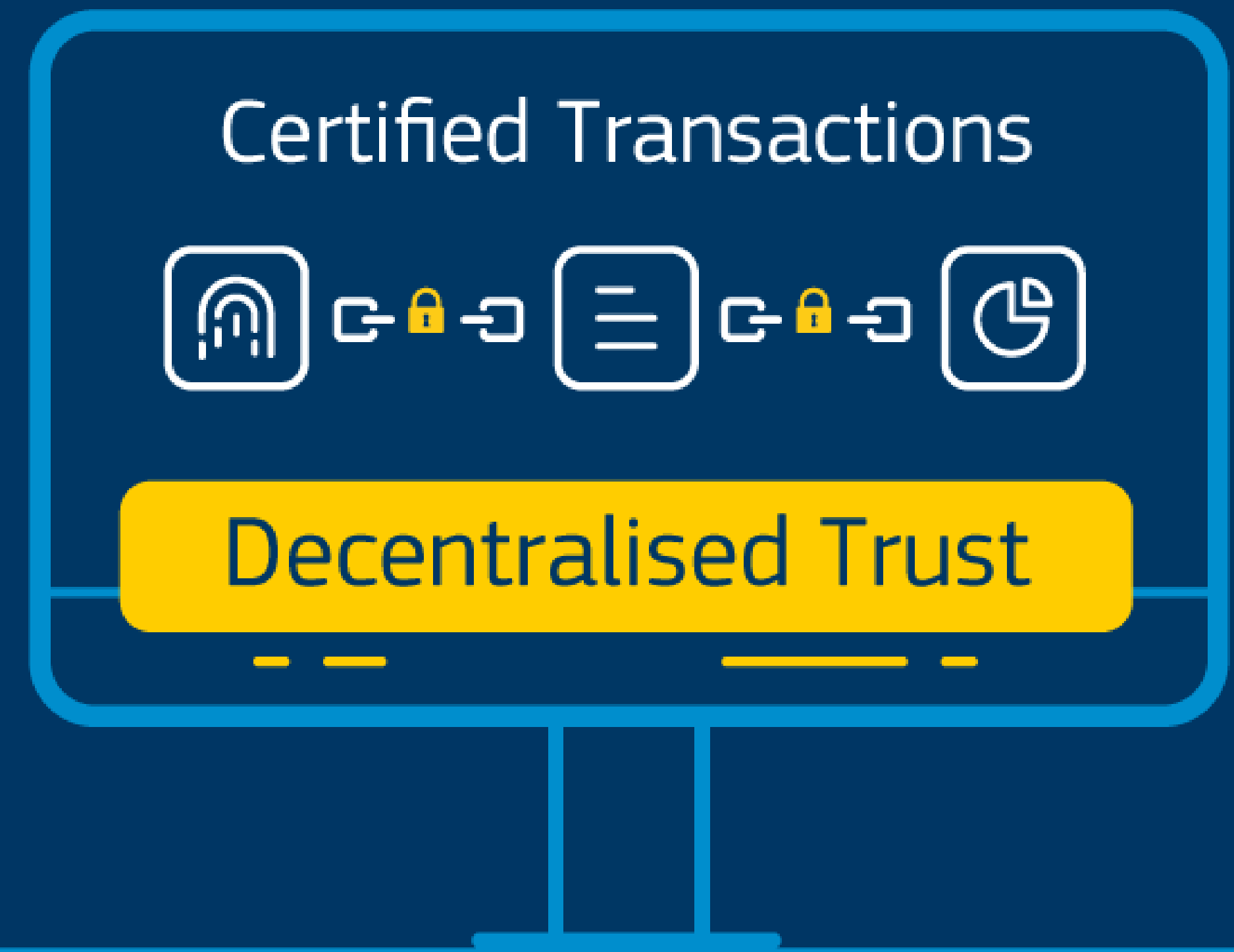


Meet

# European Blockchain Services Infrastructure

HARNESS THE POWER OF BLOCKCHAIN  
SERVICES, INCREASING TRUST THROUGH  
DATA SECURITY, PRIVACY AND  
TRANSPARENCY

**#Blockchain4Europe**



# BACKGROUND

## 2017

### Tallinn declaration on eGovernment

In 2017, Member States and EFTA countries signed the Tallinn declaration on eGovernment outlining the importance of having efficient and secure digital public services in order to achieve the full potential of the Digital Single Market.

## 2018

### European Blockchain Partnership declaration

In 2018, 27 EU Member States, Norway and Lichtenstein signed a declaration creating the European Blockchain Partnership (EBP) with the ambition to provide digital public services matching the required level of digital security and maturity of today's society.

## 2019

### European Blockchain Services Infrastructure

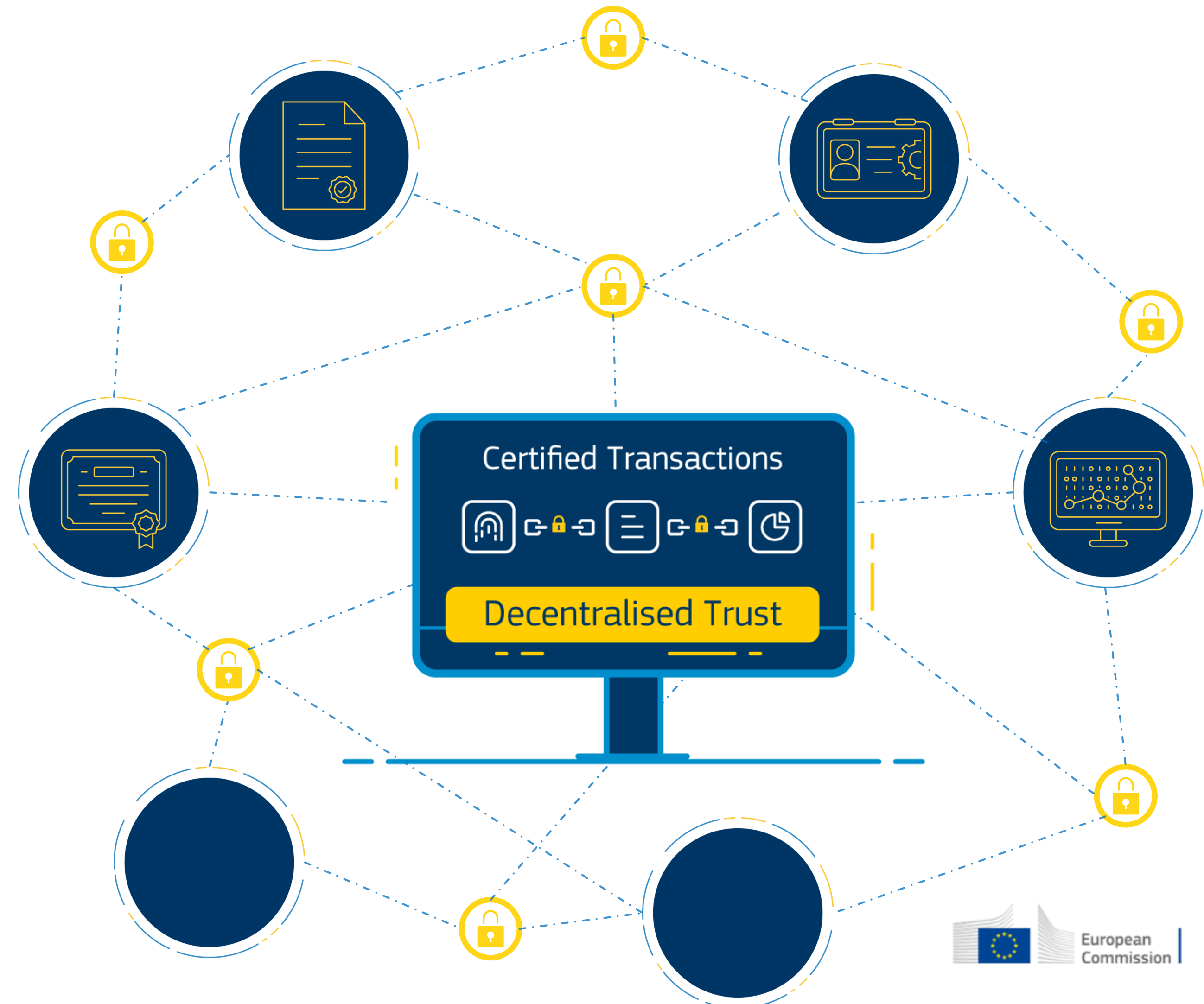
On 14 February 2019, the European Commission published the 2019 Telecommunications Work Programme of the Connecting Europe Facility (CEF) creating initial funding conditions for EBSI.

# WHAT IS EBSI?

The European Blockchain Services Infrastructure (EBSI) aims to become a “*gold standard*” digital infrastructure to support the launch and operation of EU-wide cross-border public services leveraged by blockchain technology.

EBSI aims to establish itself in ‘virtually’ every public sector domain that can benefit from blockchain technology. It will be materialized as a network of distributed nodes across Europe, leveraging an increasing number of applications focused on specific use cases.

These use cases are identified and selected each year by the Member States (European Blockchain Partnership) and the European Commission.

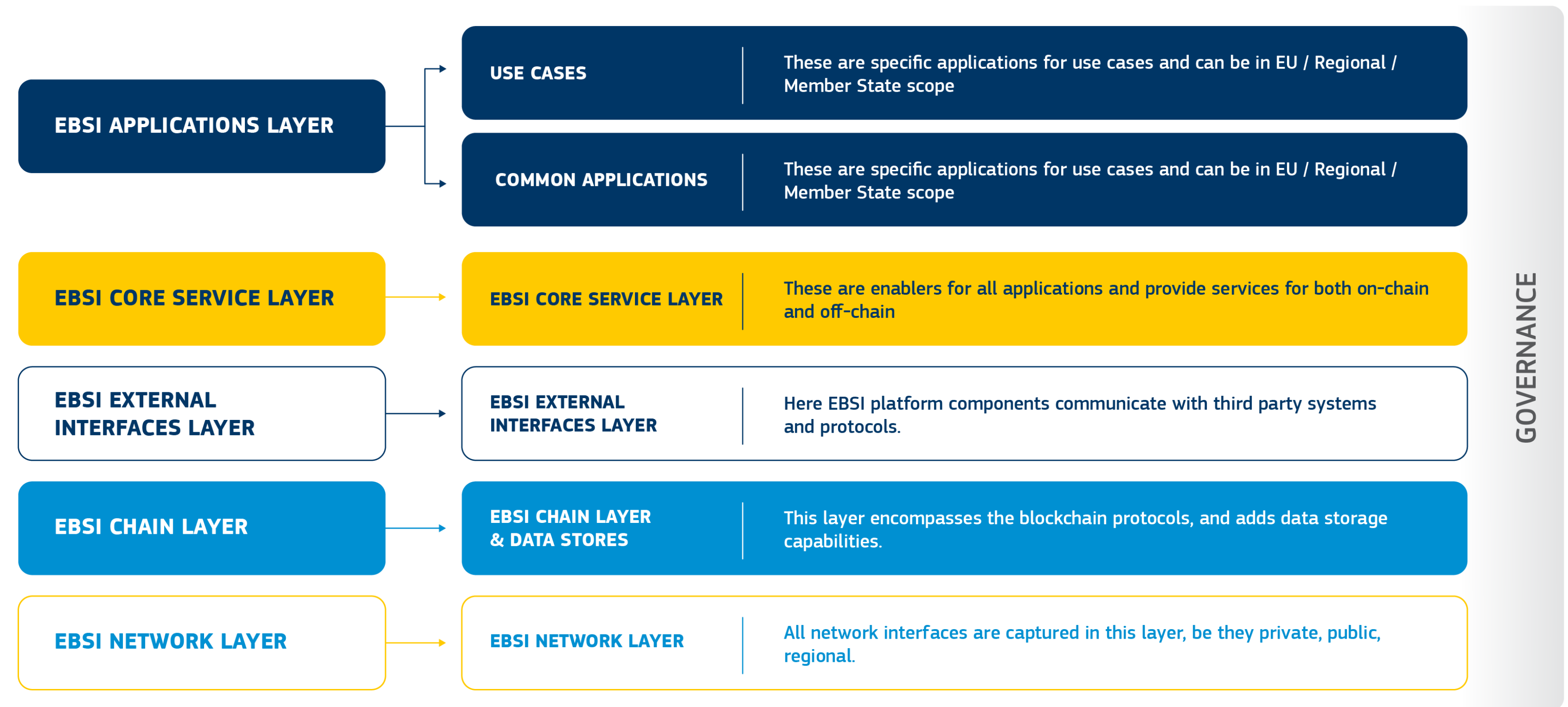


# EBSI AT A GLANCE

The Member States will operate EBSI nodes at national level. These nodes will be able to create and broadcast transactions that will update the ledger. The architecture of each node will be composed of two main layers.

A **use case-specific APIs layer** developed to enable business applications to interface with the node.

An **infrastructure layer** with capabilities common to all use cases. A thorough analysis will determine the EBSI native network based on specific use case requirements.



# EBSI GUIDING PRINCIPLES

The EBSI architecture will be built around strong guiding principles (in full respect of EU regulation) to ensure enough flexibility for many future Use Cases' implementations

**1**

## Public Permissioned

The identity of all participating nodes is known.

**2**

## Decentralized

Each Member State should run its own code or set of nodes.

**3**

## Scalable

Needs to support high-throughput and high number of nodes.

**4**

## Open

EU Public License and free from Intellectual Property Rights

**5**

## Sustainable

Energy efficient without Proof of Work (PoW)

**6**

## Interoperable

The EBSI should, as much as possible, be based on well-known standards and technical specifications



# SELECTED USE CASES FOR 2019

A Member State led and composed user group has been established per selected use case. These user groups aim to deliver a working prototype connected to the infrastructure layer of EBSI by the beginning of 2020. A new set of use cases will be selected by the European Blockchain Partnership Policy Group for 2020 (and onwards).



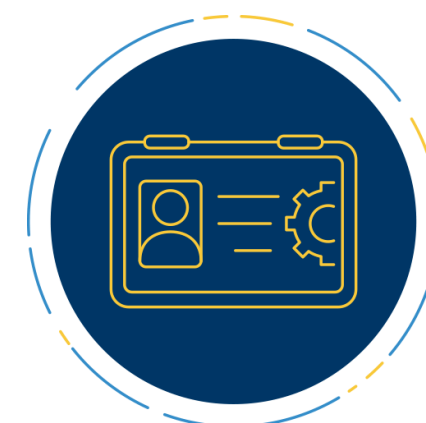
## Notarisation of Documents for Auditing Purposes

Leveraging the power of blockchain to create trusted digital audit trails, automate compliance checks in time-sensitive processes and prove data integrity.



## Certification of Diplomas

Giving control back to citizens to validate their education credentials, significantly reducing verification costs and improving authenticity trust.



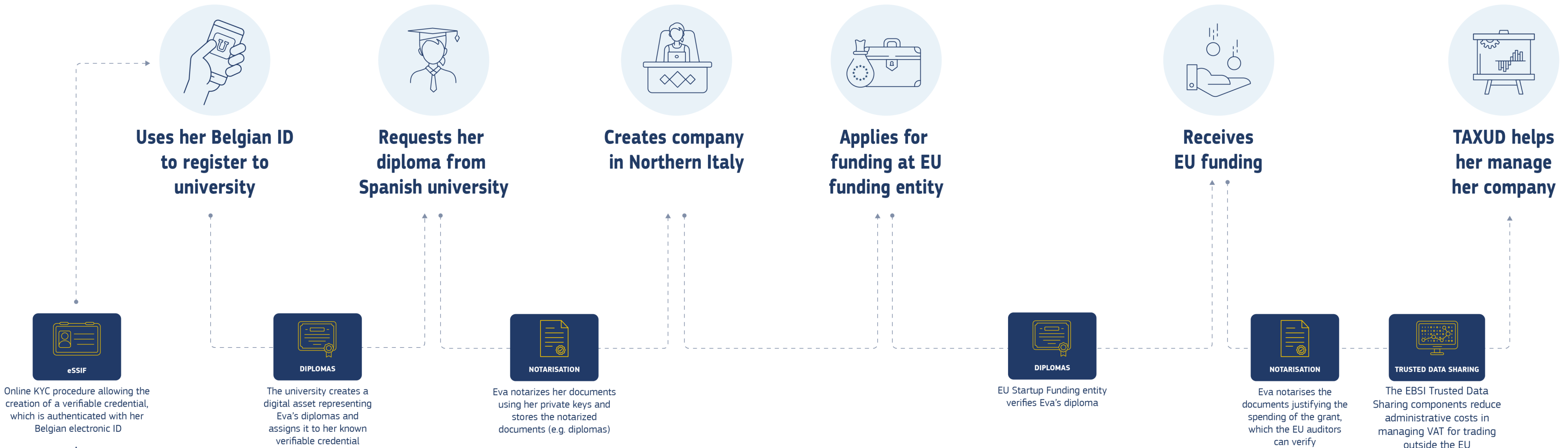
## EU Self-Sovereign Identity Framework

Implementing a generic Self-Sovereign Identity capability, allowing users to create and control their own identity without relying on centralized authorities.



## Trusted Data Sharing

Leveraging blockchain technology to securely share data (e.g. IOSS VAT identification numbers and import one-stop-shop) amongst customs and tax authorities in the EU.



**PERSONA**

Eva is a 23 years old Belgian Bachelor's degree graduate in computing security and AI.

She has a passion for learning languages, travelling, computing services and AI

**CONTEXT**

Eva wants to further deepen her knowledge in computing security and AI and applies for a master degree at the Barcelona University.

Eva hears about EU incentives to start companies in Northern Italy. She decides to pursue her dream and to start a business there to sell specialized security chipsets with AI enhanced capabilities.

**GOALS**

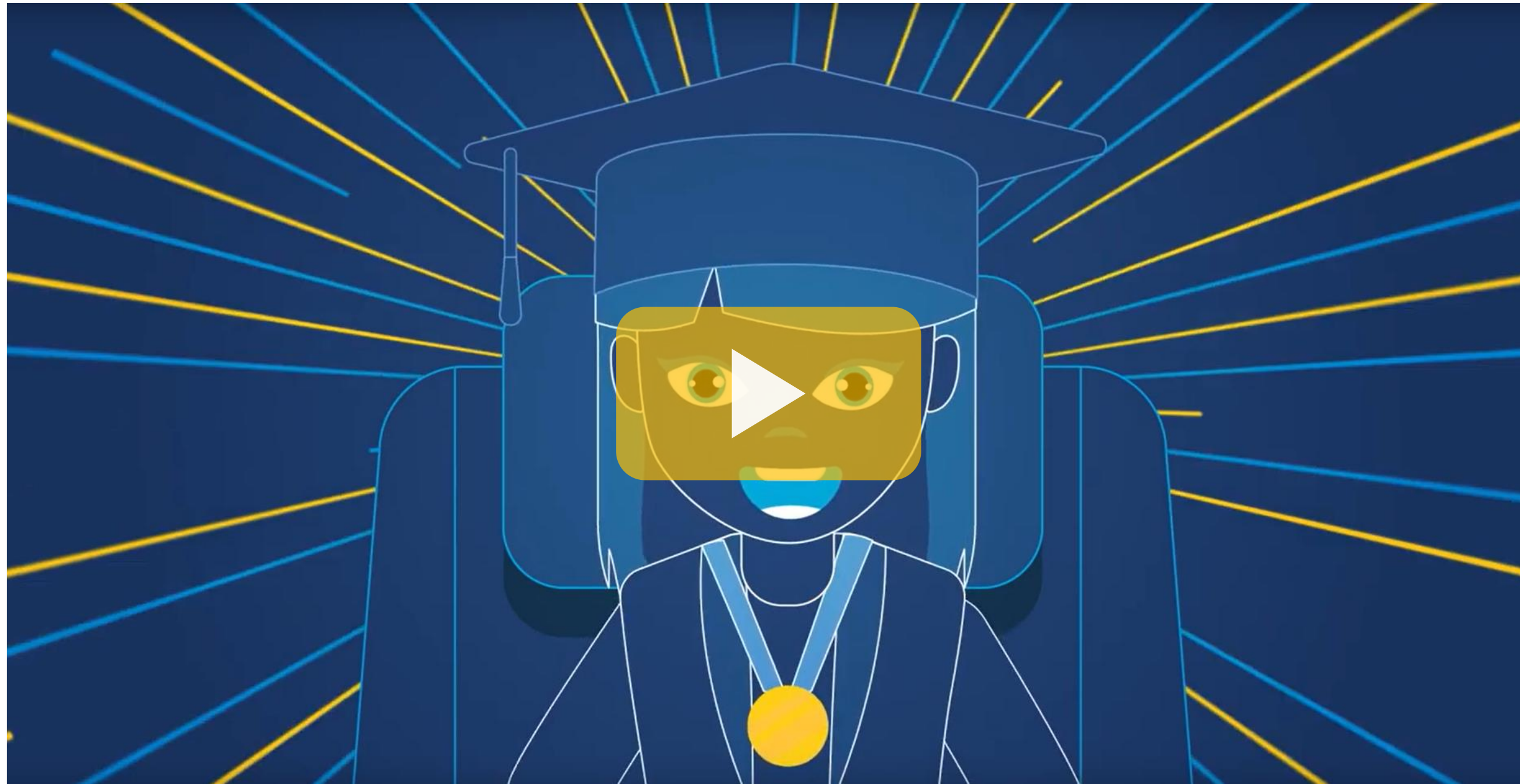
- Provide seamless cross border services for citizens;
- Help make institutions more efficient;
- Make economic activity flow cross border.

Certified Documents

Decentralised Trust

## Eva's journey animated!

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Discover how the European citizen will benefit from digital public services enhanced by blockchain technologies !



# Summary of Benefits for EU Companies

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1. **Identify workers and customers** from other EU countries
2. **Recognise notarised documents** from other countries
3. **A fairer competitive landscape** with companies from outside EU through better VAT enforcement
4. **Hire people** from other countries easily, recognising their diplomas
5. **Business opportunities** to provide technology and services

# Ready to get started?

Reach out to us to learn more!

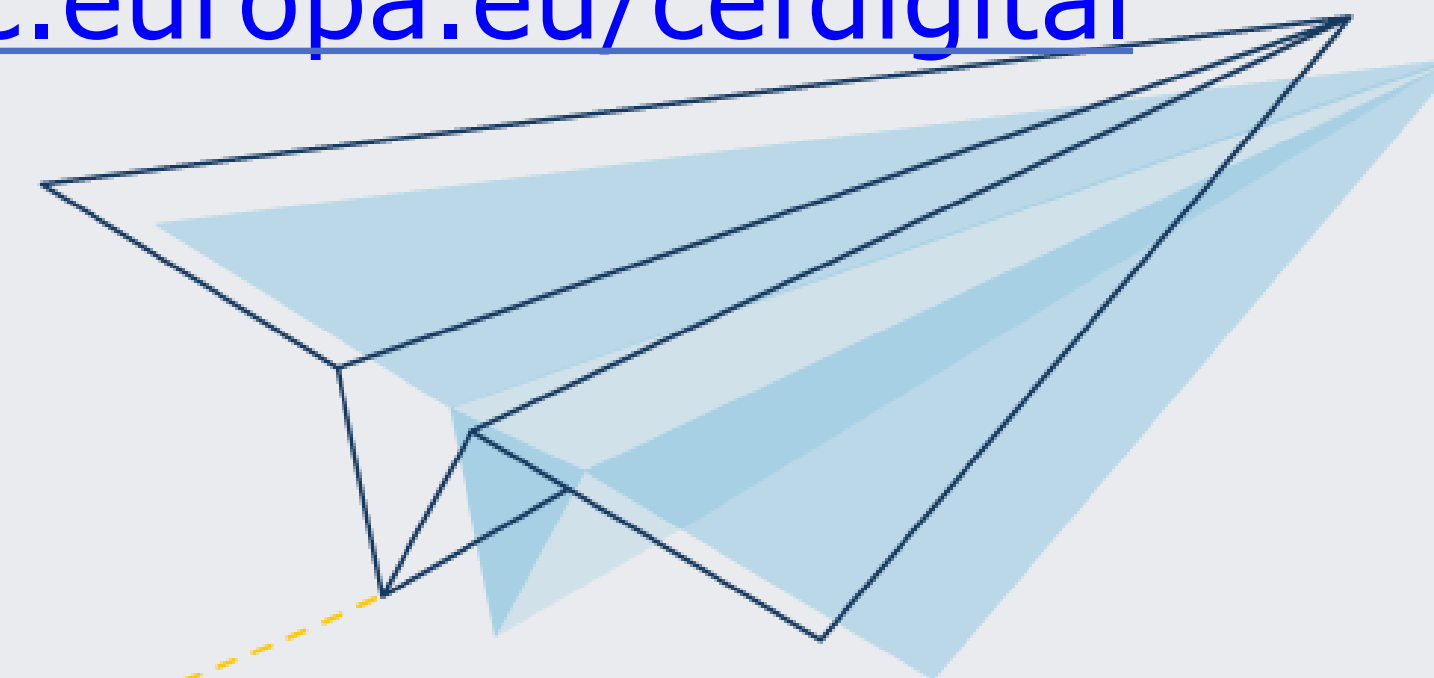
Or visit our Connecting Europe Facility website [www.ec.europa.eu/cefdigital](http://www.ec.europa.eu/cefdigital)

Contact your national representative in the European Blockchain Partnership:

[CNECT-EUBLOCKCHAIN@ec.europa.eu](mailto:CNECT-EUBLOCKCHAIN@ec.europa.eu)

Learn more about the European Blockchain Partnership on:

<https://ec.europa.eu/digital-single-market/en/news/european-countries-join-blockchain-partnership>



**THANK YOU**

Certified Transactions



Decentralised Trust

# EBSI GOVERNANCE

## CEF POLICY

CEF Coordination Committee

Ensures overall alignment to the CEF Regulation and Guidelines. Handles the adoption of the work programme(s) including the selection of the CEF building block DSIs.

EC DRIVEN

## CEF IT STRATEGY & COORDINATION

Architectural Management Board (AMB)

CEF Telecom Expert Group

**AMB:** Supports the CEF Telecom Expert Group. Ensures that each CEF building block DSI fully aligns to the policy objectives stated in the CEF Regulation and Guidelines.

EC DRIVEN

**CEF Telecom Expert Group:** Coordinates the implementation of the CEF building block DSIs and their overall strategic alignment.

EC DRIVEN

## BLOCKCHAIN SPECIFIC

EBP Policy Group

Provides overall guidance on the development and operationalisation of the European Blockchain Services Infrastructure (EBSI).

MS DRIVEN

Operational Management Board (OMB)

EBSI Technical Group

**OMB:** Formalises decisions related to the EBSI implementation process, in collaboration with the EU Member States.

EC DRIVEN

**EBSI Technical Group:** Provides guidance on the technical development and operational work of the EBSI.

MS DRIVEN

ESSIF UG

Diplomas UG

Notarisation UG

Trusted Data Sharing UG

Provide guidance on the use of blockchain in their respective use cases.

MS DRIVEN



# WHO WILL BENEFIT FROM EBSI?



## EU citizens

Transact across borders with public services more securely than ever before



## National Administrations

Simplify administrative processes, increase efficiency and instill trust in citizens



## European Union Institutions

Simplify administrative processes and enable regulatory compliance, increase efficiency in cross-border public services

# EBSI RELATED SERVICES

The EBSI will also include central services provided by the European Commission known as the 'Core Service Platform' of the EBSI.

## Core Services

Creation and maintenance of the **open technical specifications of the EBSI**.

## Enabling Services

Provision of services **that facilitate the adoption of the EBSI** such as:

- Deployment packages;
- Testing services;
- Training services;
- etc.

## Enhancing Services

Services that **further accelerate the adoption of EBSI** by enhancing the experience of the Public Administrations using it.

They mainly relate to stakeholder onboarding and follow-up:

- promotion material;
- events and webinars;
- etc.

# EBSI's Service Offering Canvas

## ENABLING SERVICES

SOFTWARE	OPERATIONS SERVICES		
<b>Sample software</b>	<b>Managed services</b>	<b>Testing services</b>	<b>Supporting services</b>
European Profiles Implementation(s)	If needed by the adopted technology	Test Network(s)	Training
Infrastructure Implementation(s)		Secure Development Lifecycle support	Helpdesk

## ENHANCING SERVICES

STAKEHOLDER MANAGEMENT	
<b>Onboarding</b>	<b>Follow-up</b>
Community management	
Online Assessment Tool	Country Fact Sheets (Blockchain Observatory)
Cost Assessment Tool	Animation of EBSI Community
On boarding Services	Knowledge base of the EBSI Community
Compliance Advisory Services (GDPR/IDPR/EIDAS)	

## TECHNICAL SPECIFICATIONS

European Profiles	Infrastructure	Implementing Acts	Implementing Guidelines
eSSIF	Client		As required
Diplomas	Middleware		
Audit documents verification	Consent Engine		
IOSS VAT	Storage		

## STANDARDS OF ISOs

ISO Standards	W3C Standards
TC 307	Verifiable claims WG & Credentials Community Group
ITU-T Standards	IETF Standards
Focus groups on DLT	JSON Web Tokens
OASIS Standards	DIF technical specifications
DKMS	Working Groups

## STANDARDS OF ESOs

CEN-CLC Standards
Focus groups on DLT

## CORE SERVICES

# EBSI Roadmap

2019

2020

2021

Q1

Q2

Q3

Q4

Q1

Q2

Q3

Q4

Q1

Q2

Q3

Q4



Selection of first use cases for EBSI V1.0



Start selection process for new use cases



Selection of new use cases for EBSI V2.0



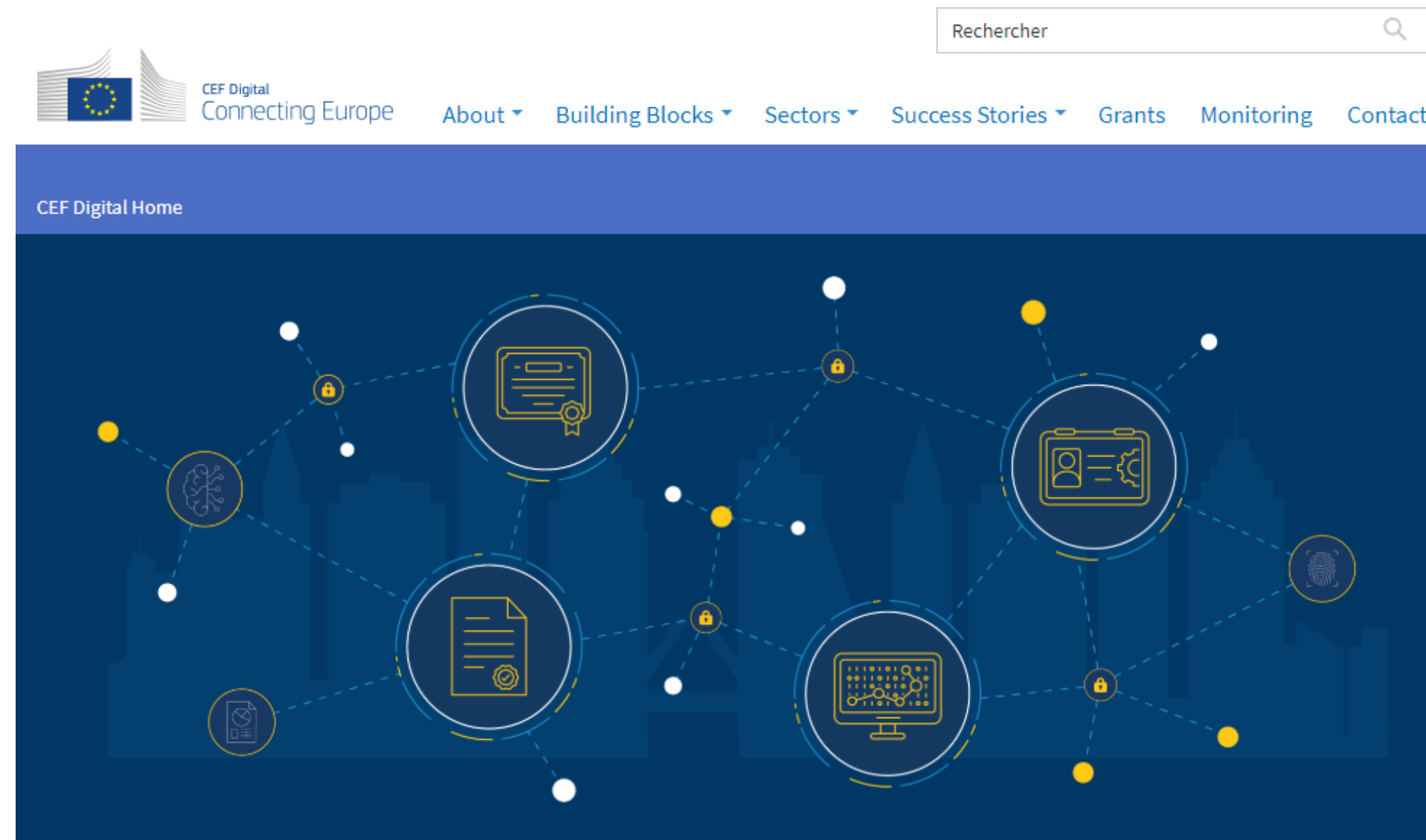
Deployment of EBSI V1.0 with first use cases



Deployment of EBSI V2.0 with new use cases



# Want to know more?



## Introducing the European Blockchain Service Infrastructure (EBSI)

Blockchain technology has enormous potential to enhance the way that citizens, governments and businesses interact, by enhancing trust between entities and improving the efficiency of operations.

The European Blockchain Services Infrastructure (EBSI) is a joint initiative from the European Commission and the [European Blockchain Partnership](#) (EBP) to deliver EU-wide

increasing number of applications focused on specific use cases. In 2020, EBSI will become a [CEF Building Block](#), providing reusable software, specifications and services to

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<https://ec.europa.eu/cefdigital/wiki/x/e4DEBg>