

EBSI Verifiable Credentials explained

CHAPTER 2

EBSI Verifiable Credentials in action

June 2022



European
Commission



EBSI, explained – first edition

What are the different chapters of this first edition?



01.

**Verifiable
Credentials
Explained**



02.

**Verifiable
Credentials in
action**



03.

**Decentralised
Identifiers
(DID) Methods**



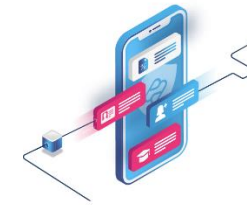
04.

Digital Identity



05.

**Issuers Trust
Model**



06.

**Open ID Connect
for Verifiable
Credentials**



07.

Digital Wallets

02. Verifiable Credentials in action – Index

What are you going to learn in this Chapter?

02.1

What are the EBSI Use Cases and how does the EBSI Use Case Lifecycle work?

02.2

What are the Verifiable Credentials Use Cases of EBSI?

02.3

What is the approach to pilot Verifiable Credentials Use Cases?

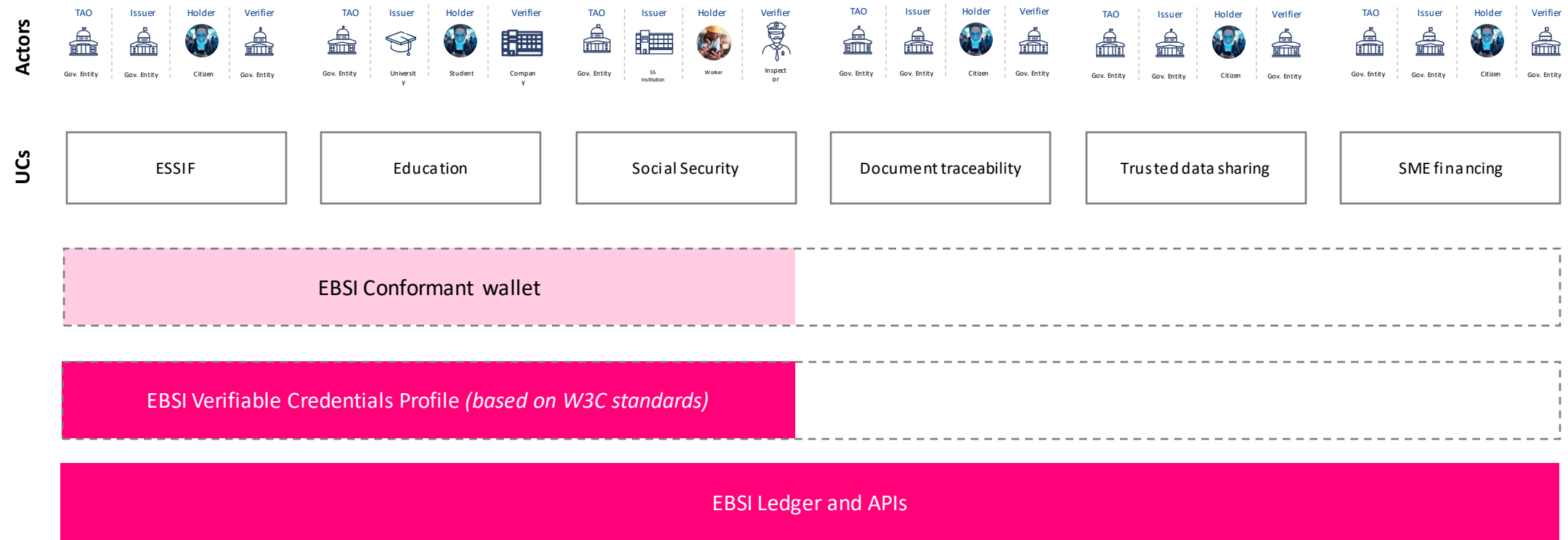


01.

What are the EBSI Use Cases and does the EBSI Use Case Lifecycle work?

What is EBSI today?

EBSI is user centric, decentralised and reusable in multiple contexts and use cases. It is based on open standards to stimulate interoperability and the creation of cross-border public services



EBSI's use cases

EBP and the EC develop and deploy EBSI with a network of distributed nodes across Europe for supporting applications for selected use-cases, such as:



TRACK AND TRACE

Ensuring the integrity and tracing the evolution of data or documents; monitoring of products in the supply chain through their digital passport



VERIFIABLE CREDENTIALS

Giving control back to citizens when managing their credentials, such as diplomas or posting certificates for mobile workers linked to their digital identity, significantly reducing verification costs and improving authenticity trust



TRUSTED DATA EXCHANGE

Enhancing the implementation EU policy and compliance procedures between administrations e.g. for asylum demand management or exchange of VAT number for import products



IP MANAGEMENT


Facilitating right holders checking and management of intellectual property


This is done notably through the establishment of electronic ledgers as new qualified trust services, as proposed in the EU digital identity regulation

EBSI is going to implement the EU digital identity regulation and the EU digital wallet

EBSI's use case will support cross-border services across multiple domains, selected by the EBP

TRACK AND TRACE


SMEs Financing



Document Traceability


VERIFIABLE CREDENTIALS


Self-sovereign Identity


Social Security


Diploma


Asylum Process Management


Trusted Data Sharing

TRUSTED DATA EXCHANGE

Coming soon...

IP MANAGEMENT



How does the EBSI Use Case Lifecycle work?

The Use Cases are developed following the lifecycle explained below.

01

Select UC

Potential use cases are suggested by the EBP countries who then select the most promising ones that will go to the next stage. Convenors are appointed to lead each Use Cases.



02

Develop UC

The Convenors will gather the requirements and shape the specifications of the Use Cases together with a team of experts based on MSs input. The specifications will then be developed and implemented by the EBSI technical team.



03

Pilot UC

The first implementation will be tested and piloted by EBP's projects participating in the Early Adopters Programme. Feedback received by the Early Adopters is then integrated by the EBSI technical team.



04

Adopt UC

Once the specifications and the implementation have reached a certain level of stability, they are deployed into production on the EBSI network and the Use Case can grow.



02.

What are the Verifiable Credentials Use Cases of EBSI?

Verifiable Credentials can be used across domains

Verifiable Credentials can be used across domains



Food / Beverage

I want to guarantee / verify the **origin / authenticity of a product** (e.g. organic product)



Business

I want to guarantee / verify **the origin of funding.**



Health

I want to guarantee / verify the origin / authenticity of a **health certificate.**



Administration

I want to guarantee / verify the origin / authenticity of a **birth certificate.**



Transport

I want to guarantee / verify the origin / authenticity of **the consignments transported.**



Audit

I want to guarantee / verify the origin of **publications / books of accounts**



Diploma

I want to guarantee / verify the origin of diploma credentials



Identity

I want to guarantee / verify the authenticity of the identity of a person / legal entity



Energy

I want to guarantee / verify my **energy consumption is green.**



Law

I want to guarantee / verify the origin / authenticity of **the apostille**

Today, EBSI is quite advanced in Self-sovereign identity, Social security and Diploma domains.



EBSI's Self-Sovereign Identity model

The Self-Sovereign Identity Use Case will demonstrate that EBSI can implement cross-border verification of identity credentials based on the Verifiable Credential lifecycle

This means that a verifiable ID issued by Country A can be verified by any entity from a from Country B.

The value proposition is the simplicity and reliability of the cross-border verification process.

It underpins all Verifiable Credentials exchanges in EBSI.

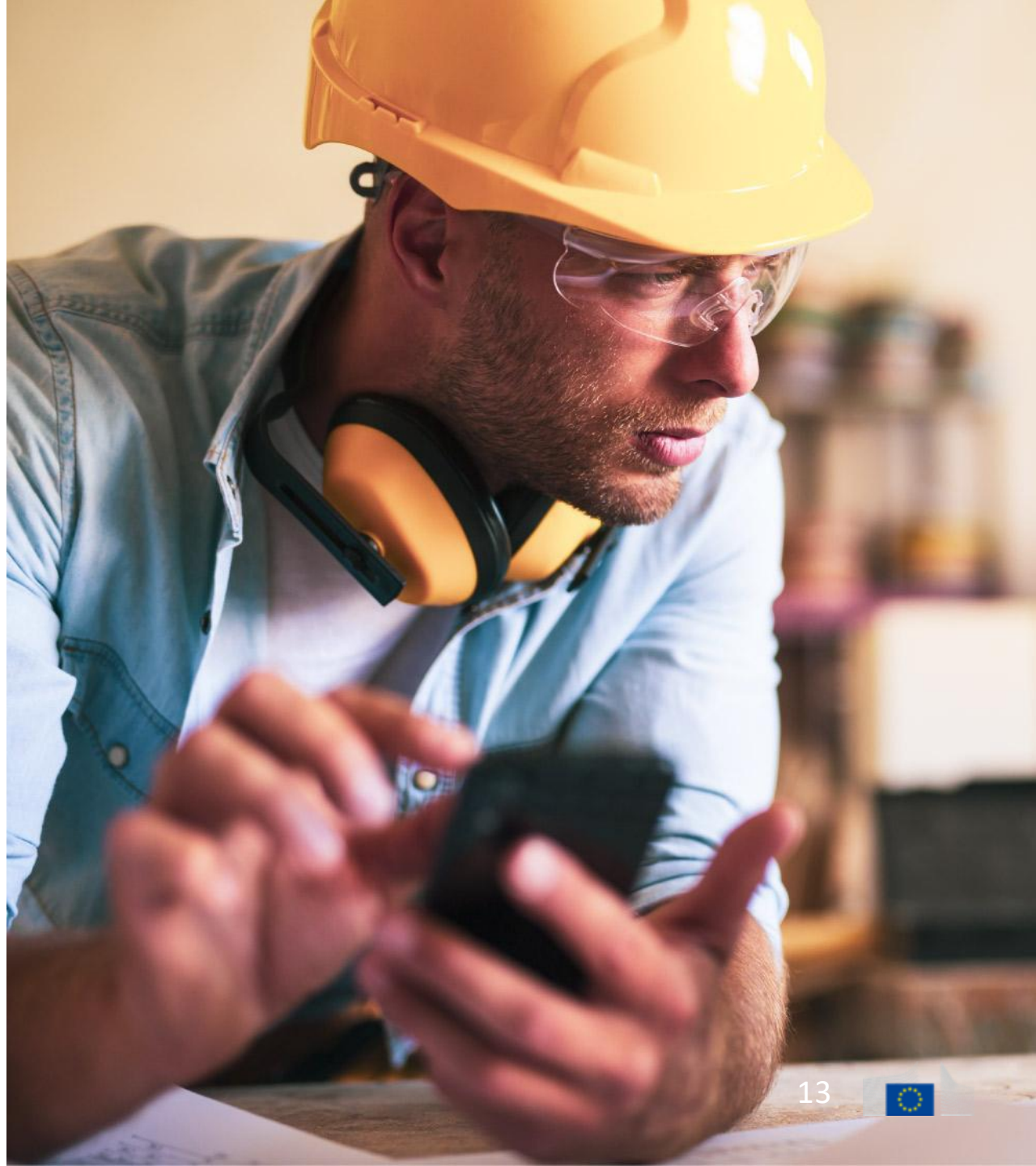


EBSI's Social Security Use Case

The European Social Security Pass Use Case will demonstrate that EBSI can implement cross-border verification of social security coverage of posted workers, i.e. verification of the PDA-1 document.

This means that a Social Security competent institution in an EBP country issues the PDA-1 document as a verifiable attestation and an inspector in another EBP country verifies it.

The value proposition is the simplicity and reliability of the cross-border verification process.



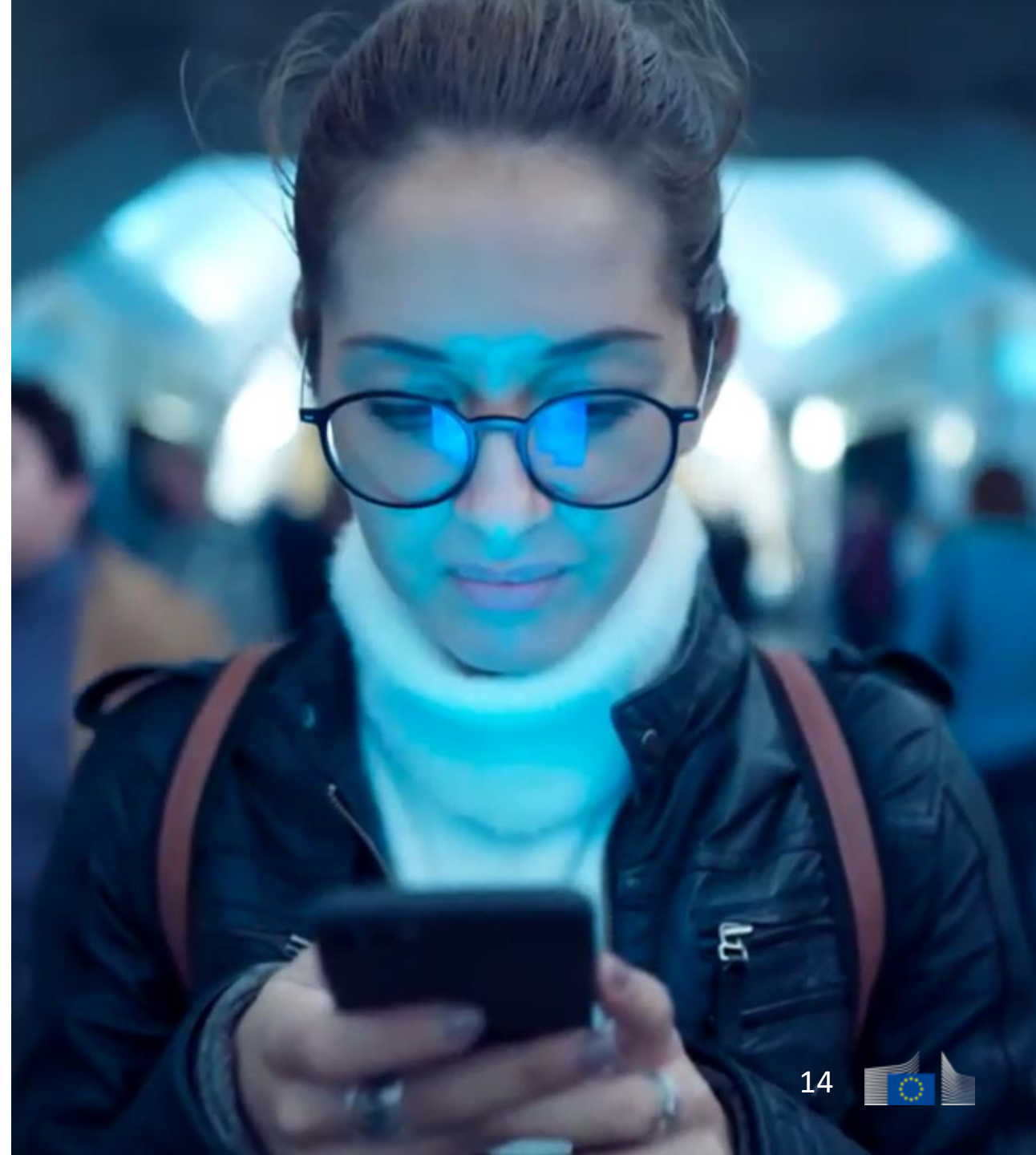
EBSI's Diploma Use Case

The Diploma Use Case will demonstrate that EBSI can implement cross-border verification of educational credentials based on the Verifiable Credential lifecycle

This means that a verifiable attestation (such as a diploma) issued by Country A can be verified by an university or third party, e.g. "employer" from Country B.

The value proposition is the simplicity and reliability of the cross-border verification process.

This can be extended to Lifelong learning certificate and other educational credentials.



Understanding the roles

Distribution of roles per Member State

MS A



Trusted Accreditation Organisation (TAO)

Gov. Entity

Registers issuers of educational credentials in the Trusted Register of Universities



Issuer

University A

Issues educational credential upon the request of the student

Mobile



Holder

Student

Configures the wallet, requests the issuance of educational credentials and share it with university / employer

MS B



Verifier

University B

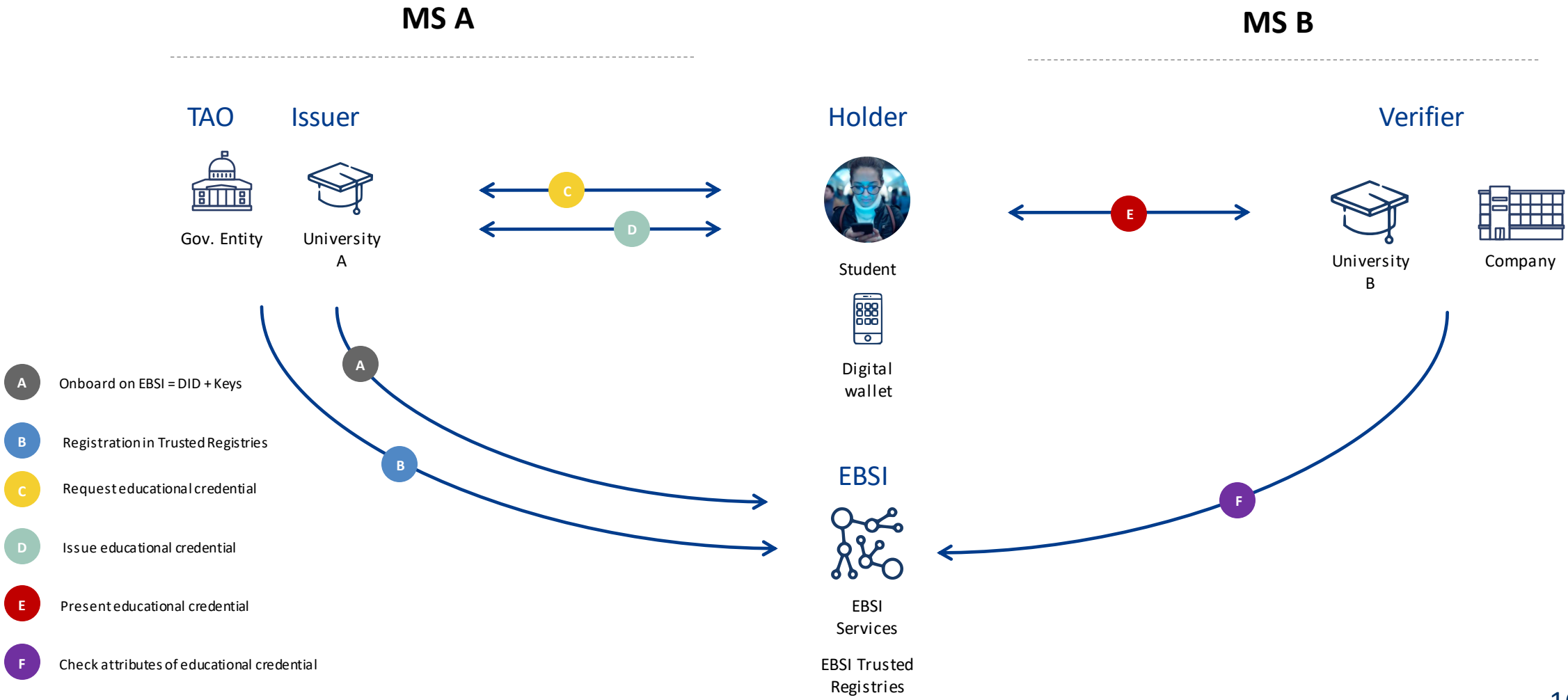
Verifies the educational credentials shared by the student



Company

Scenario illustrating the UC capabilities in practice

What is the scenario in practice and what are the capabilities offered to the different actors?



03.

What is the approach to pilot Verifiable Credentials Use Cases?

EBSI's Early Adopter Programme

Imagining what EBSI can do for European citizens

An incubator programme to help Early Adopters and their partners imagine, build, and launch their blockchain **pilot** project(s).

1st Pilot Programme: The Multi-University Pilot





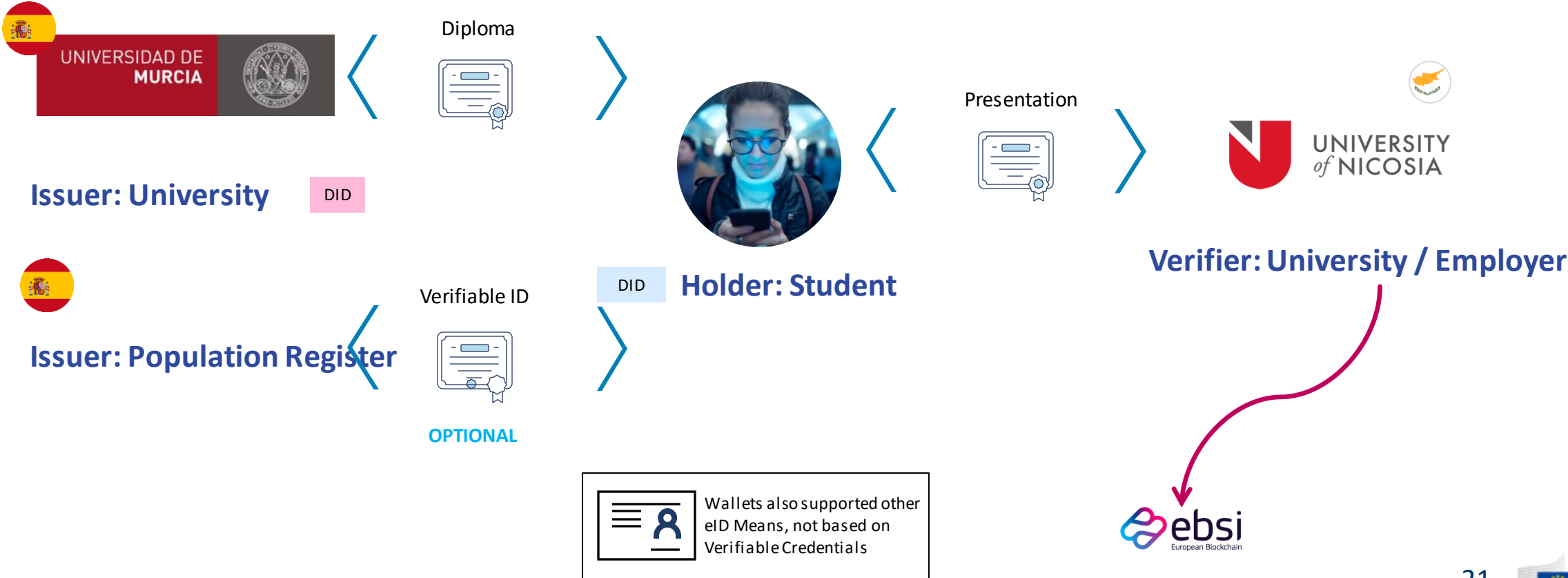
Participants of the multi-university pilot

2 European universities alliances, 20 universities from 15 countries



Multi-University pilot – Example of scenario

Multi-University pilot using Verifiable Credentials for education and identity



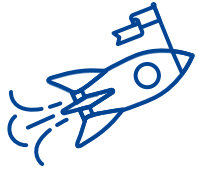
The timeline of the MU Pilot

What did they achieve so far?

21 INDIVIDUAL PROJECTS

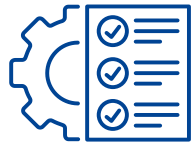
6 CROSS-BORDER PROJECTS

Discover



Kick-off the MU pilot with Early Adopters

JUL 2021



Explore of EBSI specifications and define pilot scope

AUG 2021

Design



Design pilot scenario and create clusters at Design Workshop

SEP 2021



Select of cross-border scenarios design integration plan

NOV 2021

Build



Finalise integration in pre-prod and WCT

MAR 2022



Demo Days - Showcase the MU Pilot

31/05/2022



Narratives / Scenarios

How EBSI and education credentials can help citizens study, lives, find a job and constantly grow, across border?

Studying abroad

- 01 A student gets a diploma with a list of course units validated from Erasmus (**Transcript of Records Credential**) (ES/BE/IT)
- 02 A student applies for a PhD with a Bachelor / Master degree from a foreign country (**Bachelor/Master Diploma Credential**) (RO/GR/FR)

Studying / Living abroad

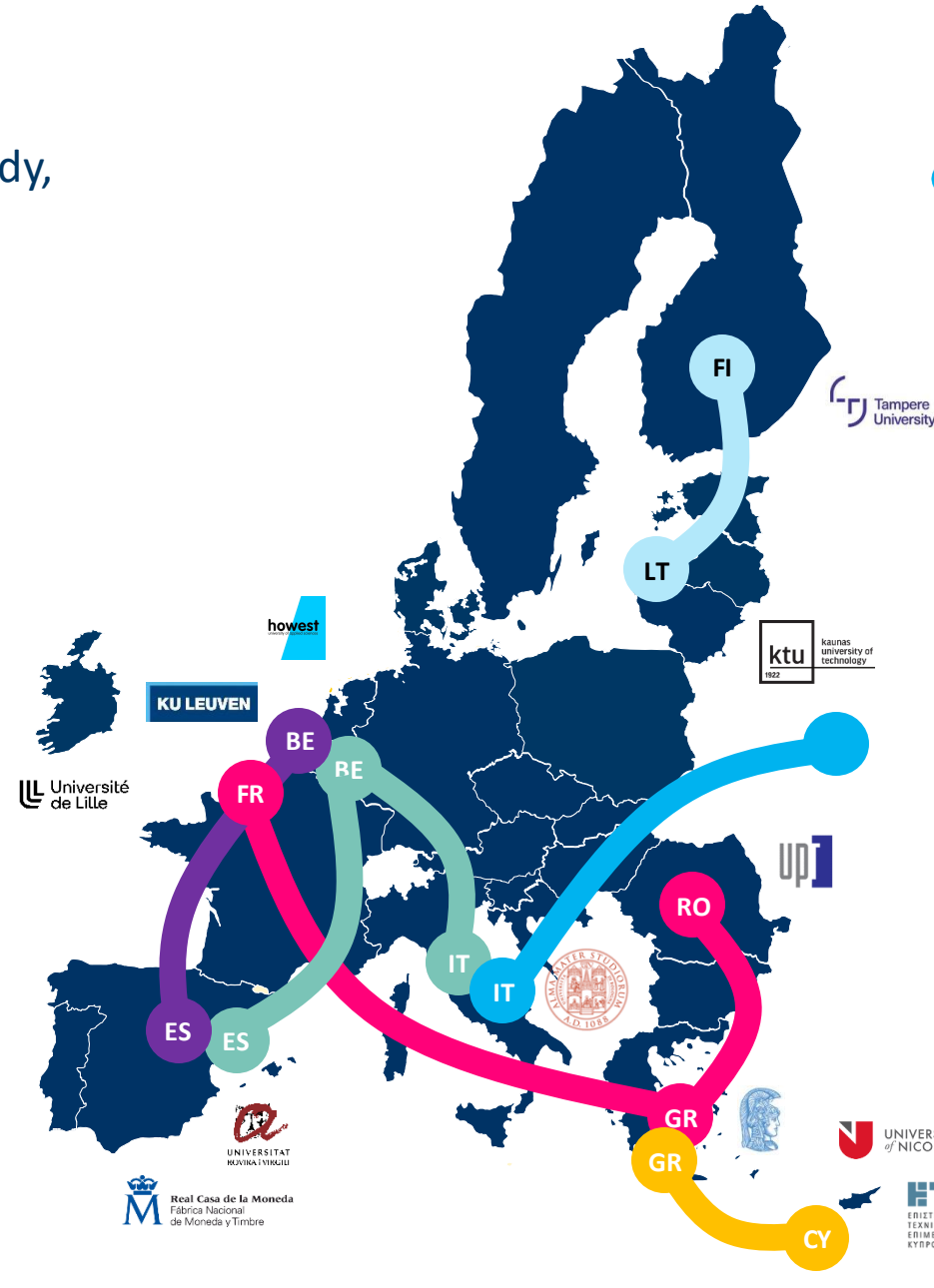
- 03 A student gets access to local discounts using student credential (**European Student eCard**) (BE/ES)
- 04 A refugee presents an EQPR to a European Italian University to apply for a Master (**EQPR - CoE Refugee Passport**) (IT/DE)

Finding a job

- 05 A graduated citizen applies for a job with a Degree from a foreign country (**License to Practice Credential**) (GR/CY)

Growing (personal development)

- 06 A PhD student applies for specific courses in a foreign country (**Cross-border Micro-credentials**) (FI/LT)



Want to know more?

Key resources

Explore
EBSI

Check the EBSI website

<https://ec.europa.eu/digital-building-blocks/wikis/display/EBSI/Home>

Explore
Specs

**Check the EBSI
Playbook**

<https://ec.europa.eu/digital-building-blocks/wikis/display/EBSIDOC/EBSI+Verifiable+Credentials+Playbook>

Watch
Demos

**Check the EBSI
Demo Day**

<https://ec.europa.eu/digital-building-blocks/wikis/display/EBSI/EBSI+Demo+Day>



<https://ec.europa.eu/ebsi>

