

# Accelerating Digital Identity with the LEI

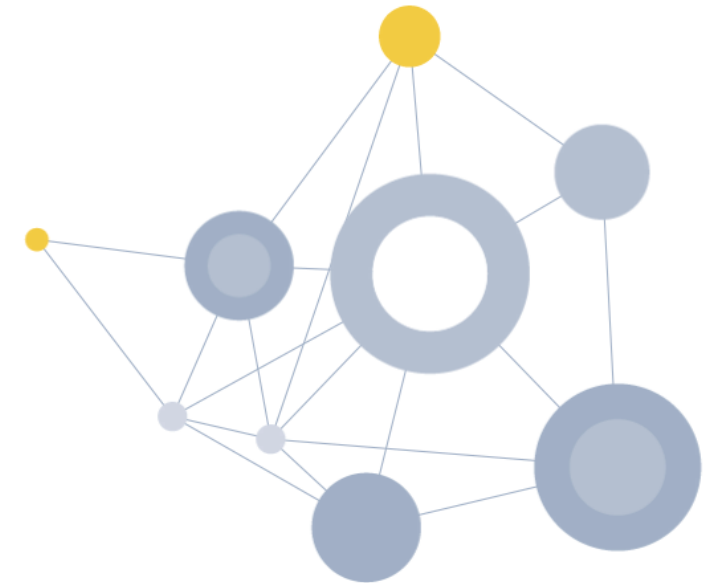
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**The Legal Entity Identifier (LEI):  
A catalyst for universal digital identity in blockchain**

Trust Over IP Foundation

Ecosystem Foundry Working Group Meeting

July 30, 2020



# Agenda

1. What is an LEI?
2. LEI in the Digital World
3. How does it practically work?
4. Use Cases

# What is an LEI?



## What is an LEI?

- 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).
- 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.
- 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.
- The Global LEI System provides freely accessible look up (identification) of the complete database of LEIs and the associated LEI reference data, is available free of any charge or barrier to anyone on the web, operated under the Open Data Charter terms so that LEI data can be used by all users without limitations.

# LEI in the Digital World



## LEI in the Digital World

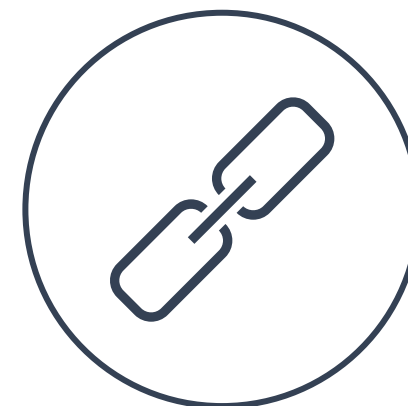
- The LEI can have relevance in the digital world by leveraging the strength of the LEI to provide unique and permanent global identification of organizations/businesses.
- One effort is to combine the strengths of the LEI and digital certificates.
- The second effort leverages the use of the LEI in Verifiable Credentials.
- Verifiable Credentials are defined as the format for interoperable, cryptographically-verifiable digital credentials being defined by the W3C standards organization (Verifiable Claims Working Group).



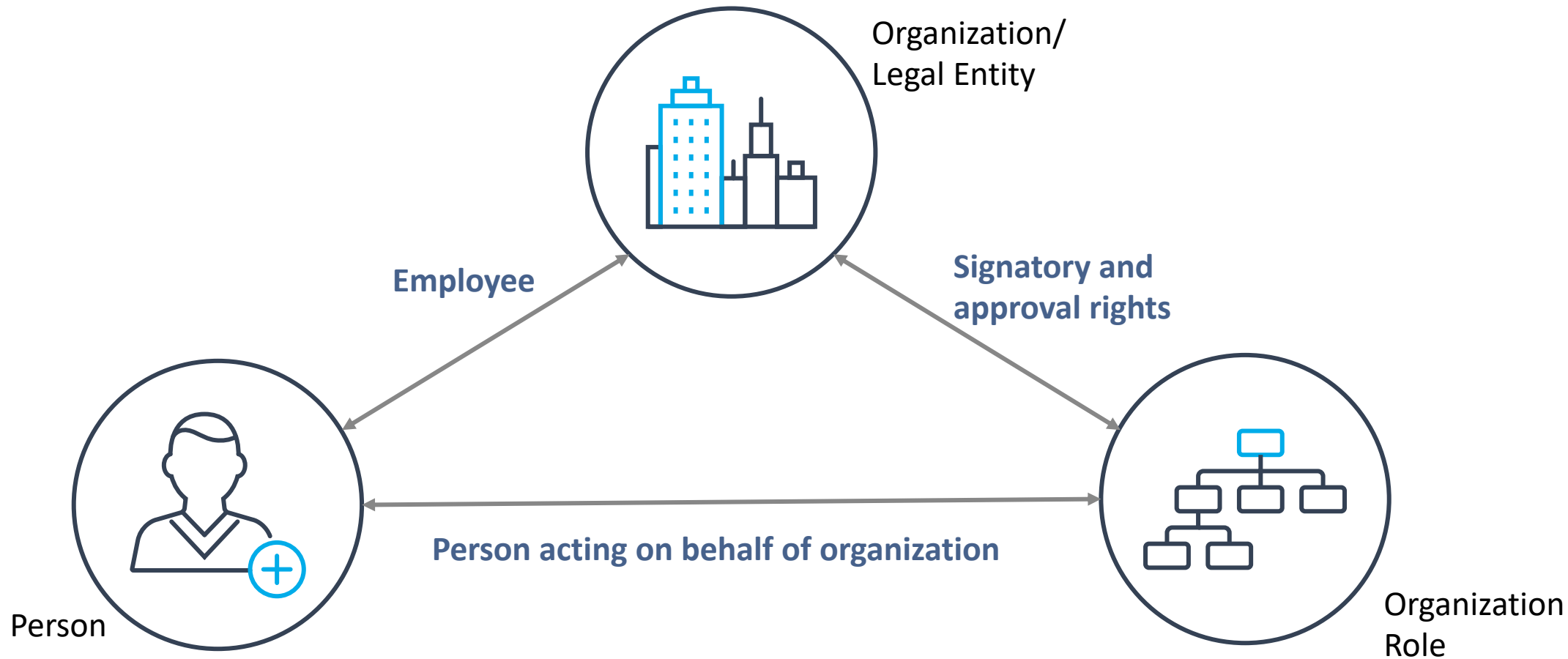
## LEI in the Digital World

### Use of the LEI in Verifiable Credentials (VCs)

- Proofs of Concept (PoCs) leverage the use of the LEI in Verifiable Credentials (VCs).
- This technique works for automated issuance and verification of organizations having LEIs and using LEIs.
- GLEIF has conducted PoCs that produce VCs, prove identity (based on the LEI) cryptographically, and are recorded on a distributed ledger (blockchain).
- The PoCs allow verification of identity of both legal entities having LEIs and for persons in their official roles within these legal entities.
- GLEIF, being technology agnostic, has conducted POCs on both Ethereum and Hyperledger blockchains.

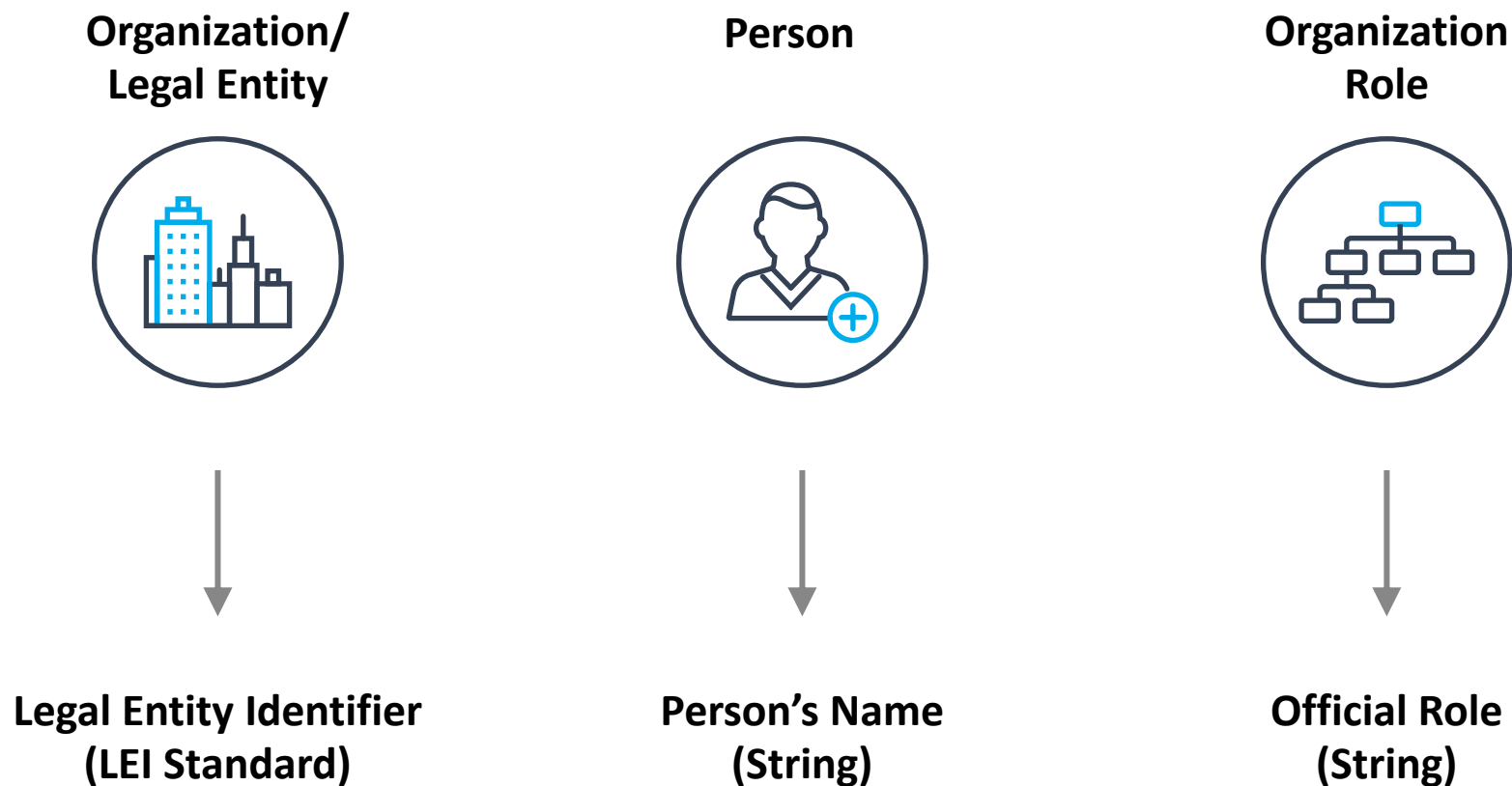


# Digital identity and the LEI based on a triple concept





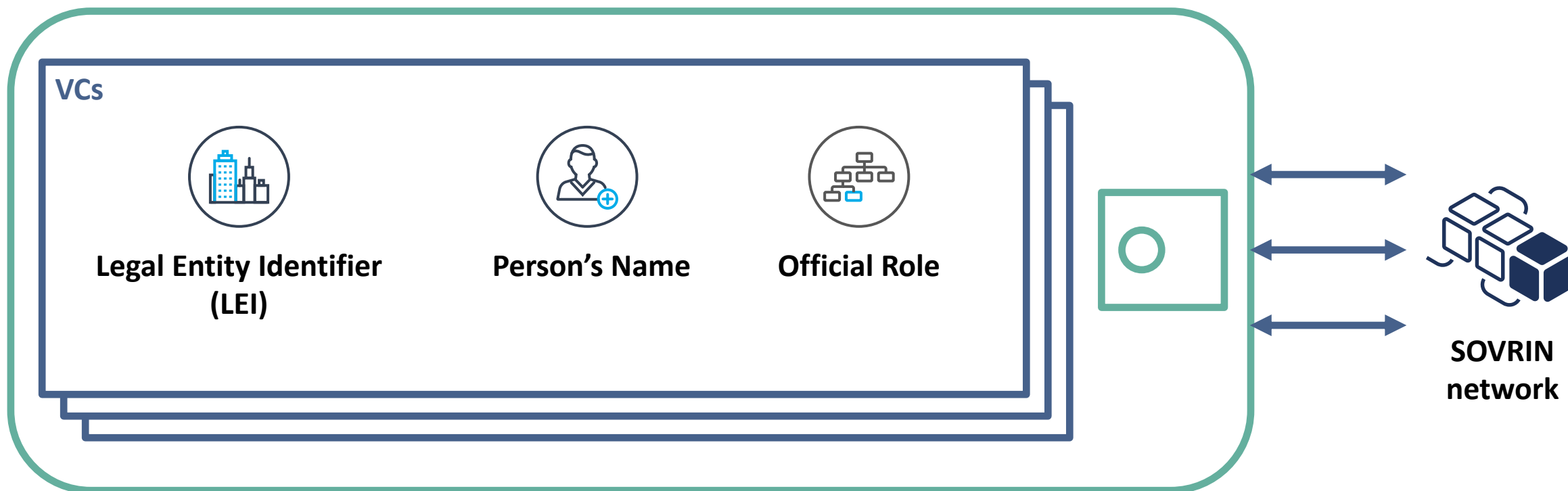
# Digital identity and the LEI based on a triple concept



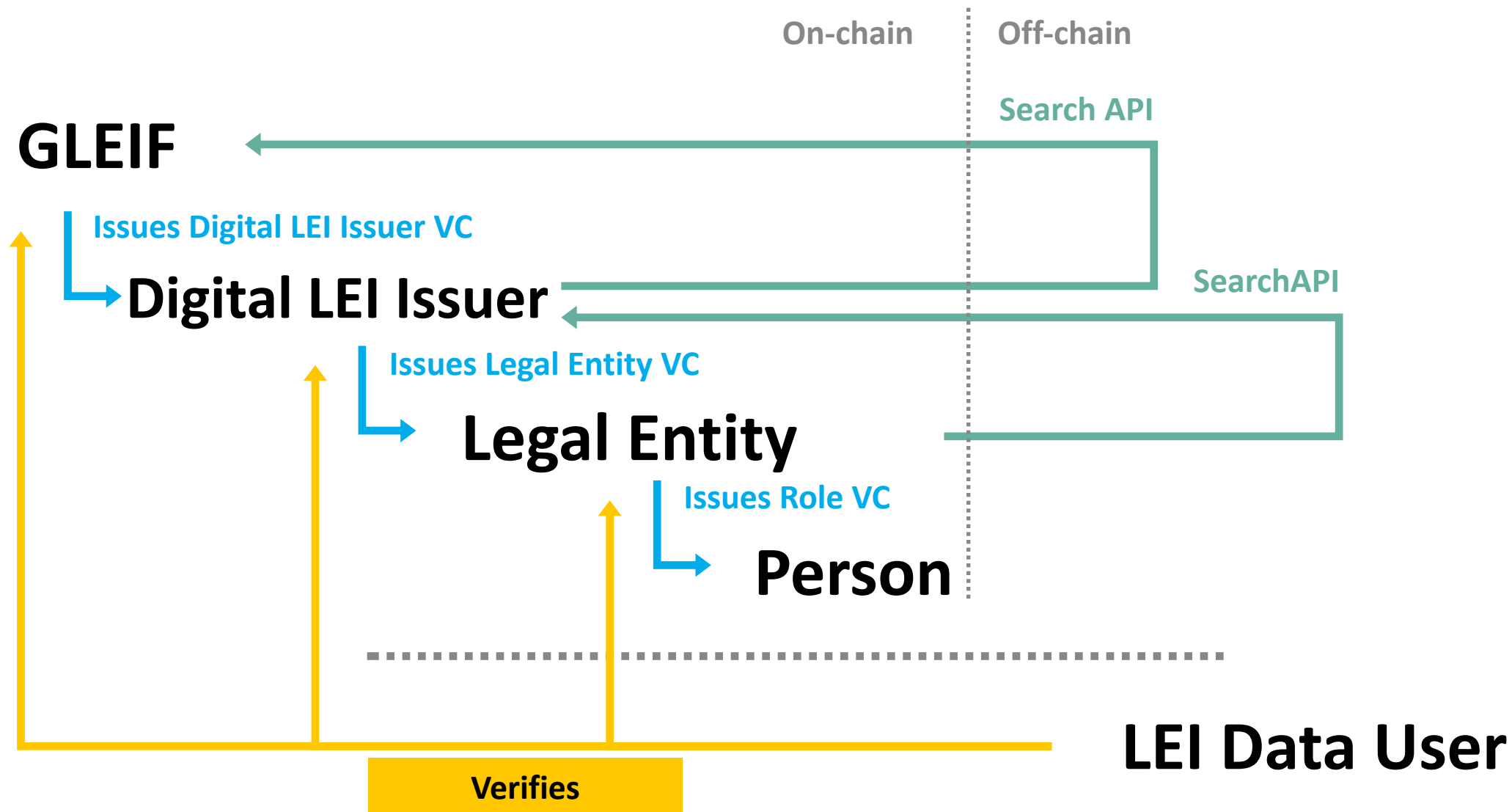
# Digital Identity and the LEI based on a triple concept

## Organization Wallet - Hyperledger example

### Organization Wallet



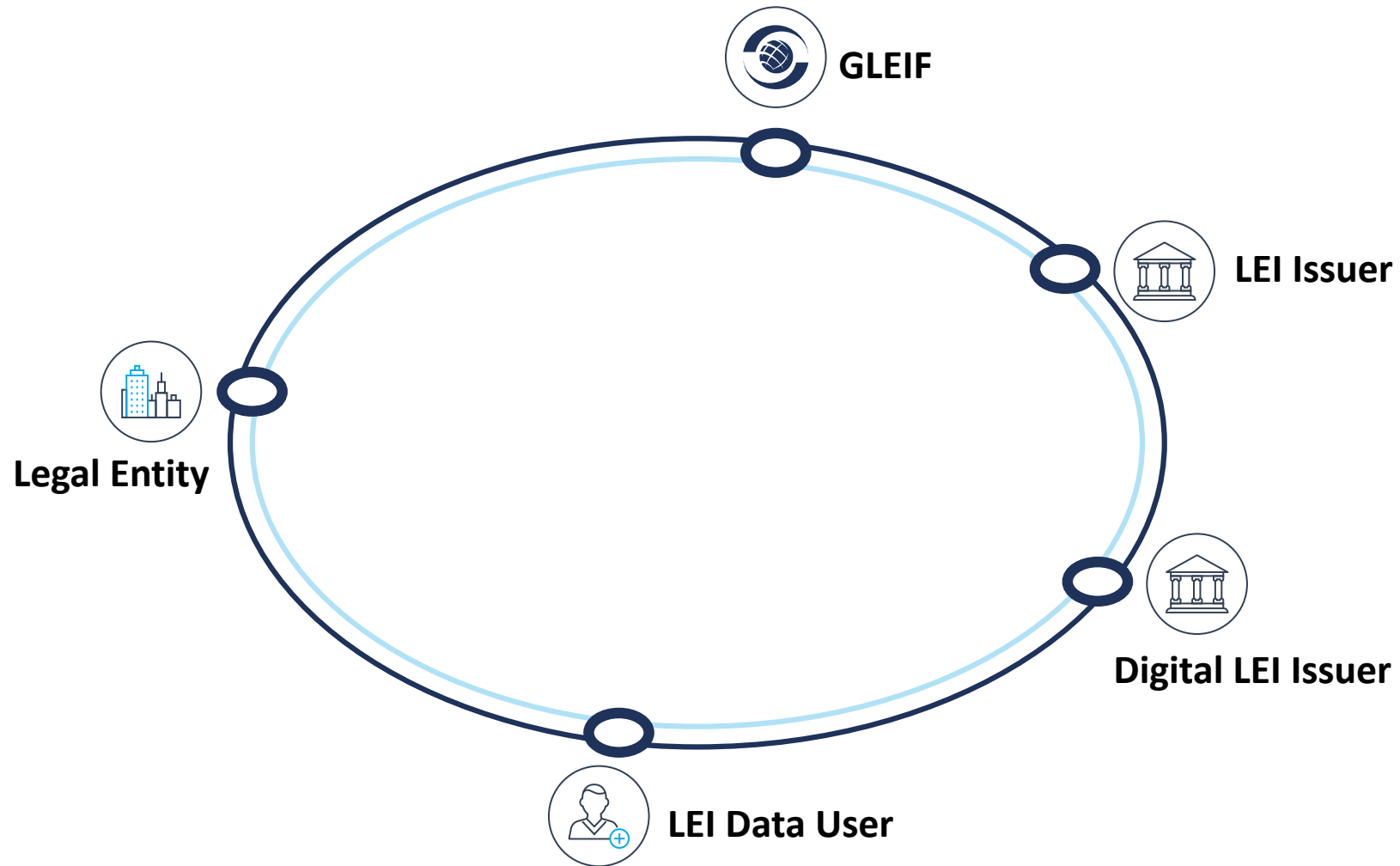
# Digital Identity and the LEI based on a triple concept Chain of Trust



# How does it practically work?

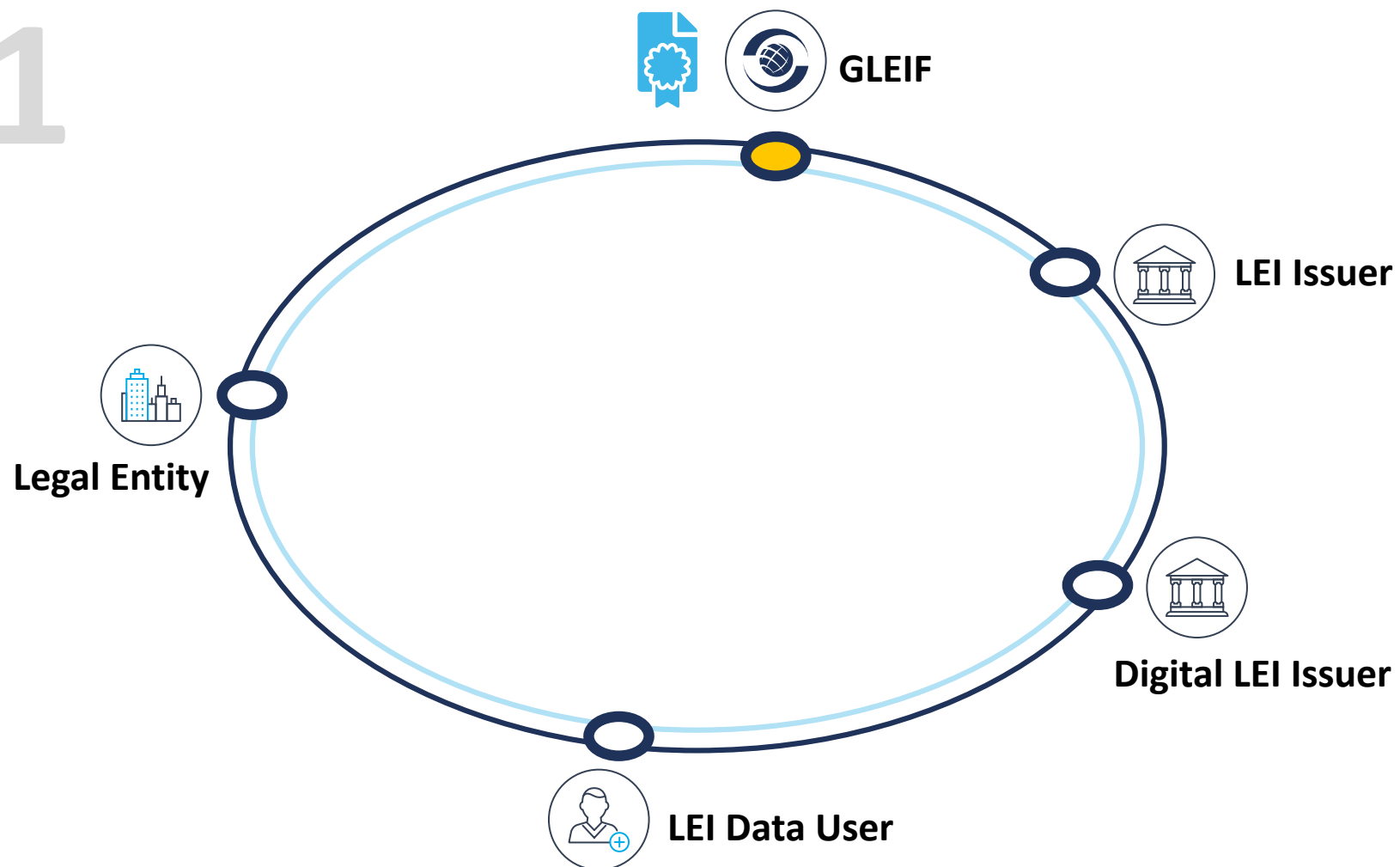


# Five actors in place



## Step 1: GLEIF to receive VC

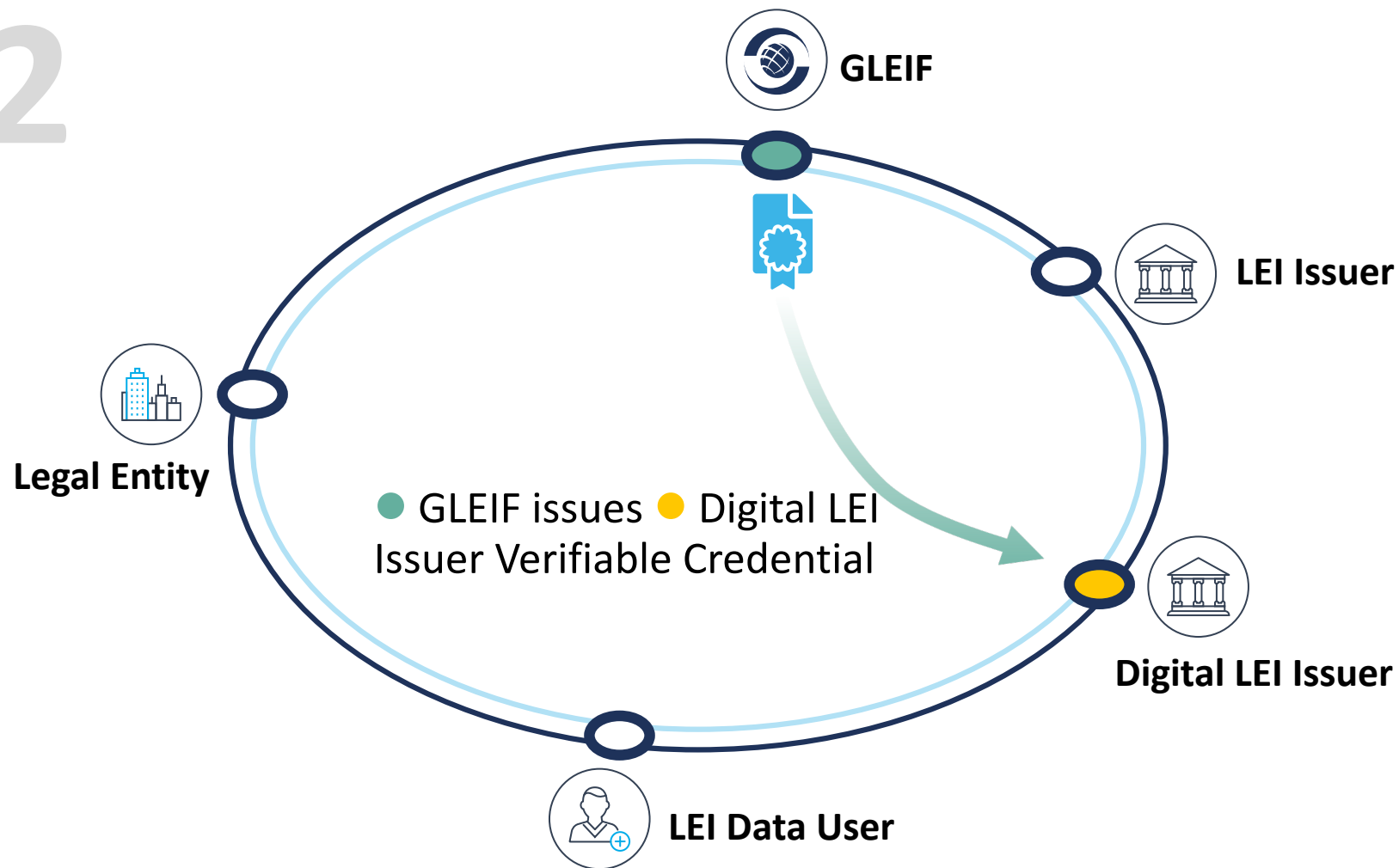
# 1



GLEIF receives a Verifiable Credential (VC) issued by the SOVRIN Trusted Framework.

## Step 2: GLEIF certifies Digital LEI Issuer

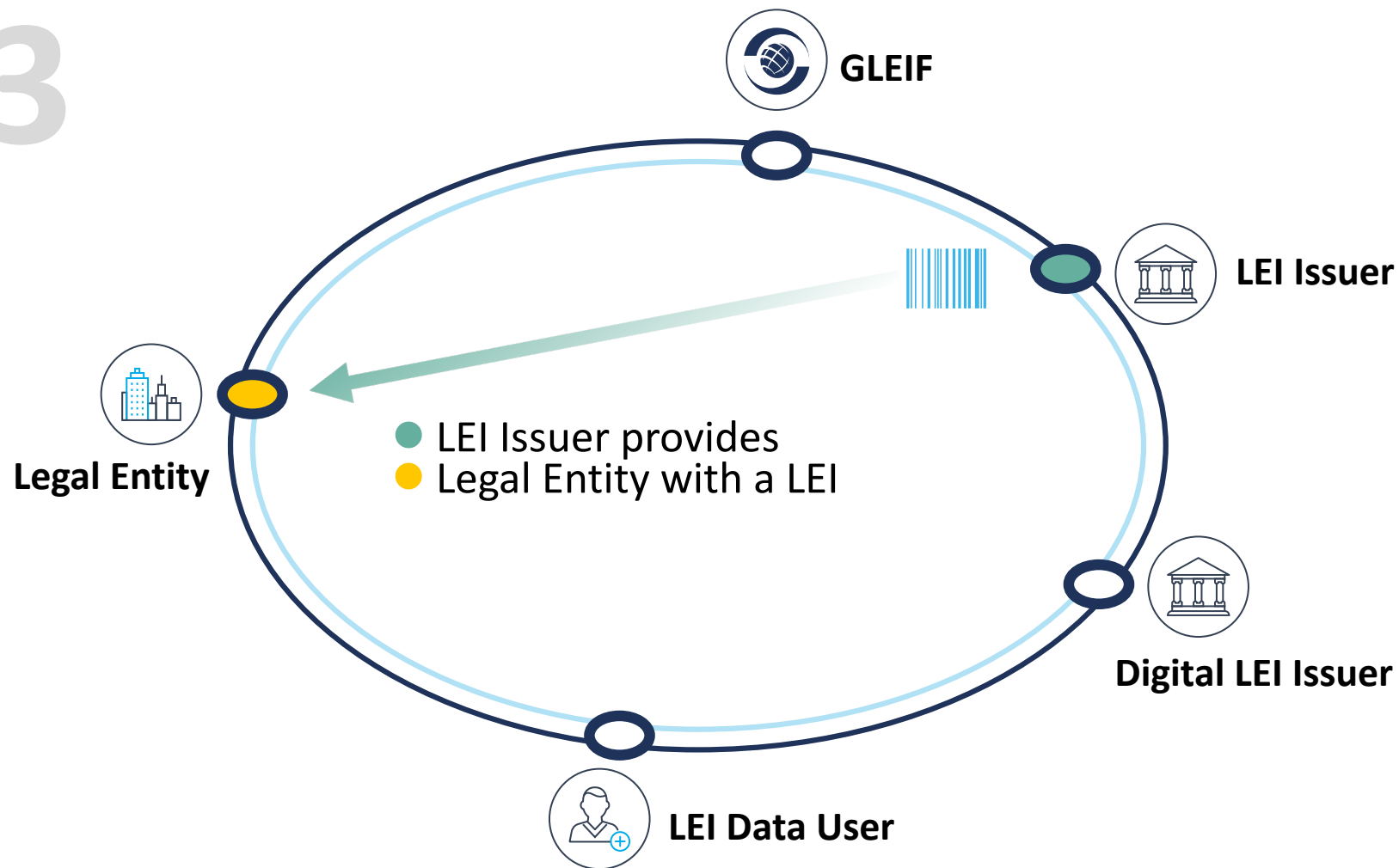
# 2



GLEIF certifies Digital LEI VC Issuer with capability to issue VC to Legal Entities.

### Step 3: LEI Issuer issues the LEI

# 3

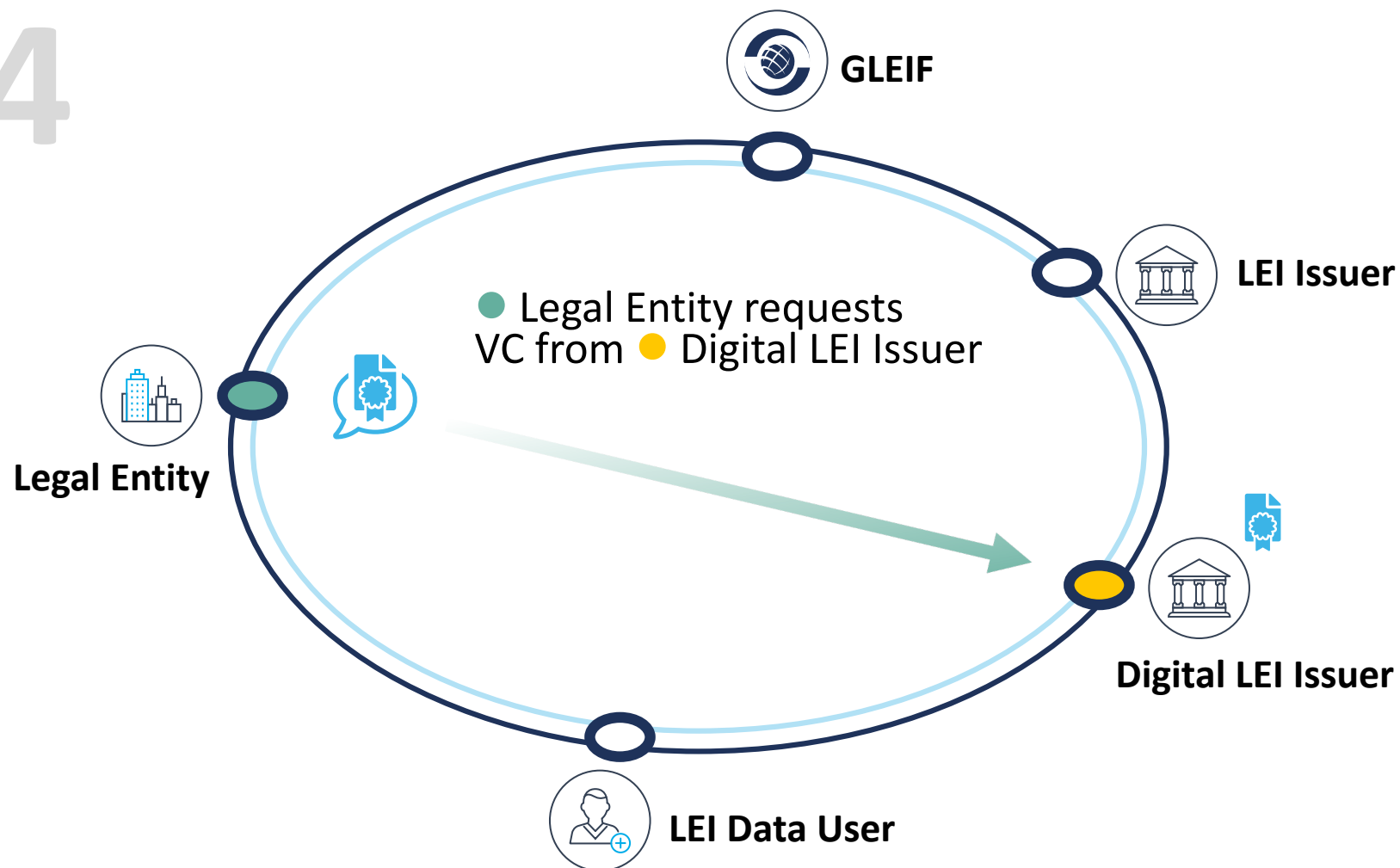


The Legal Entity is validated by the LEI Issuer and receives its LEI.



## Step 4a: Legal Entity requests VC from an LEI Issuer also certified as a Digital LEI Issuer

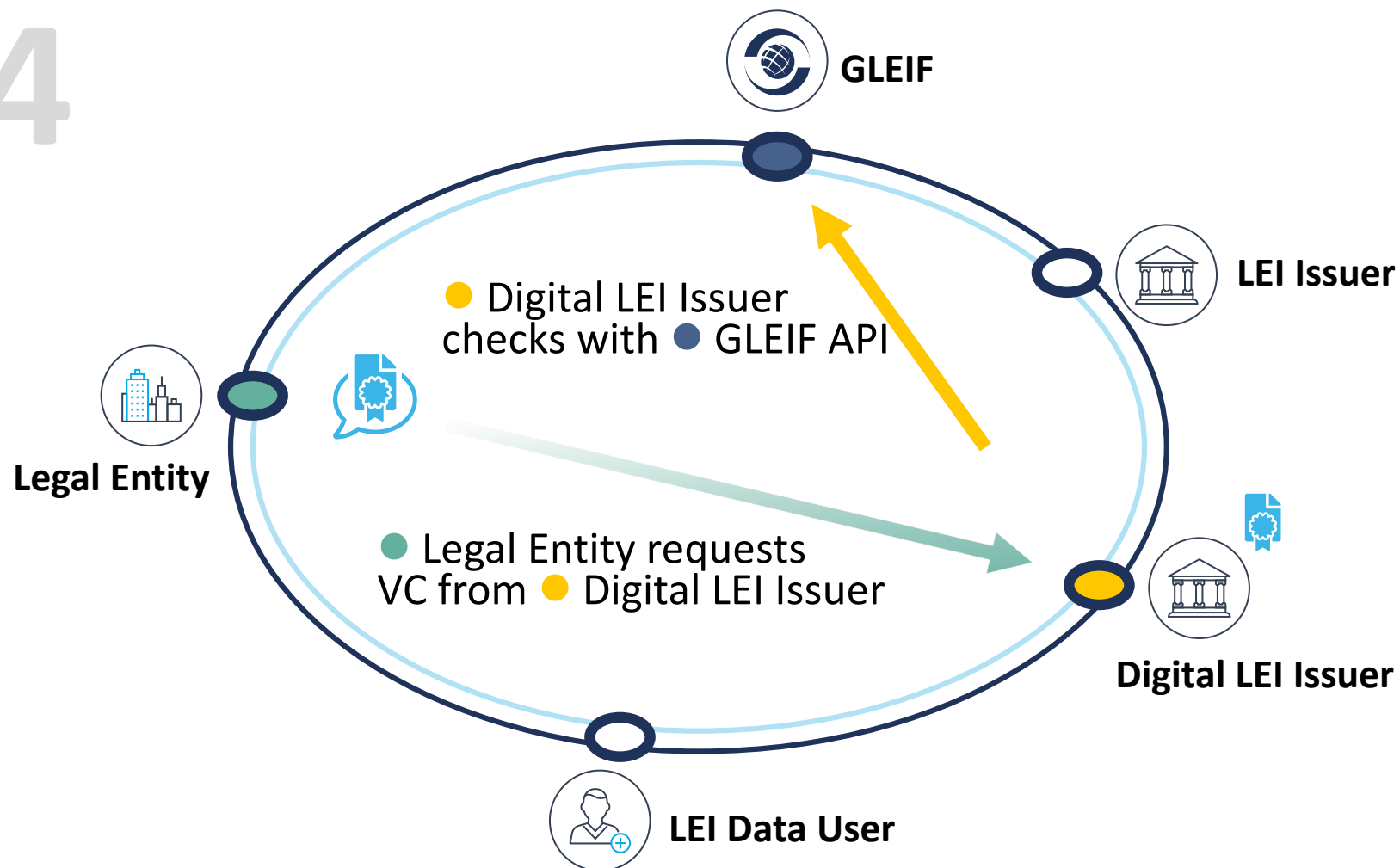
# 4



The Legal Entity requests VC in addition to receiving its LEI to establish its digital identity.

## Step 4b: Legal Entity requests VC from a Digital LEI Issuer not also accredited as an LEI Issuer

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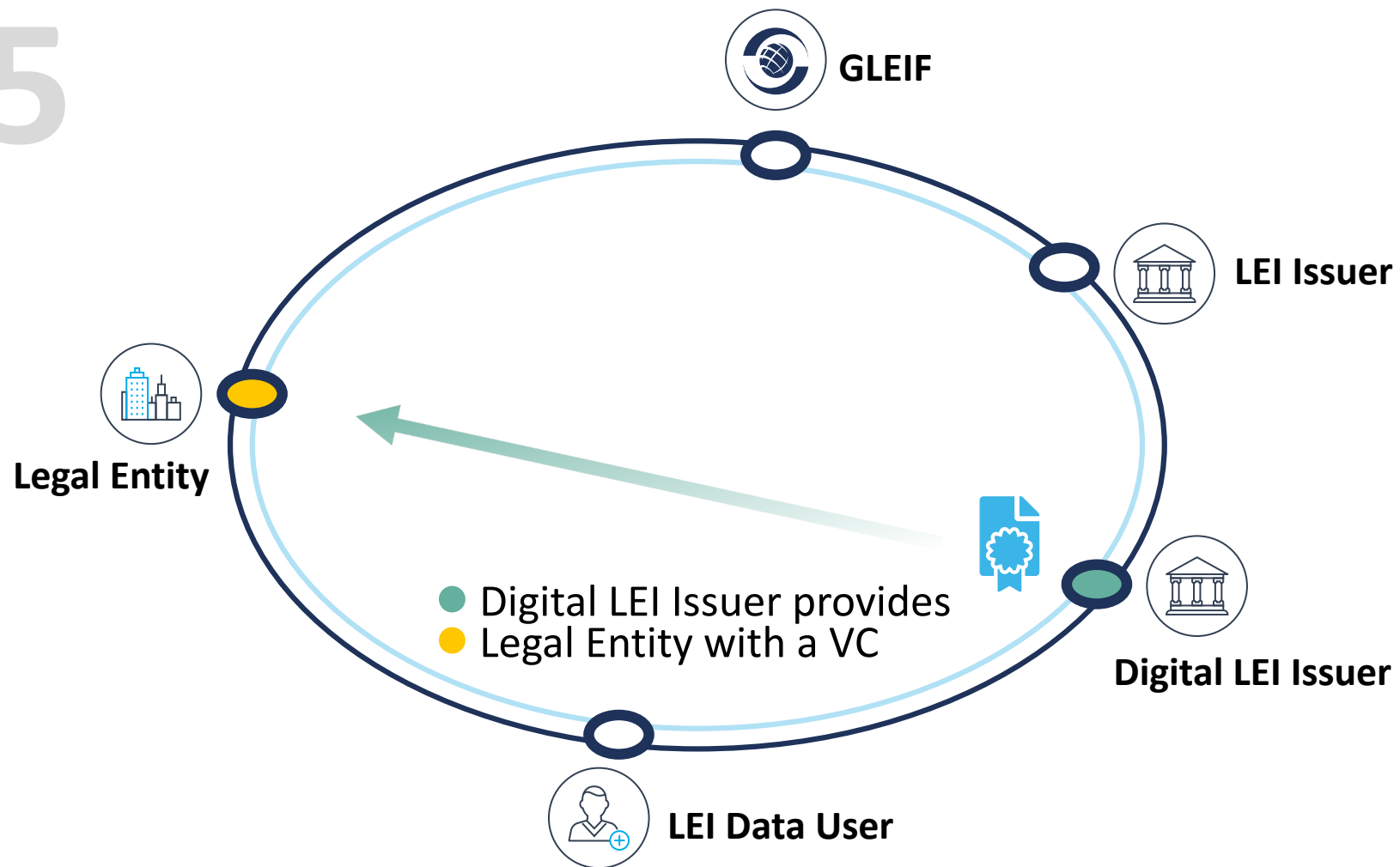


The Legal Entity requests VC in addition to receiving its LEI to establish its digital identity.

Digital LEI Issuer, using API, checks for status of an Issued and Active LEI before issuing VC.

## Step 5: Digital LEI Issuer issues the VC

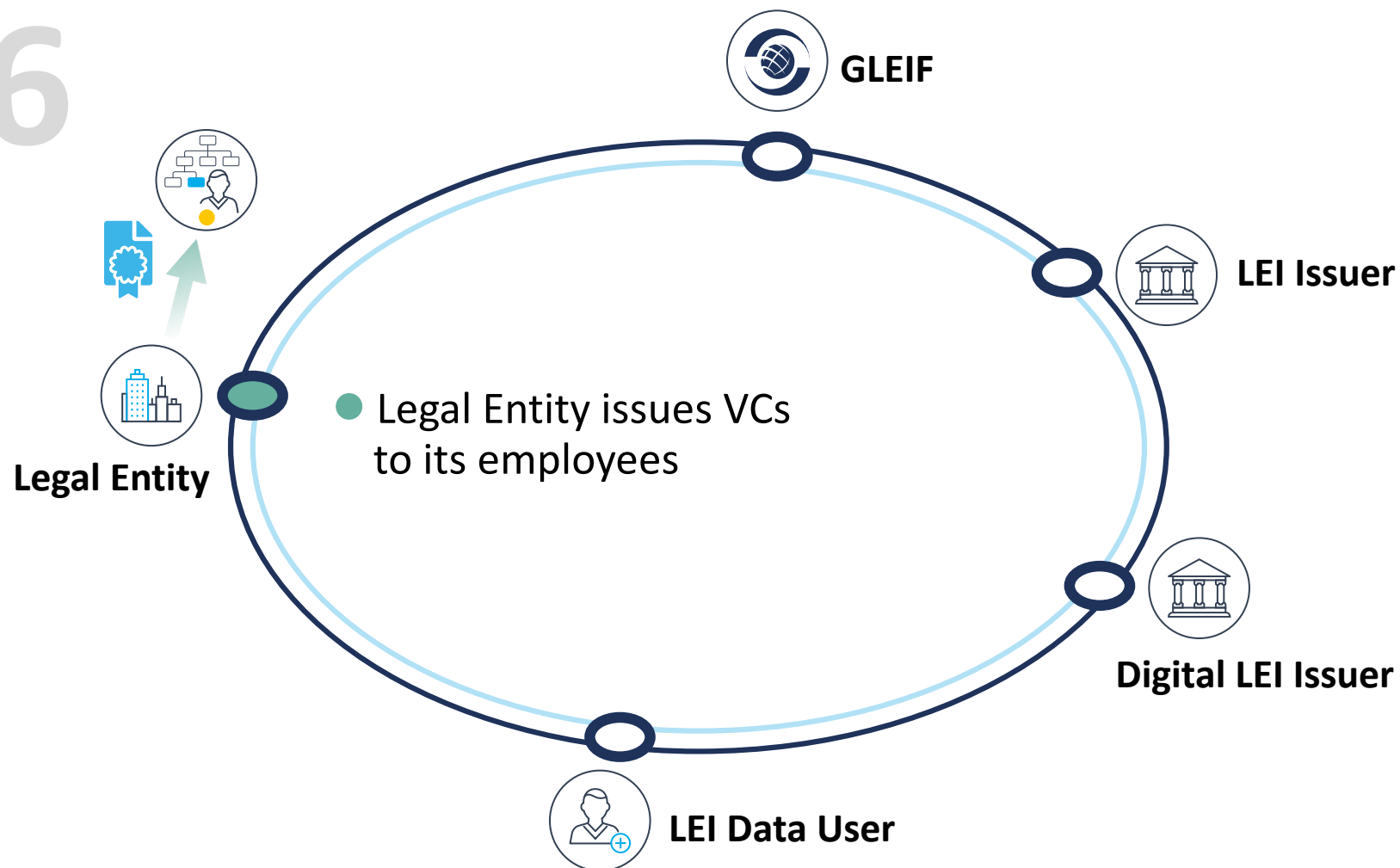
# 5



The Digital LEI VC Issuer issues the VC for the Legal Entity.

## Step 6: Legal Entity to issue VCs to its employees

# 6

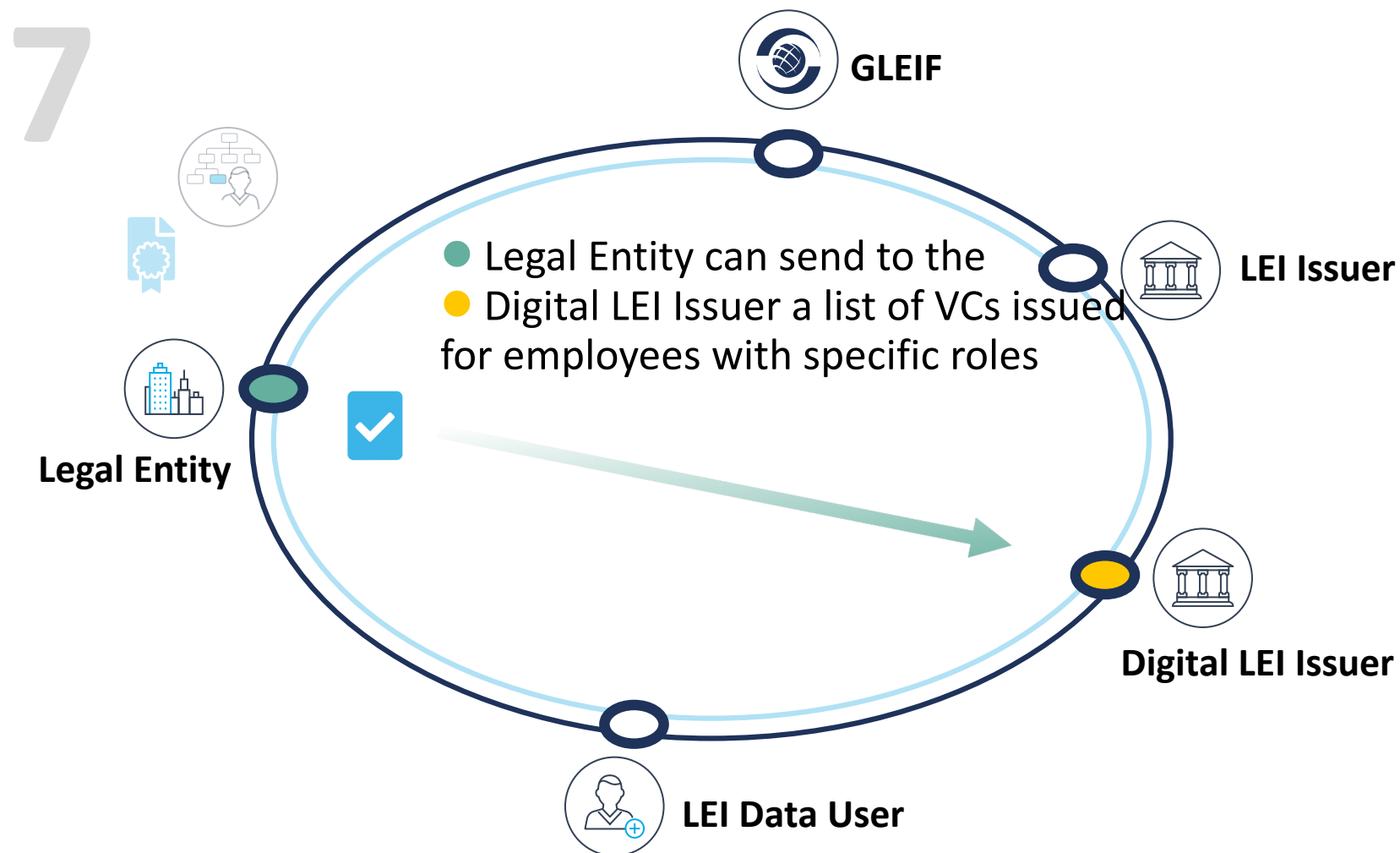


With its VC, the Legal Entity can issue credentials to its employees which identify the official roles that they play in the Legal Entity.

This enables the employees to use their VCs to officially represent the Legal Entity.

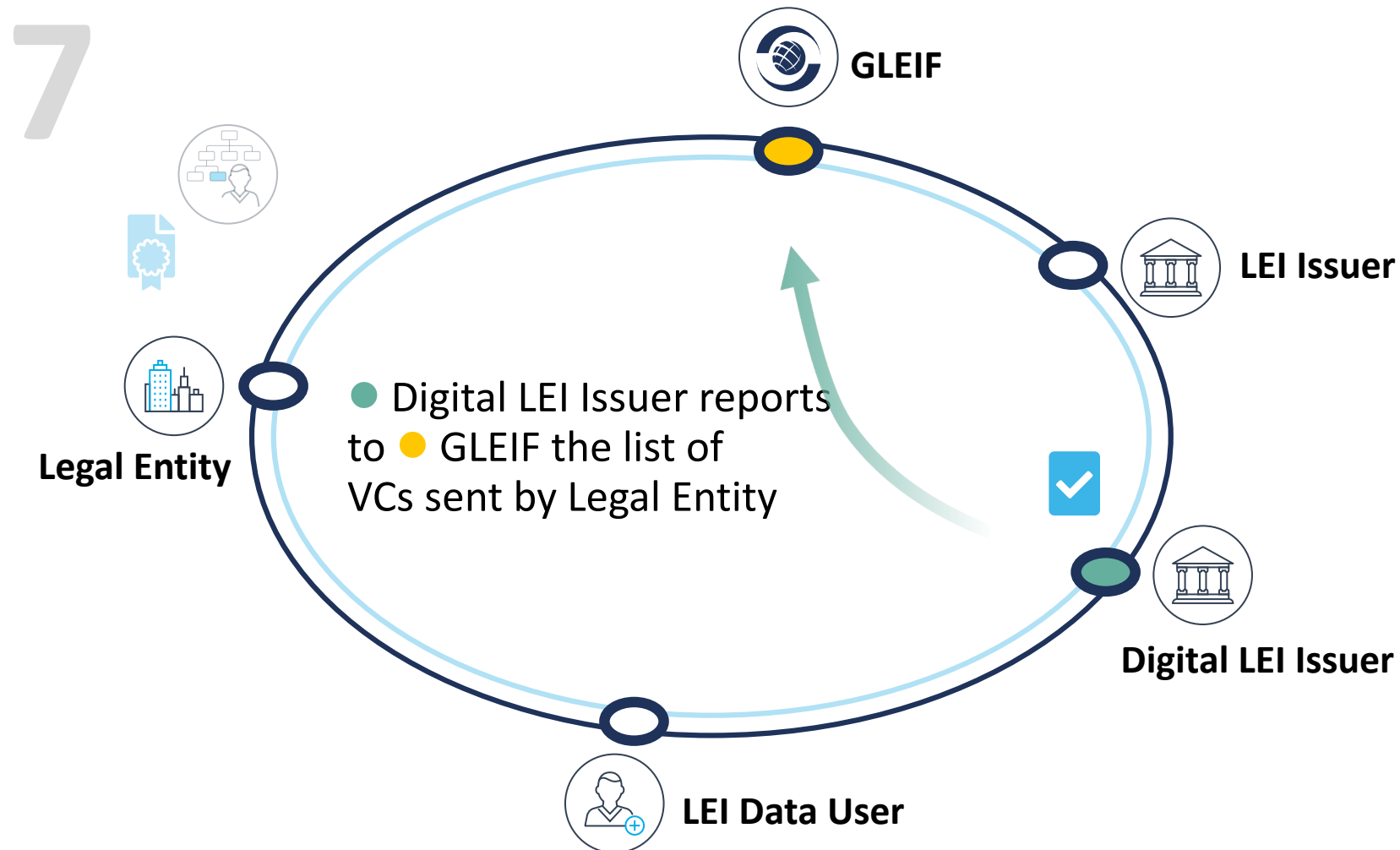
These VCs form the Organization Wallet of the Legal Entity.

## Step 7: Legal Entity to share the VCs with the Digital LEI Issuer



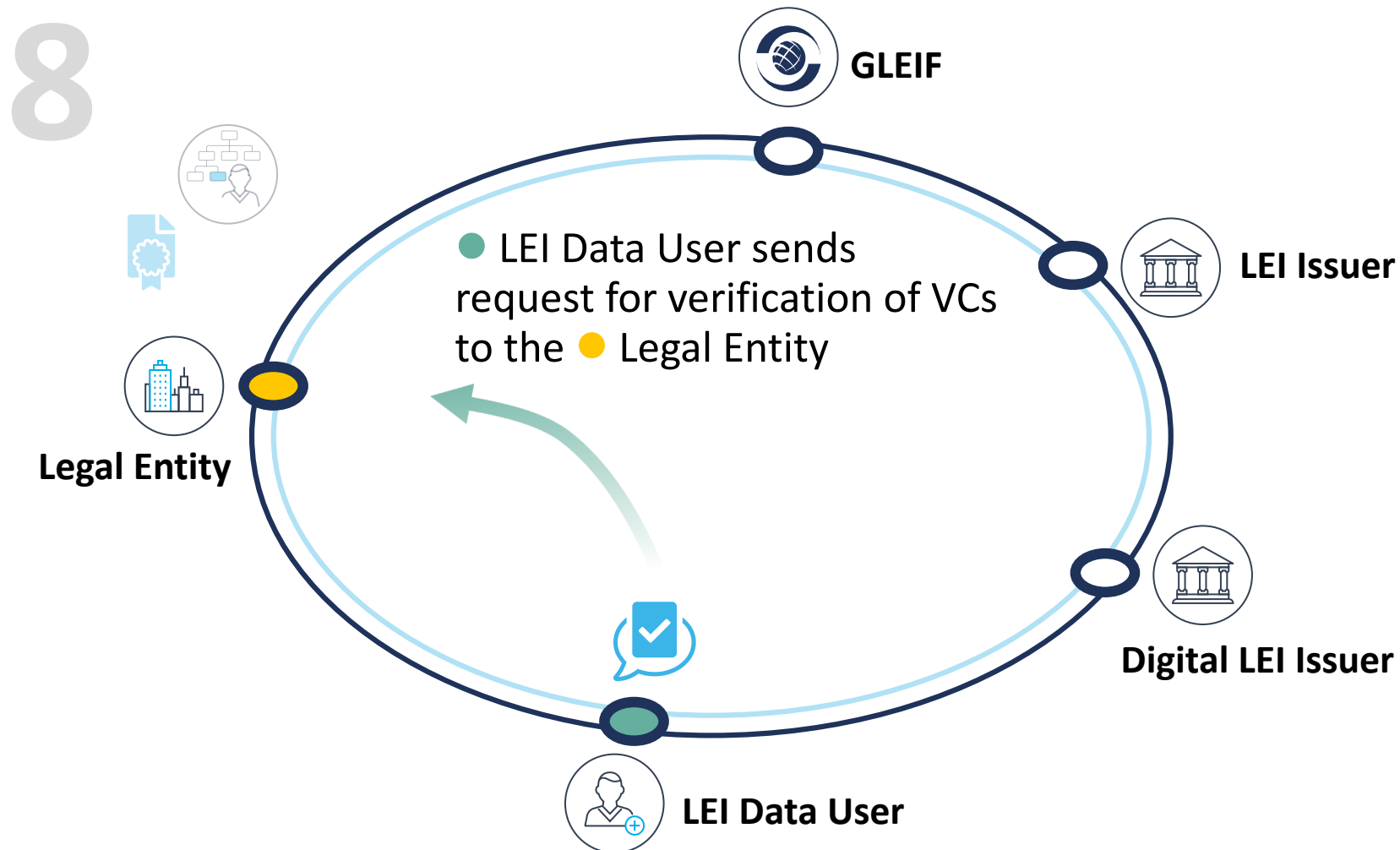
In order to enable the discovery of VCs issued by the Legal Entity, roles assigned by the legal entity can be sent to the Digital LEI Issuer.

## Step 7: Digital LEI Issuer to share the VCs with GLEIF



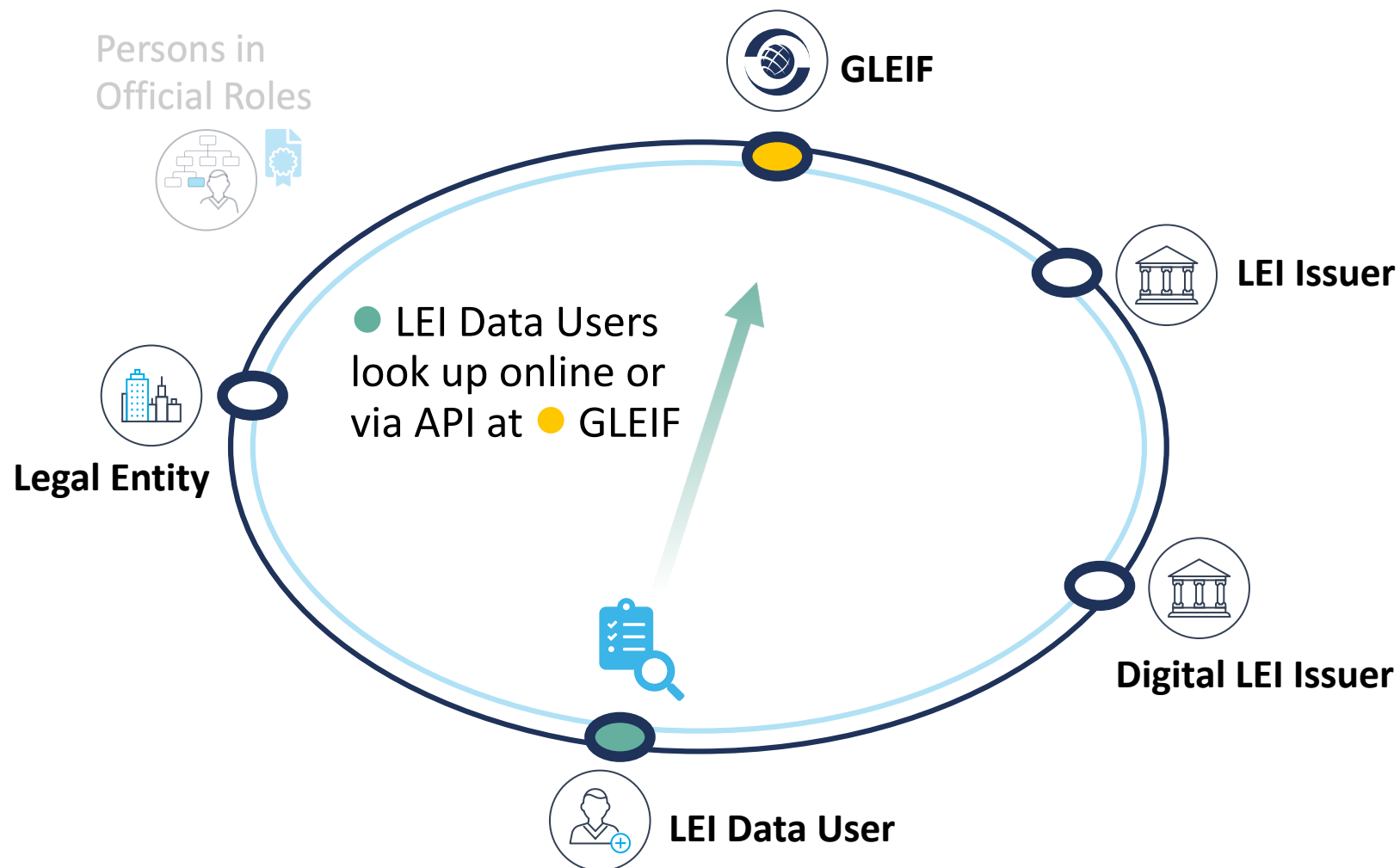
And subsequently this list can be published in the Global LEI Repository without containing any personally identifiable information (PII).

## Step 8: LEI Data User to request for verification



Response will indicate whether the VC is authentic and current (since Legal Entities will have the ability to revoke VCs issued to Persons in Official Roles).

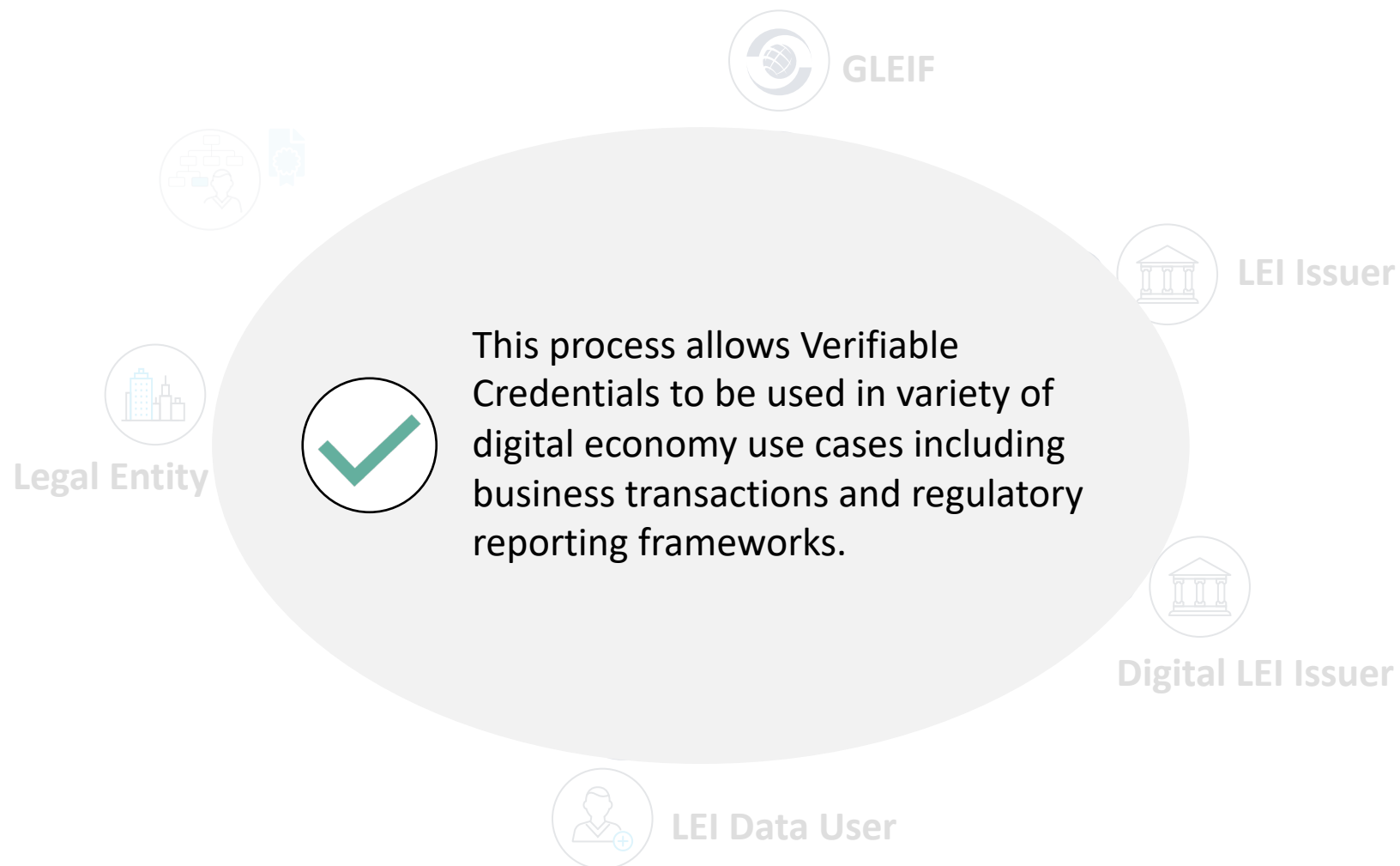
## Result: Complete trust chain and transparency



Now in addition to the freely accessible look up of LEIs and the associated reference data, LEI Data Users can look up published list of official roles for which VCs have been issued by the Legal Entity.




## Use case agnostic approach



# How would it look in the Global LEI Repository?

## An example


How to use LEI Search 2.0
Challenge LEI Data
Back to 'LEI Data'

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### LEI Reference Data

< Back to search results

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#### Global Legal Entity Identifier Foundation

LEI Code 506700GE1G29325QX363
Hide

(Primary) Legal Name	Global Legal Entity Identifier Foundation
Registered At	UID-Register (Federal Statistical Office) In French: Registre IDE; in German: UID-Register; in Italian: Registro IDI (In French: Office fédéral de la statistique; in German: Bundesamt für Statistik; in Italian: Ufficio federale di statistica) Liechtenstein, Liechtenstein RA000548
Registered As	CHE200595965
Jurisdiction Of Formation	CH

Registered Verifiable Credentials
Hide

#### Registered Roles

CEO	Issue request for verification
Financial Analyst	Issue request for verification

Imprint · Terms · LEI Data Terms of Use · Privacy Policy · Cookies · Sitemap

## Verification Request:

→

### Sandra Signer

CEO

Credential:

Legal Entity:

LEI Issuer:

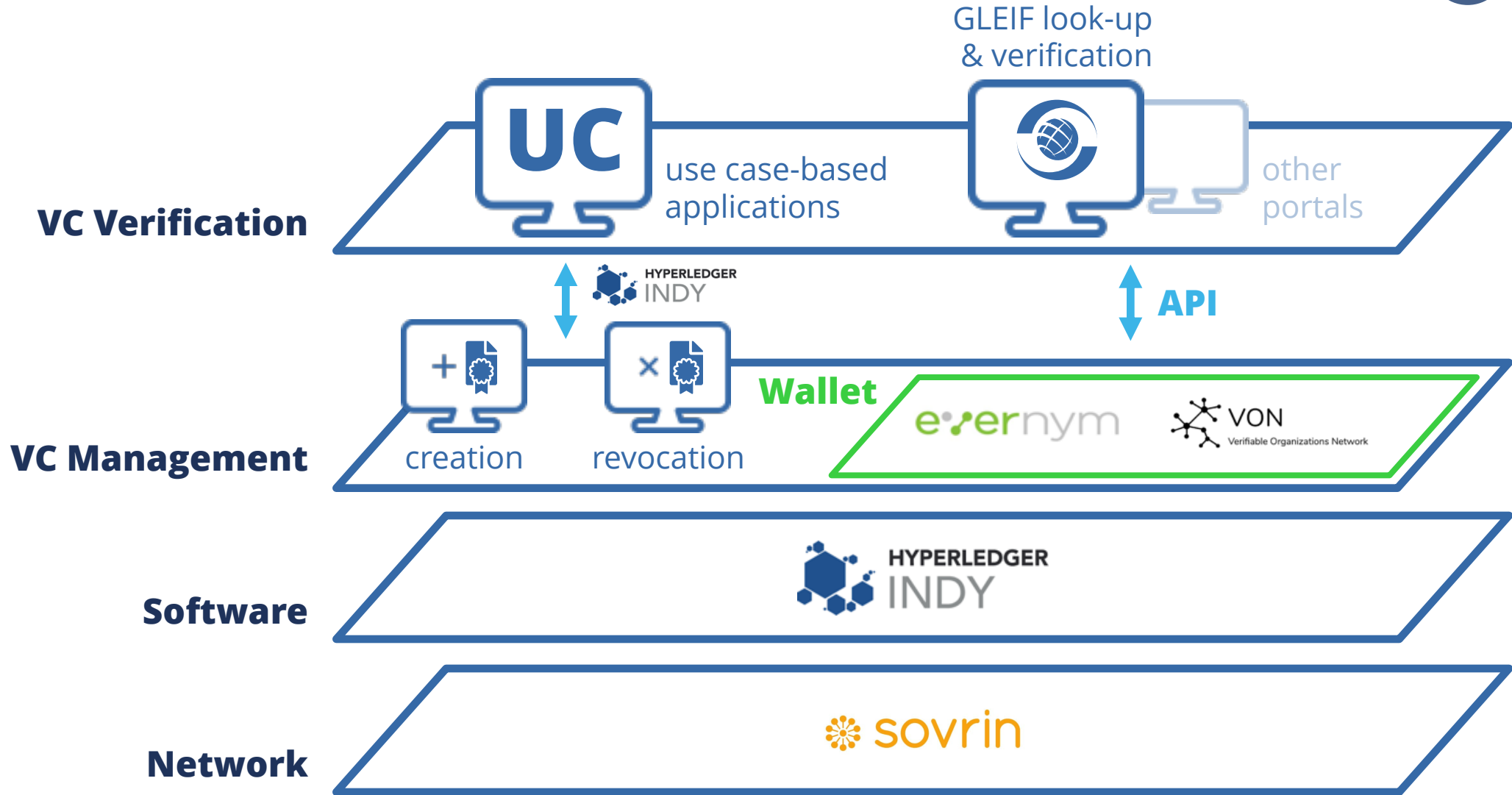
verified ✓

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close

# Technical Architecture



# Use Cases



## Use Cases



1. Regulatory filing and reporting – by the filer/ reporting entity, by a third-party filer on behalf of the filer/ reporting entity or by an auditor
2. Client onboarding/ know your customer process
3. Import/ export, supply chain, customs/ border control, payment for goods
4. Trusted supplier/ provider network membership and registration
5. Payment systems membership and registration
6. Executing and securing business contracts with clients, suppliers and providers
7. Business entity registration and licenses
8. General Data Protection Regulation

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