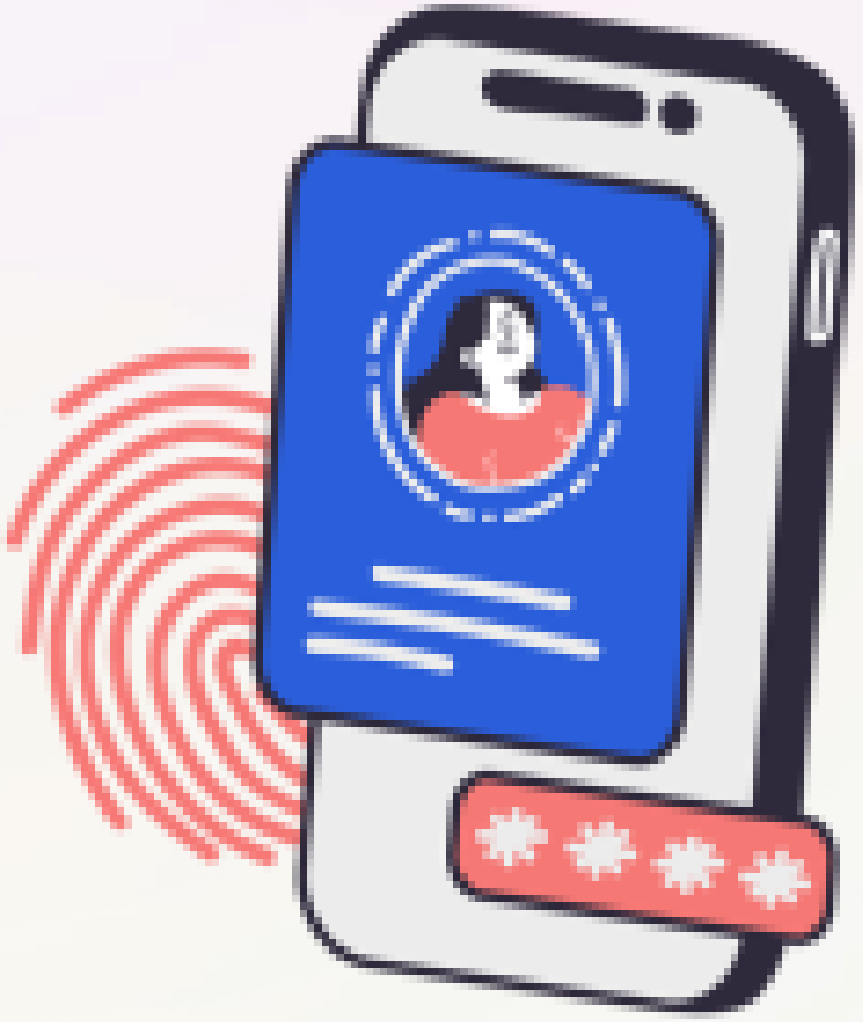
European Commission

The EU Digital Identity Wallet

CONNECT University | 10 October 2023

#digitalEU #EUdigitalidentity



01

Introduction

Gudrun Stock

2030 DIGITAL DECADE TARGET

100 % of Union citizens **have access to** secure electronic identification **(eID) means** that are **recognised throughout the Union,** enabling them to have **full control** over identity transactions and shared personal data.

Decision (EU) 2022/2481 establishing the 2030 digital decade policy programme

Share your thoughts to start with ...

01

What comes to your mind when you hear “European Digital Identity”?

Share your thoughts with us!

02

Have you used a digital wallet?

Pay

Samsung Wallet

Google Wallet

03

Have you used a digital signature?

For private purpose ?

Never!

For work?

Today’s agenda

01 **Introduction** - Gudrun Stock

02 **History** - Dietmar Gattwinkel

03 **The EU Digital Identity Wallet** - Thoke Magnussen

04 **The EC approach towards the Wallet** - Madis Ehastu

05 **The LSP and current use cases** - Connor Fitzmaurice

06 **Future possibilities** - Gudrun Stock

02

Originally, communication on the internet was

largely anonymous

Dietmar Gattwinkel

Cartoon drawn by Peter Steiner, published by The New Yorker on July 5, 1993

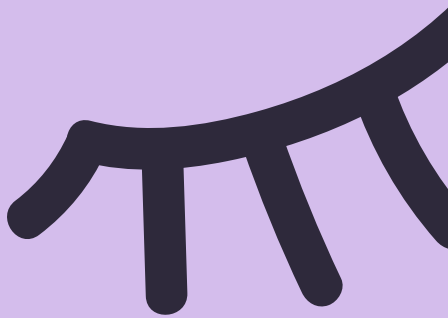
On the internet, nobody knows you're a dog.

02 ...

Nevertheless, there has been

a lot of European Legislation on digital Identity and Trust

Dietmar Gattwinkel

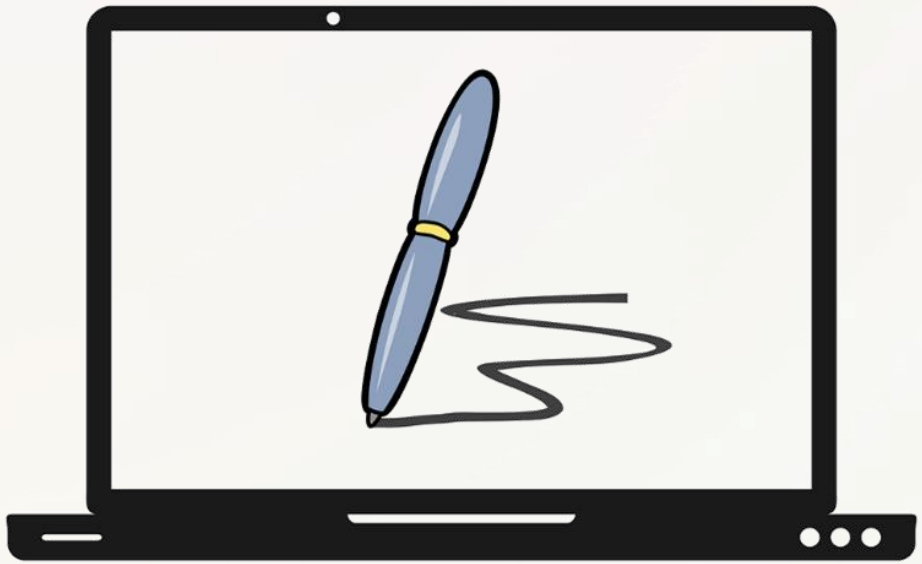


eSignature Directive

1999/93/EC

Recognition to electronic signatures as legally valid.

Established the legal framework for electronic signatures and certification services at European level, as an essential prerequisite for efficient electronic delivery of public services and for the development of safe electronic transactions.



The Services Directive

2006/123/EC

Electronic signatures must be accepted and technically supported across Member States for documents submitted to Points of Single Contact (e-government portals that allow service providers willing to create and run a business in another Member State to get the information they need and complete administrative procedures online):

- Where an electronic signature is required, Member States must accept those advanced electronic signatures;
- Each Member State must establish, maintain and publish a Trusted List of certified and supervised/accredited service providers issuing qualified certificates;
- Member States must put in place the necessary technical means allowing them to process the electronically signed documents.

Under the ISA program, the necessary technical tools to manage Trusted Lists and to create and verify so-called “advanced electronic signatures” were facilitated by the Commission.

eIDAS Regulation

EU N°910/2014

The Regulation on electronic identification and trust services for electronic transactions in the internal market came into full effect on 1 July 2016. The eIDAS Regulation:

- Further harmonized electronic signatures (e.g. by paving the way to new remote qualified signature solutions and giving qualified electronic signatures the same legal effect as handwritten signatures)
- Established qualified trust services across Europe (with the constitutive effect of national Trusted Lists)
- Introduced electronic seals, available to legal persons, and defined the trust services of time stamping, validation of qualified electronic signatures, electronic registered delivery and website authentication.

The Regulation facilitated mutual recognition of national electronic identification schemes (eID) across borders by:

- Opening the possibility for Member States to notify national eID schemes for peer review by other Member States
- Obliging Member States to accept notified eIDs issued in another Member State under a notified identification scheme for the purposes of cross-border authentication to digital public services

An network of eIDAS nodes connecting national eID schemes was established.

02 ...

Sometimes anonymity is not enough:

Trends in digital identity

Dietmar Gattwinkel

Anonymity is not enough, when

01

You want to pick up where you left off

02

You want to make sure information is only edited by yourself

03

You want to provide services to a limited set of users

04

You want to perform legally binding transactions

Account and Password is not the answer

721 million

exposed credentials

8.6 billion

personally identifiable information recaptured

72%

of users in 2022 breaches were reusing previously exposed passwords

Source: Spycloud 2023 identity exposure report (https://engage.spycloud.com/rs/713-WIP-737/images/spycloud-report-2023-identity-exposure-report.pdf))

The rise of mobile authentication

Different forms of Digital Identity

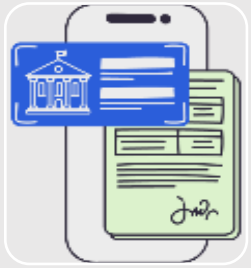
Anonymity	▪ May be reinforced by mechanisms such as THOR ▪ Important for whistle blowing
Pseudonymity	▪ Granted or chosen instantaneously ▪ Pseudonym not referencing an identifiable person ▪ Important for data minimisation (GDPR)
Verified Identity	▪ Granted after compulsory checks (identity proofing) ▪ Bound to social media account, address, bank or customer account
Notified Identity Scheme	▪ Bound to government-backed identity scheme ▪ Provides access to Public Services ▪ Identification enforceable by law

Documents go digital as “electronic attestations”

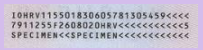




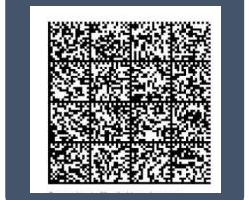


Identity Card



Medical Prescripton



Bank Account Information

University Diploma

Driving Licence

Professional certificates

Travel Credentials

Business Registration

ANY QUESTIONS?

03

Europe's answer to the challenges:

The EU Digital Identity Wallet

Thoke Magnussen

Characteristics of the EU Digital Identity Wallet

Free use for all citizens

Provided by Member States, all EU citizens may use it for free on a voluntary basis

Accepted throughout the Union

Recognised by private and public service providers (relying parties) for all transactions that require authentication

Secure and privacy oriented

Citizens can control and protect their identity, personal data and digital assets

Functions of the EU Digital Identity Wallet

Identification

Disclose identity data required for accessing public and private services (relying parties)

Store & present attestations of attributes

E.g. present educational diplomas/reports for enrolling at university; present your driving license for renting a car

Sign & seal electronically

E.g. sign an employment contract to start a new job; authorise a payment

How does the wallet work?

Implementation

Set up

Use

Member States

0 mandate

IT Providers

1 build

2 serve

2 download

Wallet User

3 issue

present 6

5 request

Attestation Issuer

Relying Parties

4 record

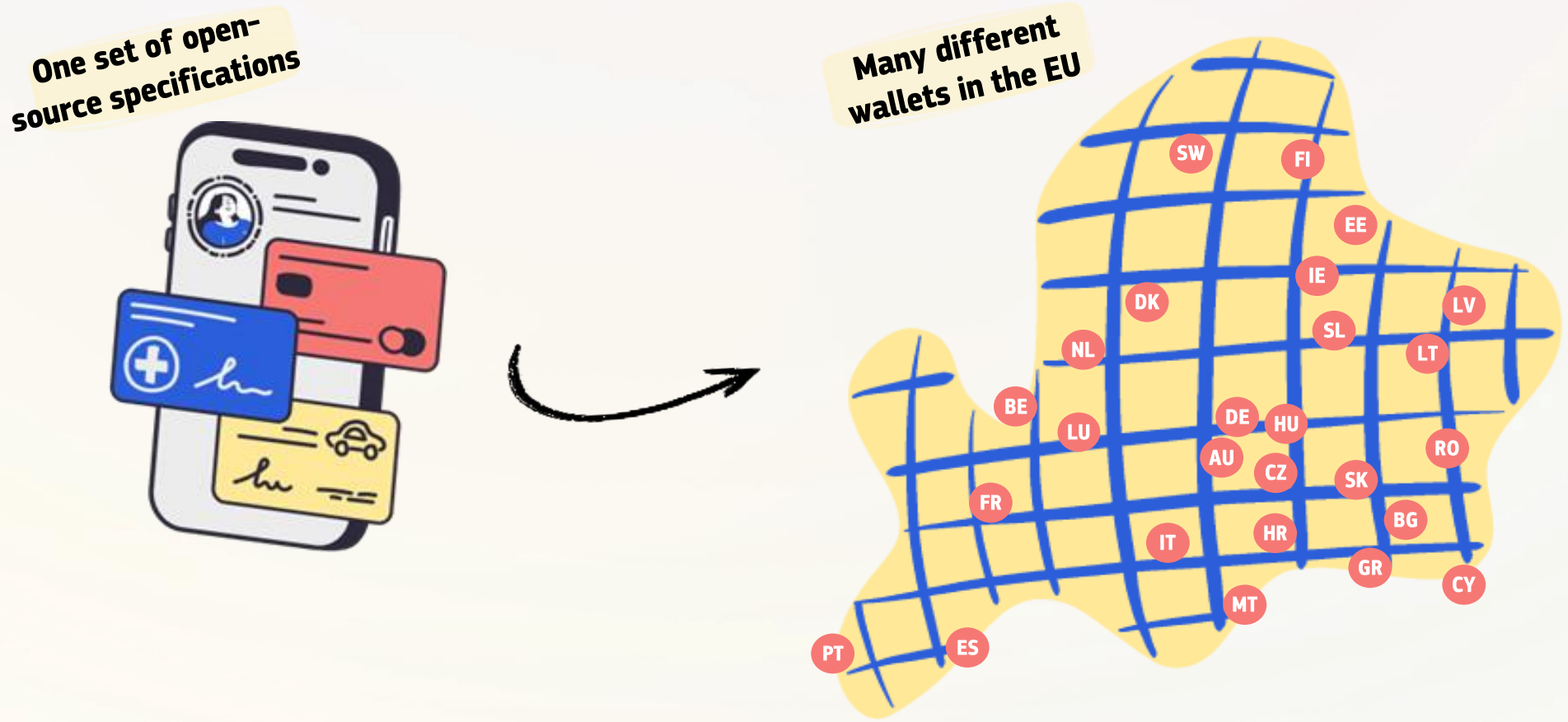
Trust System

7 verify issuer authenticity and accreditation status

One set of standards, many different wallets

There will not be one EU Digital Identity Wallet, but many, built to one set of specifications, developed and agreed by Member States in close cooperation with the European Commission.

All Wallets will be interoperable and work seamlessly across borders and services.



The Commission's Reference Implementation

- The Commission is financing the development of a Reference Implementation of the EU Digital Identiy Wallet based on the agreed standards and technical specifications
- The Reference Implementation will be published open source and available to all Member States
- The development will benefit from contributions from third parties

The development status

- A minimum viable product release of the Reference Implementation of the EUDI Wallet is due at the end of the year
- As an MVP, it lays down the foundation for:
  - Issuance and Presentation of
    - Person Identification Data
    - Credentials (incl. mDL)
  - Remote signing of documents relying on Person Identification Data and authorization

The wallet ecosystem

European Institutions

European Commission
European Parliament
European Council

Relying Parties

Public & private organizations which Users will interact with for access to services

Governmental Bodies

National administrations
Data protection authorities
Conformity assessment bodies

Wallet Users
(General Public)

European citizens, residents & businesses

IT Providers

Wallet developers
Device manufacturers
Trust service providers

Large Scale Pilots

4 consortia (Potential, Nobid, DC4EU and EWC)

Issuers

Trusted organisations that issue PID and attestations

The benefits

How will citizens, governments, relying parties and society benefit from the wallet? Discover the many benefits of the EU Digital Identity Wallet

Citizens

- Easily access public and private services
- Easily sign digital documents
- Protect personal data
- Simplify paperwork and admin

Governments

- Improve access to digital services
- Enhance fraud prevention
- Boost security

Relying Parties

- Improve security and privacy
- Cost and efficiency gains through a single set of specifications

Society

- More transactions conducted fully online
- Resources can be allocated elsewhere
- New business opportunities
- Economic Growth

ANY QUESTIONS?

04

The common specifications for the EU Digital Identity Wallet

Madis Ehastu

Why define technical specifications while legislative negotiations are ongoing?

- **Context**
  - The Regulation is not precise enough to describe a technical solution
  - Several non-interoperable already existing initiatives: EBSI, OOTS, Apple Wallet, mObywatel
  - Several use case developments of “attestations“, based on different technology stacks:
    - Mobile Driving Licence, Digital Travel Credential, Verifiable Credentials, Self-Sovereign Identity, Internet and electronic signature certificates

- Purpose of **Architecture Reference Framework**
  - Document a common understanding of technical aspects of the project
  - Speed up Implementing Acts drafting and adoption

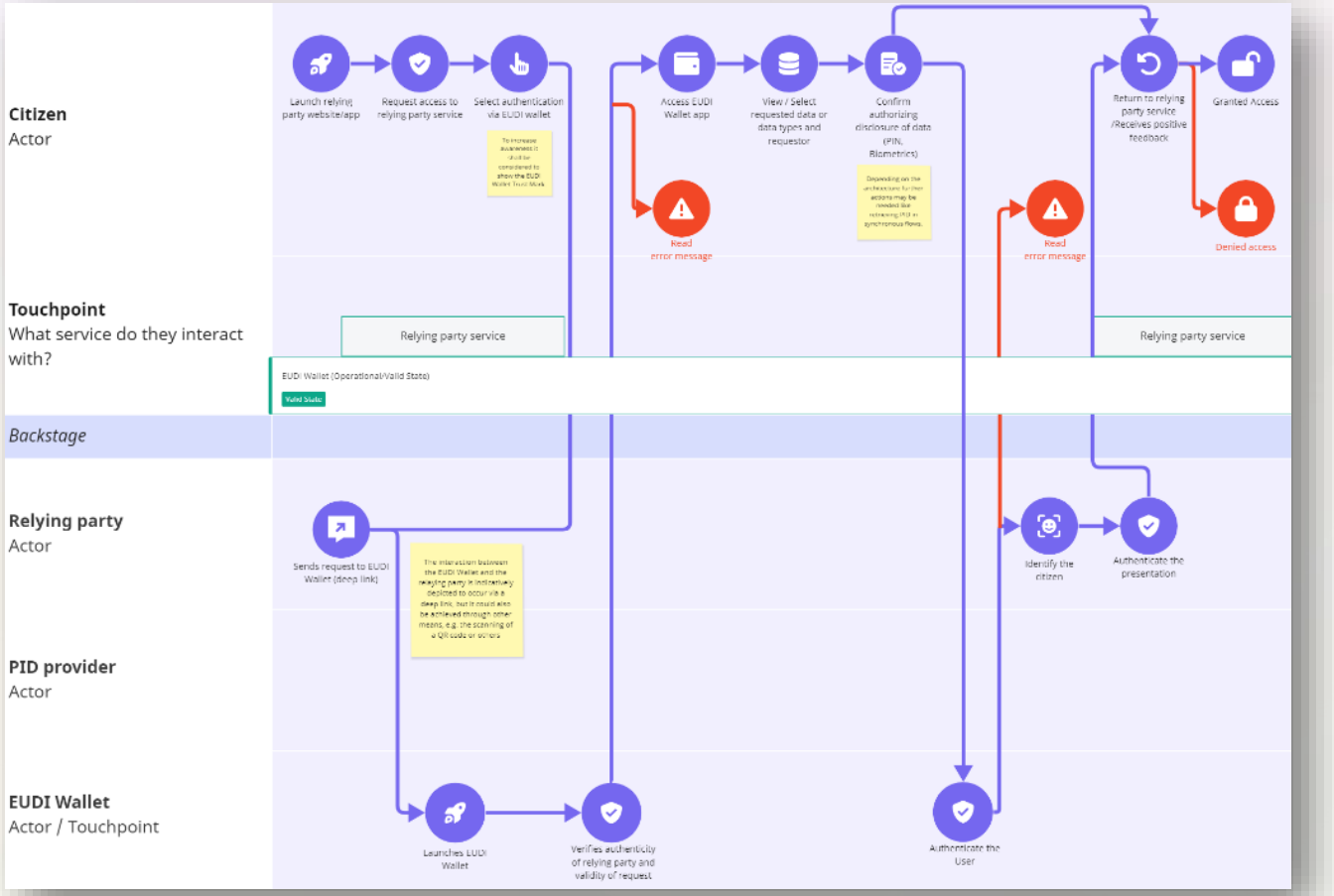
Start with the user perspective: Service blueprints

Use cases

- Online user identification
- Proximity mobile driving licence
- Qualified Electronic Signatures
- Authorizing payments with Wallet
- …

Also

- Epics on design guide
- UX/UI knowledge sharing
- …



What are we specifying?

Main elements:

- What is needed for the various roles to trust one another? **The trust model(s)**
- What functions should any Wallet have? **Wallet components and interfaces**
- What properties should attestations have? **The attestation models**

Sources: EC proposal, Industry standards and practices, existing eID-s/ Wallets, understanding of use cases

How have we progressed?

01

FIRST 12 MONTHS

Identified interests and decision points

- Establish context awareness
- Clarify assumptions
- Map complexity
- Work led by Member States' experts (eIDAS Expert Group)

02

MONTHS 13 to 15

First version of ARF

- Narrow down fundamental choices
- Political process
- Negotiations

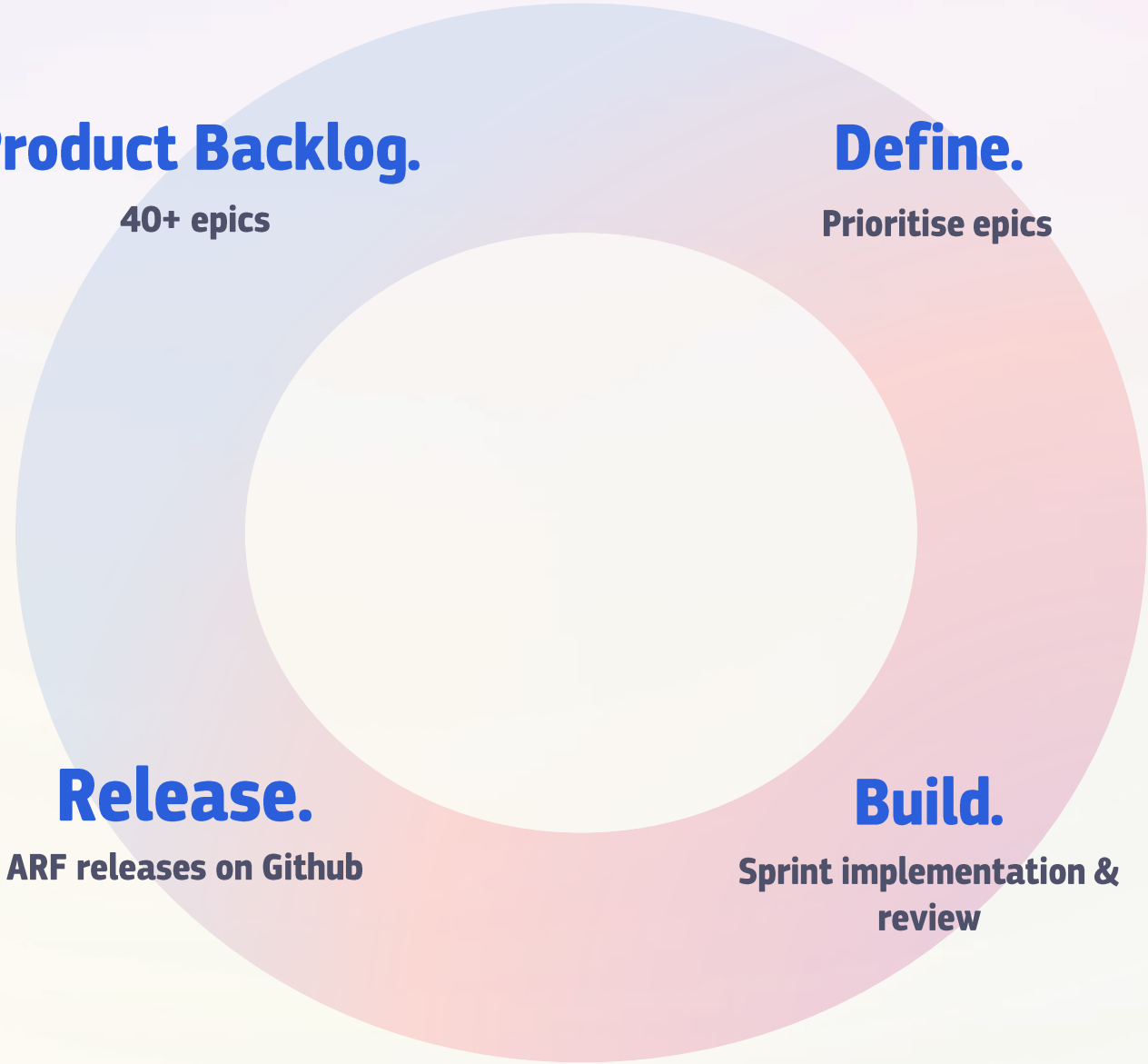
03

MONTHS 15 to 31

Regular updates to ARF

- Split work to cover needed scope
- Hire contractors to carry bulk of work
- Engage expert stakeholders

ARF iterative development



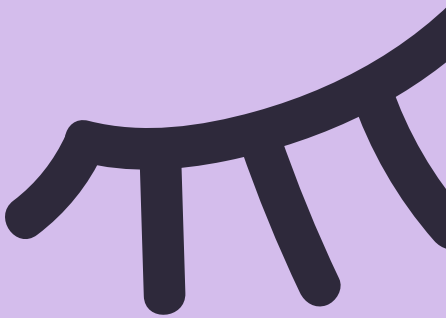
ANY QUESTIONS?

05

The Large-Scale Pilots:

Does the Wallet work?

Connor Fitzmaurice



Four Large Scale Pilots

NOBID CONSORTIUM

8 countries: *6 public and 15 private entities*

 # PAYMENTS

Potential For European Digital Identity

20 countries : *56 public and 80+ private entities*

 # MOBILE DRIVING LICENSE

 # ACCESS GOV SERVICES

 # OPEN BANK ACCOUNT

 # HEALTH

 # CONTRACTS

 # SIM REGiSTRATION

EWC

19 countries : *18 public and 40+ private entities*

 # PAYMENTS

 # TRAVEL

 # ORGANISATION ID

DC4EU

23 countries:*36 public and 40+ private entities*

 # EDUCATION

 # SOCIAL SECURITY

Budget >90 Million (50% EU contribution), >250 Participants, 11 use cases, co-funded under the Digital Europe Programme

What are the Pilots testing with the EU Digital Identity Wallet?

ACCESS GOV SERVICES

Access digital public services (nationally and across borders) by using your wallet to securely identify and authenticate yourself.

MOBILE DRIVING LICENCES

Request a digital version of your driving license. Then always have it ready to share in your wallet.

EDUCATION

Never lose the university diploma you worked so hard for again. Easily store and share your most important education credentials.

HEALTH

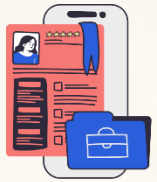
Keep your health close at hand. Identify yourself at your pharmacist's and claim your needed prescriptions with just your wallet.

TRAVEL

Store and share key travel documents in your wallet. Prove who you are when booking a hotel online, and then easily check-in once you get there.

ACCESS SOCIAL SECURITY

Keep tabs on your social security information and use your wallet to access the social security benefits you are entitled to.



ORGANISATION ID

Use your wallet to prove who you work for when meeting new and potential clients.

REGISTER SIM

Registering a new SIM card just got easier. Your wallet lets you quickly identify yourself.

OPEN A BANK ACCOUNT

No need to track down to a bank branch. Verify your identity when opening a new bank account with just your wallet.

PAYMENTS

Make your online transactions easier. Use your wallet to identify yourself and authorise payments.

CONTRACTS

Your wallet makes business flow. Sign contracts with just your wallet.

NOBID Pilot Project

- NOBID is a pilot project involving 6 member states/EEA countries with 25 entities participating
- Led by Norway
- Focused solely on the payment use-case, primarily for the authorisation of payments in account-to-account transactions

Payments - facilitate account-to-account transactions (SEPA Instant Payments)

POTENTIAL Pilot Project

- POTENTIAL is a pilot project involving 19 member states and Ukraine with over 140 entities involved
- Co-lead by France and Germany
- Focused on piloting 6 use-cases for the use of the EUDI Wallet

Mobile Driving Licences (mDL) – for online and physical interactions

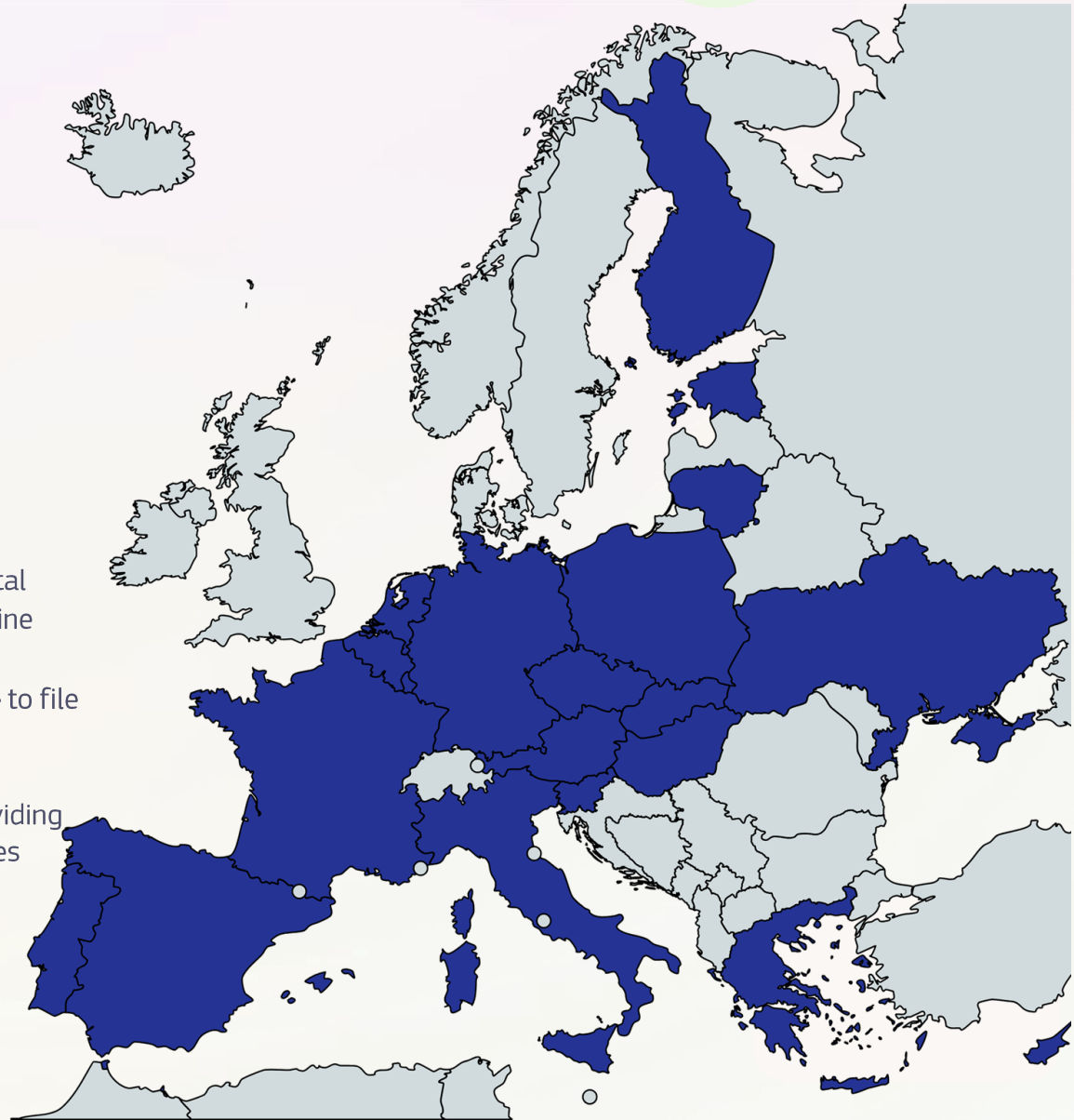
Opening a Bank Account – to verify a user's identity when opening a bank.

SIM Registration – Wallet to prove their identity in pre- and post-paid SIM card contract registration

eSignatures - provide a secure digital signature when signing contracts online

Accessing government services – to file taxes or apply for supports

ePrescription – identifying and providing details of prescription to a pharmacies



EWC Pilot Project

- EWC is a pilot project involving 18 member states and Ukraine with over 50 entities involved
- Co-lead by Finland and Sweden
- Focused on piloting 3 use-cases:

Payments - store credentials and facilitate payments in account-to-account and card-based transactions

Travelling – quick airplane boarding and quick border crossings (e.g. by a storing Digital Travel Credentials)

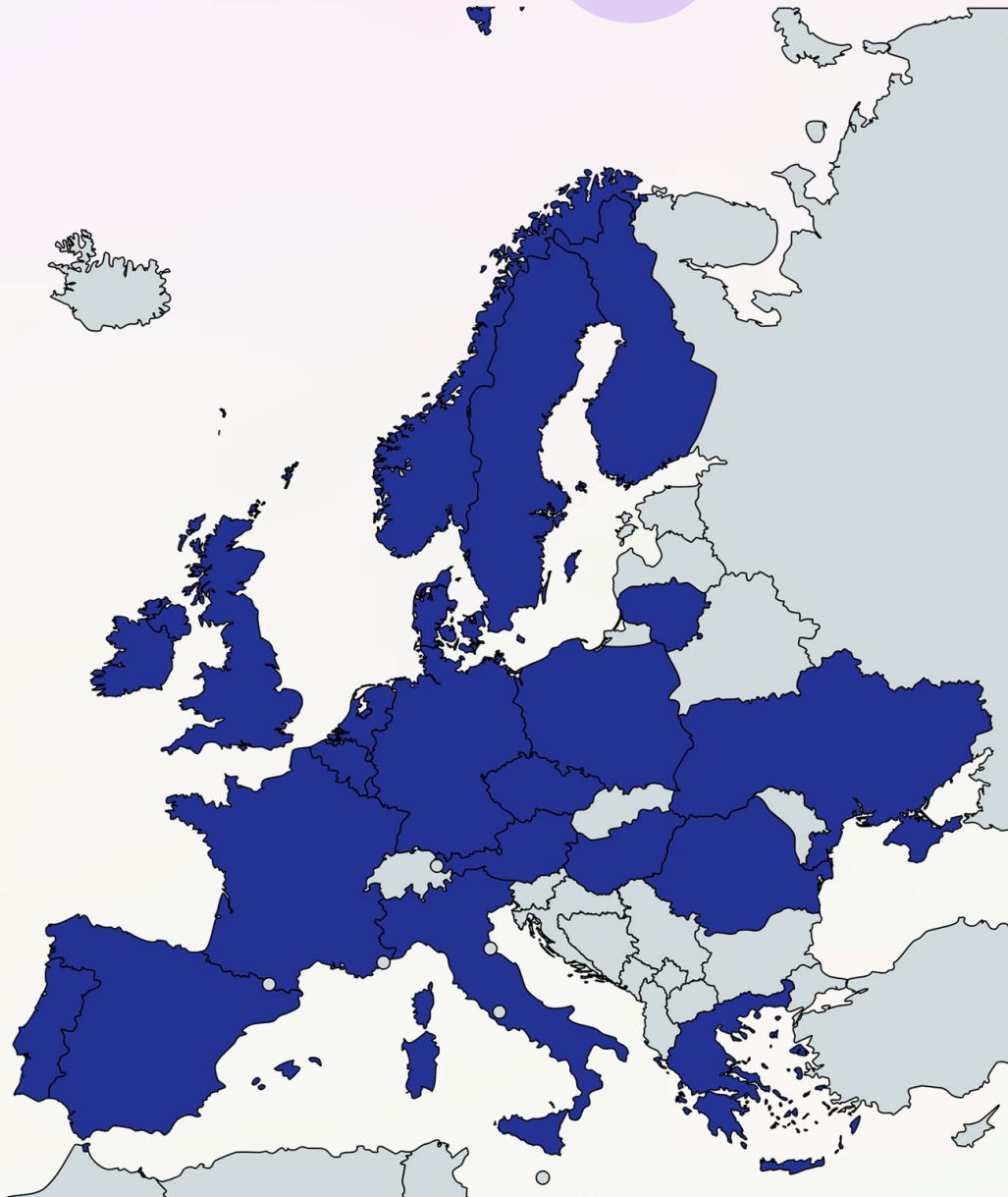
Organisational Digital - business-to-government or business-to-business interactions

DC4EU Pilot Project

- DC4EU is a pilot project with 80 relevant institutions from 22 countries backed by 43 public organizations and 49 private entities.
- Spain is the coordinator of DC4EU
- Focused on piloting 2 use-cases:

Freedom of Movement –social security documents such as European Health Insurance Card

Education/Professional Qualification – educational qualification or professional



ANY QUESTIONS?

06

The future possibilities

Gudrun Stock

What might the future hold?

Food / Beverage

I want to guarantee or verify the origin of a product

Energy

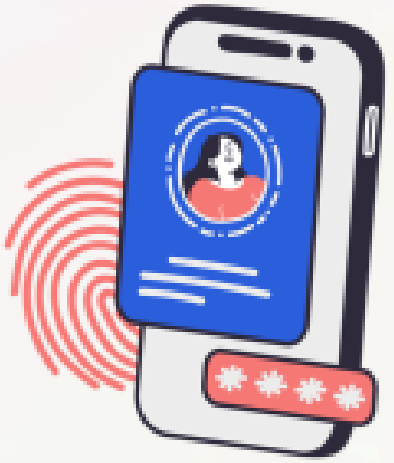
I want to be sure that the provider of my energy is using green technology

Law

I want to guarantee or verify the origin or authenticity of the apostille

Transport

I want to guarantee or verify the origin or the authenticity of the consigments transported



EU Digital Identity Wallet

Slido

- Please name attestations required by **European legislation**
  - Who issues the attestation?
  - Who holds the attestation?
  - Who requests the attestation?
  - Are the documents/certificates already provided digitally?
  - Are the documents presented online / remotely?

Example: COMMISSION REGULATION (EU) No 1178/2011 lays down rules for attestations issued e.g. by training organisations for cabin crew to present to airport authorities (physically/not online)

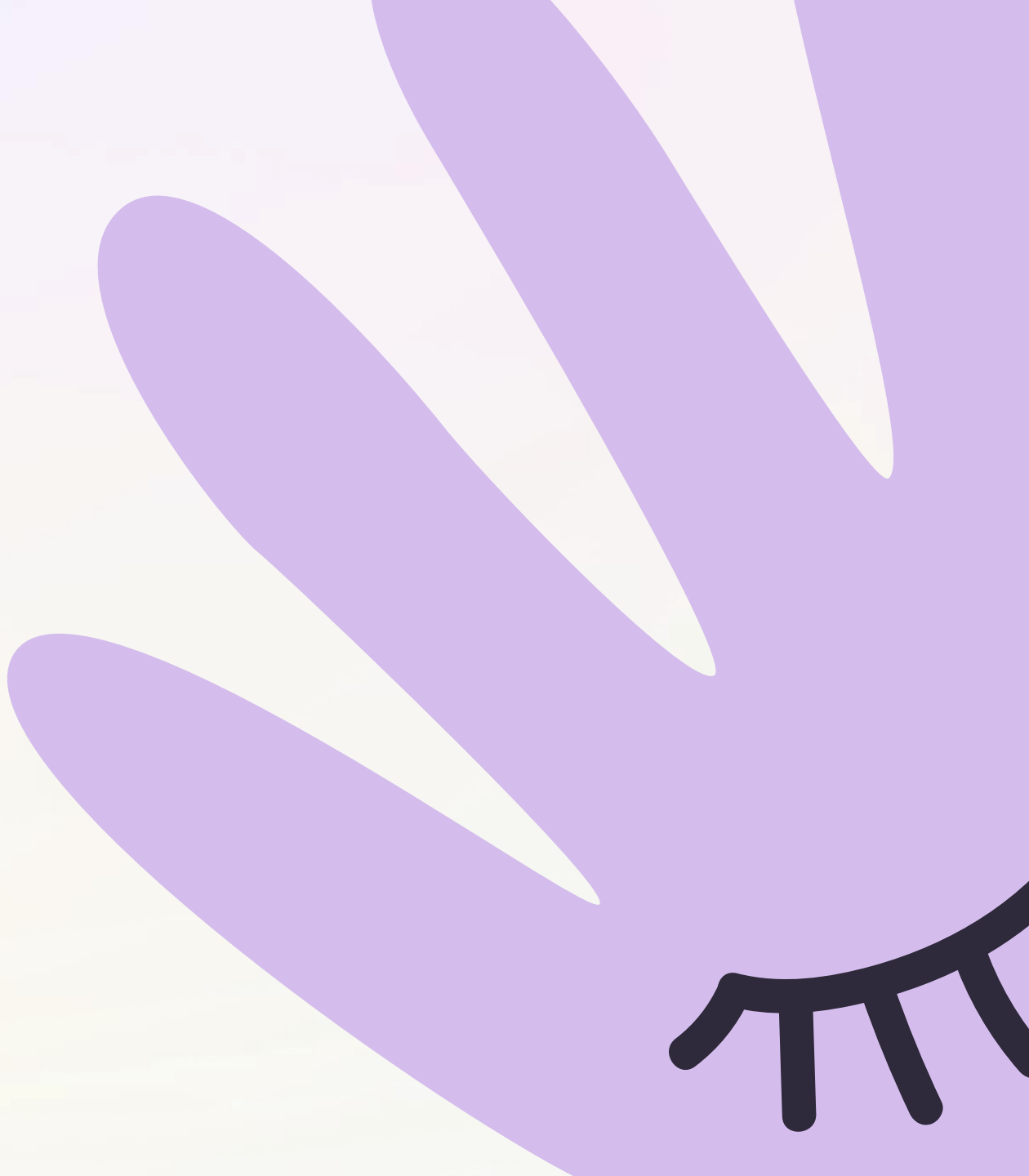
Let’s brainstorm

In light of everything you have heard today, what is the next use case you would like to see for the EU Digital Identity Wallet, bearing in mind the following criteria?

- Which credentials (think: statements about somebody that somebody else vouches for) play a role in your experience
- Are those credentials already digital (as images/pdfs, as standardized data)
- Are those credentials exchanged across borders
- Would you think it may be feasible to hold those credentials in wallets? Where would you see the advantage? Where do you see challenges?
- What other attestations do you know that people present to prove something about themselves?

07

Further information



Further Information

On the Commission Proposal

On the Toolbox Process

On the Provisional Political Agreement

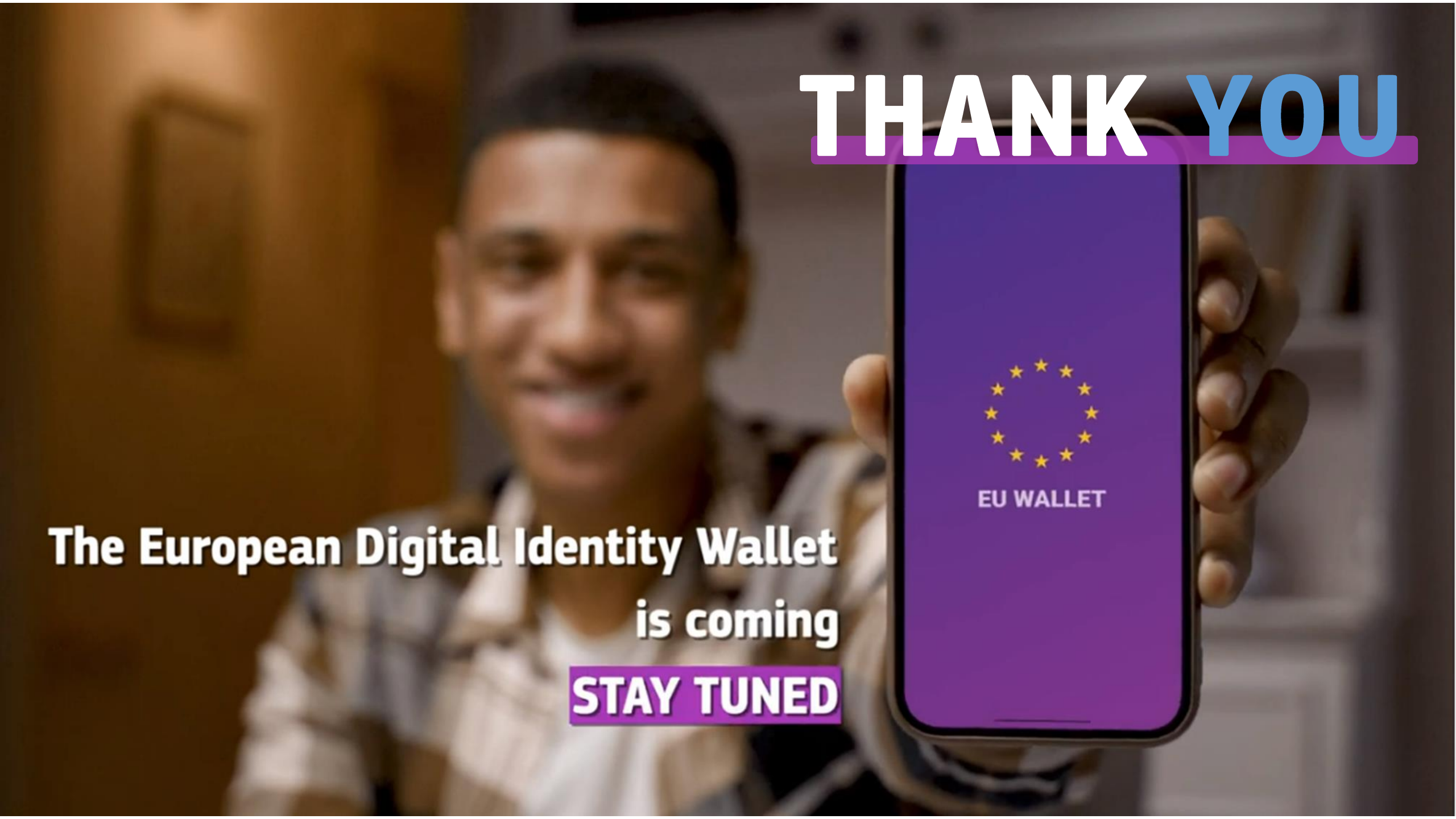

THANK YOU
EU WALLET
The European Digital Identity Wallet
is coming
STAY TUNED

Illustration: Educational credentials

Example: Educational credentials help citizens study, live, find a job and constantly grow across borders

Studying abroad

Scenario 1 - Get a diploma with a list of course units validated from Erasmus **Transcript of Records Credential**

Scenario 2 - Apply for complementary Master with a Master from a foreign country **Master Diploma Credential**

Living abroad

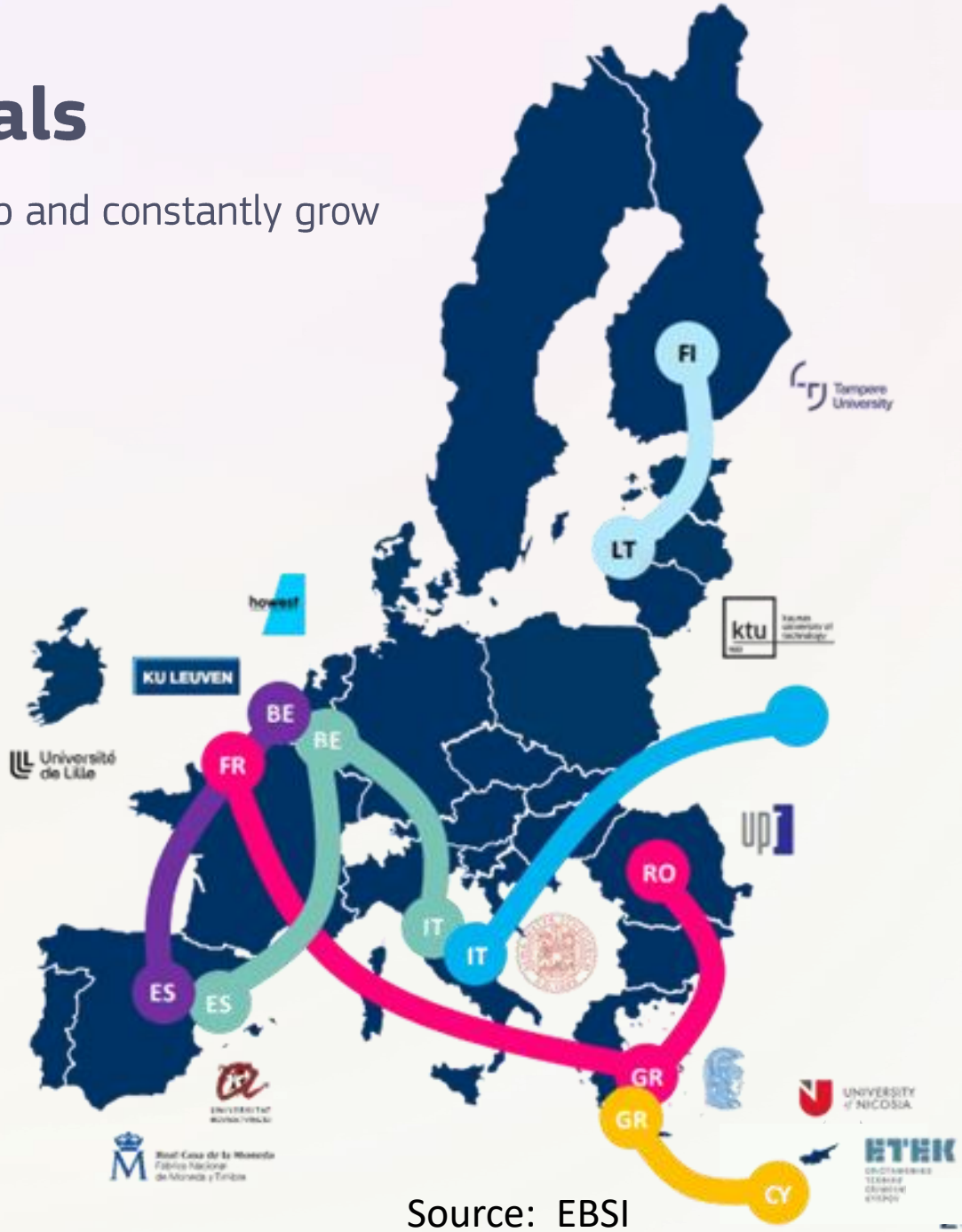
Scenario 3 - Get/receive access to local discounts using municipality credential based on European student ID **Credential Municipality / European Student ID Credential**

Finding a job

Scenario 4 - Apply for a job with Master Degree from a foreign country **License Practice Credential**

Growing (personal development)

Scenario 5 - Apply for specific courses in foreign country as a young professional **Micro-credentials / Workforce up-skilling**



Source: EBSI