TEADAL

Trustworthy, Energy-Aware federated DAta Lakes along the computing continuum

Dr. Rita Santiago, Ubiwhere

10-11 May 2023, Brussels

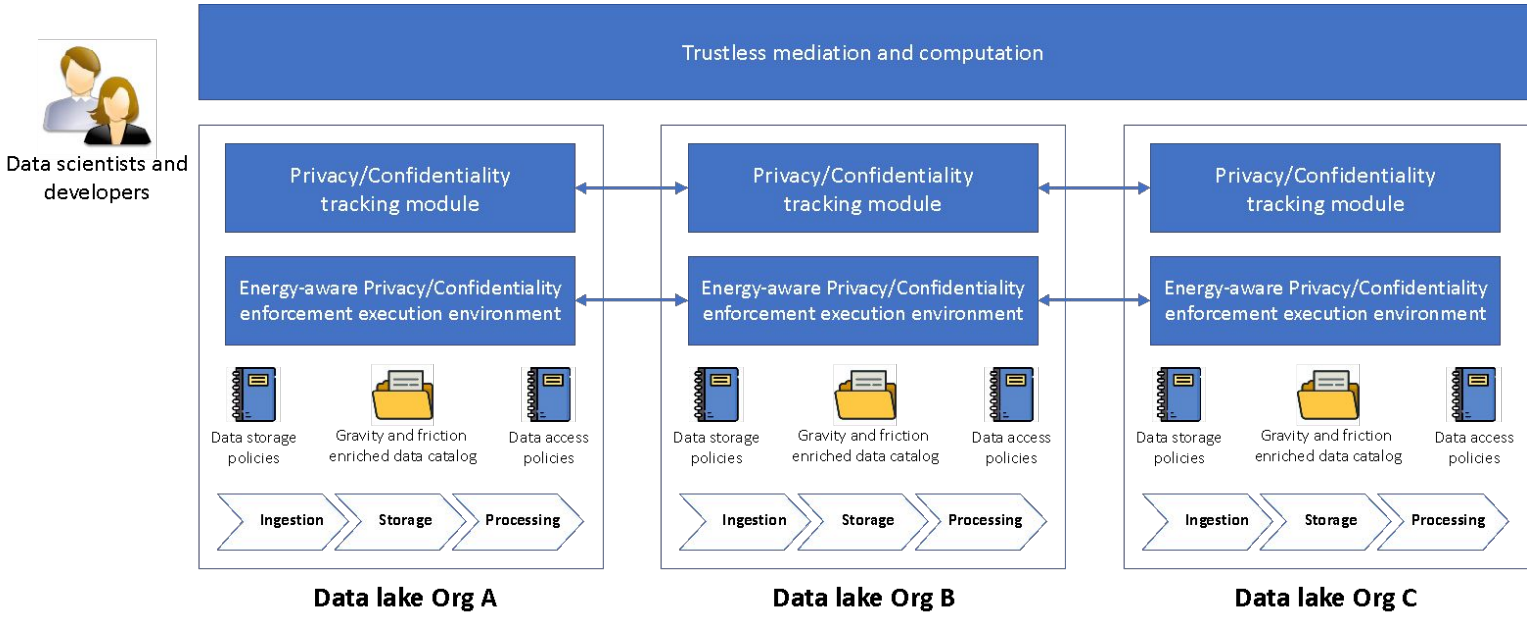
Objectives

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

Use 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**

TEADAL Federated Data Lake



The Consortium

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TRUSTEE

Trust & Privacy Preserving Computing Platform For Cross-Border Federation Of Data

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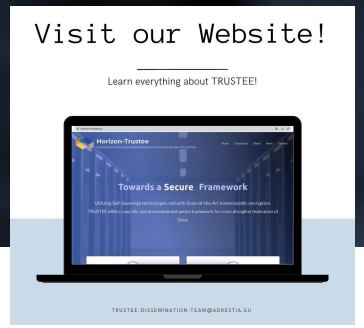

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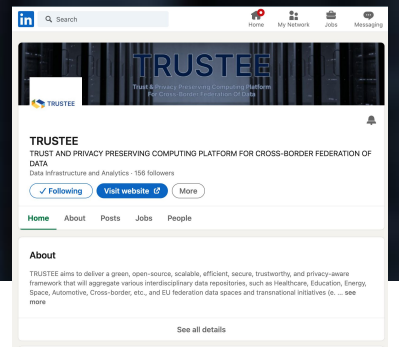

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TRUSTEE

European Commission | EUCloudEdgeIoT.eu

Concertation and Consultation on Computing Continuum: From Cloud to Edge to IoT

10-11 May 2023
The Claridge - Brussels, Belgium

Organized by: Open Continuum
Supported by: Unlock CEI and SWForum

HORIZON EUROPE

TRUSTEE has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101070214

Project Facts

- **Duration**: 3,5 years | 42 months | 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**: FORTH-ICS

TRUSTEE goals

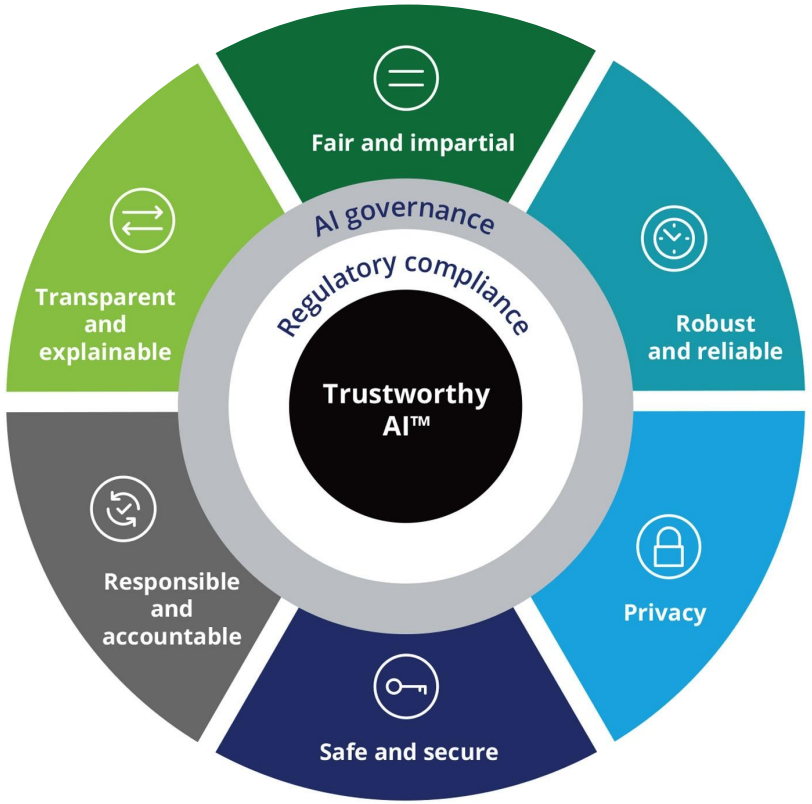
- **Create** a novel homomorphic encrypted, secure-by-design , and privacy-aware framework ensuring user-friendly, **safe**, **trustworthy**, compliant, **fair**, **transparent**, **accountable**, and long-term **data collection**, **storage**, **processing**, **querying**, and **delivery**
- **Aggregate** various interdisciplinary data repositories, and other EU data federation spaces and trans-national initiatives, such as Gaia-X and EOSC, etc.
  - develop big data management pipelines capable of processing parallel flows of heterogeneous data from various sources
  - empower stakeholders to make effective use of readily available data
- **Enhance** the use of **Self-sovereign technologies and Homomorphic encryption** for the cross-discipline federation of data **revealing only necessary data for any given transaction or interaction**
  - Empower companies, organizations, and individuals to access data domains across different disciplines, use and re-use the data and metadata to extract knowledge with trust and confidentiality

TRUSTEE Objectives / Vision

1. Design a Secure and Trust framework and Reference Architecture to ensure end-to-end trust and privacy for stakeholders across European data

2. Design and develop a distributed Homographic-capable self-sovereign framework for accessing, sharing and manipulating data, compliant to national and EU legislation

3. Novel Big Data management and analytics infrastructure to facilitate use and re-use of data in data spaces across interdisciplinary science fields and business sectors

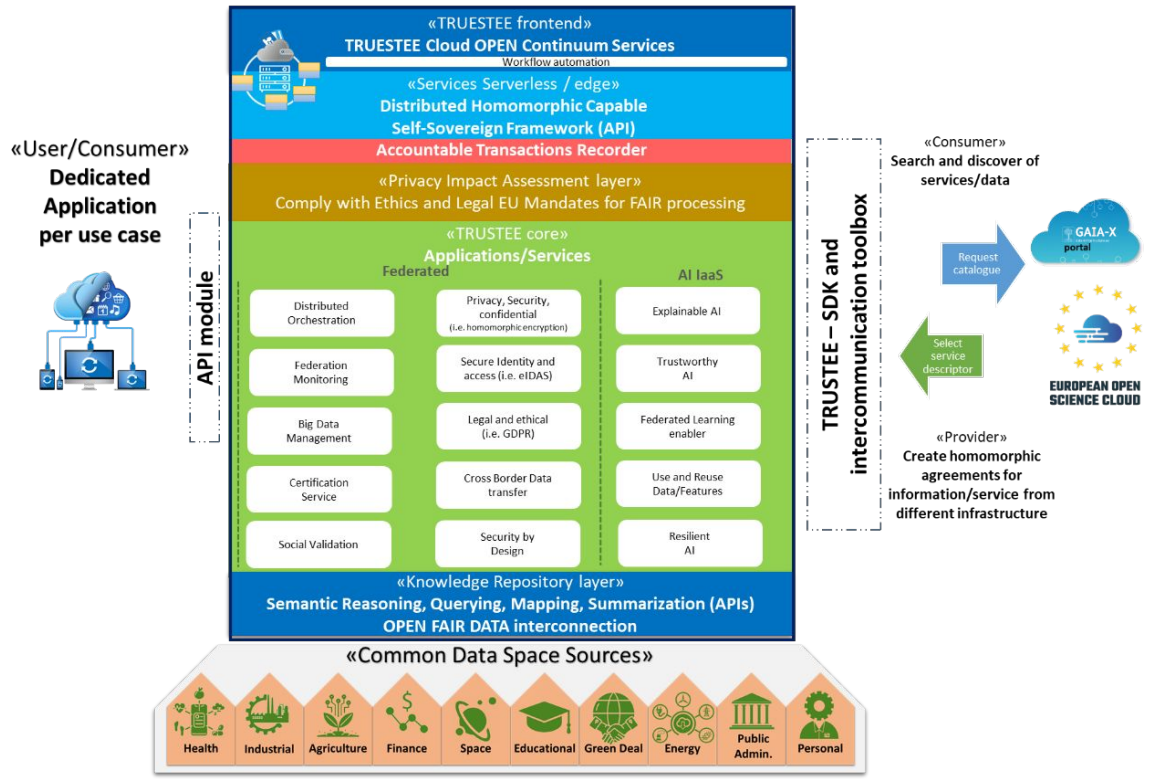


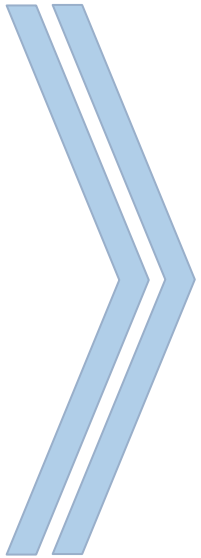
4. Analyze the ethical, legal, privacy and IPR issues for collection, storage, processing, querying, analytics and delivery of data enabling the European single market for data

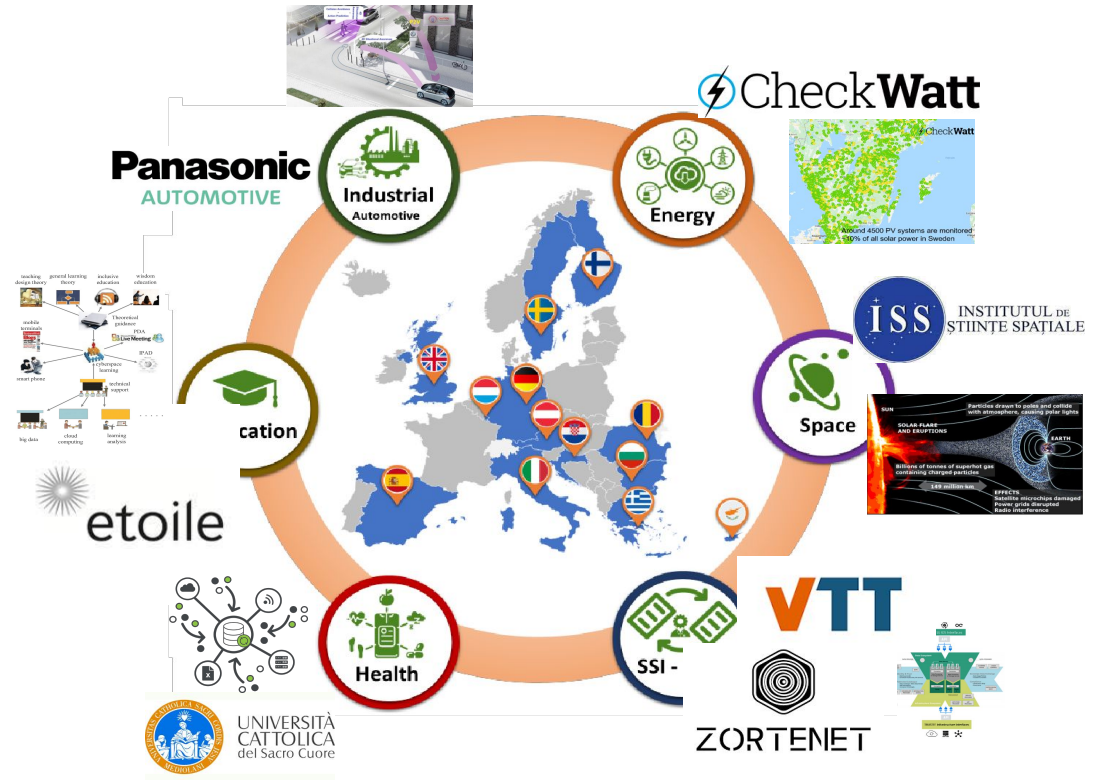
5. Design and develop TRUSTEE explainable and trustworthy AI for efficient and robust use and re-use of data and metadata across interdisciplinary domains

6. Provide OPEN and FAIR databases facilitating sharing and manipulation of data in compliance with prevailing and emerging legislation (e.g. GDPR)

TRUSTEE design concept & Use cases







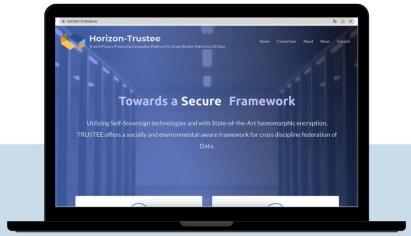
TRUSTEE's fully **encrypted solution** will be **validated through six use cases** supporting GAIA-X, EOSC, EGI, etc. **Demonstrating a multi-disciplinary, Pan-European federated FAIR and private ecosystem.**

Thank you!

Do you have any questions?

Visit our Website!

Learn everything about TRUSTEE!



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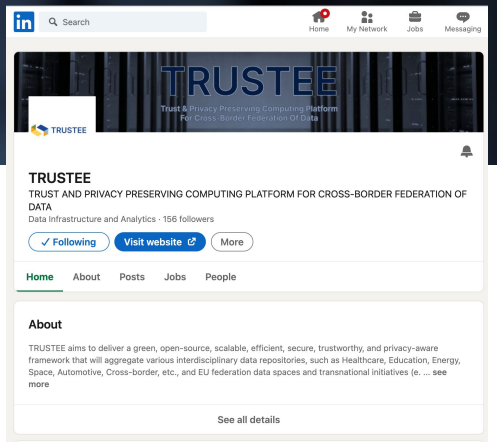

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