

Gaia-X | Location Ecosystem

—
23 November 2023

What is Gaia-X - What It Does

What Gaia-X is what is Not

Gaia-X Is




- > A single point of definition of Gaia-X architecture & rules
- > Making available an open implementation to all
- > A qualification authority for Gaia-X compliance

Gaia-X Is Not



- > A formal standardisation body
- > A SW or HW product or cloud platform
- > A runtime implementation of any Gaia-X service

Gaia-X vs. Association

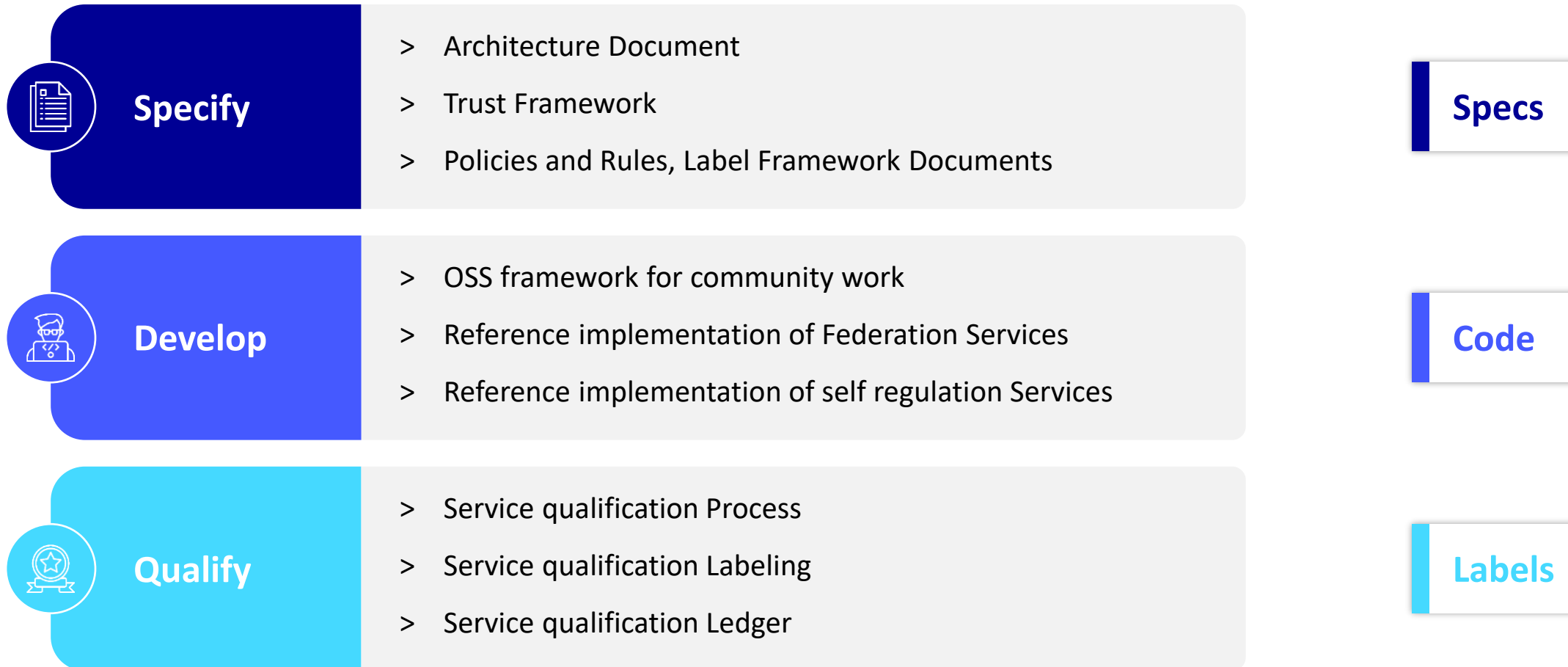


- > Gaia-X project is driven by the Association
- > Gaia-X architecture is developed by the Association members
- > Gaia-X services will not be operated by the Association

(*) AISBL is an independent single point of truth in the determination of a Gaia-X compliancy, but the Association itself will not host or run directly any service. Qualification and compliance will be verified through decentralized mechanisms of digital trust and consensus distributed across the network of Gaia-X nodes (i.e. AISBL stands to Gaia-X like a Registrar to the Internet)

What We Do – Gaia-X Three Deliverable Types

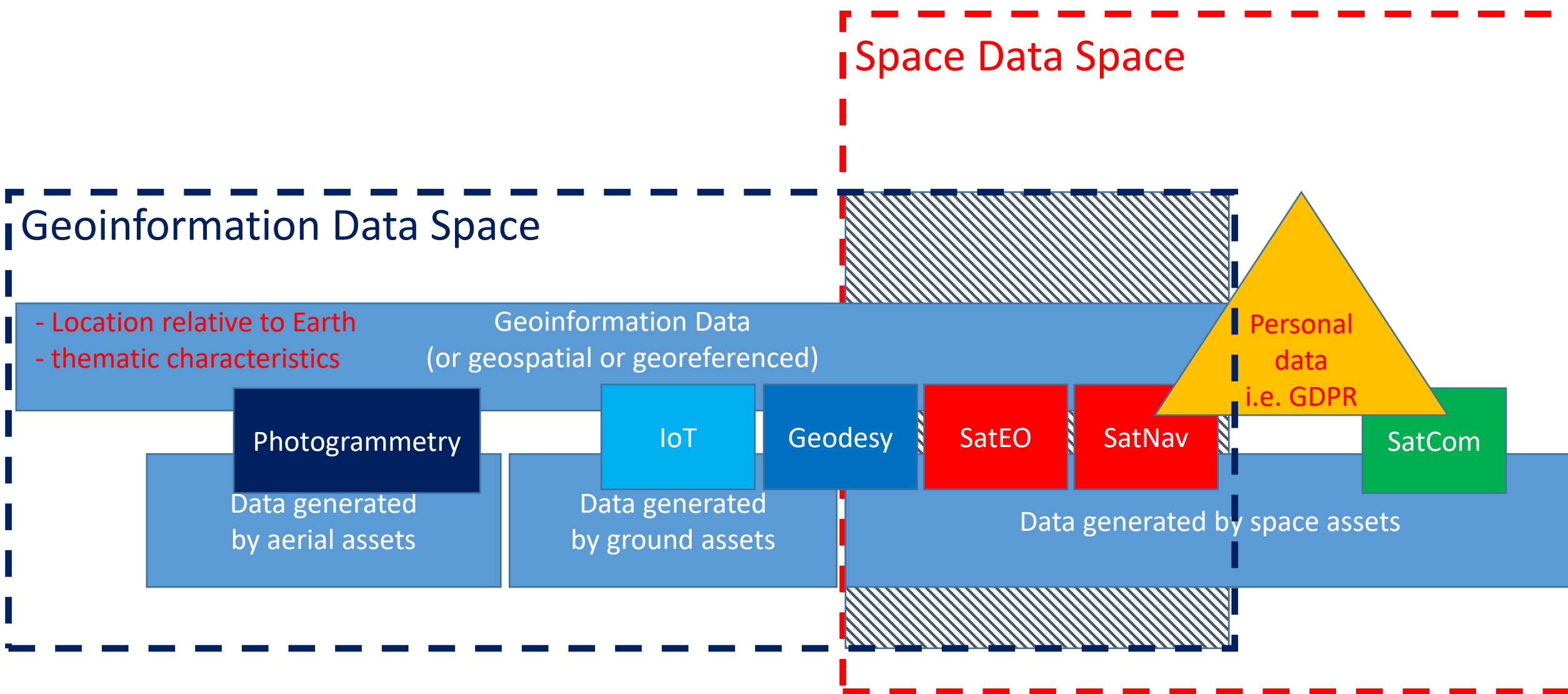
The Gaia-X Deliverables





Gaia-X Location Ecosystem Background

- Space Working Group
 - Triggered by 4 entities (3DS OUTSCALE, CS GROUP, EBRC and RHEA Group) in November 2020
<https://www.ebrc.com/en/company/news-events/digital-alliance-space-within-gaia-x>
 - Last meeting in April 2022
- Geoinformation Working Group
 - Started in Germany
 - Expanded to Europe in April 2021
 - 9 meetings in 2 years, the last one in December 2022
- Aerospace Working Group
- Overlapping and confusing for third-party



Geoinformation + Space = Location i.e. XYZt

**1st meeting:
14 September 2023**

Lead: Christian Linder
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)
Institut für Verkehrssystemtechnik

Co-Leads: Antti Jakobsson (Maanmittauslaitos | National Land Survey of Finland) for Geoinformation
Emmanuel Mondon (AdviceGEO) for Space



On-going initiatives in MS, Europe and farther

Presentation ELK Project

Mattia Righi (DLR)

Project goals



- Global **emission inventories** for the transport sectors (**land transport**, **shipping** and **aviation**) and for the related sectors **energy** and **industry** for present day conditions (**2019**).
- **Noise** pollution maps for **road and rail** transport, **aviation** and **wind energy** at the national level (**Germany**) for present-day conditions (**2019**).
- **Scenario-readiness** for emission models and data
- Highly-resolved transport data, **air quality** and **noise** maps for **Hamburg**.
- Database structure and **user interface** to guarantee an easy and reliable **access** to the final products, including their **documentation**.



**Efficient tool to counteract climate change,
to improve air quality and reduce noise
pollution**

**Stakeholders:
Policymakers, local authorities, industry,
scientific community**



Data for EU – Calls for proposals



Call 1 Deadline for submission 22 February 2022

Call 2 Opening February/March 2022

Call 3 Opening Q3 2022

Digital Europe Work Programme 2021-2022

<https://digital-strategy.ec.europa.eu/en/activities/work-programmes-digital>

- Call #1 Digital Europe Programme (DIGITAL)
 - Preparatory actions for the data space for smart communities
(Budget: 1M€ - DIGITAL-2021-CLOUD-AI-01-PREP-SMART-COMM)
 - Preparatory actions for the Green Deal Data Space
(Budget: 2M€ - DIGITAL-2021-CLOUD-AI-01-PREP-DS-GREEN-DEAL)
 - Preparatory actions for the data space for Agriculture
(Budget: 2M€ - DIGITAL-2021-PREPACTS-DS-01-AGRI)
 - Preparatory actions for the data space for tourism
(Budget: 1M€ - DIGITAL-2021-PREPACTS-DS-01-TOURISM)
 - Data Space for Mobility
(Budget: 1M€ - DIGITAL-2021-CLOUD-AI-01-PREP-DS-MOB)
 - Data Spaces Support Centre
(Budget: 14M€ - DIGITAL-2021-CLOUD-AI-01-SUPPCENTRE)

Digital Europe Work Programme 2021-2022

<https://digital-strategy.ec.europa.eu/en/activities/work-programmes-digital>

- Call #2 Digital Europe Programme (DIGITAL)
 - Data space for security and law enforcement
(Budget: 8M€ - DIGITAL-2022-CLOUD-AI-02-SEC-LAW)
 - Public Sector Open Data for AI and Open Data Platform
(Budget: 20M€ - TOPIC ID: DIGITAL-2022-CLOUD-AI-02-OPEN-AI)
 - Data space for cultural heritage (deployment)
(Budget: 4M€ - TOPIC ID: DIGITAL-2022-CULTURAL-02-HERITAGE)

Digital Europe Work Programme 2021-2022

<https://digital-strategy.ec.europa.eu/en/activities/work-programmes-digital>

- Call #3 Digital Europe Programme (DIGITAL) – **Deadline 24/01/2023**
 - Data space for smart communities (deployment)
(Budget: 18M€ - DIGITAL-2022-CLOUD-AI-03-DS-SMART)
 - Data space for media (deployment)
(Budget: 8M€ - DIGITAL-2022-CLOUD-AI-03-DS-MEDIA)
 - Deployment of the AI-on-demand platform
(Budget: 28M€ - DIGITAL-2022-CLOUD-AI-03-AI-ON-DEMAND)
 - Data space for mobility (deployment)
(Budget: 8M€ - DIGITAL-2022-CLOUD-AI-03-DS-MOBILITY)
 - Initial Network of European Digital Innovation Hubs **Deadline 16/11/2022 17:00:00**
(Budget: 30M€ - DIGITAL-2022-EDIH-03-INITIAL)
 - Large-scale pilots for cloud-to-edge based service solutions
(Budget: 40M€ - DIGITAL-2021-CLOUD-AI-03-PILOTS-CLOUD-SERVICES)

General Info

- DSSC Project funded by EC under DEP
- Duration: 42 months
- Start: 1 October 2022
- Budget: 14m
- DSSC inauguration ceremony – 13 Oct 2022
- Website: <https://dssc.eu/>



Data Spaces Support Centre

In October 2022, the Data Spaces Support Centre was inaugurated in a warm, interactive atmosphere. Funded by the European Commission as part of the Digital Europe Program, 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 key element of digital transformation at all levels.



Consortium members



Associated and collaboration partners



Data Space initiatives invited CoP so far



CSA/Preparatory action for the Green Deal Data Space	GREAT
CSA/Preparatory action for the Smart Cities and Communities Data Space	DS4SSCC
CSA/Preparatory action for the Mobility Data Space	PrepDSpace4Mobility
CSA/Preparatory action for the Manufacturing Data Space	EU DATA SP4CE
CSA/Preparatory action for the Agriculture Data Spaces	AgriDataSpace
CSA/Preparatory action for the Skills Data Space	DS4Skills
CSA/Preparatory action for the Tourism Data Space	Dates
Data Spaces Support Centre	DS4EU
Federated European infrastructure for genomics data	
Federated European infrastructure for cancer images data	EUCAIM

List to be enlarged with other DEP projects later (Cultural Heritage to be included shortly)

This is Location Innovation Hub



- Coordinated by Finnish Geospatial Research Institute and services are provided with a partner network.
- Target audience: businesses and public organizations.
- Tools, testing infrastructure, business and technical consultation, and training.
- Funding opportunities.
- We focus on four different themes: Built Environment, Bioeconomy, Health and Wellbeing, and Transportation and Logistics.
- Three key technology sectors: AI and ML, High Performance Computing, and Cybersecurity.



<https://locationinnovationhub.eu/en/home/>

26.5.2023



Key outcomes expected

Data spaces

Work on reference data spaces to establish the link between geodata and other data. Seeking funding for these both in Finland and in Europe.

Innovations

Work on creating new innovation and business in location data and services. Create European based solutions, for example Location API business manual. Data integration guidance.

Test environments

Providing test before invest services: GeoE3 platform, next generation navigation space in Otaniemi, urban test environments, novel datasets and test areas.



Powering current and next-generation map products by creating reliable, easy-to-use, and interoperable open map data

<https://overturemaps.org/>

Who is Overture for?

Overture is for developers who build map services or use geospatial data.



Common European data spaces

Rich pool of data (varying degree of accessibility)

Free flow of data across sectors and countries

Full respect of GDPR

Horizontal framework for data governance and data access



- Technical tools for data pooling and sharing
- Standards & interoperability (technical, semantic)
- Sectoral Data Governance (contracts, licenses, access rights, usage rights)
- IT capacity, including cloud storage, processing and services

Personal data spaces



High-value data sets from the public



sector
e.g. weather,
geospatial,
statistics.



High-Value Datasets (HVD)

<https://eurogeographics.org/news/high-value-datasets/>

According to the Directive on open data and the re-use of public sector information (PSI),

‘high-value’ means data with the potential to:

- generate significant socio-economic or environmental benefits and innovative services;
- benefit a high number of users, in particular small to medium sized enterprises (SMEs);
- assist in generating revenues; and
- be combined with other datasets.

Six thematic categories of high-value datasets are identified in the Directive:

- **Geospatial**
- **Earth observation and environment**
- **Meteorological**
- Statistics
- Companies and company ownership
- **Mobility**

"the thematic categories listed in the Annex could inter alia cover postcodes, national and local maps (Geospatial), energy consumption and satellite images (Earth observation and environment), in situ data from instruments and weather forecasts (Meteorological), demographic and economic indicators (Statistics), business registers and registration identifiers (Companies and company ownership), road signs and inland waterways (Mobility)."

The 4 projects funded by EC DG CNECT related to DEP call Public Sector Open Data for AI and Open Data Platform
(Budget: 20M€ - TOPIC ID: DIGITAL-2022-CLOUD-AI-02-OPEN-AI)

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/digital-2022-cloud-ai-02-open-ai>

BeOpen an Open framework for boosting EU High Value Datasets from Public Sector (Acronym: BeOpen – Project ID: 101100807)

<https://beopen-dep.eu/about/> .

Project Coordinator: Martino Maggio, Engineering Ingegneria Informatica S.p.A.

MAREGRAPH: towards an interoperable MARinE knowledge GRAPH (Acronym: MAREGRAPH – Project ID: 101100771)

Project Coordinator: Flanders Marine Institute (VLIZ – Belgium) <https://www.vliz.be/en/>

Open Maps for Europe 2 (Acronym: **OME2** – Project ID: 101100625)

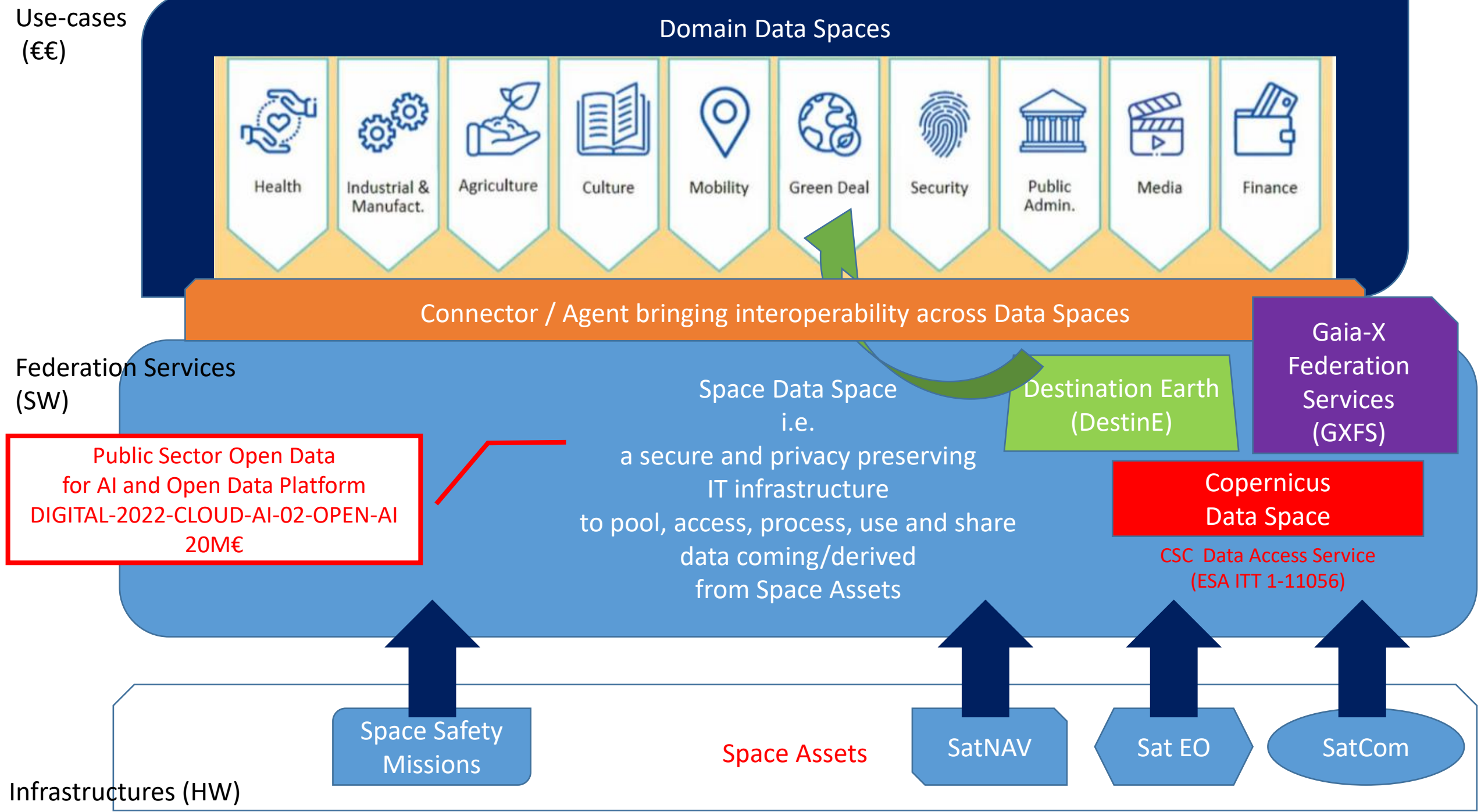
Project Coordinator: EuroGeographics <https://eurogeographics.org/>

Victoria Persson, Project Manager – Data Access and Integration

<https://eurogeographics.org/news/project-launched-to-prototype-large-scale-high-value-pan-european-datasets/>

The Provision of Open Access to Public Meteorological Data and Development of Shared Federated Data Infrastructure for the Development of Information Products and Services (Acronym: **RODEO** – Project ID: 101100651)

Project Coordinator: Finnish Meteorological Institute (FMI – Finland) <https://en.ilmatieteenlaitos.fi/>



Use-cases (€€)

Domain Data Spaces

Health | Industrial & Manufact. | Agriculture | Culture | Mobility | Green Deal | Security | Public Admin. | Media | Finance

Connector / Agent bringing interoperability across Data Spaces

Federation Services (SW)

Public Sector Open Data for AI and Open Data Platform DIGITAL-2022-CLOUD-AI-02-OPEN-AI 20M€

Space Data Space i.e. a secure and privacy preserving IT infrastructure to pool, access, process, use and share data coming/derived from Space Assets

Destination Earth (DestinE)

Gaia-X Federation Services (GXFS)

Copernicus Data Space

CSC Data Access Service (ESA ITT 1-11056)

Infrastructures (HW)

Space Safety Missions

Space Assets

SatNAV

Sat EO

SatCom

Destination Earth System

DestinE will allow users to access thematic information, services, models, scenarios, simulations, forecasts and visualisations.

The main components of the DestinE system are:



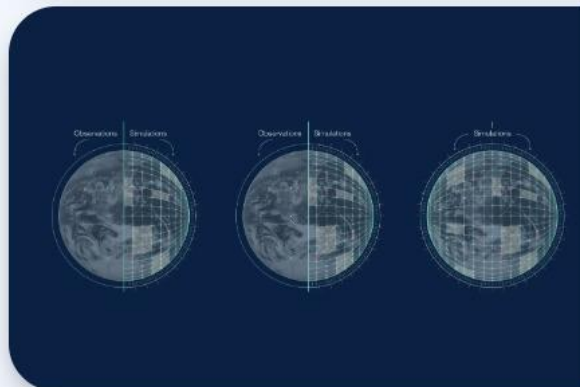
Core Service Platform

The platform will provide evidence-based decision-making tools, applications and services, based on an open, flexible, and secure cloud-based computing infrastructure.



Data Lake

The data lake will bring together data from ESA, EUMETSAT, ECMWF as well as from Copernicus, and many other diverse sources, with new data from the Digital Twins. It will allow discovery and data access as well as big data processing in the cloud.



Digital Twins and Digital Twin Engine

DestinE is creating several digital replicas covering different aspects of the Earth system and based on state-of-the-art simulations and observations. ECMWF is implementing the Digital Twin Engine, the complex software and data services needed for Earth System digital replicas, as well as the first two digital twins; Climate Change Adaptation, which will provide multidecadal simulations, and the Weather-induced Extremes twin, with both high-resolution forecasts and on-demand simulations.





ESA DIGITAL TWIN EARTH



SPACE DATA SPACE Preliminary study for ESA

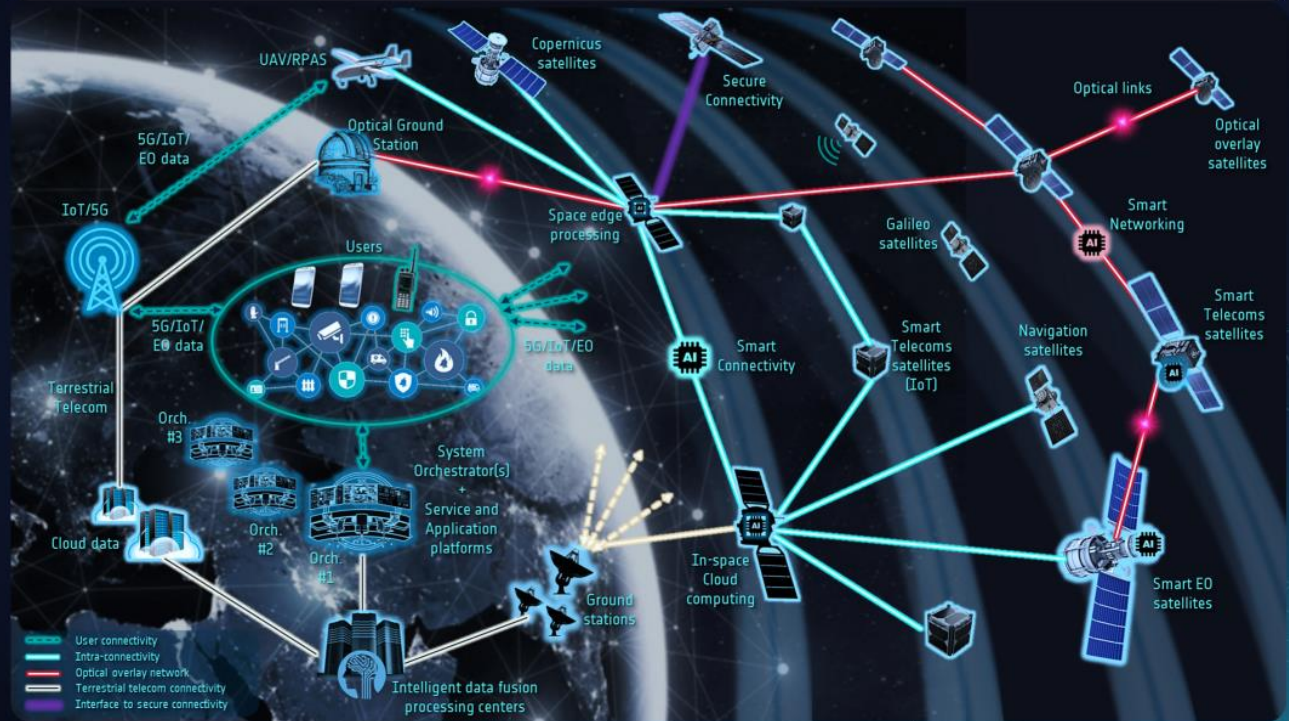


Civil Security from Space

Supporting European efforts to monitor, mitigate and resolve civil security and crisis events from space to keep people, infrastructures and resources safe on Earth.

A UNIFIED, SECURE, RESILIENT, RESPONSIVE AND SMART NETWORK

- Scalability
- Standardisation
- Trusted information
- Interoperability
- Federated systems
- Customised applications



🚀 EU SatCen had the privilege of hosting the workshop on "Space Data Space" organized by the **European Space Agency - ESA** and **European Space Policy Institute (ESPI)**, bringing together industry leaders for dynamic discussions on crisis response. Keynotes, including our Director Ambassador **Sorin Ducaru**, and representatives from the space industry, the **European Commission** and **EUSPA - EU Agency for the Space Programme**, offered valuable insights. The workshop delved into objectives, governance, and connectivity, fostering collaborative solutions for space data enhancement. 🌐

#SpaceData #SpaceDataSpace #EUsecurity #EUdefence #EU



avec Sorin Ducaru et 3 autres personnes

Adriano Baptista et 68 autres personnes

5 commentaires · 1 republication

SATCEN HOSTED THE ESA-ESPI "SPACE DATA SPACE" WORKSHOP

On November 22-23, EU SatCen had the honour of hosting the workshop co-organized by the European Space Agency (ESA) and the European Space Policy Institute (ESPI), titled "Space Data Space: Towards More Secure, Timely, Relevant, and Accessible Space Data as a Response to the Escalation in Crisis Situations".

<https://www.satcen.europa.eu/Pages/satcen-hosted-the-esa-espi-space-data-space-workshop>



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