

PRESS INFO

FIWARE Foundation and Alastria Association demonstrate strong market impact with next-generation Blockchain use cases for Data Spaces and ‘Powered by FIWARE’ solutions

- FIWARE Foundation and Alastria Association have been bringing Blockchain and Distributed Ledger Technologies (DLTs) at the core of *Powered by FIWARE* Smart Solutions and Data Spaces, leveraging EU standards.
- Pioneer use cases for the sectors of Public Administration and Agrifood are now available showcasing how jointly developed components support full traceability and certification of processes.
- Both organisations are collaborating towards the design of how Decentralised Identity and Access Management (IAM), traceability of transactions between participants, and the federation of marketplace services from different providers can be materialised in Data Spaces.
- Components developed are confirmed to be designed for the support of the integration with [EBSI](#)-compatible blockchain networks and the [EBSI](#)¹ network itself (already in pre-production with more than 30 nodes in 25 Member States).

Berlin, Madrid – March 16, 2022 - Collaborating already since 2020 (see joint [press release](#) from 08/2020), [FIWARE Foundation](#) and [Alastria Association](#) jointly follow the objective of accelerating digitalization in different sectors, helping public and private organisations to bring higher trust and transparency through the adoption of Blockchain and DLT technologies. This powerful collaboration focuses on two fronts: 1) How to deal with the integration of these enabling technologies into the architecture of smart solutions *Powered by FIWARE*, and 2) How to integrate FIWARE and Blockchain/DLT technologies to bring the basis for materialisation of Data Spaces enabling trusted and effective data sharing among different organisations. The collaboration has successfully translated into the availability of open source software components that will help to speed up projects with great impact on society, being the pioneer of use cases already demonstrating this.

Integration of Blockchain technologies in *Powered by FIWARE* architectures

The integration of Blockchain technologies in architectures based on FIWARE is now achievable thanks to the development of new components for the transparent and trusted logging of information associated with Digital Twin Data transactions in Blockchain networks. Juanjo Hierro, CTO at FIWARE Foundation,

¹ EBSI is a partnership building a ‘European Blockchain Services Infrastructure’ with their vision to leverage Blockchain to the creation of cross-border services for public administrations and their ecosystems to verify information and make services trustworthy. Since 2020, EBSI is deploying a network of distributed Blockchain nodes across Europe, supporting applications focused on selected use cases. EBSI is the first EU-wide Blockchain infrastructure, driven by the public sector, in full respect of European values and regulations.

explains: “*These components, already tested within the Alastria and other Blockchain networks, allow the configuration of those transactions within a Powered by FIWARE system that should generate a log in the blockchain and what information should be stored with it. These log records will facilitate audits of processes that have been automated using FIWARE in order to ensure transparency or certify the quality of these processes*”.

The integration has been tested in Public Administrations as part of the [TOKEN project](#) and in the Agrifood sector within the [Cattlechain project](#), both funded by the EU. The TOKEN project demonstrates how the transparency, integrity, and traceability of processes run by Public Administrations is guaranteed. This is due to the fact that log records stored in the blockchain cannot be manipulated. One of the pioneer use cases in this domain is currently being implemented by the city of Santander. Cattlechain project addresses the development of components to be incorporated into the Digitanimal platform², which already today helps cattle monitoring and improve processes linked to extensive livestock farming (addressing more than 6,000 farmers in 60 countries). The main objective of this project is to ensure full traceability of animal welfare indicators collected by sensors and processed by a new generation of AI algorithms. Thanks to components developed in the project, quality seals can be issued and associated with produced meat boxes, guaranteeing that the living conditions of animals meet the highest animal welfare standards with full transparency and traceability throughout the entire supply chain, connecting farmers with consumers. The Spanish Ministry of Agriculture, Fisheries and Food has contemplated the creation of a Digital Innovation Hub focused on FIWARE technologies as part of the PERTE Plan (Strategic Projects for the Economic Recovery and Transformation). Therefore, full traceability and transparency of processes associated with other use cases in the Agrifood sector can be explored based on the integration of FIWARE and Alastria technologies.

“*These real-world use cases help to demonstrate how FIWARE and Alastria technologies can already be integrated today to address real-life challenges and to deliver actual impact,*” adds Jesús Ruiz, CTO at Alastria.

Blockchain technologies at the core of Data Spaces

Data Spaces³, being key elements of the [European Data Strategy](#), have been additionally brought to focus in this collaboration. It is expected to not develop such Data Spaces from scratch but, based on open standards widely adopted in the market, to leverage common building blocks previously defined in the CEF ([Connecting Europe Facility](#)) programme.

Contributing to this strategy, FIWARE Foundation and Alastria are working closely together on the definition of building blocks for the creation of Data Spaces in various sectors. Results are already being used for early experimentation in EU funded projects like [i4Trust](#) or in technical convergence discussions taking place within the *Data Spaces Business Alliance* (DSBA; see [press release](#) from Sep 23, 2021) recently launched by the Big Data Value Association (BDVA), FIWARE Foundation, Gaia-X and the International

² <https://digitanimal.com/>.

³ A Data Space is defined as a decentralised ecosystem for data exchange, built around an agreed set of building blocks that ensure the effective and reliable exchange of data between ecosystem participants. The EC envisages the creation of an initial set of interconnected Data Spaces linked to sectors such as smart communities/cities, mobility, agriculture, health, manufacturing and tourism, as well as cross-cutting ones linked to skills development or the green deal.

Data Spaces Association (IDSA), all of them being considered reference organisations for Data Spaces in Europe.

Alastria and FIWARE have agreed to specifically work in these fields and towards these objectives:

- **Trust and data sovereignty:** Incorporation of Decentralised Identity (DID) mechanisms based on verifiable credentials/presentations (VC/VPs) following the most recent W3C standards^{4,5}. These mechanisms have been identified as the basis for the definition of IAM services in Gaia-X.
- **Data exchange traceability:** FIWARE adaptors integrated with Blockchain networks to facilitate the traceability of transactions between participants.
- **Data value creation:** Federation of multiple marketplaces sharing a single catalogue of service and service offering descriptions, and implementing the standard TM Forum APIs⁶ on top of Blockchain networks such as the Alastria one. The format for storing service descriptions and service-linked offers will be based on VC/ VPs, as specified in Gaia-X.

Considering Alastria's strategy towards technological convergence with EBSI, results from the aforementioned areas will support the realisation of [EBSI](#)-compatible Data Spaces.

“Alastria represents a leading Blockchain initiative in Europe, and we are extremely happy to extend our collaboration. This partnership is instrumental for the design of core building blocks in Data Spaces. The fact that there is quite a large number of companies already experienced in FIWARE technologies in Spain brings a significant opportunity to position this country at the forefront of the creation of Data Spaces in Europe. This goes hand in hand with the principles we are promoting with the Data Spaces Business Alliance,” says **Ulrich Ahle, CEO of FIWARE Foundation**.

Alastria's president, Miguel Angel Dominguez, adds: *“Our collaboration with FIWARE Foundation helps us to get closer to the core of current developments around Data Spaces in Europe and beyond with Data Spaces Business Alliance being in a major driver's seat. We are looking forward to contributing with Blockchain technologies to the Data Spaces mission for the materialisation of Data Spaces in practice”*.

⁴ W3C Verifiable Credentials Data Model v1.1: <https://www.w3.org/TR/vc-data-model/>

⁵ W3C Decentralized Identifiers (DIDs) v1.0: <https://www.w3.org/TR/did-core/>

⁶ <https://projects.tmforum.org/wiki/display/API/Open+API+Table>

About FIWARE - <http://fiware.org/>

Any software architecture Powered by FIWARE is built around a Digital Twin data representation of the real world which is constantly updated by integrating data coming from multiple sources (IoT systems, ERP systems, other information systems) and is processed to automate operation processes or bring support to smart decisions. Effective data integration, full interoperability and portability of solutions across platforms, can only be achieved through standardisation - and here is where FIWARE brings two essential elements: 1) [Context Broker](#) technology implementing the standard ETSI NGSI-LD API for the management of Digital Twin data, 2) Common [Data Models](#) describing the attributes and semantics associated with the different types of Digital Twins. Thanks to these two elements, smart solutions can become fully interoperable and easily replicated/ported on top of Powered by FIWARE platforms, avoiding vendor lock-in and contributing to the development of a sustainable and innovation-driven digital single market with appealing incentives -, from financial to social benefits, and for all actors.

About FIWARE Foundation

Together with the community of its members and the collaboration of partners, FIWARE Foundation drives the definition and fosters the adoption of FIWARE open source technologies, implementing and materialising the integration of key open standards that support a faster, easier and cheaper development of portable and interoperable smart solutions in multiple application domains.

FIWARE Foundation members share a common vision and combine their efforts toward making FIWARE as the Open Source technology of choice for industries, governments, universities and associations to reach their full potential, scaling up their activities. Founded in 2016, the FIWARE Foundation has Atos, Engineering, Red Hat, NEC, Telefónica and Trigyn Technologies among its 500+ members. For further information, refer to [FIWARE's Press Kit](#) and follow the organisation on [Twitter](#), [LinkedIn](#), and [YouTube](#).

About Alastria Blockchain Ecosystem - <https://alastria.io/en/>

Alastria Blockchain Ecosystem is a non-profit association promoting the digital economy through the development of Blockchain/DLT technologies. Alastria has a clear vocation to be a pioneering project of reference in the generation of new digital economy models. It is the first public-permissioned Blockchain network in Spain and Europe with multisectorial associates.