



**TEADAL**



# Introducing TEADAL

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*Ubiwhere*

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TRUSTWORTHY, ENERGY-AWARE, FEDERATED DATA LAKES  
ALONG THE COMPUTING CONTINUUM

HORIZON-CL-4-2021-DATA-01-01

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# EU Data strategy

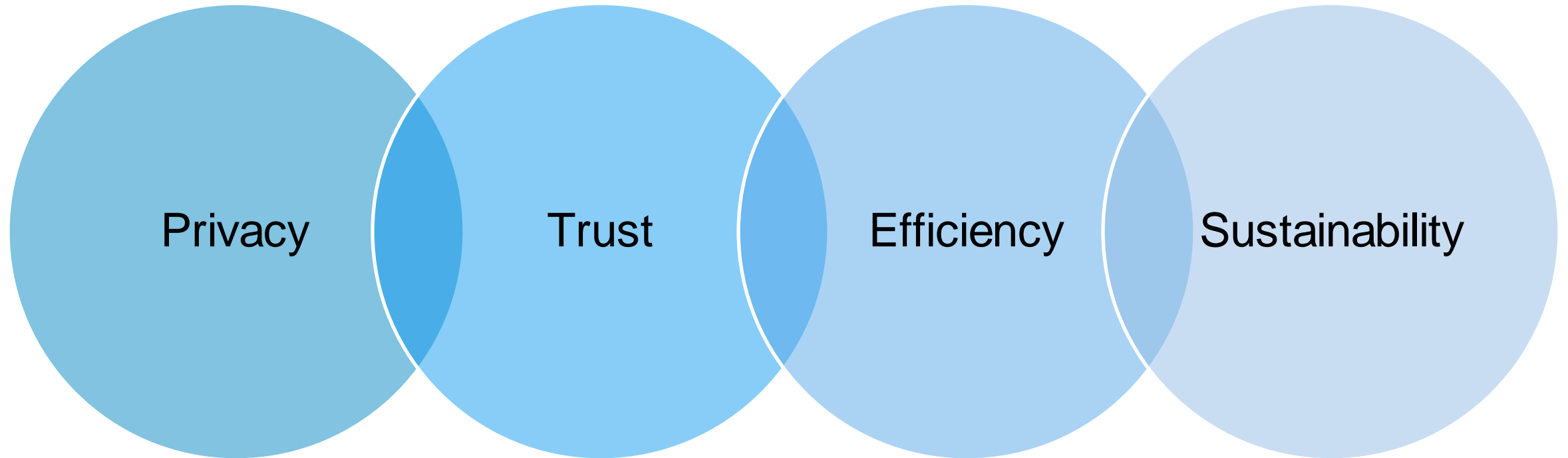


**Availability of data:** The value of data lies in its use and re-use. Currently there is not enough data available for innovative re-use, including for the development of artificial intelligence. The issues can be grouped according to who is the data holder and who is the data user, but also depend on the nature of data involved (i.e. personal data, non-personal data, or mixed data-sets combining the two<sup>17</sup>). Several of the issues concern the availability of data for the public good.

**Data infrastructures and technologies:** The digital transformation of the EU economy depends on the availability and uptake of secure, energy-efficient, affordable and high-quality data processing capacities, such as those offered by cloud infrastructures and services, both in data centres and at the edge. In this perspective, the EU needs to reduce its technological dependencies in these strategic infrastructures, at the centre of the data economy.

*New decentralised digital technologies such as **blockchain** offer a further possibility for both individuals and companies to manage data flows and usage, based on individual free choice and self-determination. Such technologies will make dynamic data portability in real time possible for individuals and companies, along with various compensation models.*

# Challenges



## Main ambition



To provide key cornerstone technologies that will enable the creation of trustworthy mediatorless federations of data lakes spanning the cloud-edge continuum and, as dynamic constellations of different organizations, to improve a trusted, verifiable, and energy-efficient data sharing as a key driver for fostering a Sustainable European Digital Single Market.

# Objectives



1

To establish confidence in handling of data across the continuum and deliver efficiency for building and using stretched data lakes solutions.

2

To enable the construction of trustworthy data lakes and mediatorless federation of trustworthy data lakes.

3

To reduce the environmental impact of data analytics by carefully managing how data are stored, reused, moved, and processed in a federation of stretched data lakes.

4

To simplify the specification and enforcement of privacy/confidentiality requirements, constraints and policies for federated stretched data lakes to be compliant with regulations, norms, and organizations' policies.

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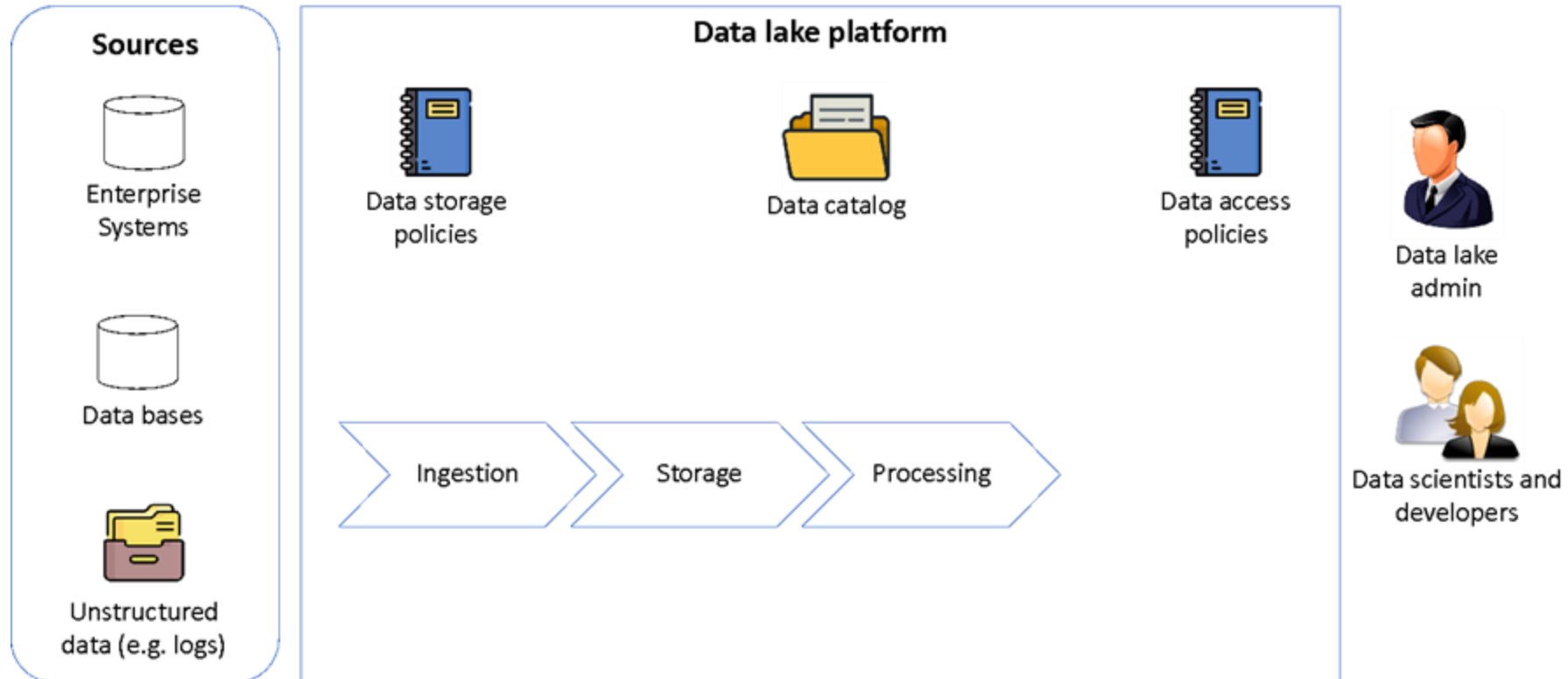
To contribute and influence research, data-centric European initiatives, open-source communities, and industry with methods, and tools to improve data sharing.

# Consortium



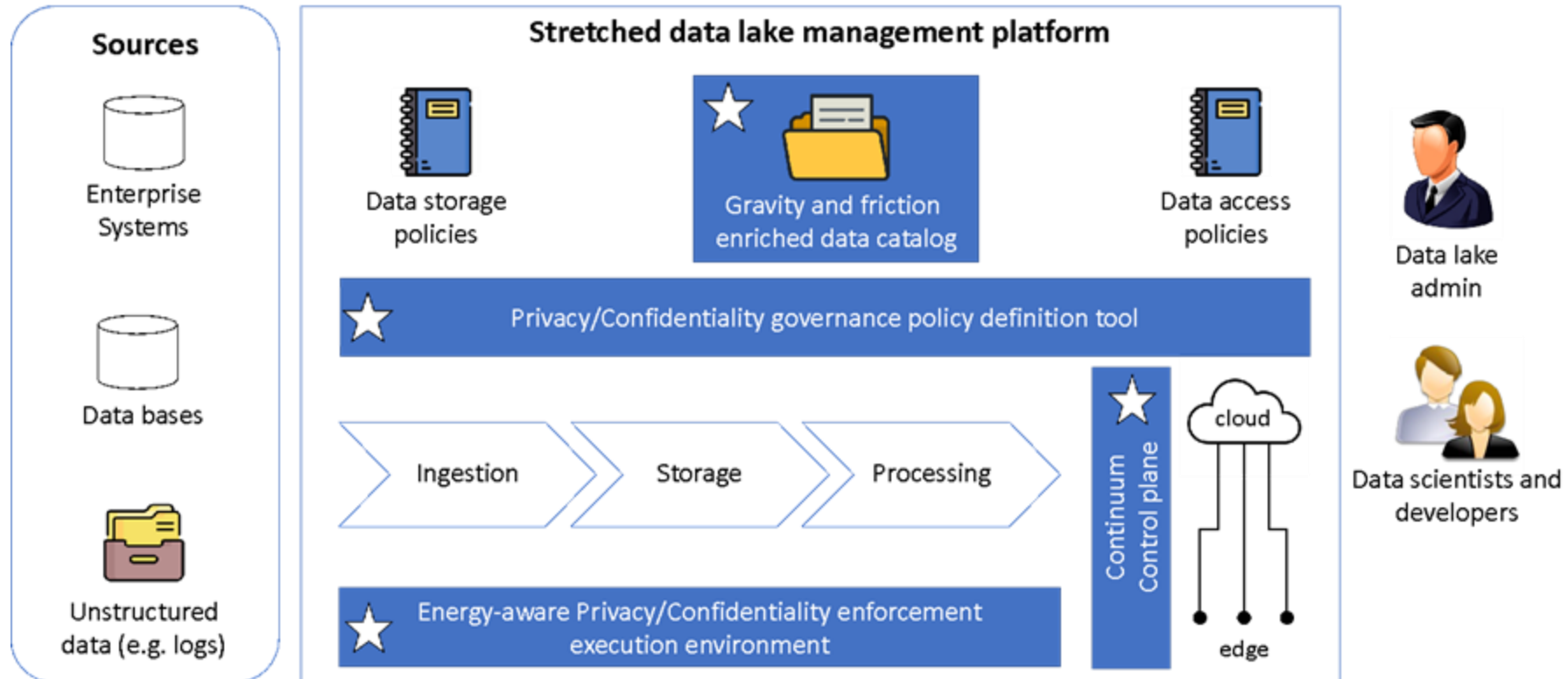
No.	Participant organization name
1	UBIWHERE LDA (Coordinator)
2	POLITECNICO DI MILANO
3	CYBERNETICA AS
4	CEFRIEL SOCIETA CONSORTILE A RESPONSABILITA LIMITATA
5	IBM ISRAEL - SCIENCE AND TECHNOLOGY LTD.
6	TECHNISCHE UNIVERSITAET BERLIN
7	ING BANK N.V.
8	MARINA SALUD, S.A.
9	UNION INTERNATIONALE DES TRANSPORTS PUBLICS
10	AZIENDA METROPOLITANA TRASPORTI E SOSTA CATANIA SPA
11	TECHNISCHE UNIVERSITAET WIEN
12	ALMAVIVA - THE ITALIAN INNOVATION COMPANY SPA
13	MARTEL GMBH
14	TERRAVIEW GMBH
15	ERT TÊXTIL PORTUGAL, S.A.
16	FUNDACIO PRIVADA I2CAT, INTERNET I INNOVACIO DIGITAL A CATALUNYA
17	BOX2M ENGINEERING SRL
18	REGIONE TOSCANA

# From data lake ...



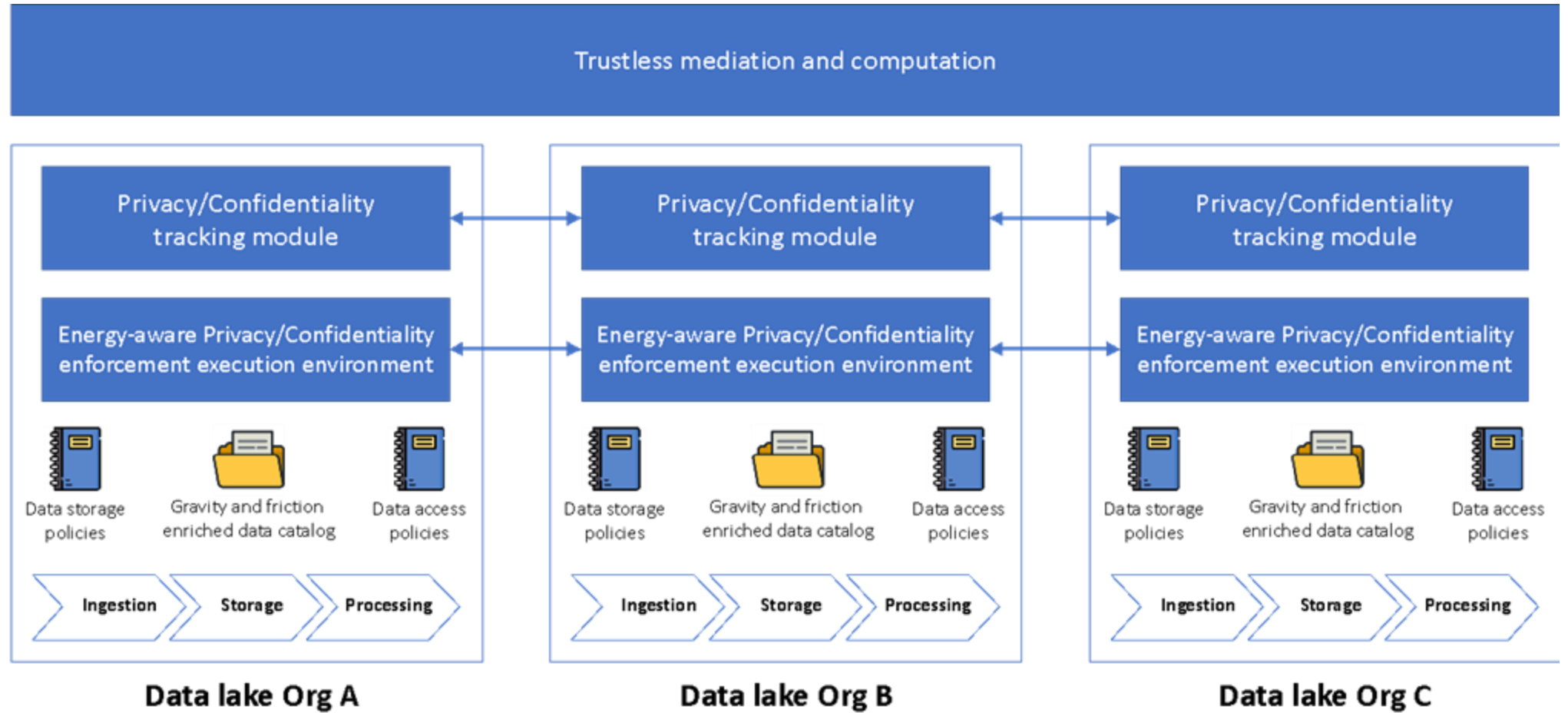


# ... to stretched data lake ...





# ... That can be federated



# S/T methodology – pilot cases



## Evidence-based medicine

- Health data space – case partner: MARINA

## Mobility federated access point

- Mobility data space – case partners: UITP, AMT

## Smart viticulture data sharing

- Agricultural and Green Deal data spaces – case partner: TERRAVIEW

## Industry 4.0 fast KPI calculation

- Industrial data space – case partner: ERT

## Shared financial data governance

- Financial data space – case partner: ING

## Regional planning for environmental sustainability

- Energy/PA data spaces – case partners: RT, BOX2M



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THANKS



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