Enabling trustful sharing of valuable data assets among organisations: PISTIS as Data Spaces enabler

The European project PISTIS aims at delivering a secure and controlled platform for the exchange and usage of data assets and data-driven intelligence.

PISTIS is a European-funded project that kicked off in January 2023 under the leadership of Fraunhofer Institute for Open Communication Systems (FOKUS). Its goal is to **develop a reference federated sharing and trading platform for secure, trusted, and controlled usage of proprietary data assets and data-driven intelligence**. The project will advance available procedures and technologies, including federated data discovery and sharing, distributed ledger technologies (DLTs), data non-fungible tokens (NFTs), and AI-driven data quality assessment and monetization. Partners involved are expected to engage stakeholders and gather feedback, to develop the platform with the required functionalities and necessary regulatory and legal standards.

The necessity to exploit the data assets' value

Data is becoming an increasingly valuable asset in the digital economy as they bring tangible benefits and innovation not only in business but also in social life. It is expected **175 zettabytes (ZB) to be produced by 2025**, up from 33 ZB currently. Despite the potential benefits of this resource, **approximately 80% of industrial data is never effectively used** (source: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1113). In fact, data management and sharing remain elusive due to several issues, concerning technical, cultural/organisational, economic, and legal factors. The PISTIS project aims to address these challenges by developing secure, trusted, and controlled data batches for ensuring a valuable usage of data assets.

The PISTIS proposal to enable a trustful use of the data assets

The Consortium involves 31 partners from 11 European countries and will run up to June 2026 to create a distributed network of existing and new data spaces with built-in governance to eliminate silos. The objective will be addressed by promoting **Living Lab activities,** which involve identifying needs and requirements of the data economy, as well as integrating stakeholders' feedback into the technical framework. In addition, to demonstrate the applicability of the solution in both vertical and cross-domain/sector scenarios, the project will validate data sharing, exchanges, and transactions among different partners in three cross-domain settings, referred to as the "demonstrator hubs".

QUOTE 1 (Yury Glikman, Project coordinator of PISTIS, Fraunhofer FOKUS, Berlin, Germany)

"PISTIS aims to develop a federated data sharing/trading and monetisation platform for secure, trusted and controlled exchange of proprietary data assets. Targeting the expansion of the data trading ecosystem, the project will consider and also influence the specifications produced in the global Data Spaces initiatives (GAIA-X, IDSA) to increase the degree data sharing interoperability to further promote the EU Data Economy. PISTIS will be tested and validated in real-life settings in 3 large-scale demonstrators' hubs in Greece (Mobility and Urban Planning), Spain (Energy) and Austria & Germany (Automotive)."

The demonstrator hubs to validate the PISTIS proposal

1) Mobility and Urban Planning

The first demonstrator hub will take place in the region of Athens, Greece, and is set to build an effective chain, centred around data trading, and sharing among stakeholders from various sectors, including aviation, public transportation, and public administration. The hub will include data consumers and providers to assess five use cases: baggage handling management, transfer passenger management, aircraft turnaround process, public transportation planning support, and insights for city commercial businesses.

2) Energy

This demonstrator hub aims to provide a real environment for validating the operational benefits of data sharing, with a specific focus on the electrical distribution network, and how different actors can set more efficient and sustainable procedures. The involved sectors are the energy market, prosumers (i.e., individuals who are both energy producers and consumers in this case), and technical support. The hub involves four actors from the energy sector value chain in the evaluation of the following use cases: increasing the hosting capacity of the grid, investment deferral, P2P trading between users or energy communities, and monetization of data owned by different actors.

3) Automotive

This demonstrator hub aims at promoting environmental-friendly, safe, and efficient mobility and transport, directly supporting the European Green Deal. The hub will use various data sources, including connected vehicle data from car manufacturers, vehicle trip data, weather data, map data, and air quality data, to provide to individual drivers, businesses, and public administrations, into two use cases: traffic quality assessment and driving attitude and risk assessment.

Benefit from data assets in security

QUOTE 2 (Sotiris Koussouris, Technical coordinator of PISTIS, Suite5 Data Intelligence Solutions Ltd, Limassol, Cyprus)

"The PISTIS platform and its composing services offers to any organisation the possibility to join a common Data Space with other organisations for governed data exchange/trading among of them, allowing them to increase the quality of their data, understand their real value and suggest new revenue streams that open up new business opportunities for both data providers and consumers. The whole approach is based on the deployment and operation of PISTIS on top of existing infrastructures, lowering in this manner the barrier for organisations to join such new-generation data marketplaces, keeping at the same time the Capex low, to allow them to immediately enjoy economic benefits."

The PISTIS project is expected to have a **significant impact on the digital economy** by optimising the way data is stored through secure and trusty procedures. The promotion and the entry to the market of the platform implemented will guarantee the achievement of this innovative and promising solution.

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