A data space for the construction ecosystem for a low carbon strategy on territories and cities
MISSION and PURPOSE

DIGITAL-ter 2050

- A commitment to succeed in the carbon neutrality for the territory
- Digital twin technology for managing during the full life cycle of the assets the environmental footprint of the territory based on the single source of information
- With sobriety of the digital infrastructure:
  - Including a sustainable transaction process
  - In the process to store the information including sovereignty on the data
- In compliance to the European policy on data with the GAIA-X standards

- A project to develop a European framework for data space
- Based on the construction eco-system requirements, including:
  - Local governments such as cities or counties.
  - Architectural, engineering and construction (AEC) companies.
  - Operators providing services such as transportation, energy supply, telecommunication, or waste collection services
Generic usages

Requesting and requirements common framework for models federation and connection (IER)

Central point

data aggregation services oriented to use cases

information workflow and transaction

Central point

Collecting data from AIM
- utilities (DT-DICT)
- cavities
- water tank
- water management
- environmental management
- noise management
- building permit

information container framework for PIM

Updating the AIM

- Checking and validation for updating AIM in compliance with (IER)
- Configuration management - workflow management

Central point

Local authorities (client)

Operators

Contractors

Consultants and architects

GAIA X services framework

DIGITAL-TER 2050 MARKET CONFERENCE 14-15 MARCH 2023
Generic usages
DIGITAL-TER 2050: GAIN for all on 4 targets

Cloud infra (European framework for a global of territory approach)
- a panel of services on cloud managing the permanent accessibility and maintenance independently to the customer (equivalent to big players and smes)
- a high level of services fully secure, including redundancy
- sovereignty on the full life cycle of the information due to the stakeholder structuration
- sovereignty in the data workflow due to the unicity of the cloud infra management (single source of information)

Aggregating appropriate data dedicated for use cases
- a common framework for an holistic view of the territory
- a common methodology for a dynamical view of the territory under IOT standardisation
- framework for sovereignty management of the digital continuity based on European requirements
- a common framework for managing models federation (connection)
- a common framework for predictive management of works performance

Data mesh level (single source of specification for data management)
- AIM to PIM and PIM to AIM federating structured and unstructured (open and big) data
- specifications implementation coming from international standardisation
- standardisation and simplifying BIM execution plan with reproducibility gains
- common specifications for checking tools and reproducibility
- common framework of information container
- management by a common ID supervisors for every domain (transversal and multisectors)
- common ID supervisors along the lifecycle of data and works for trust and long term collaboration

Data sharing of statical and dynamical digital twin under CDE approach (ISO 19650) for contract and services management -> PIM management
- open CDE (as services)
- a common framework for modelling collaborative data (contract's metadata)
- framework of common rules for project monitoring and handover
- a framework for common rules of requirements and performances managements (based on ID properties management)
- framework of common collaborative services specification under opensource approach and based on standards (to be independent of any software vendors)
next steps

- Developing the GAIA X lighthouse project
- Encouraging new countries to participate to DIGITAL-TER 2050
- Encouraging synergies
  - The railway industry
  - The nuclear industry
  - The mobility sector
- building the confidence on the business model based on:
  - neutrality
  - mutualisation of investments

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Thank you for sharing this.

I read the project description and it seems well structured and strongly aligned to the architecture and principles of Gaia-X. I wonder whether you have already submitted it as a potential Gaia-X LHP (Lightouse Project), as the domain of engineering and constructions is not covered yet by any LHP.

In this sense I’m happy to connect you to Thomas Hahn, lead of the DSBC (Data Space Business Committee) that inside the AISBL is in charge to endorse LHP. Also attached please find the LHP criteria that we use to evaluate a new candidate. Finally I ask Alessandra to reach out to you to support in the process and I look forward having your project part of the exclusive club of LHP.

It goes without saying that being a LHP has some pre-requirements, in particular the alignment to Gaia-X and the business purpose of the project, but also the membership of the project participants (and if not all, at least of the key ones with the commitment to onboard the others), but also we expect contribution to the development of the Gaia-X framework from the LHP and we’ll verify their progress and alignment to the LHP principles on a yearly basis to maintain the LHP status.

What we give back is multiple benefit: a front line visibility through our membership, the possibility to expand your participants interested in onboarding in your projects, the presence in all our communication channels, initiatives and events, a special channel to submit requirements to evolve Gaia-X in line with your needs, the participation in the activities of coordination and exchange across the LHPs to share experiences, lessons learnt and much more.
domain of expertise

stakeholders business focus

cloud computing  data mesh  data aggregating  sharing and collaborative
Gaia-X aims at building a trusted, sovereign digital infrastructure for Europe

Creation of digital infrastructures and an ecosystem for innovation
Trusted environment between partners and interoperable links between smart service applications and infrastructure services.

Increasing transparency and attractiveness of digital services
Reduce barriers to compliant service usage; enable the development of new services and products.

Data sovereignty
Strengthen the digital sovereignty of business, science, government and society.

Reduction of dependencies
Reduce private and business consumers’ dependency of single providers; control over location and regulatory environment of stored data; reduce sector-specific dependencies.

FiWare community for services on data exchange based on use cases

DAWEX for Gaiax digital clear house including provider
<table>
<thead>
<tr>
<th>GAIAX lighthouse requirements</th>
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<tbody>
<tr>
<td><strong>Alignment with the vision and the goals of GAIAX</strong></td>
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<tr>
<td>1.1</td>
<td>How is Data Sovereignty considered in your dataset?</td>
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<tr>
<td>1.2</td>
<td>How do you increase the level of transparency, i.e., for services in your dataset?</td>
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<td>1.3</td>
<td>How do you address compliance with European data protection legislation?</td>
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<tr>
<td><strong>Openness: creating open, non-proprietary systems for data exchange</strong></td>
<td></td>
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<tr>
<td>2.1</td>
<td>How are proprietary solutions encapsulated to avoid lock-in effects?</td>
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<tr>
<td>2.2</td>
<td>Which open-source standards (if any) are applied?</td>
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<tr>
<td>2.3</td>
<td>How do you ensure to reduce dependencies in your dataset?</td>
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<tr>
<td><strong>Adoption of the GAIAX policies, rules, architecture and trust framework</strong></td>
<td></td>
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<tr>
<td>3.1</td>
<td>How do you ensure compliance with the GAIAX policies, rules and architectural guidelines (documents listed above)?</td>
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<tr>
<td>3.2</td>
<td>How do you comply with the self-description requirements for your service?</td>
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<tr>
<td><strong>Impact on EU economy and/or society</strong></td>
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<tr>
<td>4.1</td>
<td>How do you characterise and estimate the potential economical and/or social impact of your use case?</td>
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<tr>
<td>4.2</td>
<td>Which challenges of the EU economy are addressed?</td>
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<tr>
<td><strong>Pan-European value</strong></td>
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<tr>
<td>5.1</td>
<td>Your initiative has participants from how many different European countries?</td>
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<tr>
<td>5.2</td>
<td>How can your use case or solution possibly be adopted in other markets?</td>
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<tr>
<td>5.3</td>
<td>How does your initiative contribute to the development and application of European rules and standards?</td>
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<tr>
<td><strong>Large potential drawback</strong></td>
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<tr>
<td>6.1</td>
<td>What is the structure and size of your potential user base?</td>
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<tr>
<td>6.2</td>
<td>How do you foster adoption and growth of the user base?</td>
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<tr>
<td>6.3</td>
<td>How does your initiative support SMEs in particular?</td>
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<tr>
<td><strong>Target scale and scope potential</strong></td>
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<tr>
<td>7.1</td>
<td>How is the horizon of your initiative? (medium-long-term)</td>
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<tr>
<td>7.2</td>
<td>Which use cases/business cases are addressed by your initiative?</td>
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<td>7.3</td>
<td>What is the business model?</td>
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<tr>
<td><strong>Critical mass of committed partners</strong></td>
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<tr>
<td>8.1</td>
<td>What is the minimum critical mass of partners your initiative?</td>
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<tr>
<td>8.2</td>
<td>What is the potential critical mass?</td>
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<td>8.3</td>
<td>What is the average size of your partners?</td>
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<tr>
<td><strong>Funded and networked (in Digital)</strong></td>
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<tr>
<td>9.1</td>
<td>How is your project funded?</td>
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<td>9.2</td>
<td>What is critical resources and how are they managed?</td>
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<tr>
<td><strong>Time-to-market and time to initial launch</strong></td>
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<tr>
<td>10.1</td>
<td>What is the overall timeline to initial go-live of services (and what are key milestones)?</td>
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<td>10.2</td>
<td>What is the size of your initially targeted user group or market?</td>
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<tr>
<td><strong>Complementary to, and benefiting, existing business</strong></td>
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<tr>
<td>11.1</td>
<td>What is the potential to transfer into other industries/demand?</td>
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<tr>
<td>11.2</td>
<td>How does your initiative relate to other initiatives in the market?</td>
</tr>
<tr>
<td>11.3</td>
<td>What is the potential to add value to your business?</td>
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</tbody>
</table>
Synergies in progress

- workshop with local authorities:
  - agreed with Lille Metropole, Rennes Metropole and Region centre in France
  - North state in Portugal
  - finnish hub on smartcities
Encouraging new countries and stakeholders:

- Netherlands: bSI and TNO in progress
- Italy: bSI and others
- Sweden: bSI and Traficverket