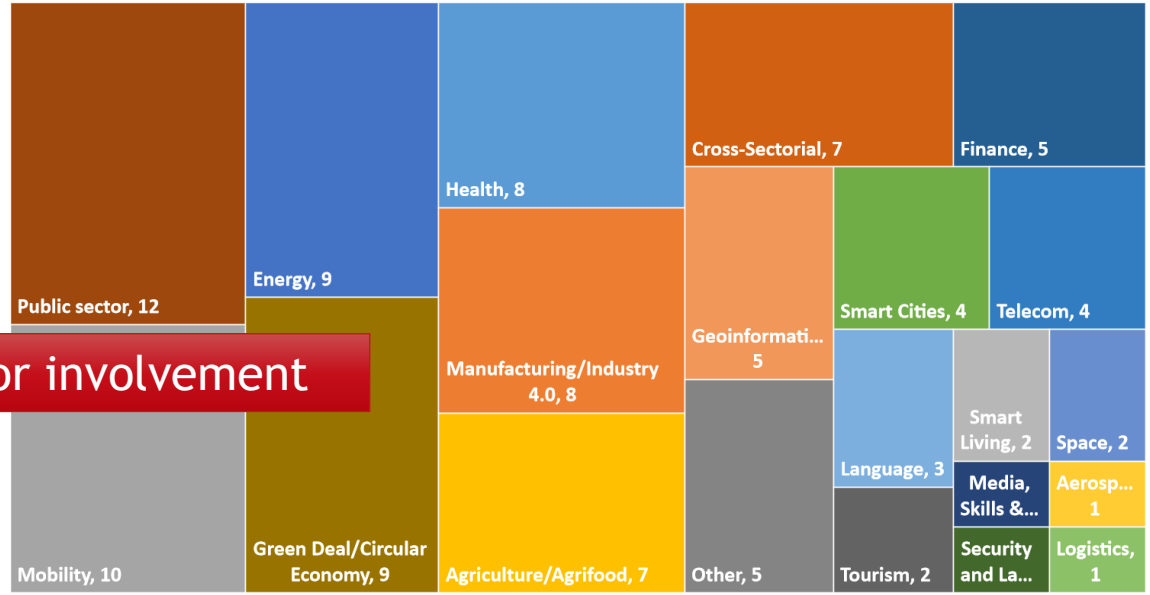
# “Get-to-know” introductory and welcome day (23/02/2023) from DSSC to 26 HE Projects in: Data sharing in the common European data spaces and Strengthening Europe’s data analytics capacity (HE Cluster 4 - 2021/2022 - Data - 01)

| Time (CET) | TOPIC |
|---|---|
| 09:00 – 09:40 | **Welcome and introductory notes from DSSC and EC**<br>• Bjoern Juretzki (Head of Unit of CNECT.G.1)<br>• Kimmo Rossi (Head of Sector "Research and Innovation Execution in the DVC (Data Value Chain)" - EC DG Connect G1)<br>• Tuomo Tuikka (VTT - DSSC)<br>• Edward Curry (Insight SFI - DSSC) |
| 09:40 – 10:30 | **Topic: Technologies and solutions for compliance, privacy preservation, green and responsible data operations** (HORIZON-CL4-2021-DATA-01-01) (Projects started around Q3 2022) (around 7-8 minutes per project)<br>• GLACIATION (Lotti Roberta \| MEF)<br>• MobiSpaces (Matteo Falsetta\| GFT)<br>• TANGO (Tomas Pariente Lobo \| ATOS)<br>• TRUSTEE (Emmanouil Spanakis \| FORTH ICS)<br>• TEADAL (Rita Santiago \| UBIWHERE) |
| 10:40 – 11:50 | **Topic: Technologies for data management** (HORIZON-CL4-2021-DATA-01-03) (Projects started around October 2022 or later)<br>• Green.Dat.AI (Dimitrios Alevras \| Inlecom Systems)<br>• EnRichMyData (Irena Pavlova \| GATE CoE/Sofia University)<br>• SEDIMARK (Arturo Medela \| Atos)<br>• Waterverse (Ilias Gialampoukidis \| CERTH)<br>• DataBri-X (Stelios Sartzetakis \| ATHENA RC)<br>• STELAR (Dimitris Skoutas \| ATHENA RC)<br>• HPLT (Jan Hajic \| Institute of Formal and Applied Linguistics (UFAL)) |
| 12:00 – 12:35 | **Topic: Technologies & solutions for data trading, monetizing, exchange and interoperability** (HORIZON-CL4-2022-DATA-01-04) (Projects started around January 2023)<br>• FAME (Ernesto Troiano \| GFT)<br>• DATAMITE (Jordi Arjona \| ITI)<br>• PISTIS (Yury Glikman \| FRAUNHOFER FOKUS)<br>• UPCAST (Richard Stevens \| IDC) |
| 13:00 – 13:25 | **TOPIC: Methods for exploiting data and knowledge for extremely precise outcomes (analysis, prediction, decision support), reducing complexity and presenting insights in understandable way** (HORIZON-CL4-2022-DATA-01-01) (Projects started around January 2023)<br>• CREXDATA (Antonios Deligiannakis \| SOFTNET TUC)<br>• TEMA (Ioannis Pitas \| AUTH)<br>• ExtremXP (George Papastefanatos \| Athena RC) |
| 13:35 – 14:45 | **TOPIC: Extreme data mining, aggregation and analytics technologies and solutions** (HORIZON-CL4-2022-DATA-01-05) (Projects started around January 2023)<br>• NEARDATA (Pedro Antonio Garcia Lopez \| URV)<br>• SYCLOPS (Raja Appuswamy \| Eurecom)<br>• EXA4MIND (Stephan Hachinger \| Leibniz Supercomputing Centre)<br>• EFRA (Babis Thanopoulos \| Agroknow)<br>• EMERALDS (Foivos Galatoulas \| Inlecom Systems)<br>• EXTRACT (Eduardo Quinones \| Barcelona Supercomputing Centre)<br>• Graph-Massivizer (Radu Prodan \| AAU) |

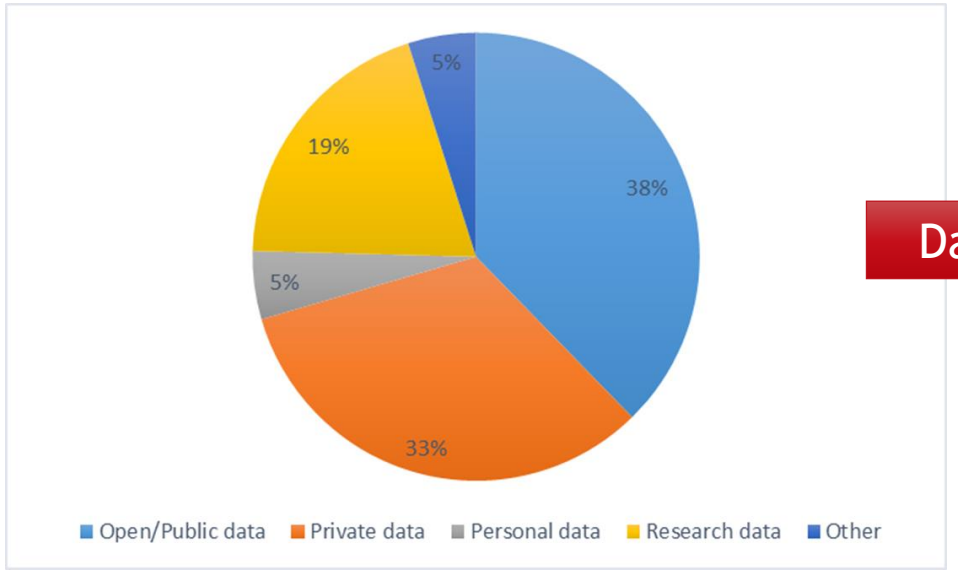


# Some insights from the workshop …

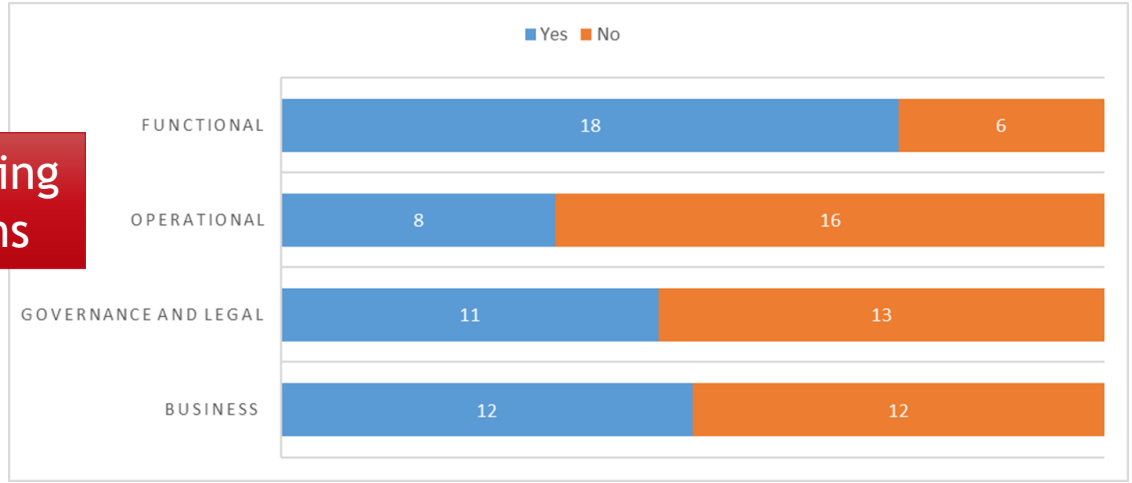
## Sector involvement



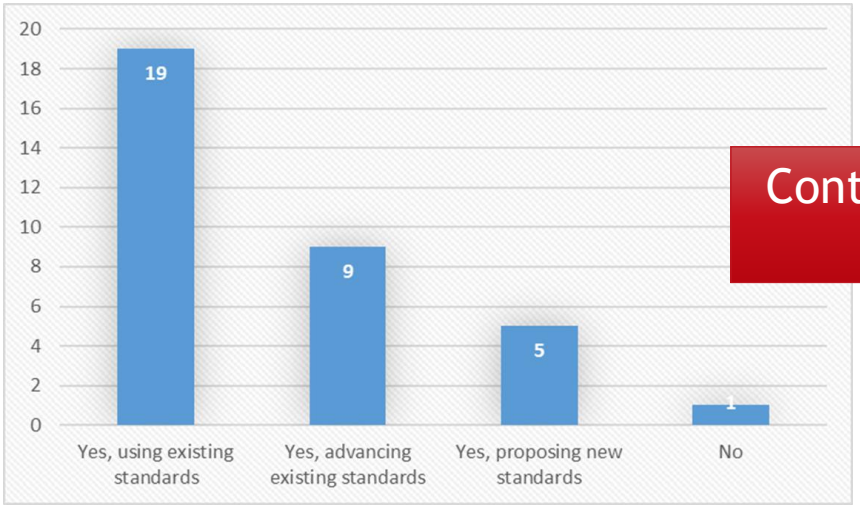

## Data usage




## Contributing dimensions




## Contribution to standards



# Data Spaces Business Alliance

BDV BIG DATA VALUE ASSOCIATION

**Data Spaces Business Alliance**

Unleashing the Data Economy

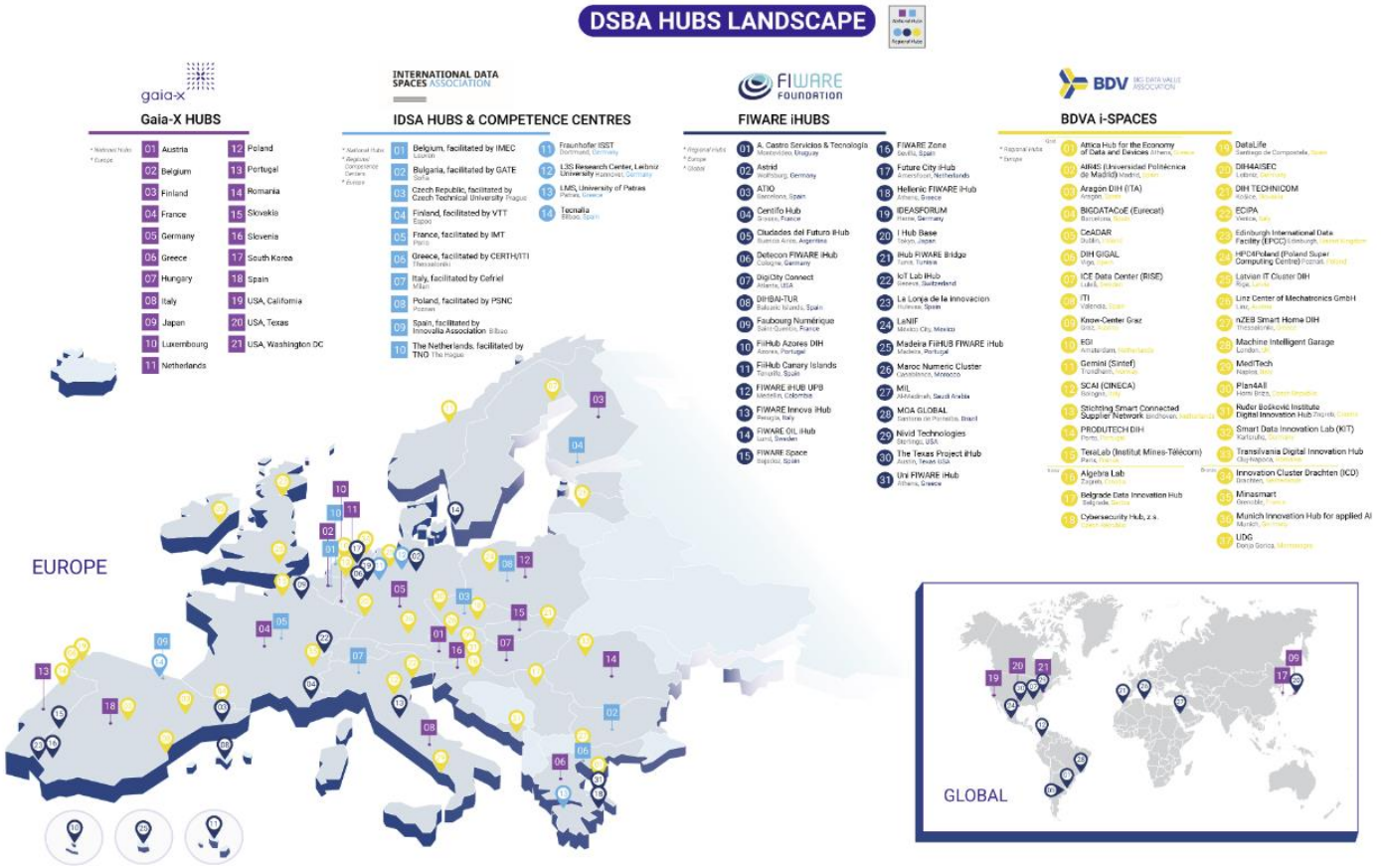
BDV FIWARE FOUNDATION gaia-x INTERNATIONAL DATA SPACES ASSOCIATION

## Technical Convergence

**Discussion Document**

**Version 2.0**

**2023-04-21**




DW

A European Union Digital Europe program project

dssc.eu

# DATA SPACES SUPPORT CENTRE

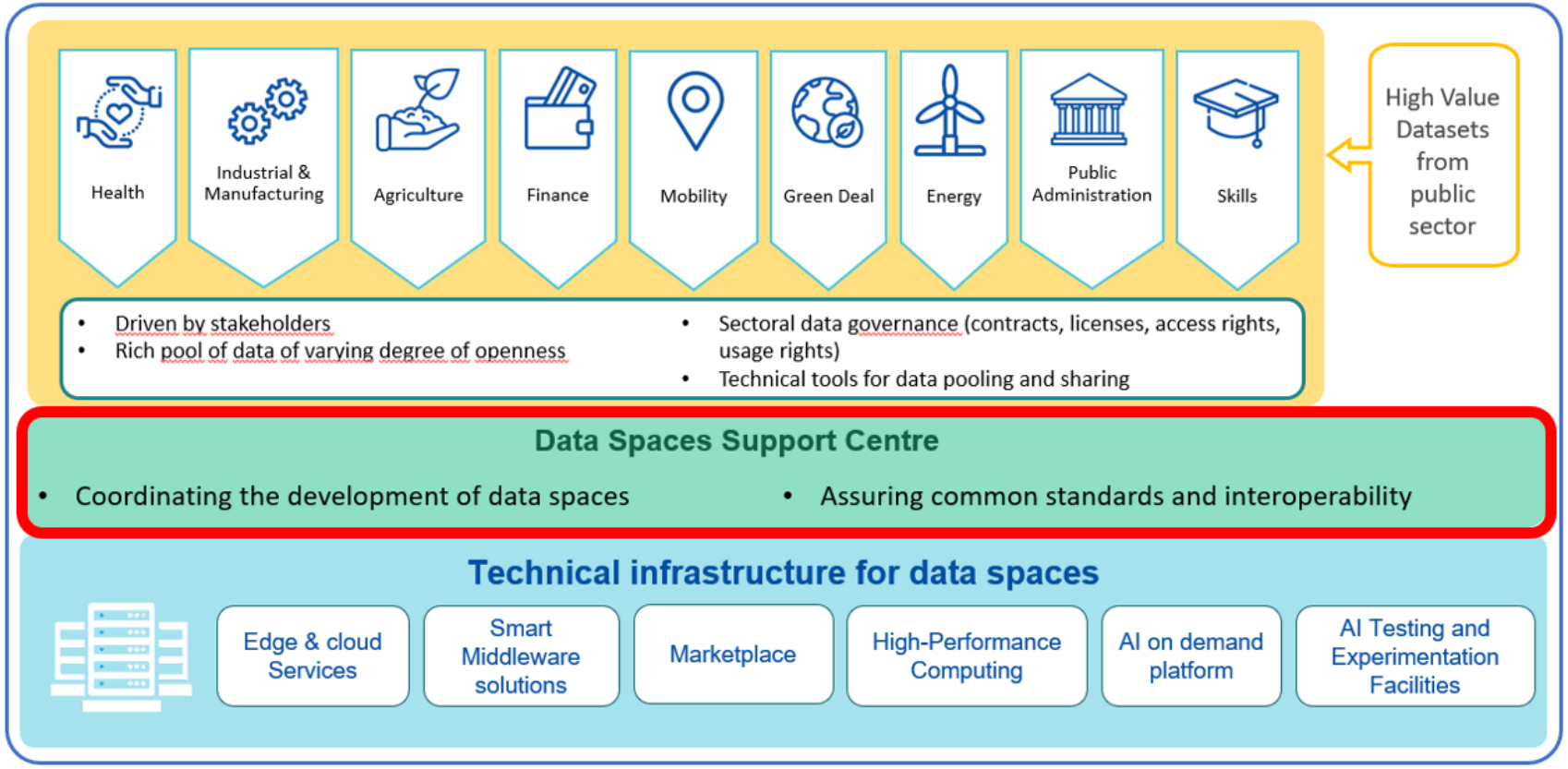
## Mission

The Data Spaces Support Centre will explore the needs of data space initiatives, define common requirements and establish best practices to accelerate the formation of sovereign data spaces as a crucial element of digital transformation in all areas.

A key area of attention for the DSSC is in the interoperability between data spaces

We are here to help you with your data space endeavor!

# Common European data spaces




EDIB

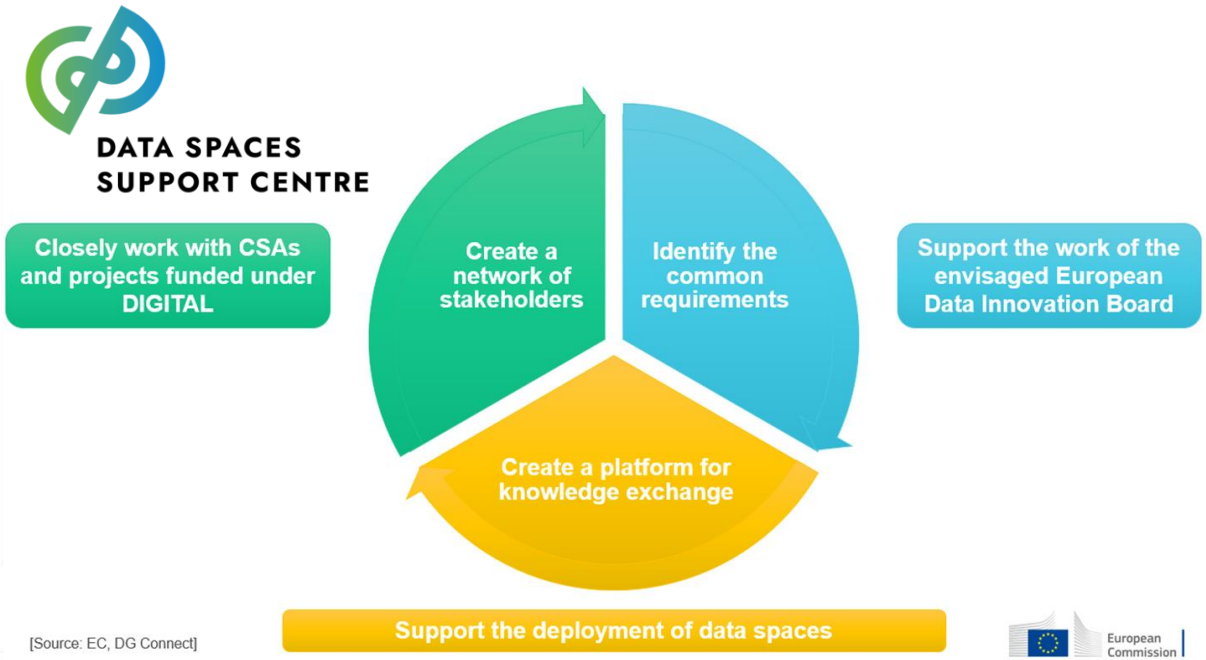
SIMPL

[Source: EC, DG Connect]

European Commission

# Data Spaces Support Center

Funded by the European Commission as part of the Digital Europe Program, the Data Spaces Support Centre supports the **deployment of common European data spaces** and promotes the reuse of data across sectors.




## The projects constitute part of the:

- DSSC **Network of Stakeholders** (as part of the Liaisons and collaborations group)
  - Bring requirements,
  - Knowledge sharing,
  - influence,
  - Align in terms of goals
- DSSC **Thematic Groups** contributing to Business, Governance and Technical **knowledge sharing** and **co-creation** of new knowledge

# Available documents

- Starter Kit V1.0
  - Entry point of your data space journey that guides you to relevant community resources and DSSC materials
- Glossary
  - The  function of the glossary is to support smooth information development between the different data space initiatives and and working with the Data Spaces Support Centre (DSSC). The objective is to establish a common vocabulary for DSSC publications of the DSSC
- Forthcoming
  - Conceptual model of data spaces
  - Building blocks taxonomy
  - Blueprint
  - Synergies
  - Design principles
  - Etc.
- Follow dssc.eu

**DSSC.EU**

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# Thank you!

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# Hello! My name is Aidan O Mahony, and I will participate in the session

I am the GLACIATION Technical & Scientific Coordinator from Dell Technologies

# GLACIATION - Green responsibLe privACy preservIng dAta operaTIONs

**GLACIATION** develops innovative solutions for green, privacy-preserving data operations across edge-to-cloud continuum, optimizing data movement, reducing energy consumption, and enhancing privacy through Distributed Knowledge Graphs and AI-based technologies.

# Hello! My name is Konstantina Bereta, and I will talk about MobiSpaces

I lead the MT Tracker use case of MobiSpaces from MarineTraffic (kpler)

MarineTraffic

MobiSpaces
new data spaces for green mobility

# MobiSpaces - New data spaces for green mobility

**MobiSpaces** delivers an end-to-end mobility-aware and mobility-optimized data governance platform that will utilize the outcomes of AI-based mobility analytics to optimize the complete “Data Path”.

MobiSpaces
new data spaces for green mobility

# Hej! My name is Alessandro Paciaroni

I represent Tango as part of the dissemination management team of the Lisbon Council

# TANGO - Digital Technology for Secure and Trustworthy Data Flows

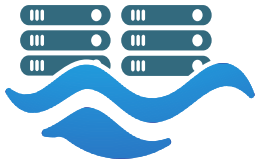
**TANGO** provides a trustworthy data management and sharing solution to ensure data sovereignty, governance and provenance to citizens, businesses, and public administration around Europe.

# Hello! I’m Sebastian, and and represent the TEADAL Project.

I’m a postdoctoral researcher from TU Berlin, Germany, and a work package leader in the TEADAL project.

# TEADAL - Trustworthy, Energy-Aware federated Data Lakes along the computing continuum

**TEADAL** enables trusted, verifiable, and energy-aware data sharing across federated data lakes in the cloud/edge continuum. Targeting industrial, medical, financial, agricultural, governmental and mobility data spaces.



TEADAL

# Hello! I’m Evangelos, and and represent the TRUSTEE Project.

I’m an Assistant Professor From HMU , Greece, and a Technical Coordinator for the TRUSTEE  project.

# TRUSTEE - TRUST AND PRIVACY PRESERVING COMPUTING PLATFORM FOR CROSS BORDER FEDERATION OF DATA

TRUSTEE proposes a secure-by-design Federated Platform in accordance with EU data strategy (COM (2020) 66) and the main EU reference architectures (GAIA-X, EOSC, EGI) in the sector, capable of:

ensuring interoperability enabling cross-border scenarios scaling a variety of AI-based applications through the use of open APIs with the goal of making the EU the world's most secure and trustworthy data hub.

TRUSTEE

# TRUSTEE

In accordance with the principles of responsible/trustworthy AI by employing a co-development approach as the foundation methodology **TRUSTEE** proposes a secure-by-design Federated Platform in accordance with EU data strategy (COM (2020) 66) and the main EU reference architectures (GAIA-X, EOSC, EGI) in the sector, capable of:

- ensuring interoperability
- enabling cross-border scenarios
- scaling a variety of AI-based applications through the use of open APIs

with the goal of making the EU the world's most secure and trustworthy data hub.

## Project Information

- **Duration**: 3,5 years | Started 1st July 2022
- **Consortium**: 22 partners
- **Demonstrations**: in 6 pilots
- **Project's Budget**: € 8 706 263,75
- **Funding Scheme**: Digital, Industry and Space
- **Work Programme:** Horizon Europe
- **GA No:** 101070214
- **Coordinator:** Foundation for Research & Technology – Hellas
- **Technical Manager:** Hellenic Mediterranean University
- **Dissemination Manager:** Adrestia R&D

## TRUSTEE Pilots

Energy | Automotive | Health | Education | Space | Multi-disciplinary Data Exchange

# The Questions

1. What are the key challenges and solutions in our projects to address sustainability in Data Spaces, both environmentally, socially, and economically?
2. How do our projects ensure seamless data sharing and reuse across cloud-continuum while maintaining data privacy and security?
3. What are the strategies to overcome organizational adoption gaps of establishing trust among the different actors involved through our project's technologies and approaches?
4. In light of the EU Digital Single Market, how we can enable secondary use and inter-data space communication?
5. What are the biggest use-case-specific challenges in your projects?

THE DATA IS OUT THERE

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# Thank you!

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