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MATRYCS: Modular Big Data Applications for
Holistic Energy Services in Buildings



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Big Data Alliance (BDA) Introduction Webinar

27.09.2021

Agenda

10:00 - 10:05	Introduction and speaker's presentation	Marcelo Lampkowski
10:05 - 10:20	H2020 MATRYCS general overview	Pasquale Andriani
10:20 - 10:45	Big Data Alliance (BDA): concept, objectives, focus areas and work process	Roman Mendle
10:45 - 10:55	Q&A	Roman Mendle / Pasquale Andriani / Marcelo Lampkowski
10:55 - 11:00	Information on how to join and next steps	Marcelo Lampkowski



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MATRYCS general overview

Modular Big Data Applications for
Holistic Energy Services in Buildings

Pasquale Andriani

Engineering Ingegneria Informatica S.p.A.

Title: Modular Big Data Applications for Holistic Energy Services in Buildings

Funding: European Union's Horizon 2020 Research and Innovation Program (H2020)

Budget: 4.577.835,00€

Lifetime: October 2020 – September 2023 (36 months)

Coordination:

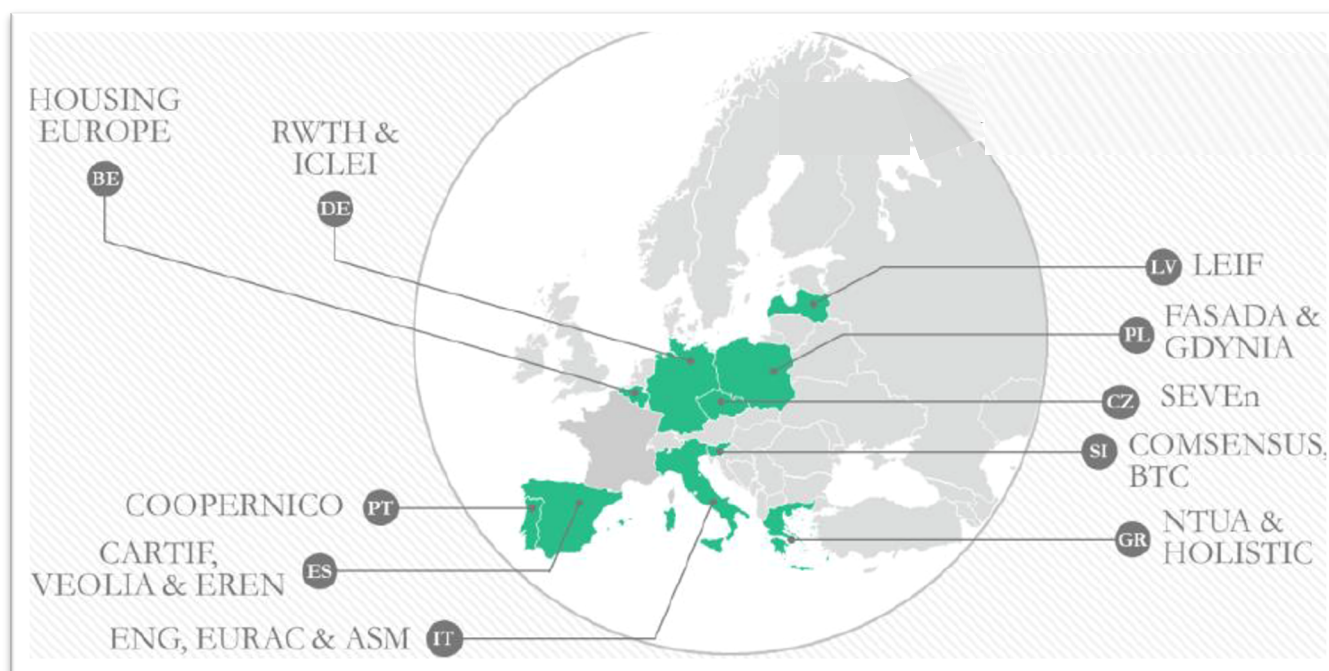


Participants:



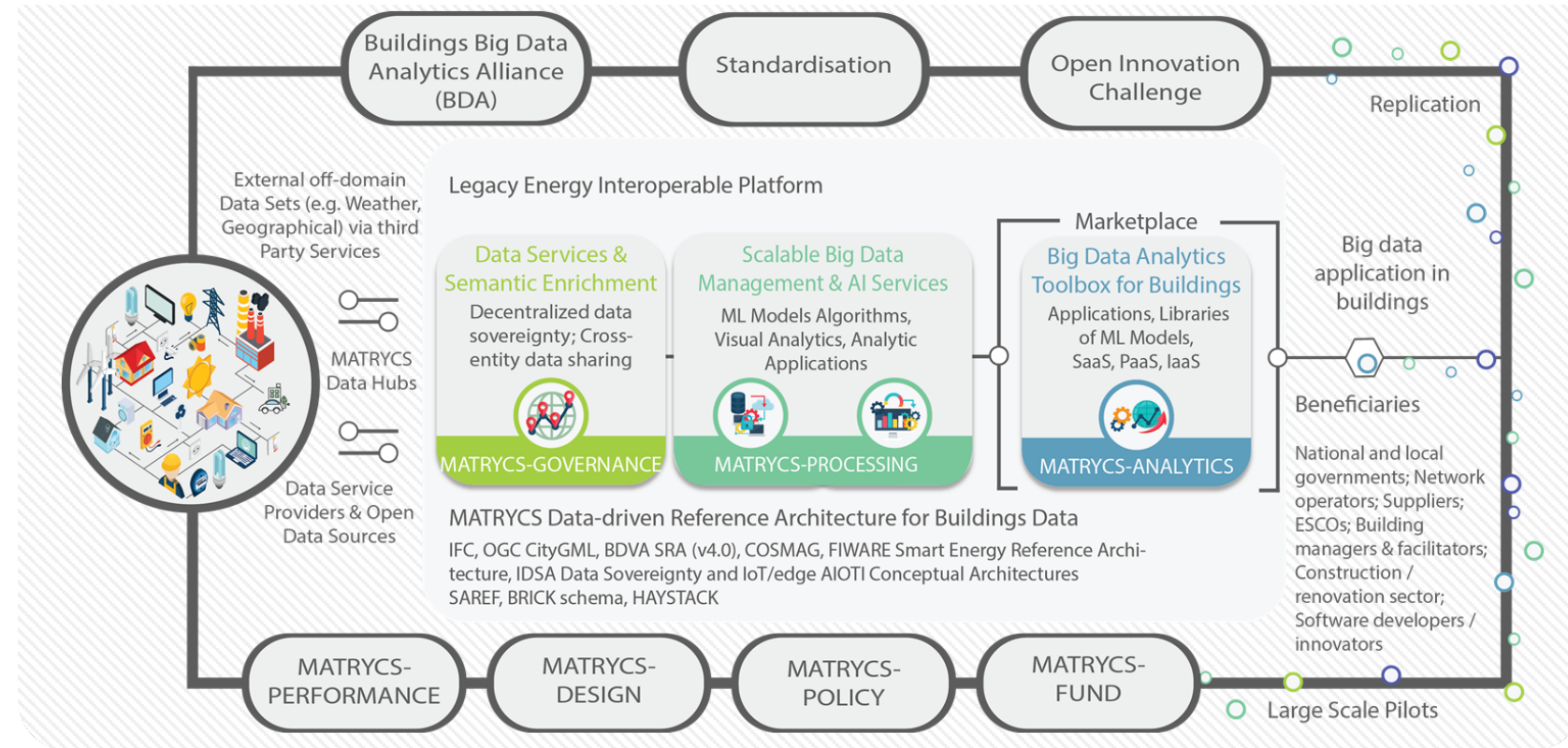


Research Centers/ Universities	Public Bodies/ Agencies	Non-Profit/NGO	Large Enterprises/ Public Companies	Small Medium Enterprises
•NTUA •CARTIF •RWTH •EURAC	•GDYNIA •COOPERNICO •EREN •LEIF	•ICLEI •SEVEN •HOUSING EUROPE	•ENG •ASM •VEOLIA	•HOLISTIC •COMSENSUS •BTC •FASADA



■ Reference Architecture for Building Data

- **GOVERNANCE** - data collection, semantic annotation and distributed storage
 - **PROCESSING** - ML and DL models
 - **ANALYTICS** - analytics toolbox as a service
- ## ■ 11 Large Scale Pilots (LSPs)
- **PERFORMANCE**
 - **DESIGN**
 - **POLICY**
 - **FUND**
- ## ■ Building Big Data Alliance (BDA), Standardisation, Hackathon, Replication Workshops



MATRYCS's vision can be summarized in 7 clear, measurable, realistic and achievable objectives



Scientific

Development of a **data-driven Reference Architecture for AI-based scalable big data** management & analytics in smart energy-efficient buildings.

Development of a **semantic and business interoperability framework** for cross domain analytics applications and cross-context learning.



Technical

Delivering a **data governance** technology enabler to facilitate **cross-stakeholder data sharing, exchange and handling**.

Evolution and deployment of a technology enabler for **a set of trained, high-quality Machine Learning and Deep Learning models**

Deployment of the MATRYCS **open, cloud-based data analytics toolbox** along different deployment modes



Business

Demonstration of the applicability, effectiveness and value of the MATRYCS Modular Toolbox through Digital Building Twins **and real-life applications**.

Provide **evidence for the business**, social and environmental impact of the Toolbox, boost **EU-scale data economy and valorization and impact on standardization**.

MATRYCS-GOVERNANCE

middleware to act as a mediator between data users (Applications and Tools) and data providers

MATRYCS-PROCESSING

encapsulate the intelligence components of the MATRYCS solution providing a library of reusable AI-based ML / DL models

MATRYCS-ANALYTICS

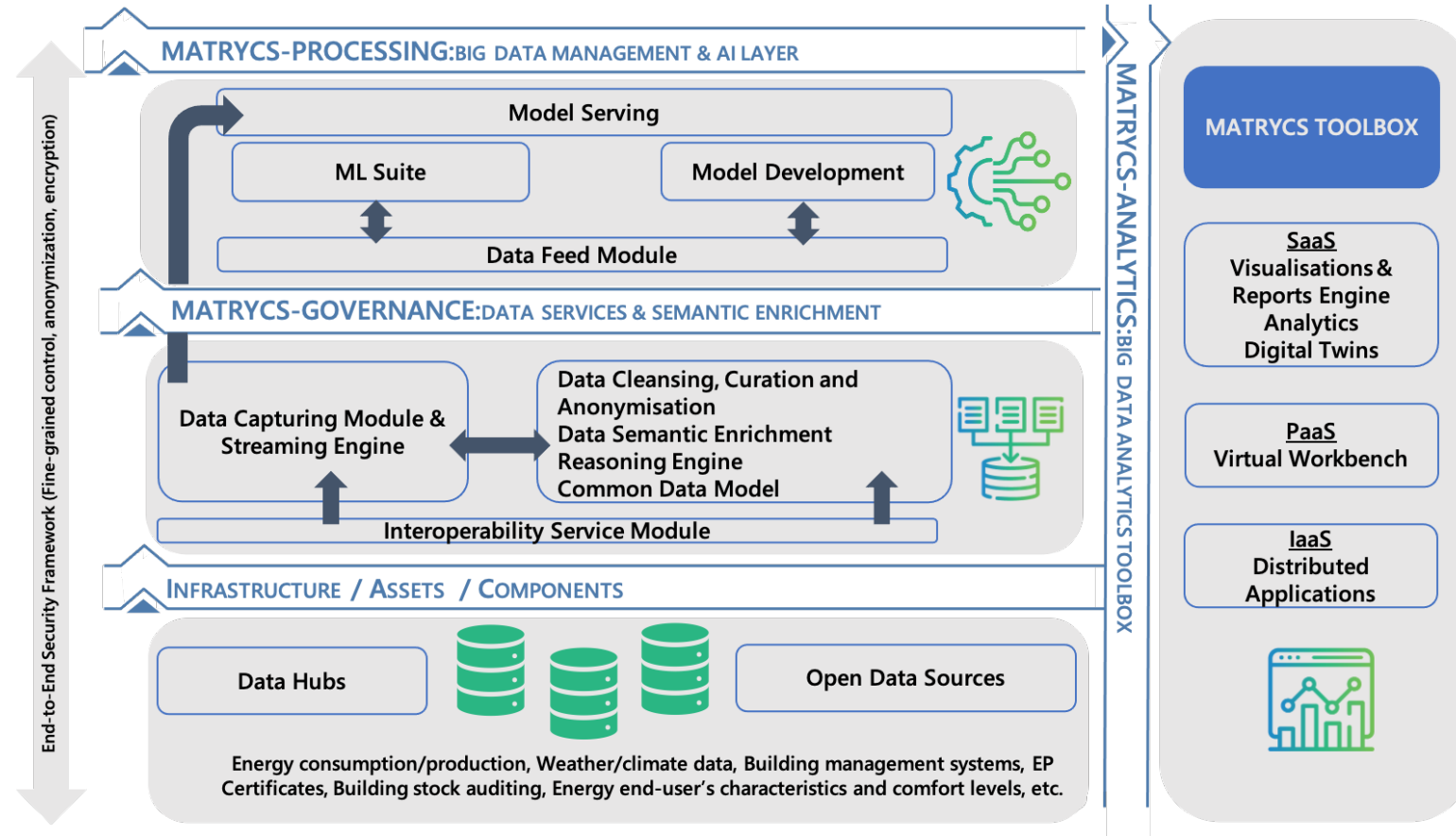
Visualisations and Reports Engine for the visual representation of the stored data and the results produced from the analytical components

Analytics Building Services exploited through LSPs

Digital Building Twins as a digital representations of physical systems

Virtual Workbench to let developers and potential innovators, design and develop new services for the buildings sector

As an open source sandbox, in container-based workflows that could be flexibly deployed over cloud infrastructures



Service and business models for:



MATRYCS-PERFORMANCE – operational stage of buildings aimed at monitoring and improving energy performance



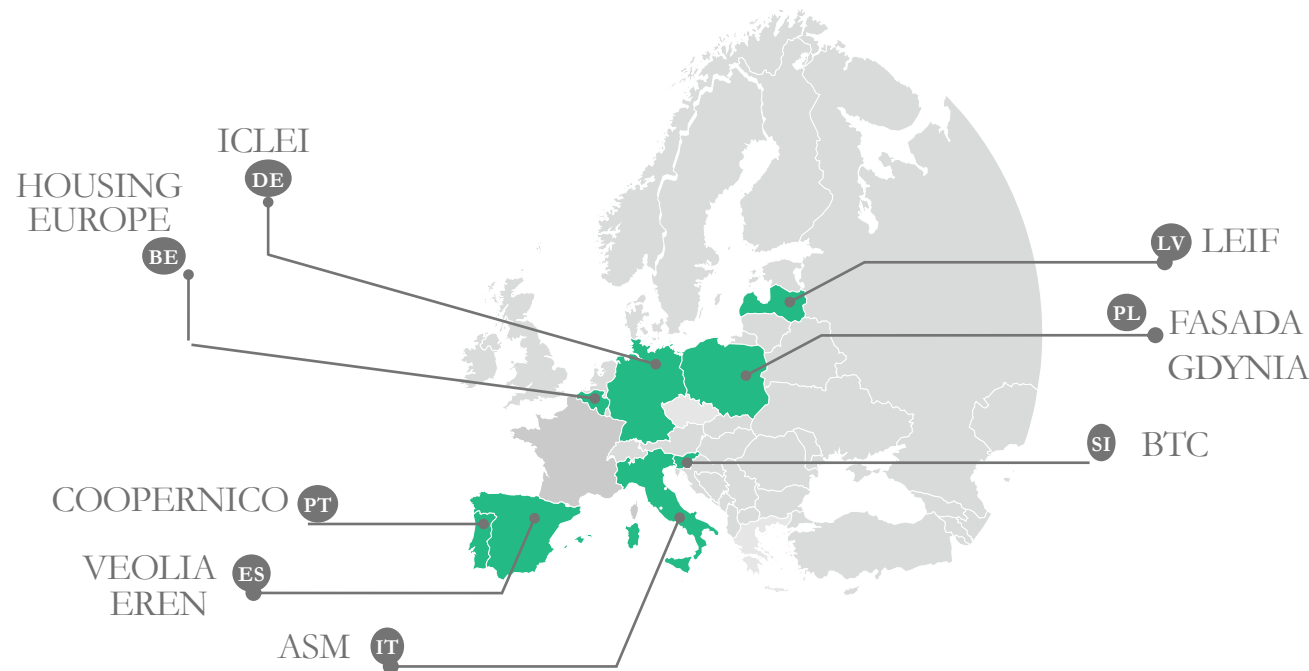
MATRYCS-DESIGN – to facilitate the design, refurbishment and development of building infrastructure



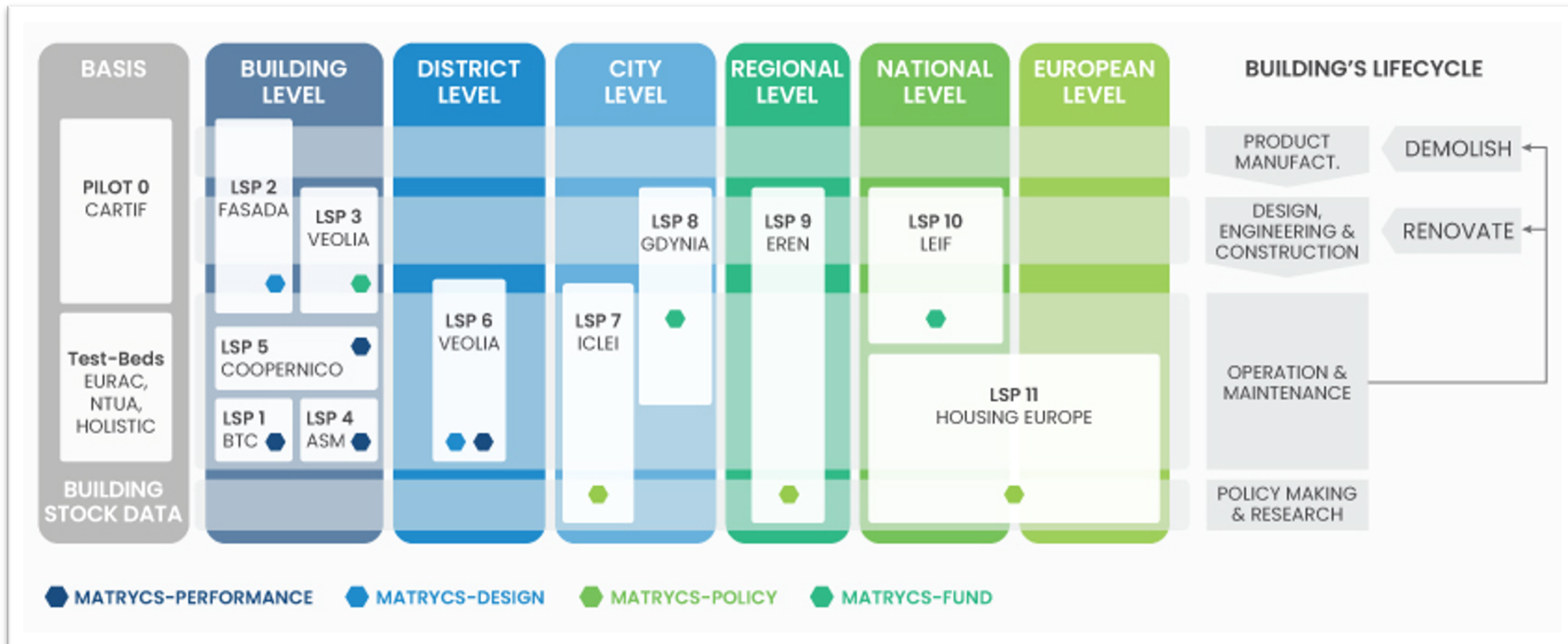
MATRYCS-POLICY – to support policy making and policy impact assessment



MATRYCS-FUND – enhanced reliability and reduced risks of energy efficiency investments, tailored to ESCOs and financing institutions



- MATRYCS pilot's approach covers the whole lifecycle of buildings:
from the product manufacturing to the operation and maintenance, as well as policy making and research
- Buildings are considered from different perspectives and scales:
buildings as individual elements to their aggregation at varied scales





Buildings' value chain stakeholders

National and local governments, network operators, suppliers, ESCO's, building managers, construction & renovation sector, investors.

IT Industry Players & SMEs

IT companies, web entrepreneurs, software engineers of solutions for big data and energy domains.

Industry Associations-Tech Clusters

European initiatives and clusters, research communities, associations, Federations.

Research & Academia

Individuals engaged in research initiatives and/or working in research and academic institutes.

Policy Makers & Standardisation Organisations (SDOs)

Policy-makers at any level, Ministries and Governments, Regulatory Agencies, Standardisation Organisations



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Thank you!

Pasquale Andriani



Visit our Website



www.matrycs.eu

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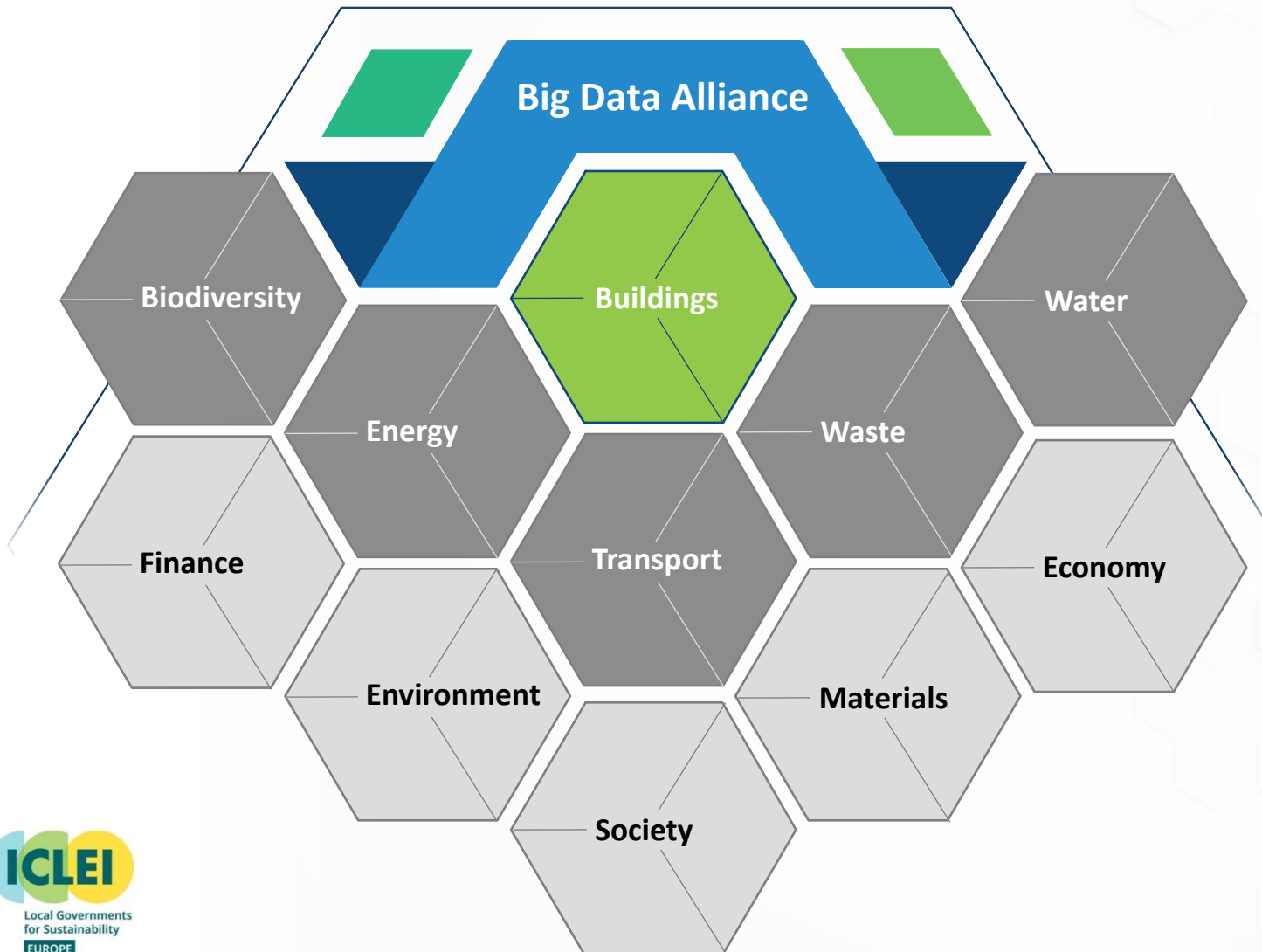
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Big Data Alliance Introduction Webinar

27 September 2021

Roman Serdar Mendle
ICLEI – Local Governments for Sustainability

The vision of a BDA is to become Europe's leading platform for trans-sectoral big data collaboration.



The BDA aims to become “the” European platform for identifying, connecting, analysing, visualizing and operationalizing open and available data sets in Europe.

The BDA will be driven by asset stakeholders that provide and receive unique value to and from one another, including access to data and data analysis services.

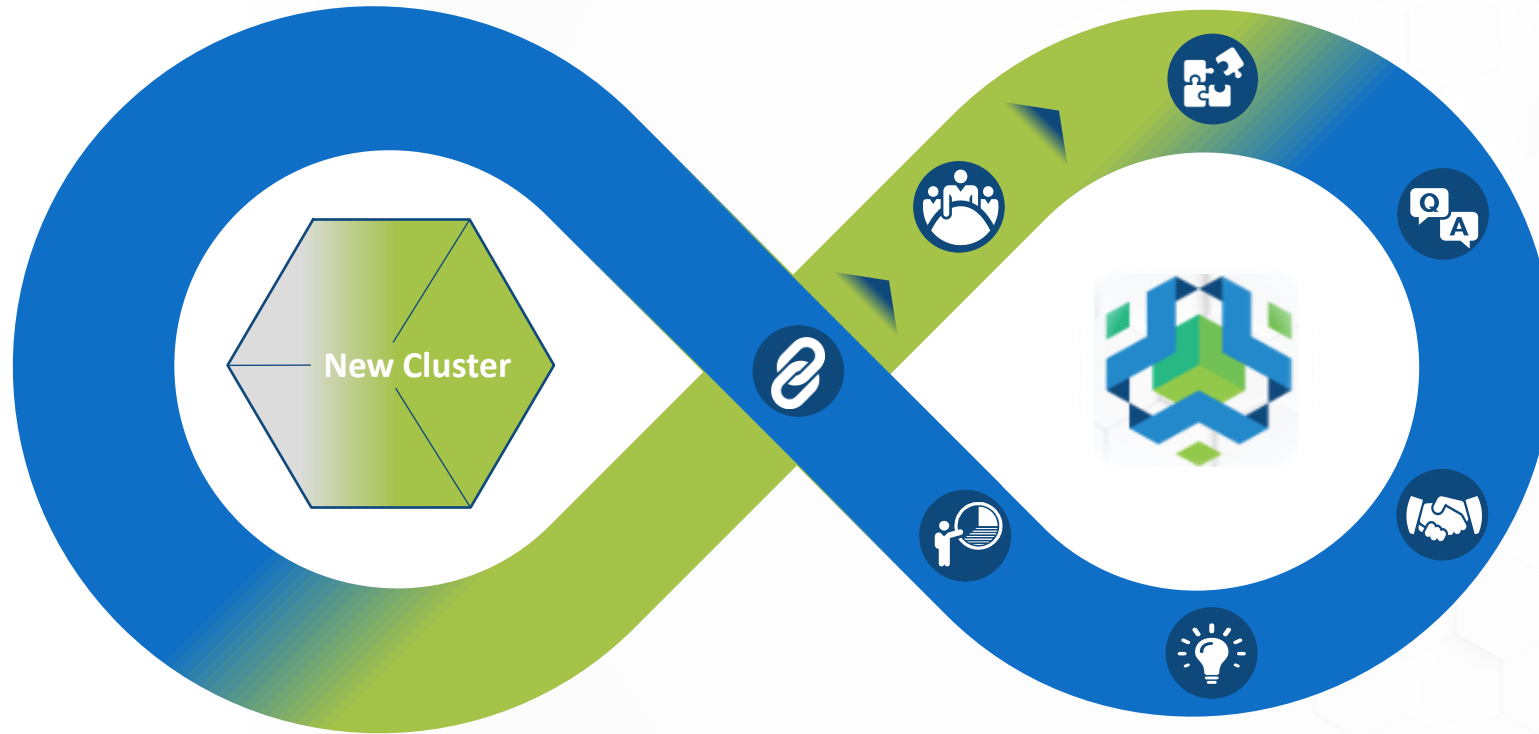
The BDA will initially focus on buildings but aim to include other thematic clusters to eventually cover all sustainable urban development domains.

The BDA will be a regular and interactive process with a high degree of facilitation and preparation

Work Mode

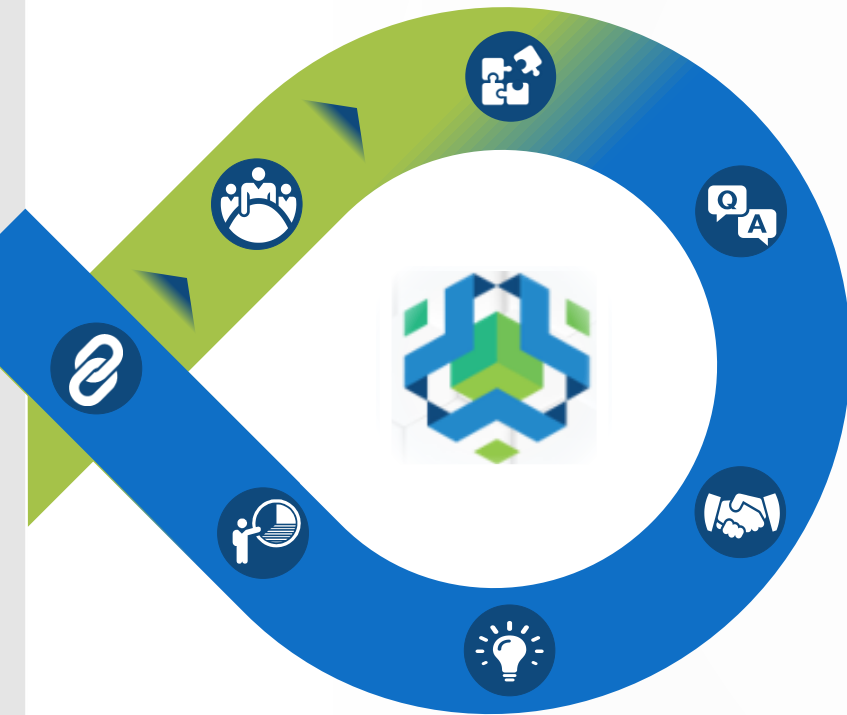
- **Clear working process focused on innovation and ideation:** The BDA will at its heart feature a cyclical working process where actors are brought together to combine their strengths, define challenges and solve them together to generate project and initiative blueprints for future project applications as well as implementation.
- **Webinars and Physical Meetings:** The process points will be taken up in well prepared and facilitated webinars, requesting input and active participation from stakeholders. COVID permitting, physical meetings would be preferable to ensure more personal interaction of stakeholders.
- **Active support for partnership and consortium building for new projects:** Turning new ideas and content generated in the alliance should ideally lead to new project and implementation partnerships. Webinars will be designed in a way that they foster new connections among suitable sub-groups of partners that should lead to concrete collaboration.

The Big Data Alliance will be a cyclical stakeholder process to connect and utilize open data sets.



-  Added-Value Stakeholder Mapping and Inclusion
-  Asset Aggregation: Data access and capacity
-  User and Decision Maker Needs Assessment
-  Partnerships for access, analysis and applications
-  Ideation and Co-Creation of Solutions
-  Advocacy, Marketing and Dissemination of Results
-  Link to other initiatives and start of next cycle

Each step in the process roughly corresponds with a work phase and regular, interactive BDA events



	Added-Value Stakeholder Mapping and Introduction	Jan 2022	Webinar: Interactive Agenda Setting for BDA
	Asset Aggregation: Data access and analysis	Apr 2022	Webinar: Synergies & Big Data Opportunities
	User and Decision Maker Needs Assessment	Jul 2022	Webinar: Challenges & Use case applications
	Partnerships for access, analysis and applications	Oct 2022	Webinar: Partnerships, Concepts & Roadmaps
	Ideation and Co-Creation of Solutions	Jan 2023	Webinar: Solutions & barriers presentations
	Advocacy, Marketing and Dissemination of Results	Apr 2023	Event: BDA Road show for partnerships
	Wrap-up and linking with other initiatives	Jul 2023	Outreach to partners for upcoming cycle



Roman Mendle

Coordinator - Climate
Neutrality, Circular
Economy and Smart
Cities

Twitter: @rsmendle

LinkedIn: www.linkedin.com/in/roman-mendle

Join us!

<http://bda.matrycs.eu/>

<https://matrycs.eu/contact>

Q&A session

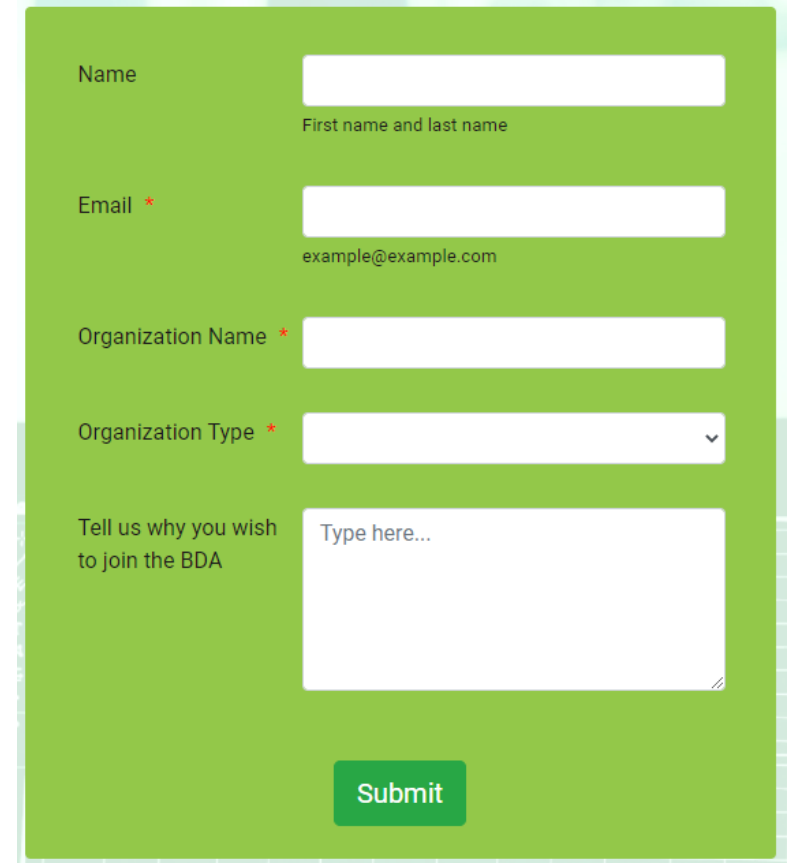
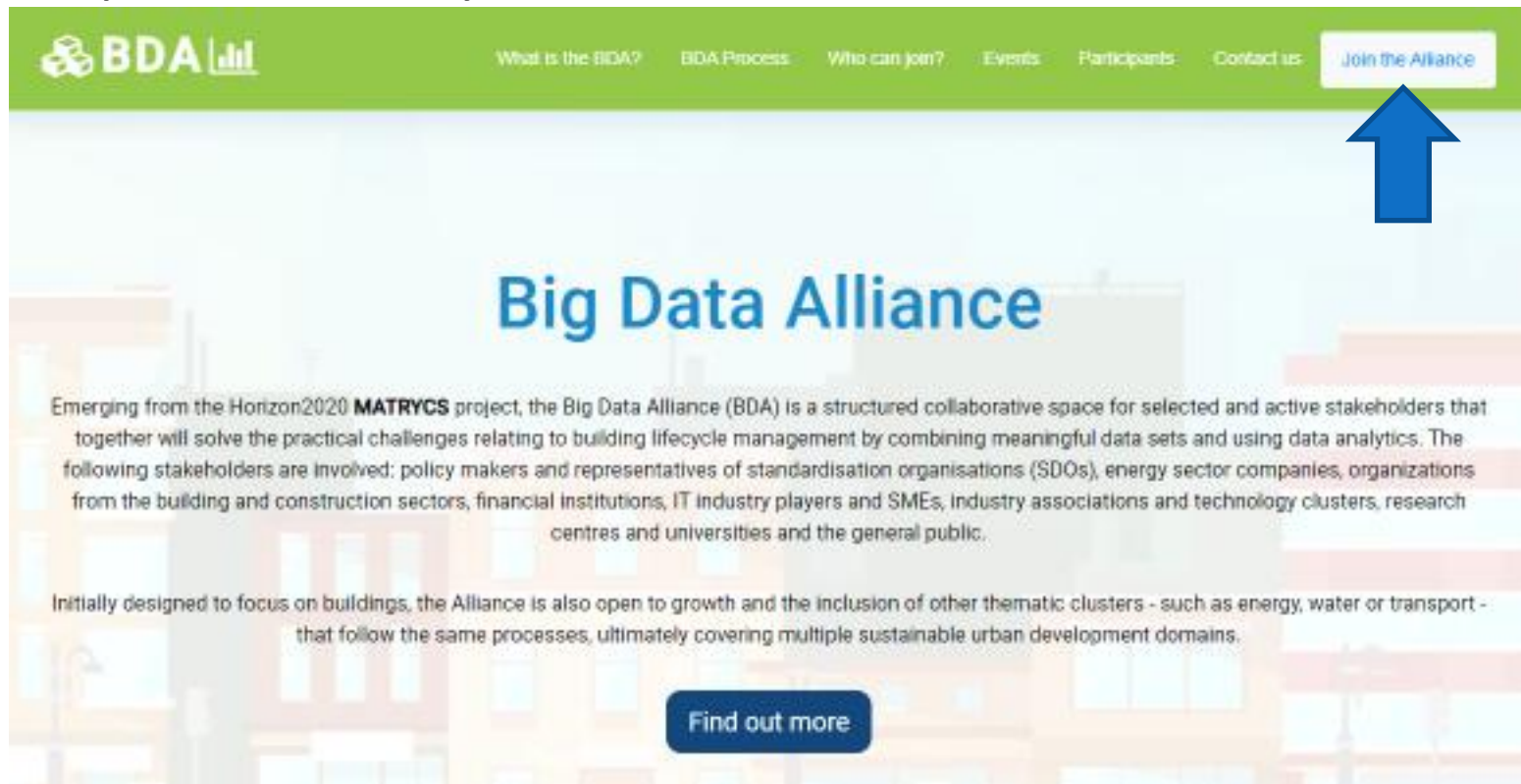


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Information on how to join and next steps

<https://bda.matrycs.eu/>



Information on how to join and next steps

[What is the BDA?](#) [BDA Process](#) [Who can join?](#) [Events](#) [Participants](#) [Contact us](#) [Join the Alliance](#)

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Name

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Subject:

Message *

All fields marked with * are required.

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The Big Data Alliance (BDA) is an initiative emerged from the **H2020 MATRYCS** project.



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The Big Data Alliance (BDA) website is managed by **ICLEI Europe**.





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