

**Proof of Concept Results and Blockathon Forum  
31/05/2023  
Event Report**

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## 1 Introduction

On 31 May 2023, the EUIPO organised an event via the Blockathon Forum to present the latest news and milestones related to the Anti-Counterfeiting Blockathon Infrastructure project. This hybrid meeting gathered around 100 attendees from various sectors interested in anti-counterfeiting issues: rights holders; IP representatives; transport and logistic operators; law and enforcement authorities; international, European and national public organisations; blockchain solution providers; and, more generally, representatives from the Web3 community.

They were welcomed by **Alexandra Poch, Acting Director of the European Observatory on infringements of IPR at EUIPO**, who introduced the Proof of Concept results and the Blockathon Forum. After unveiling the name of the future infrastructure (**EBSI**<sup>(1)</sup> **ELSA**<sup>(2)</sup>), she emphasised the significance of the project as an asset in the global fight against counterfeits and highlighted the next steps towards product development.

## 2 EU project backdrop and EUIPO Blockchain services

**Claire Castel, Head of the Outreach and Knowledge in Intellectual Property service of the European Observatory** set the scene for this project, which is currently being developed as part of a wider approach taken at an EU level that includes a potential future use case at EU level under the European Blockchain Services Infrastructure (EBSI). **Pierre Marro, Policy Officer** from the **European Commission**, Directorate General for Communications Networks, Content and Technology (**DG CNECT**) stressed the interest shown by their respective DGs regarding the EBSI ELSA project and the potential synergies it may provide at an EU level.

The project is also part of another EUIPO initiative using blockchain technology. **Adam Stubbings** and **Carlos Luna García, Project Manager and IT Expert at the EUIPO** presented the IP Register on Blockchain Project, which aims to switch data-sharing operations using a robust and near real-time system between the EUIPO and National Intellectual Property Offices.

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<sup>(1)</sup> European Blockchain Services Infrastructure

<sup>(2)</sup> European Product and Logistic Supply Chain Authenticator.

### 3 The project's latest results – product journey as a proof of concept

This event was the chance to present the results of the proof of concept carried out by the EUIPO together with four brands, two transport and logistics operators and Dutch customs authorities. **Rodrigo Valero Hilario, Project Manager (EUIPO) of the EBSI ELSA Project**, provided a comprehensive explanation of the various product journeys conducted during the proof of concept. These were also summarised in the [product journey video](#) presented to all participants.

### 4 Product journey stakeholder feedback: a dedicated panel

The alliance of all stakeholders is key to the success of such an innovative solution for supply chain and product authenticity. In that sense, a lot of lessons were learned from carrying out a proof of concept with real-life interaction by stakeholders. These were discussed during the next panel debate with all proof of concept partners, moderated by **Nicolas Hauw, Project Lead (EUIPO) of the EBSI ELSA Project**.

Rights holders used the EUIPO infrastructure in different ways, as explained below:

- using different types of products, such as spare car parts, full electronic devices, medical devices, or simple backpacks;
- adapting the use for either a single product or per batch;
- linking the digital twins through different serialisation techniques, from a simple barcode or industry labels – unreadable by the consumer – to a standard QR Code;
- taking a different journey, by sea or air, to demonstrate the ability to share information with customs regardless of the mode of transportation;
- leveraging additional services from brands through a proprietary tool, like an app, thereby drawing information from the logistic journey events or transferring the digital twin to the end consumer;
- building infringing products situations: fake NFTs / product deviated from original logistic journey, or even mixing consignments.



Type of industry	Automotive	Electronics	Pharmaceutical	Apparels
Type of product	Lamp Spare part	Bluetooth speaker	Heat Wraps	Back packs
Volume of product	3	15	24	2 products and brands, in a +400 product container
ID of product	Single Unique Product Identifier (Data Matrix Code)	Single Unique Product Identifier (S/N label)	Serialised batch number	Barcode
Type of data carrier	Pre-printed Industrial label	Post production QR Code	Post production QR Code	Post production QR Code
Departure origin	Beijing, China	Hong Kong, China	Albany, USA	Ho Chi Minh, Vietnam
Transport type	By Road and by Air	By Road and by Air	By Road and by Air	By Road and by Sea
Journey End point	Distribution site in Germany	The Netherlands, transfer to end consumer	Distribution site in the Netherlands	Distribution site in the Netherlands

The reasons for joining the EUIPO proof of concept varied from one brand to another. **Daniel Plewa, Operational Security Specialist at Harman International**, highlighted the major benefit of the infrastructure when it comes to parallel importation and proving product authenticity. **Claudia Lena, Industrial Operations Demand Manager at Angelini Pharma** stressed the benefit of supply chain transparency and business-to-consumer services. **Dan Winter, Application Support Analyst at Equip Outdoors** emphasised the real value of tackling counterfeits due to their environmental impact<sup>(3)</sup> and as part of their corporate social responsibility. **Marcel Schwartz, Manager Digital Product Validation & Consulting at Mercedes-Benz Tech Motion**, highlighted the benefits of this infrastructure in data aggregation and risk analytics, which in the future will allow the creation of reputation maps.

While all panellists acknowledged the challenges such an infrastructure would face in terms of **global adoption, automation with normal operation** and possible **changes in serialisation**, strong emphasis was placed on several dealmakers. These included the **involvement of the EUIPO** and the **connection with customs** compared to the closed blockchain that exists on the

<sup>(3)</sup> As also highlighted by the OECD-EUIPO Study *Dangerous Fakes – Trade in Counterfeits goods that pose health, safety and environmental risks* - <https://euipo.europa.eu/ohimportal/en/web/observatory/report-on-dangerous-fakes>

market, the infrastructure potential to also authenticate **raw materials** for end-use products, as well as its **overall low cost** of adoption based on the open source approach.

Switching to the other set of panellists, comprising transport and logistic operators and customs authorities, participants shared their viewpoint on current business operations and what such an infrastructure could provide in the future.

While acknowledging the need to adjust to the use of new technology, **Elliot Donata, Team leader Innovation Policy at Dutch Customs**, emphasised the benefits of this infrastructure, which provided qualitative data from trusted sources. **Roberto Muriess, Chief Financial Officer** and **Manuele Vetere, Regional Process Owner at J.A.S Jet Air Service** strengthened the infrastructure fitness for normal operation, while **Kester Meijer, Director Operational Integrity, Compliance & Safety at KLM Cargo**, emphasised the value of the new layer of trust such infrastructure creates.

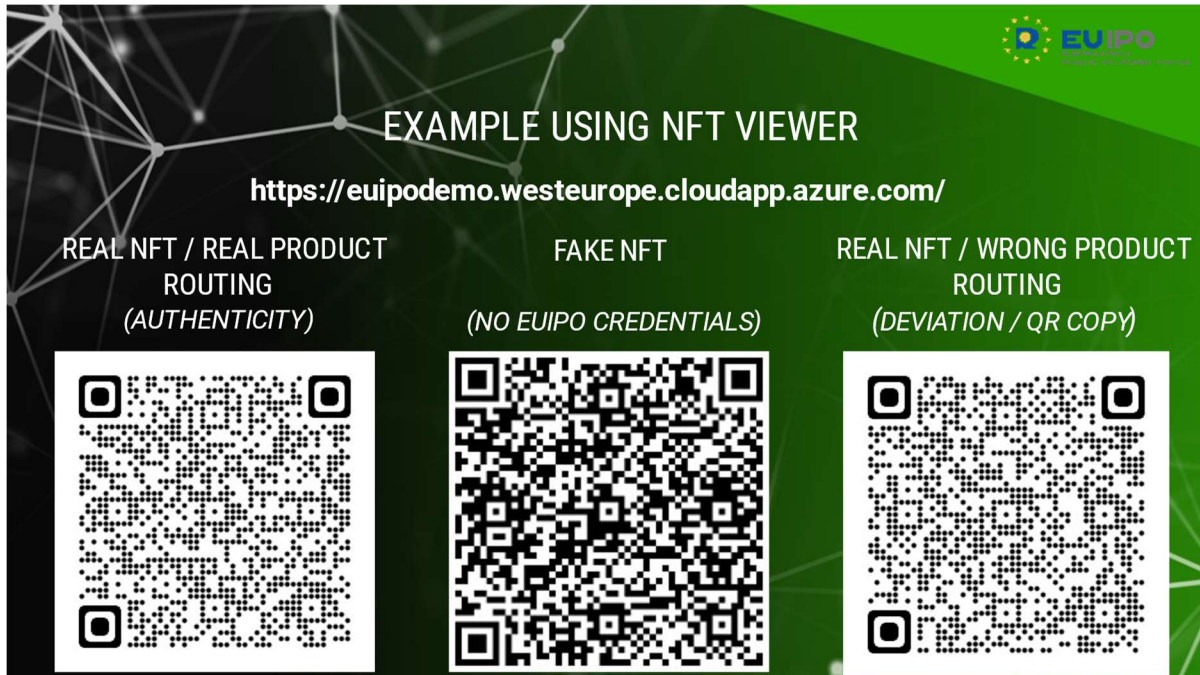
EBSI ELSA certainly required some minor adjustments to normal operations for transport and logistic operators, as product shipments contain a special link to the airway bill and maritime bill of lading, which allows for track and trace events. From the point of view of customs, in the long run this will also require the inclusion of a link to the declaration on temporary storage, and the adoption of the infrastructure by the involvement of online marketplaces.

Beyond these adjustments, all panellists stressed the potential impact of this infrastructure on the future of the supply chain. While Manuele Vetere stressed the high value of an open source infrastructure as a key adoption opportunity, Roberto Muriess highlighted the role played by the EUIPO in providing a new source of trust that impacts positively on cost control and working capital. Kester Meijer proposed a wider vision of the impact on infrastructure, with products being Green-Laned before they are even shipped – effectively tackling not just counterfeits but also poly-crime in general<sup>(4)</sup>.

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<sup>(4)</sup> As presented by the EUROPOL EUIPO report *IP Crime and its link to other serious crimes -Focus on Poly Criminality* – available [here](#).

Participants to the event were also able to try various QR Codes using a tool developed during the proof of concept called the NFT Viewer.



*Note: while these QR Codes can be scanned through normal devices, please use the following link for a better and more comprehensible experience:*

<https://euipodemo.westeurope.cloudapp.azure.com>

## 5 Product journey – Q&A session

Like any new disruptive technologies, several participants inquired about **privacy and data protection**. As explained by Rodrigo Valero, the infrastructure holds no personal data, and the selective disclosure functionality offers IP rights holders and logistic operators control over the commercial data that is shared within the ecosystem.

The introduction of new technology also raises questions related to the reskilling or upskilling of the workforce. **Stefano Brandinali, CIO at Angelini Pharma** acknowledged the need for developing new skills generally for the supply chain, while contemplating this along with the actual gains in terms of trust and value. Meanwhile, Kester Meijer emphasised that the actual usage of



blockchain in normal operation can be as easy as following any of the other rules that already exist in logistic processes. Once the technology is set, a ‘traffic light’ system can serve as a basis for agents to hold or proceed with shipments.

In the specific case of blockchain technology, questions were raised as to **the type of blockchain, its governance and structure**. Rodrigo Valero explained that for the proof of concept, the EUIPO set up a cloud environment where all nodes were deployed. For the provision of verifiable credentials, the EUIPO used the EBSI incubator programme to create a Decentralised Identifier Identity Registry and provide verifiable credentials in wallets created within the EUIPO environment, to the benefit of the IP rights holder involved. The EUIPO used an Ethereum-like blockchain (by leveraging Open Sea) to create a digital twin for the products, which contained said verifiable credentials inside the NFT metadata package. Finally, for the notarisation of the shipment request and production of the event during the product journey, the infrastructure used a Bitcoin Basics forked private blockchain to simplify the process. Rodrigo stressed the importance of allowing IP Rights holders and transport and logistic operators the freedom to choose their blockchain of preference, with the EUIPO only providing guidelines on the standard to leverage for the creation of the NFT, or for events during the logistic journey.

Finally, the question of the **net benefit of this infrastructure for IP rights holders** was raised. Daniel Plewa defined this as a part of the dealmaker for such technology, along with potential after-sales and second-hand market services that can be offered to the end consumer.

## **6 Infrastructure fitness with existing solutions – panel debate**

To reach global adoption, EBSI ELSA will have to seek potential integration with blockchain-based services that already exist on the market. To that end, Claire Castel introduced **José Izquierdo, head of Digital Transformation Department at the EUIPO**, who moderated a panel with existing blockchain solution providers Vechain and Arianee, as well as a representative from LVMH.

When looking at the current masterplan of the existing blockchain solution, emphasis was put on supply chain sustainability and traceability; a common goal shared by **Antonio Senatore, COO of Vechain, Leo Longauer, director of brand protection at LVMH, and Frederic Montagnon,**



**chairman of Arianee.** These presented their own masterplan, for after the point of sale, involving the production of digital product passports for the benefit of end consumers and to fight counterfeits.

EBSI ELSA was praised by all panellists as an open-source platform and it was deemed interesting to integrate for authenticity purposes. With 1 million NFTs sold last year through Arianee, Frederic Montagnon confirmed that product authenticity is a key aspect of their operation. This was also confirmed by Léo Longauer – who added after-sale service benefits – and Antonio Senatore, who stated that it formed part of new experience and improved the perceived value of the product through gamification and as part of future digital passport using digital twins.

Looking ahead to future challenges, Antonio Senatore stressed the importance of product tagging as being central to future progress in this field. Frederic Montagnon highlighted the importance of the identity of sellers or resellers who would be providing digital product passports, as well as the identity of digital twin holders for accessing digital services (such as warranties) provided by the IP rights holders. Both points were confirmed by Léo Longauer, who emphasised the current challenges faced by law enforcement authorities, who would benefit greatly from such infrastructure.

Going past such challenges, Antonio Senatore praised EBSI ELSA in setting up a standard set of rules, which are also interoperable by nature. Léo Longauer confirmed this. Following from his previous thoughts, Frédéric Montagnon indicated the value of identity and transparency in the supply chain when aiming for product authenticity. Notwithstanding, beyond the intrinsic value of EBSI ELSA, all panellists agreed that adding a new layer of authenticity would have a positive impact on the production of counterfeits worldwide, since the inclusion of new digital faking services (NFT, website, ...) cuts into financial gains and consequently deters counterfeit operations.

## 7 Infrastructure fitness with existing solutions – questions and answers

In the questions and answers section around use of blockchain and consumer experiences, all panellists agreed that blockchain and NFTs should only be considered as enablers for new services and value – from gamification to new consumer experiences. Frédéric Montagnon stressed that consumers would be the sole owner of a digital twin and thus physical products. Moreover, more generally speaking, they would own their data as the main value proposition for Web3.

## 8 Break-out room sessions

During the break-out sessions, participants provided additional comments on various aspects of the solution from different standpoints: the EU and international organisations, IP rights holders, transport and logistic operators, customs authorities, and IT innovators. All discussions were then summarised by appointed moderators.

For the EU and international organisation break-out room, **Paloma Pertusa (EUIPO)** was the moderator. She stressed the agreement between participants regarding the fitness of EBSI ELSA in the wider context of the EU toolbox against counterfeiting<sup>(5)</sup>, and possible initiatives for SMEs. After some discussion on the environmental impact and sustainability of EBSI ELSA, the participants also exchanged ideas on future international cooperation, linking it with the WIPO whitepaper on blockchain technologies and IP ecosystems<sup>(6)</sup> as well as the WIPO Blockchain taskforce<sup>(7)</sup>.

The break-out room dedicated to IP rights holders was moderated by **Nicolas Hauw (EUIPO)**. Participants contemplated the balance between safety and security versus flexibility for the reception and use of verifiable credentials for the creation of NFTs, as well as for the selective disclosure of information during the product journey. Granting access to both functionalities closer

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<sup>(5)</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12915-EU-toolbox-against-counterfeiting\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12915-EU-toolbox-against-counterfeiting_en).

<sup>(6)</sup> <https://www.wipo.int/export/sites/www/cws/en/pdf/blockchain-for-ip-ecosystem-whitepaper.pdf>.

<sup>(7)</sup> <https://www.wipo.int/cws/en/taskforce/blockchain/background.html>.

to product production lines, while ensuring a high level of security on the creation of NFTs, remains a high priority for EBSI ELSA infrastructure definition.

The transport and logistic operator (TLO) break-out room was moderated by **Benjamin Winsner (EUIPO)**. The use of blockchain and capability of TLOs to hold a node were discussed for future plans. Most participants agreed about the existence of the technology in current business operations and the ability to leverage this with EBSI ELSA. The standard used for notarising events in the product journey (IATA One Record<sup>(8)</sup>) was also discussed and deemed adequate for all modes of transport, although some national legacy postal systems, and certain transport documents, are not all digitised currently.

The customs authorities break-out room was moderated by **Rodrigo Valero (EUIPO)**. Participants agreed that clear benefits can only be reaped using EBSI ELSA at pre-arrival or inspection stage if it is largely adopted and becoming mainstream. Looking at immediate integration, participants confirmed their preference for an API-type of integration. However, in the long term, participants also pointed out EBSI ELSA connectivity in the future with new systems, such as those proposed by the EU Customs Reform of the Commission, which includes an EU Customs Data Hub<sup>(9)</sup>. Privacy and anonymisation of the scans from customs officers were also discussed, as well as technical discussions around the EBSI ELSA identifier location for risk assessment purposes.

Finally, the IT innovator break-out room was moderated by **Vincente Miralles (EUIPO)**. A presentation was given of all the different technical components used in EBSI ELSA, which triggered conversation around existing compatible NFT wallets, as well as the potential for merging token and verifiable credentials wallets. A private key and the capacity to sign have also been approached, with some feedback indicating a preference to use a normal approach through centralised SSL websites rather than directly providing private key to non-IT-inclined end users or using a hardware wallet. Participants emphasised the user friendliness and simplicity of use of EBSI ELSA, as well as ensuring flexibility in the technology to be used.

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<sup>(8)</sup> <https://www.iata.org/en/programs/cargo/e/one-record/>.

<sup>(9)</sup> [https://taxation-customs.ec.europa.eu/customs-4/eu-customs-reform\\_en](https://taxation-customs.ec.europa.eu/customs-4/eu-customs-reform_en).

## 9 Infrastructure adoption challenges workshop

In the afternoon, participants were invited to choose between three workshops.

- Legal – IP track: how can the infrastructure be used to enforce IPR?
- Technical track: internal infrastructure component dependencies.
- Product track: integrating infrastructure in existing production – what is the limit?

As moderator of the legal – IP track, **Erling Vestergaard (EUIPO)** summarised the conversation as being around the validity of blockchain data, which is turned into intelligence that can eventually be used as evidence in a court of law. **Antje Soder** and **Krisztian Toth (Legal Department, EUIPO)** briefly presented the EUIPO trademark registration system and discussed compliance with data protection and trademark and design regulations, while pointing out the opportunity of using an EU-wide identification measure for companies. Further down the line, IP rights holders may use EBSI ELSA to develop reputation maps and alert systems, which **Gianluca Sabatino from Europol** confirmed the value as supply chain intelligence for risk analysis and more effective responses. With respect to turning intelligence into admissible evidence in a court of law, **Sandra Gudaityte from Eurojust** confirmed the potential of EBSI ELSA in providing information for parallel import cases, as a part of all the evidence collected. All participants agreed on the need for a massive adoption of EBSI ELSA for it to become truly effective.

As moderator of the technical track, **David Plouvier (EUIPO)** summarised the workshop conversation around two main components. Firstly, IP wallet was discussed and the need for an EBSI compliant wallet. Secondly the use of harmonised standards – and specifically the IATA One Record across all participants in the supply and logistic chain.

Finally, as moderator of the product track, **Nicolas Hauw (EUIPO)** summarised the presentation made on the Cost Benefit Analysis for IP rights holders to onboard the infrastructure, highlighting the methodology used, the main cost components and the expected benefits depending on the level of product digital twin (at product or batch level).

## 10 Future Outlooks: can infrastructure scale up further?

As highlighted by Claire Castel in her introductory note, the technological infrastructure being used by EBSI ELSA can scale up and tackle other use cases, but relies heavily on the acceptance of common standards for use in each ecosystem of application.

Rodrigo Valero hinted at the possible option of using the same type of infrastructure at EU level for IP rights other than trademark and design, such as geographical indication, patent or plant variety. Similarly, a connection could be formed beyond the EU, such as the W3C standard being widely used for verifiable credentials. Moreover, OpenID Connect for Identity Management could be considered by other countries worldwide.

After offering to further strengthen the technical infrastructure of EBSI ELSA as regards identity and the relationship between NFT creation and verifiable credentials, **Joao Rodrigues, Head of Unit at DG DIGIT from the European Commission**, emphasised the ability to use verifiable credentials for simple services, and the possibility of using EBSI ELSA as a template for the future for other use cases.

Looking at wider concern within the EU, and opportunity beyond IP, **Michele Galatola, member of the Cross-Working Group on Digital Product Passport (DPP) at the European Commission** presented the DPP as a new tool proposed under the newly adopted regulation for EcoDesign for Sustainable Product<sup>(10)</sup> to provide sustainability, circularity and legal compliance information on products. This new tool could not only be used for ecodesign-related products but also be applied to other regulations concerning battery safety, toys, detergents or construction products. To achieve the deployment of DPP, all parties must use a common set of standards, which were identified in a preliminary landscaping report and are currently undergoing CEN CENELEC review under eight main areas<sup>(11)</sup>.

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<sup>(10)</sup> [https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/ecodesign-sustainable-products\\_en](https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/ecodesign-sustainable-products_en).

<sup>(11)</sup> Unique product identifiers, data carrier, look up mechanism, access right management, interoperability from a technical standpoint, data processing and update, data authentication and reliability, as well as data security and privacy.

In the case of EBSI ELSA, the infrastructure uses Web3 technologies (verifiable credentials and non-fungible tokens), which are being discussed and considered at Commission level and as part of the DPP conversation with stakeholders.

**Yun Young Woo, Head of Standards Section at WIPO** touched upon blockchain standardisation in the IP field as a framework for future solutions, as the WIPO Blockchain taskforce has produced an early draft of the standardisation that will be published in the future. He acknowledged that no international legal framework on Blockchain use currently exists in the IP ecosystem, and that EBSI ELSA could be a welcome addition in terms of use case experience of the current standards developed in API (WIPO ST.90<sup>(12)</sup>) and JSON (WIPO ST.97<sup>(13)</sup>). It would also likely be relevant to the current pilot being developed by WIPO for a **global identifier for natural persons and legal entities**, built upon a Self-Sovereign ID and digital ID model (using Hyperledger Fabric for nodes, and Indy and Aries for Digital IDs).

## 11 Question and answers on future outlooks

Some participants inquired about the possibility of using blockchain for timestamping. While WIPO discontinued its timestamping service<sup>14</sup>, EBSI can offer similar service. Participants also pointed out the opportunity for linking the future global identifier with existing standards such as LEI<sup>(15)</sup>.

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<sup>(12)</sup> <https://www.wipo.int/export/sites/www/standards/en/pdf/03-90-01.pdf>.

<sup>(13)</sup> <https://www.wipo.int/export/sites/www/standards/en/pdf/03-97-01.pdf>.

<sup>(14)</sup> WIPO PROOF was formally discontinued on February 2022. Further info at: <https://www.wipo.int/wipoproof/en/>.

<sup>(15)</sup> Global Legal Entity Identifier, based on ISO17442 <https://www.gleif.org/en/about-lei/introducing-the-legal-entity-identifier-lei>.