



European
Commission



Results, challenges and Q&A

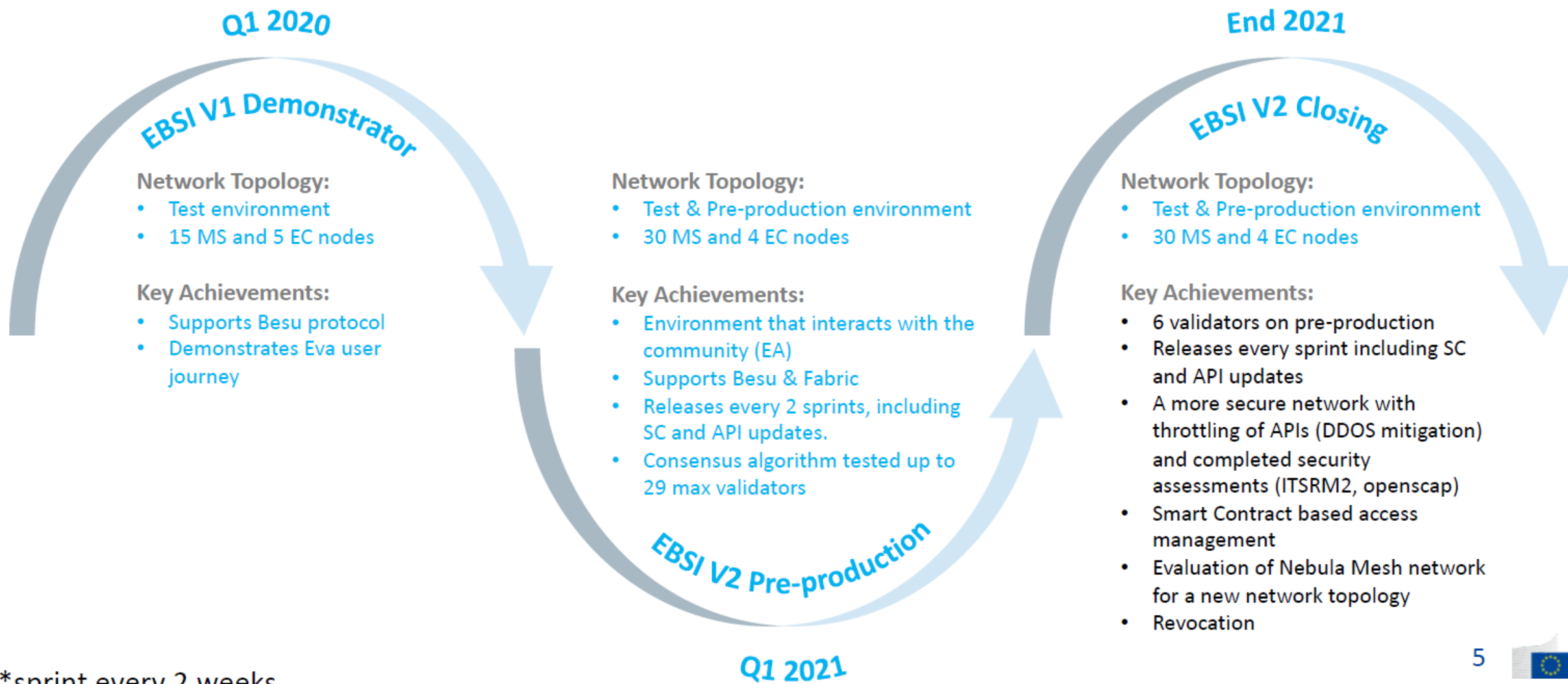
3rd TF-DLT meeting February 2022 – 22/02/2022

Daniel Du Seuil – Convenor ESSIF and Belgian Representative EBP

Gert De Braekeleer - Belnet

NETWORK DESIGN

What will EBSI look like by the end of 2021



*sprint every 2 weeks

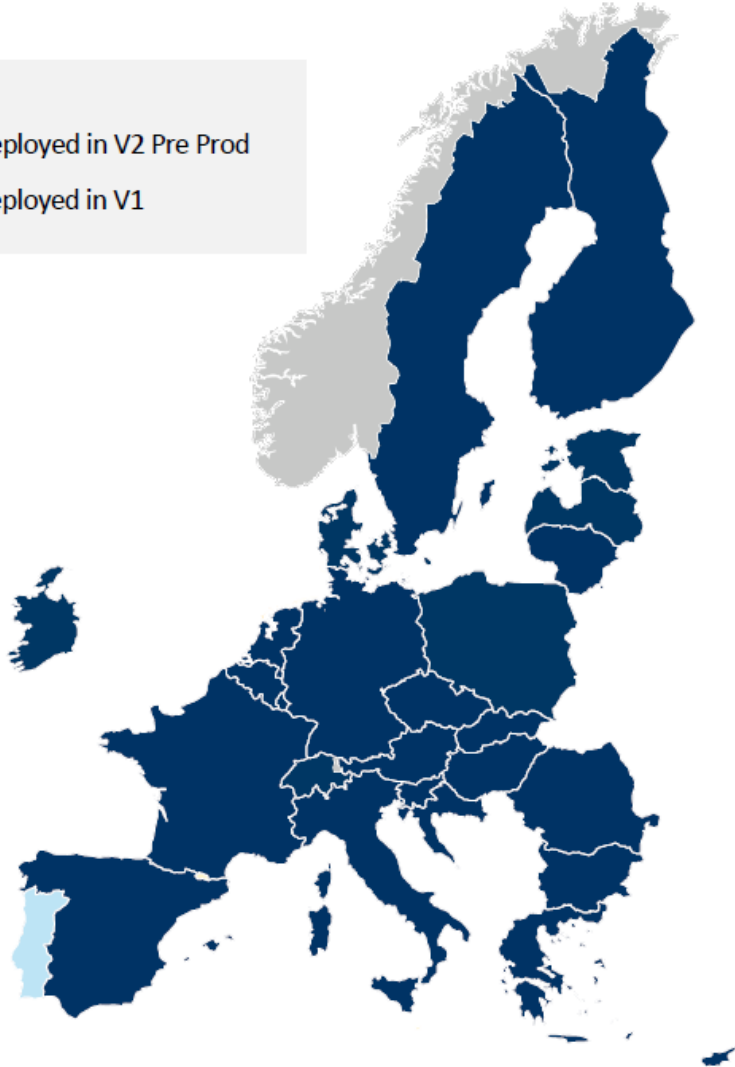


NETWORK IMPLEMENTATION

A solid network of 41 nodes across Europe

Legend














- MS Deployed in V2 Pre Prod
- MS Deployed in V1



From 38 to 41 nodes in 22 countries

of which 33 on V2

Nodes per country:

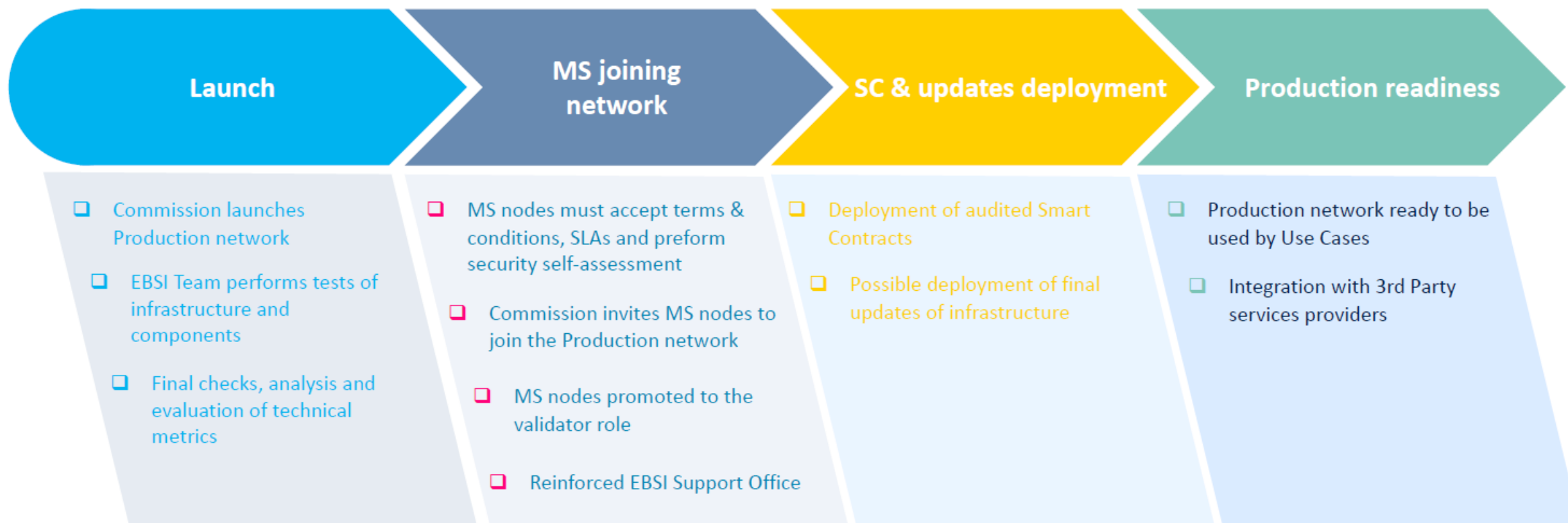
 Austria (1)	 Lithuania (1)
 Belgium (1)(1)	 Luxembourg (1)
 Bulgaria (2)	 Netherlands (2)
 Croatia (1)	 Norway (1)
 Cyprus (1)	 Portugal (1)
 Czechia (2)	 Romania (3)
 Finland (1)(1)	 Slovakia (1)
 France (1)(1)	 Slovenia (1)
 Germany (2)(2)	 Spain (3)
 Greece (2)	 Sweden (1)
 Hungary (3)	 EC Nodes
 Italy (2)(1)	

(Red are nodes on V1)



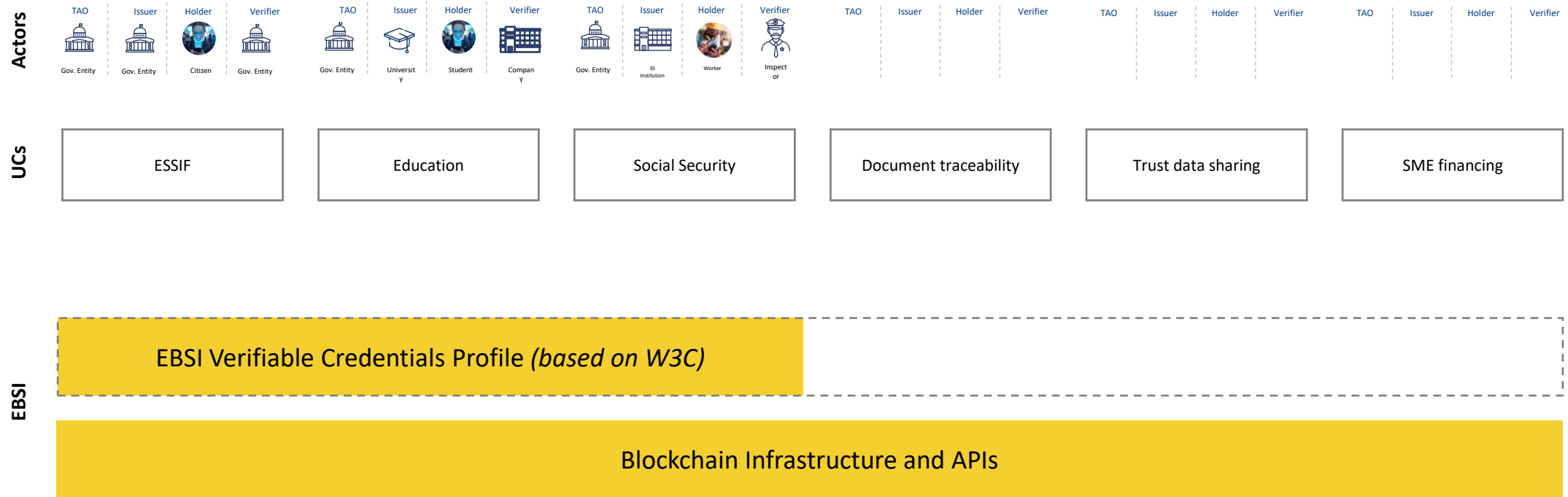
Production Infrastructure readiness in Q1 2022

Process of setting up production environment



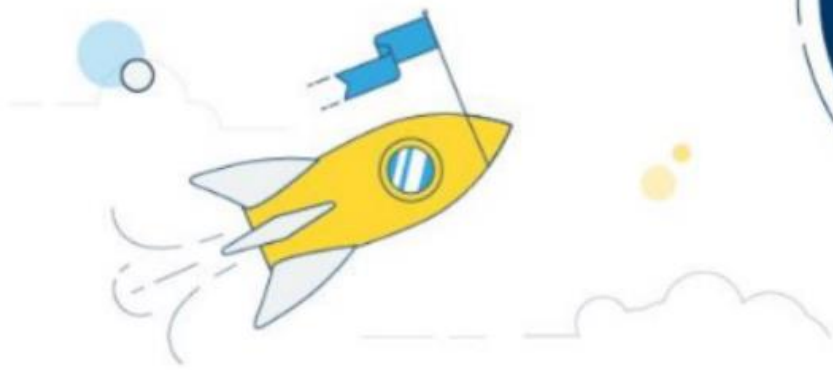
What is EBSI today?

EBSI is user centric, decentralized 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



Early Adopters Programme. Imagining what EBSI can do for European citizens. ✨

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



The Verifiable Credentials Playbook

Summarise the technical standards, specifications, and decisions that were accepted in order to meet the business requirements of the Use Cases.

EBSI - Early Adopters

PAGE TREE

- Welcome / Introduction
- News and announcements
- › Meetings, webinars, deep-dives, workshops & retro planning and minutes
- User based information architecture
- ▼ Verifiable Credentials Lifecycle
 - ▼ **EBSI Verifiable Credentials Playbook for Early Adopters**
 - Onboarding Natural Persons
 - › EBSI DID Method
 - › Data Models and Schemas
 - Defining JSON Schema for v.eID, vAttestation, vAttestation-Diploma, vPr
 - › On-boarding legal entities flows clarifications
 - EBSI Credential Issuance Guidelines
 - EBSI Verifiable Presentation Exchange Guidelines
 - Verifiable Credential and Verifiable Presentation proofs
 - › EBSI Wallet Conformance Testing
- › Multi-University Pilot
- › EBSI - Early Adopters forum
- Questions and Answers
- › Setting the scene
- › Entering the scene
- › Leaving the scene
- › Archive
- Notes
- File lists
- › WIP
- › [Restricted] Working Space
- › DEV page EBSI Early Adopters - HP DRAFT
- › EBSI Pre-Production lists
- EBSI Pre-Production legal toolkit

Analytics Edit Save for later Watch Share

EBSI Verifiable Credentials Playbook for Early Adopters

Context

Building on the W3C's Verifiable Credentials (VC), the GDPR and other relevant EU Regulations, EBSI aims to create a generic profile for the full life-cycle of verifiable credentials and presentations for use cases that involve VCs (not exclusive).

This document summarises the technical standards, specifications, and decisions that were accepted in order to meet the business requirements of the Use Cases.

The diagram below demonstrates the relations between actors (Trusted Accreditation Organisations (TAO)), Holders, Issuers, Verifiers), use cases, wallet providers, standards and regulations (W3C Verifiable Credentials and DIDs, GDPR), and the EBSI VC Playbook (this document).

Relations between actors, playbook and standards

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graph TD; UC[Use Cases] --- EBSI[EBSI Verifiable Credentials Playbook]; WP[Wallet Providers] --- EBSI; ESP[Enterprise Service Providers] --- EBSI; EBSI --- W3C[W3C Verifiable Credentials Data Model]; EBSI --- DID[W3C Decentralized Identifiers (DIDs)]; EBSI --- GDPR[GDPR and other EU Regulations]; W3C --- Foundation[Foundation]; DID --- Foundation; GDPR --- Foundation;
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- Context
 - Relations between actors, playbook and standards
- EBSI profile of W3C Verifiable Credentials (VC)
 - Verifiable Presentation exchange scenarios
- EBSI Trust Framework
- Use Case Data Models and Business Flows
- Wallet Conformance Testing (WCT)
- Trusted Schemas Registry
- Appendix
 - Acronyms
 - Comparison of Decentralised identity initiatives and frameworks
- References



Identification of cross-border scenarios

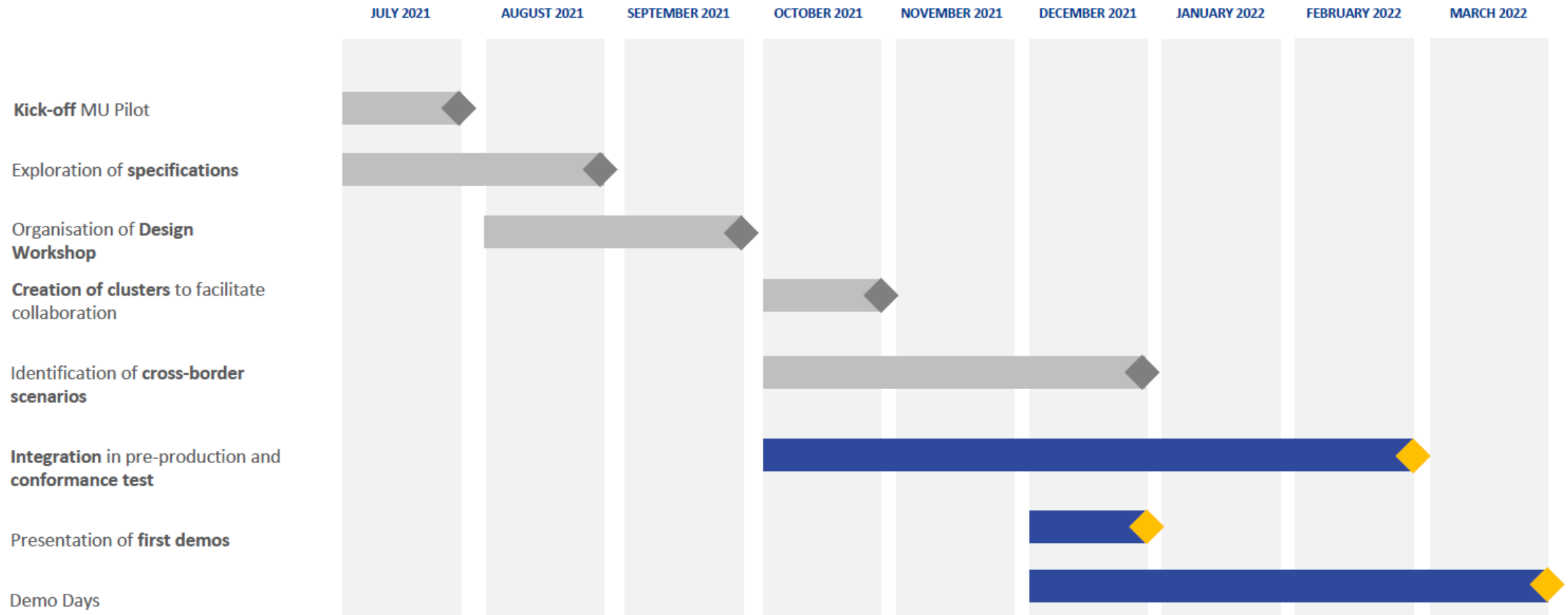
23 scenarios have been identified, 14 are cross-border (60%) and 4 (cross-border) presented their demos in 2021!

Scenario	Issuer	Country of the Issuer	VC type	Verifier	Country of the Verifier	DEC 2021	Q1 2022
Scenario 1	Fabrica Nacional De Moneda	Spain	will issue	V.ID	that is verified by Univ R&V	Spain	✓
Scenario 2	Univ R&V	Spain	will issue	V.Attestation (student ID)	that is verified by Univ R&V	Spain	✓
Scenario 3	Slovakia eID	Slovakia	will issue	V.ID	that is verified by Demo bank	Slovakia	✓
Scenario 4	Slovakia eID	Slovakia	will issue	V.ID	that is verified by Univ R&V	Spain	✓
Scenario 5	Fabrica Nacional De Moneda	Spain	will issue	V.ID	that is verified by Demo bank	Slovakia	✓
Scenario 6	RVG	NL	will issue	V.ID			✓
Scenario 7	RVG	NL	will issue	Trusted Issuer (university)			✓
Scenario 8	Government portal (ARIADNI)	Cyprus	will issue	V.ID	that is verified by (a) Univ Nicosia (b) GUNet - eDiplomas.gr	(a)Cyprus (b)Greece	✓
Scenario 9	Univ Nicosia	Cyprus	will issue	Diploma credentials	that is verified by ETEK		✓
Scenario 10	ETEK	Cyprus	will issue	License practice credentials			✓
Scenario 11	GUNet (Greek Universities Network)	Greece	will issue	Diploma credentials to a Cyprus citizen	that is verified by ETEK	Cyprus	✓
Scenario 12	Sample/Dummy Municipality	Europe	will issue	V.ID	that is verified by Sample/Dummy Municipality	Europe	✓
Scenario 13	Technical University of Berlin	Germany	will issue	Bsc Computer Science	that is verified by Agency for Science and Higher Education	Croatia	✓
Scenario 14	Technical University of Berlin	Germany	will issue	Bsc Computer Science	that is verified by WU Wien, TU Graz (EBSI4Austria)	Austria	✓
Scenario 15	Politehnica University of Timisoara	Romania	will issue	Electronics Engineer Diploma	that is verified by University of Lille	France	✓
Scenario 16	University of Athens	Greece	will issue	University Diploma	that is verified by Politehnica University of Timisoara	Romania	✓
Scenario 17	University of Lille	France	will issue	Certified Translation	that is verified by University of Athens	Greece	✓
Scenario 18	KU Leuven university	Belgium	will issue	a Student id (V.Attestation)	that is verified by Università di Bologna	Italy	✓
Scenario 19	Università di Bologna	Italy	will issue	a Transcript of Records (V.Attestation)	that is verified by KU Leuven university	Belgium	✓
Scenario 20	Tampere	Finland	will issue	micro-credential	that is verified by KTU	Lithuania	✓
Scenario 21	KTU	Lithuania	will issue	micro-credential	that is verified by Tampere	Finland	✓
Scenario 22	AOC	Spain	will issue	a verifiable ID	that is verified by KU Leuven university	Belgium	✓
Scenario 23	KU Leuven university	Belgium	will issue	a Student id V.Attestation	that is verified by AOC	Spain	✓



Recap of the MU Pilot milestones

What are the key MU Pilot milestones?



Digital Economy

Employment, social affairs, skills,
labour mobility, Europass, ESCO

DG-EMPL

Economic growth, higher
employment

DG-ECFIN

TVET skills
Cedefop

2

6

Citizens

Lifelong learning

Education and training, Erasmus+

Society

Work & Economy

DG-GROWTH

Single market, industry,
entrepreneurship and small
businesses

5

+ENIC-NARIC

UNESCO

DG-CONNECT

EBSI

DIGIT

EBP

DG-JRC

DG-RTD

Research, science and innovation,
with a view to help create growth and
jobs and tackle our biggest societal
challenges

1

3

4

DG-EAC

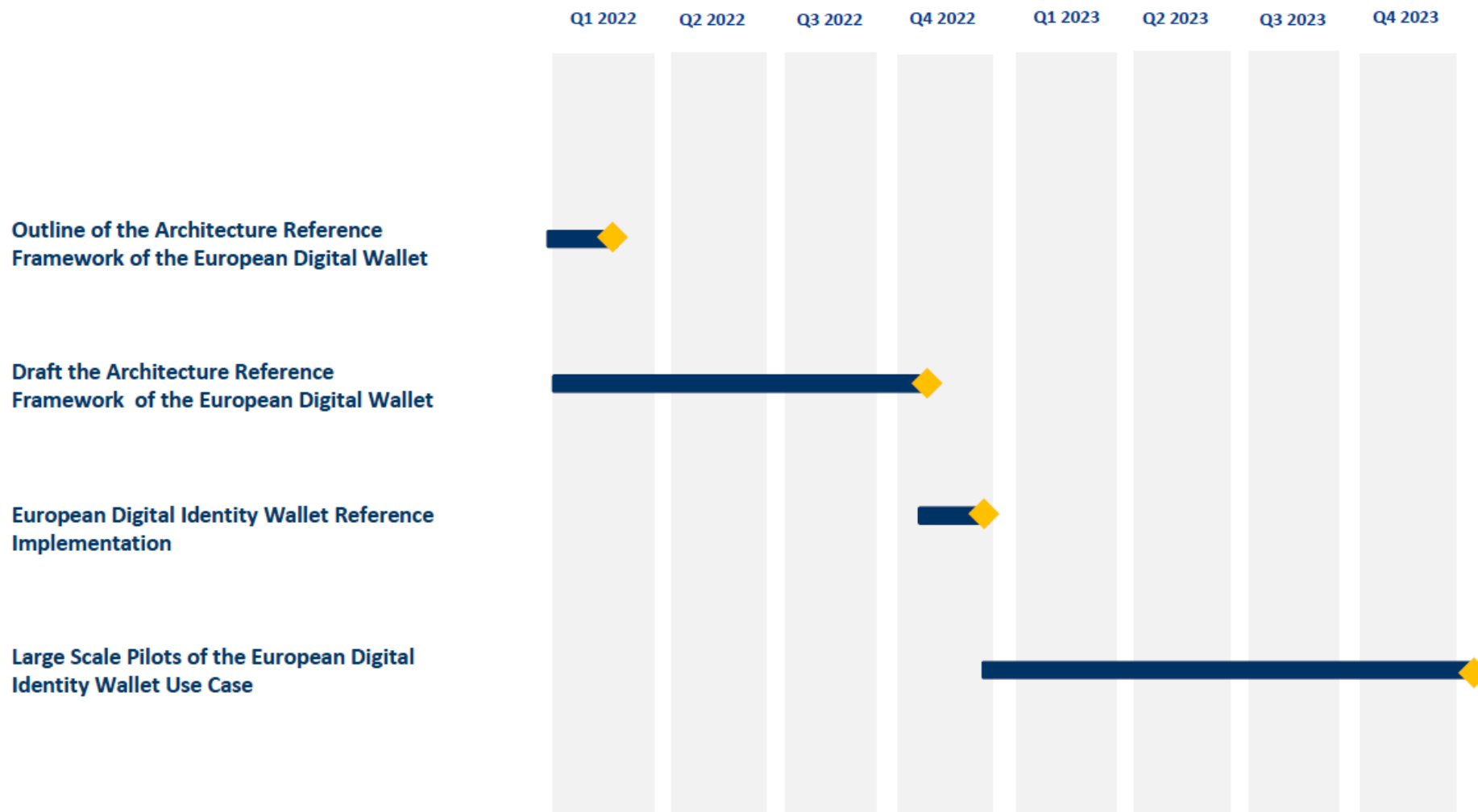
Science and knowledge, DigComp

EU Blockchain Observatory Forum



European Digital Identity Wallet roadmap

Key deadlines



EU Digital Identity Wallet - Organisation of work (flow)



eIDAs Use Case 7 Scope agreed by MS & DGs

- 1st priority HEI - Master/Bachelor (but keeping LifeLong Learning – LLL - in mind)
 - Include Students cross-border mobility
 - Identity (European Student ID)- Substantial Level of Assurance
 - Transcript
 - 4 interoperability dimensions (cross-border context) in place:
 - Governance - in place: accreditation organizations, trusted issuers
 - Legal - in place: Identity (eIDAs) and Data (GDPR+MS national legislation for data as legal binding acts)
 - Semantic - in place: common cross-border data model European Learning Model (ELM), ELMO, MyAcademicID-SCHAC
 - Technological - Verifiable credentials as the common way to package and share educational credentials
 - Competent end users in digital skills - in place
- Second priority: Vocational Education and Training (VET) - VET qualifications are accredited in many different ways across the EU, including by government bodies and by chambers. In all MS vocational qualifications from the formal system are included in national qualifications frameworks referenced to the European Qualifications Framework. Using VET as a pilot beyond HEI is not complicated; e.g., Luxembourg has issued over 1,600 digital certificates to VET graduates since 2020 as part of the implementation of the European Digital Credentials for learning
- Recognize and take advantage of the work and experience of the Member States in the field of education, in particular the experience and business requirements identified and defined in the Diploma Use Case of the EBSI project during the last two years.

Digital Europe Programme: alignment of topics

DIGITAL-2022-DEPLOY-02- EBSI-SERVICES

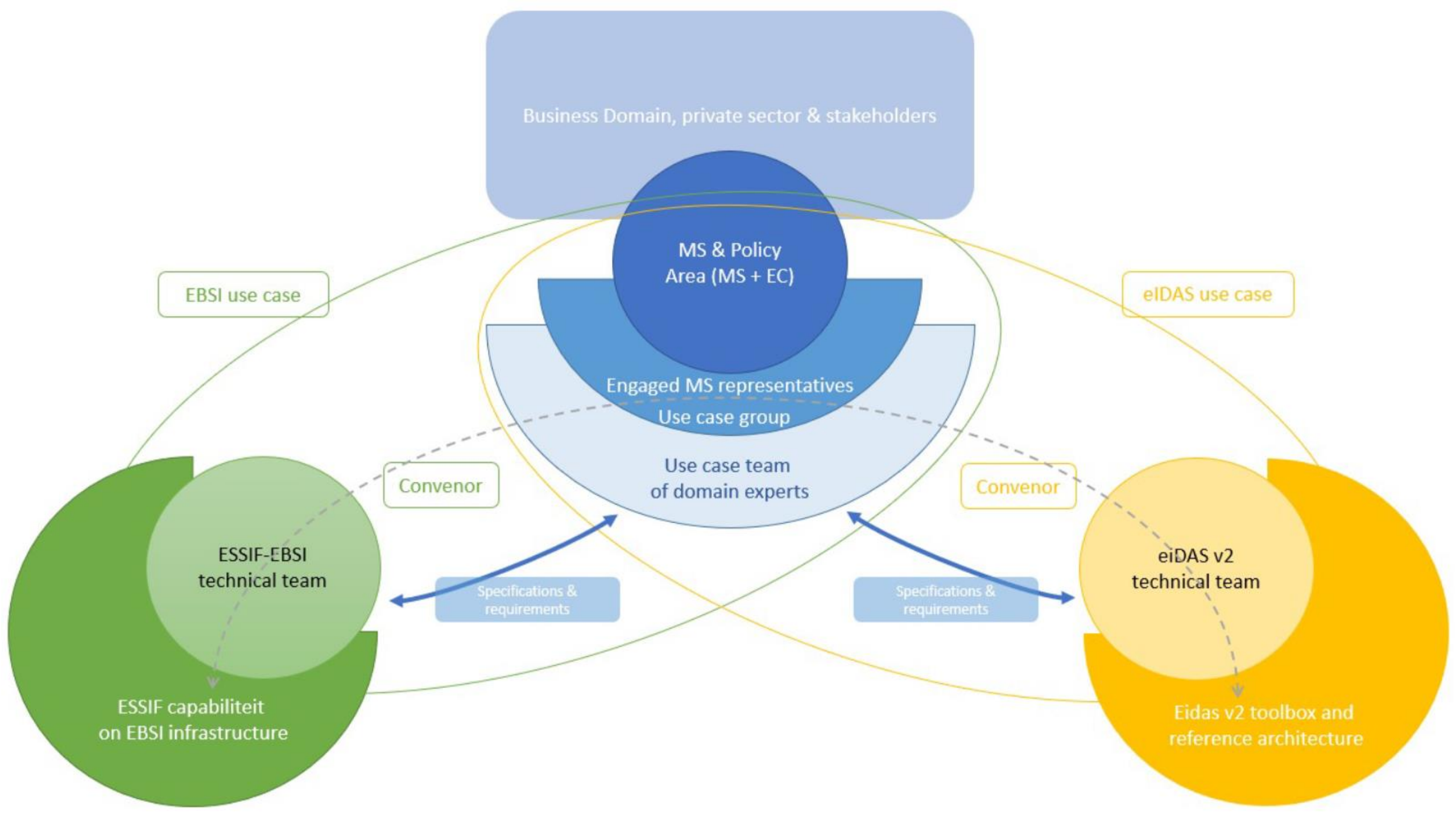
Improvement of EBSI nodes and services aiming to become reference nodes (incl. delivery of a qualified trust service as a **qualified electronic ledger**)

Support to use cases based on Verifiable Credentials, in particular Diploma (education credentials) and Social Security Pass use cases to scale up, finish business requirements, engaging business stakeholders and reinforcing Trust and Governance Model

Support to other EBP **use cases**

DIGITAL-2022-DEPLOY-02- ELECTRONIC-ID

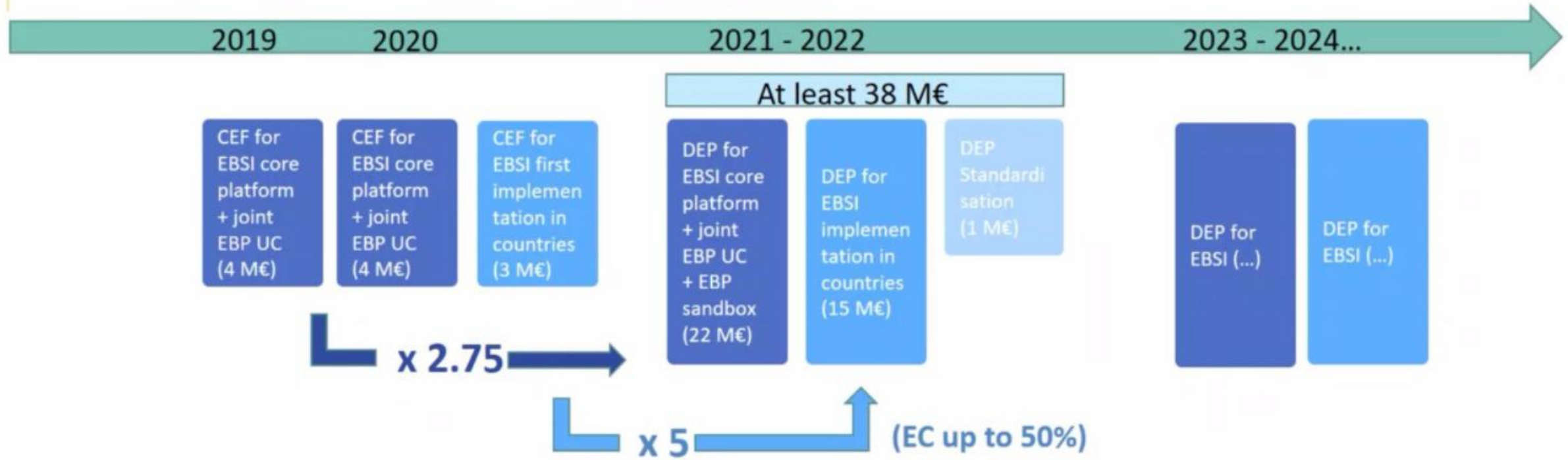
Large scale pilots of current use cases to demonstrate the functionality of the Wallet in national and cross-border contexts.



Strengthened EC support to EBSI

Toepassing(en) van DIGIT D ...

More than tripling the EC contribution directly to EBSI and EBP actions through the Digital Europe Programme (pending to the adoption of the Work Programme 2021-22)



.....Horizon2020 (R&I) and blockchain related projects

H2020 for future EBSI (PCP) (7 M€)

AI-BC fund

Horizon Europe (R&I) and blockchain related projects

InvestEU, with Strategic Digital Technologies investment platform (incl. blockchain)