

Response of the Global Legal Entity Identifier Foundation (GLEIF) to the European Commission Open Market Consultation Document European Blockchain PCP

March 2020

The Global Legal Entity Identifier Foundation (GLEIF) is pleased to provide comments to the European Commission Open Market Consultation Document European Blockchain PCP. GLEIF will focus its comments on the use of the Legal Entity Identifier (LEI) in the consultation.

First some background on the LEI.

The development of a system to uniquely identify legal entities globally had its beginnings in the 2008 financial crisis. Regulators worldwide acknowledged their inability to identify parties to transactions across markets, products, and regions for regulatory reporting and supervision. This hindered the ability to evaluate systemic and emerging risk, to identify trends, and to take corrective steps. Recognizing this gap, authorities, working with the private sector, have developed the Global LEI System with a global governance framework representing the public interest that will, through the issuance of unique LEIs, unambiguously identify legal entities engaged in financial transactions. Although the initial introduction of the LEI was for financial regulatory purposes, the usefulness of the LEI can be leveraged for any purpose. The LEI is use case agnostic and can be used in any process of entity identification, from finance to healthcare to verifying all counterparties of businesses supply chain.

The LEI initiative is driven by the Financial Stability Board (FSB) on behalf of the finance ministers and governors of central banks represented in the Group of Twenty (G20). In 2011, the G20 called on the FSB to take the lead in developing recommendations for a global LEI and a supporting governance structure. The related FSB recommendations endorsed by the G20 in 2012 led to the development of the Global LEI System as a broad public good that provides unique identification of legal entities participating in financial transactions across the globe and the subsequent establishment of the GLEIF by the FSB in 2014. As outlined in the GLEIF's Statutes, the Global LEI System is designed and developed to be used by the (i) public authorities and (ii) by the private sector to support improved risk management, increased operational efficiency, more accurate calculation of exposures and other needs. The GLEIF, a supra-national not-for-profit organization, is overseen by a committee of currently 71 global regulators and 18 observers, known as the LEI Regulatory Oversight Committee (LEI ROC). The European Supervisory Agencies (ESAs), ESMA, EBA and EIOPA, as well as the ECB and the European Commission, are represented in the LEI ROC.

The LEI itself is a 20-digit, alpha-numeric code based on the ISO 17442 standard developed by the International Organization for Standardization (ISO). The code connects to key reference information that enables clear and unique identification of legal entities participating in financial transactions including their ownership structure. Moreover, the LEI provides freely accessible look up (identification) of the parties to transactions. The complete database of LEIs and the associated LEI reference data is available free of any charge or barrier to anyone on the web. GLEIF operates under the Open Data Charter terms, which means the data can be used by all users without limitations.

In the consultation paper, the European Commission emphasizes that a novel blockchain solution infrastructure should meet core requirements of scalability, throughput and interoperability with other systems and it should build on the EU legal framework, such as the European Union’s Electronic Identification and Trust Services (eIDAS) Regulation.

GLEIF would like to highlight that interoperability covers all levels of administration: Union, national, regional and local. Therefore, interoperability among different systems across Member States only can be achieved through the deployment of a global standard, given business relationships today are not limited by where a legal entity is domiciled. Knowing precisely who you are doing business with is important for trust in the European digital economy and the EU should assess the need to adopt an EU-wide standard to foster that trust – such as the already existing global standard overseen by regulators, the Legal Entity Identifier.

Part 1: Leveraging the LEI within digital certificates

Within the eIDAS Regulation the LEI is already accepted as an optional attribute for legal entities’ data sets in transactions between eIDAS nodes, i.e. interfaces between national eID infrastructures. The LEI can be used within eIDAS-compliant digital certificates as the eIDAS Regulation includes a tag (ETSI technical standard available) for digital identification tools such as the LEI to be embedded within certificates and seals to support identity validation and management. As a global identifier, the LEI can serve as a bridge between EU Member States connecting their national eID schemes, and therefore facilitating cross-border identification processes within the EU and with third party states. Following analogy might help to understand better the difference between the LEI and the eID. The LEI is the passport of a legal entity, whereas the eID is the national electronic identifier. Similar to information contained in a passport, the LEI contains the national ID, registration authority, jurisdiction of formation of a legal entity. Therefore, the LEI system provides a harmonized, standardized, global and open representation of identity.

Within [GLEIF’s 2018 annual report](#), GLEIF’s LEI is embedded within the digital certificates of GLEIF’s signing executive officers. These certificates, for the first time, connect the role of the signatory to an organization through the LEI and can therefore be used to verify – automatically, through the shared LEI – that the filed document and the signatories represent the same organization. Incorporating a company’s LEI within digital certificates of its executive officers used to sign financial statements provides reassurance on the data’s reliability and that the information has not been tampered with regardless of the access point to the document. Deploying digital signatures, including that of the auditor, also enables efficient report production and distribution processes, the elimination of paper and increased certainty and trust.

The digital certificates of GLEIF’s signing executive officers included with its 2018 annual report are compliant with the eIDAS Regulation. European Telecommunications Standards Institute (ETSI) published the technical standards for the inclusion of LEIs in eIDAS certificates and seals in August 2019. GLEIF also contributes to the working group of the International Organization for Standardization (ISO) currently revising the ISO 17442 LEI standard to include details in this standard to embed LEIs and roles in digital certificates in a standard way.

How is this related to the Blockchain Pre-commercial Procurement - Open Market Consultation?

- EBSI has developed four use cases, namely notarization, diplomas, European Self-Sovereign Identity and trusted data sharing, on which Member States collaborate to develop prototype applications by early 2020. As part of these prototypes, persons acting on behalf of a legal entity could secure their access to a blockchain node by presenting a digital certificate.
- Applying the LEI within the digital certificate enables for straight through processing, specifically authentication, authorization, and identification of the legal entity and its associated persons submitting a regulatory filing combined with the consumption of the data within the filing. The LEI is the linchpin that pulls together these two activities. The same principle can be applied to information exchanged via a blockchain application. So, connecting the authentication, authorization and identification of the person entering information into a particular blockchain node on behalf of a legal entity to the parsing of data shared between two parties. This is relevant for all EBSI use cases, including notarization, in which the entity verification and validation is needed for various applications. The LEI reference data includes timestamp information such as when the legal entity registered for an LEI, when the reference data got the last update and also the existence and status (active/dissolved) of a legal entity. For example, by leveraging the LEI, a blockchain notary can verify if a legal entity really exists or still exists.
- Documents or other content shared via a blockchain application could be secured via digital certificates. By embedding the LEI within the digital certificate securing the content as well as the blockchain node identifying the party associated with the content, the document's digital certificate could be parsed compared to the blockchain node credentials in an automated fashion.

In the Consultation Paper, the Commission emphasizes the aim is to go further than what is offered by existing solutions and setting a global standard for blockchain infrastructures. GLEIF is of the opinion that the LEI, a global standard for entity identification made available via an open data charter, can be the first link in the chain of trust in any blockchain solution, where entity identification and verification is required. The value of using the LEI, backed by validation and the governance of the LEI registration process, in digital identification is a critical element in any blockchain or DLT solution. The above examples also provide some novel approaches of how to leverage the LEI within a blockchain application to accomplish the tasks of authentication, authorization, and identification while enabling straight through processing.

Please find next a hypothetical scenario, which displays how the LEI embedded in digital certificates/signatures/seals can be practically leveraged in blockchain applications for supply chain management and facilitation of customs procedures:

- **German beer producer Bitburger Braugruppe GmbH is a registered business in Germany has the LEI code 5299002600DU0Q932411.**
The company is a registered business in the Local Court Wittlich, which is among the Registration Authorities List maintained by GLEIF under global regulatory oversight that covers 722 registration authorities worldwide. In the LEI data record for this entity, any user can see basic business card information of this entity (legal name, where it was registered, business registration number, entity

legal form, legal and headquarter address, if the entity is active and the LEI reference data is up-to-date (ISSUED registration status)) and ownership structure through parent company (direct and ultimate parent) information.

- **Bitburger Braugruppe GmbH (LEI: 5299002600DU0Q932411) imports barley from one of the world's biggest malt producers MALTERIES SOUFFLET registered in France with the LEI code 969500TT7F14MK07XZ64.**

MALTERIES SOUFFLET is registered in the Sirene (Institut National de la Statistique et des Études Économiques), which is among the Registration Authorities List maintained by GLEIF. Bitburger Braugruppe GmbH and MALTERIES SOUFFLET sign a smart contract, where the proof of delivery from the logistics carrier triggers automatically digital invoicing. Bitburger Braugruppe GmbH signs the e-invoice digitally with the LEI of Bitburger Braugruppe GmbH embedded in its digital certificate, using an inter-ledger notary protocol, verifying the identity of the company preparing and sending the invoice as one of the foundations of trust. Similarly, MALTERIES SOUFFLET accepts/approves the invoice using its digital certificate with its embedded LEI using an inter-ledger notary protocol.

- **Bitburger Braugruppe GmbH exports 100.000 bottles of beer to Chinese company 上海市糖业烟酒（集团）有限公司 with the LEI code 300300DPRL4XLDD9JT95.**

In the GLEIF database, any user can see the transliterated name of this importer Chinese company, which is SHANGHAI TANGJIU (GROUP) CO., LTD. Bitburger Braugruppe GmbH checks the legal entity identifier requirements of the General Administration of Customs of the People's Republic of China (GACC) before starting the export procedures. According to the website of the GACC, China Customs Advanced Manifest (CCAM) enforcement applies to cargo loading on vessels sailing to/from China mainland ports. It requires an enterprise code of the shipper/consignee/ notify party. The LEI is the required identifier for 29 countries, including Japan. Bitburger Braugruppe GmbH informs the container ID to SHANGHAI TANGJIU (GROUP) CO., LTD signed with its digital certificate with its embedded LEI. SHANGHAI TANGJIU (GROUP) CO., LTD subscribes to the container data feed by using its digital certificate with its embedded LEI to verify its identity to the container data feed platform.

- **SHANGHAI TANGJIU (GROUP) CO., LTD clears 100.000 bottles of beer from the Port of Shanghai China Customs verifies the trade documents and parties to the transaction easily as all information is transparent and publicly available. The process is fast, secure and transparent thanks to the data integrity. LEI plays an integral role through the life-cycle of this transaction.**

GLEIF would be interested to test the application of this hypothetical example in a blockchain solution with the EU Commission as a new use case, which the EU Commission could consider for the year 2020.

Part 2: Leveraging the LEI in digital verifiable credentials

Another EBSI use case is European Self-Sovereign Identity. In this context, GLEIF would like to highlight its work on the use of the LEI within digital verifiable credentials (DVCs). Such credentials allow for real time access to services or applications. DVCs are interoperable, cryptographically-verifiable and facilitated by distributed ledger or blockchain technology. By leveraging the LEI within digital verifiable credentials, counterparties can more easily accomplish the tasks of identity verification, authentication,

and authorization and digitally identify persons able to act officially on behalf of a legal entity. Proofs of concept were conducted for the Hyperledger and on the Ethereum blockchain. These proof of concepts aimed to achieve the same endpoint – a regulatory filing secured via digital verifiable credentials. To get to this endpoint the following requirements were fulfilled:

1. Identify the legal entity associated with the particular filing
2. Authenticate that the legal entity is indeed who it claims to be
3. Confirm that the persons signing and submitting the filing are authorized to do so on the legal entity's behalf.

Some key objectives of the proof of concepts include:

- Enabling a regulator to verify the DVC of the signer and submitter of the filing and to ensure the entire trust chain is intact. This reaches from signer and submitter, over the submitting legal entity, over the LEI issuer who issued this legal entity the credential up to GLEIF
- Enabling the regulator to verify the integrity of the document by verifying the digital signature,
- Giving GLEIF and the legal entity the ability to have their publicly discoverable digital role credentials, as well as the identities of the represented persons, listed on the GLEIF website and allows the credentials to be verified.

One of the proof of concepts involved the participation of LEI ROC member Banque de France.

GLEIF believes that legal entity identification is a new necessary concept in the discussion on self-sovereign identity and envisions that each business worldwide should have only one global identity.

Similar to individuals, legal entities also need a way to assert their identity and the identities of persons authorized to take action on their behalf. GLEIF suggests to extend the proof of concept described above in a prototype application involving European Self-Sovereign Identity. Through using the LEI, legal entities could easily and effectively identify themselves, verify their business partners (B2B) and allow regulators/government (B2G) to verify their identities in blockchain applications. Therefore, the LEI, being also eIDAS compliant, can be an effective blockchain solution. Providing a structured and high quality legal entity reference data, the LEI is also relevant for B2B and B2G blockchain trusted data sharing solutions since the credibility of entities' identities is one of the major challenges in sharing trusted data.

GLEIF CEO Mr. Stephan Wolf recently joined the EBSI workshop in Brussels and offered EBSI GLEIF's full support. EBSI members were supportive for recognizing the LEI as the identifier of legal entities on the Blockchain (verifiable credentials).

By becoming the common link, the LEI will provide certainty of identity in any online interaction, making it easier to participate in the global digital marketplace. Ensuring a common link is especially important for emerging technologies, like blockchain, to ensure interoperability across applications. Therefore, consistent use of LEI across blockchain would ensure the interoperability of identifying the parties to a transaction, be it in financial or non-financial transactions.