Development of cross-border digital identification in the EU

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Agenda

1. **Digital Identification is a key building block**

2. **Why is digital identification so important?**

3. **eIDAS 2.0 Regulation for digital cross-border interoperability**

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Part 1
Digital Identification is a key building block of the Digital Decade

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Imagine a secure, simplified and fast digital society

⭐ Digital access knows no age limits

⭐ Collaborating and converging innovative infrastructures

⭐ Lightning-speed internet, anywhere you go

⭐ Safe and secure digital world

⭐ Seamless EU-wide access to digital public services

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Ambitious targets and basic pillars

Business

Digitalizing companies of all sizes (large groups, SMEs, start-ups) through massive use of Cloud, Big Data or AI tools.

Government

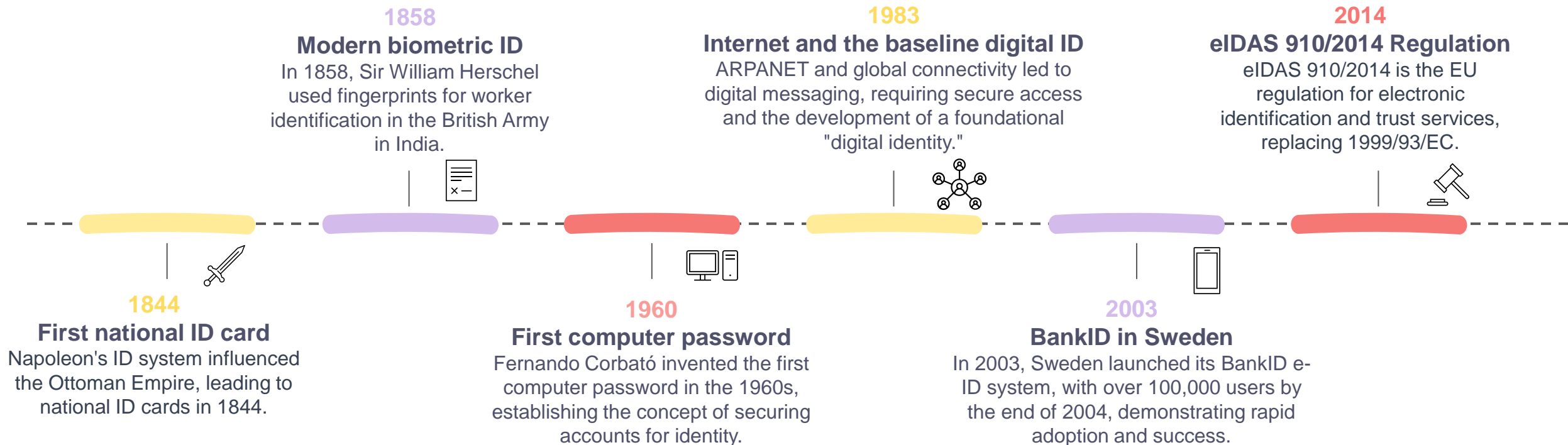Making key public services **100% online** and giving the whole population access to health records online and e-ID.

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Part 2
Why is digital identification so important?

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The concept of identification has existed for thousands of years

Identity verification isn't a new concept. Before we proved our identities with plastic cards or our mobile devices, people proved their identity in several ways, such as language, physical identifiers or objects.

1858
Modern biometric ID
In 1858, Sir William Herschel used fingerprints for worker identification in the British Army in India.

1983
Internet and the baseline digital ID
ARPANET and global connectivity led to digital messaging, requiring secure access and the development of a foundational "digital identity."

2014
eIDAS 910/2014 Regulation
eIDAS 910/2014 is the EU regulation for electronic identification and trust services, replacing 1999/93/EC.

1844
First national ID card
Napoleon's ID system influenced the Ottoman Empire, leading to national ID cards in 1844.

1960
First computer password
Fernando Corbató invented the first computer password in the 1960s, establishing the concept of securing accounts for identity.

2003
BankID in Sweden
In 2003, Sweden launched its BankID e-ID system, with over 100,000 users by the end of 2004, demonstrating rapid adoption and success.

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Digital ID became the norm, but what is good Digital ID?

Unlike a paper-based ID like most driver's licenses and passports, a digital ID can be authenticated remotely over digital channels. Good digital ID requires the following four attributes.

Verified and authenticated	Unambiguous	High level of assurance	Protects user privacy
High-assurance digital ID meets standards for civic and economic uses through various credentials, like biometrics, passwords, QR codes, and smart devices.	A digital ID should unambiguously identify a single individual so that every system identity corresponds to only one individual.	Careful design of onboarding and issuance processes, coupled with robust authentication technology, should instill confidence that the user matches the ID's subject.	Built-in safeguards to ensure privacy and security while also giving users access to their personal data, with decision rights over who has access to that data, and with transparency into who has accessed it.

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Digital ID against the Data Security challenge

A digital identity should securely protect against identity theft.

95%

of respondents to a Eurobarometer survey saw identity theft as a serious crime.

Among Eurobarometer survey respondents from Jan. 2019 to Apr. 2020

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Digital ID against the Data Acceptance challenge

A digital identity should be widely accepted.

14%

of key public service providers across all Member States allow cross-border authentication with an e-Identity system.

Among a special Eurobarometer respondents from 2019.

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Digital ID against the Data Acceptance challenge

A digital identity should be widely accepted.

With an eID from another Member State, you can log into only 27% of all monitored key cross border services where authentication is required.

Among a special Eurobarometer respondents from 2019.

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Digital ID must address the Data Privacy challenge

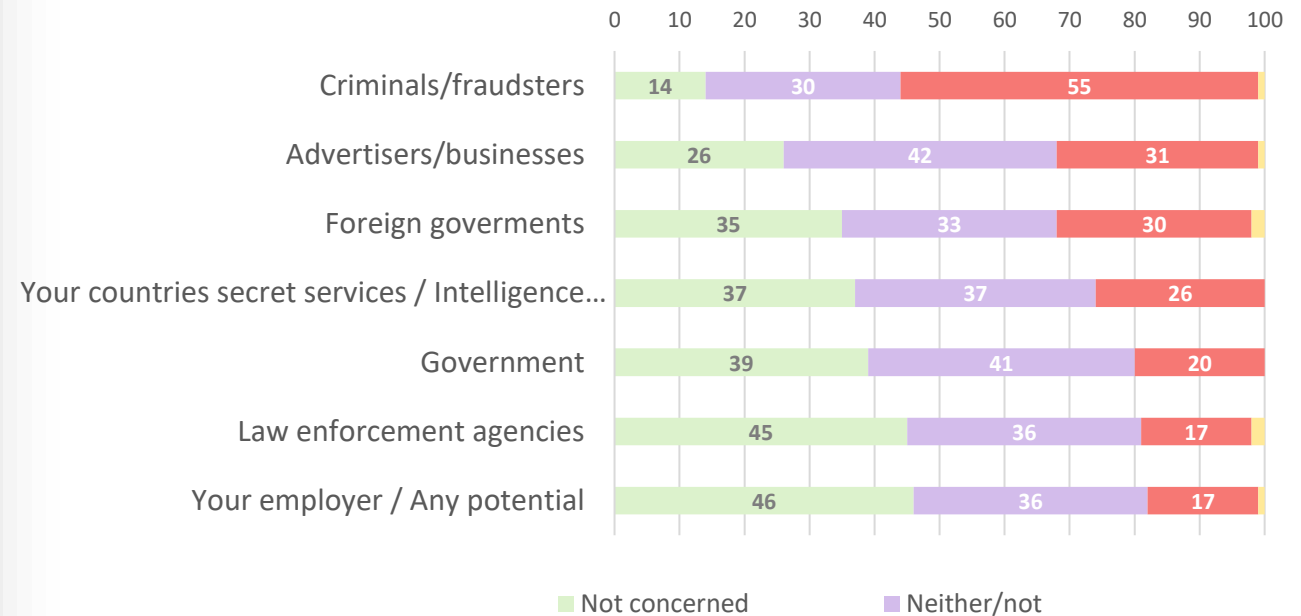A digital identity should not enable tracking or tracing.

Whenever an application or website requests us to establish a new online identity or conveniently log in via a major platform, we're often left wondering what will happen to our data.

When we provide personal information, we're usually uncertain about how it will actually be used, whether our consent will be requested before it is shared, the risk of data breaches, and so on.

According to a Eurobarometer survey, 72% of users express a desire for transparency regarding the processing of their data when using social media accounts. Additionally, 63% of European Union citizens are in favor of a secure, unified digital identification system for all online services.

The table on the right shows the level of concern among European citizens regarding access to and processing of their data. We note that most respondents are worried about potential criminals and fraudsters accessing their data, with 55% of the population concerned, far ahead of other groups of individuals.

Degree of concern about third parties accessing personal information shared online among EU-27

Third party	Not concerned	Neither/not	Concerned
Criminals/fraudsters	14	30	55
Advertisers/businesses	26	42	31
Foreign goverments	35	33	30
Your countries secret services / Intelligence…	37	37	26
Government	39	41	20
Law enforcement agencies	45	36	17
Your employer / Any potential	46	36	17

■ Not concerned   ■ Neither/not

Note: Only the respondents who use the internet; measured on a seven point scale: "Not concerned" includes respondents selecting the values 1 or 2, "Neither/not" includes the values 3, 4 and 5 and "Concerned" the values 6 and 7.
Sources: European Union Agency For Fundamental Rights, Your rights matter: data protection and privacy
European Commission, European Digital Identity

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Part 3
eIDAS 2.0 Regulation for digital cross-border interoperability

The personal digital wallet for EU citizens, residents & businesses, the EU Digital Identity Wallet.

Identification is how we prove who we are; think of your passport or driver's license. With more and more private and public services becoming digital; a safe, reliable, and privacy enhancing means of digital identification is needed for everyone in Europe.

The EU Digital Identity Wallet:

- is the EU response to the challenges of digital identification.

- will allow you to securely identify yourself online when accessing a wide range of public and private services,

- will let you store, present and share electronic attestations (which include everything from university diplomas to train tickets).

- will let you sign digital documents swiftly and easily

- will be made available in every EU Member State for all citizens, residents and businesses.

ARF Architecture and Reference Framework

- The Common Union Toolbox for a Coordinated Approach Towards a European Digital Identity Framework

- The European Digital Identity Wallet Architecture and Reference Framework

- "… a set of common standards and technical specifications and a set of common guidelines and best practices."

What can you do with the EU Digital Identity Wallet?

The EU Digital Identity Wallet will simplify your life and ensure your data stays secure and private. It will also improve security and flexibility for governments and businesses when carrying out transactions online. Discover some examples of how it can radically simplify your day-to-day life in the following areas:

Access Governmental Services

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

Travel

Store your visas, passports and other travel documents in your wallet. Easily check in to flights and hotels.

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What can you do with the EU Digital Identity Wallet?

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Mobile Driving Licence

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

Verify Your Social Security Entitlements

When working abroad prove that you are covered by your home country's social security. You can also store and share your European Health Insurance Card.

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What can you do with the EU Digital Identity Wallet?

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Education

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

Organisational ID

Use your wallet to prove who you work for (legitimate representative) as well as verify your professional powers when completing transactions in a business context.

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Health

Keep your health close at hand. Identify yourself at your pharmacist and fill out your needed prescriptions with just your wallet.

Register SIM

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

What can you do with the EU Digital Identity Wallet?

The EU Digital Identity Wallet will simplify your life and ensure your data stays secure and private. It will also improve security and flexibility for governments and businesses when carrying out transactions online. Discover some examples of how it can radically simplify your day-to-day life in the following areas:

Open A Bank Account

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

Payments

Your wallet offers a single way to identify yourself to all your bank accounts. Easily authorise payments through your wallet.

Contracts

Your wallet makes business flow. Sign contracts with just your wallet. Create a secure digital signature for any document.
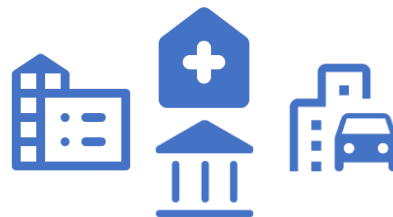
What the Wallet means for…

…the Citizens

- Convenience with highest level of security for authenticating themselves to Relying parties
- Take (back) control of their own personal data
- Privacy and Consent are assured

…the ID Issuers

- Allows faster delivery of digital services with strong authentication of users
- Caters to offline and online use cases
- Reduce fraud rate and promote digital transactions

…the Relying Parties

- Speeds up digital on-boarding
- Is an Inclusive service that caters to offline or online use cases
- Provides a more hygienic data governance
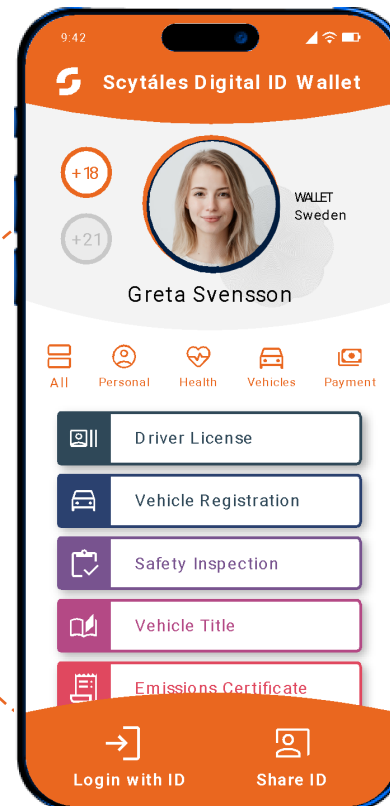
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The Wallet Stakeholders

Wallet Issuer

Organization that issues the Digital ID Wallet and provides the services of the related to the Wallet.

Citizens

Users that use the Digital ID wallet to securely store Digital IDs and authenticate themselves
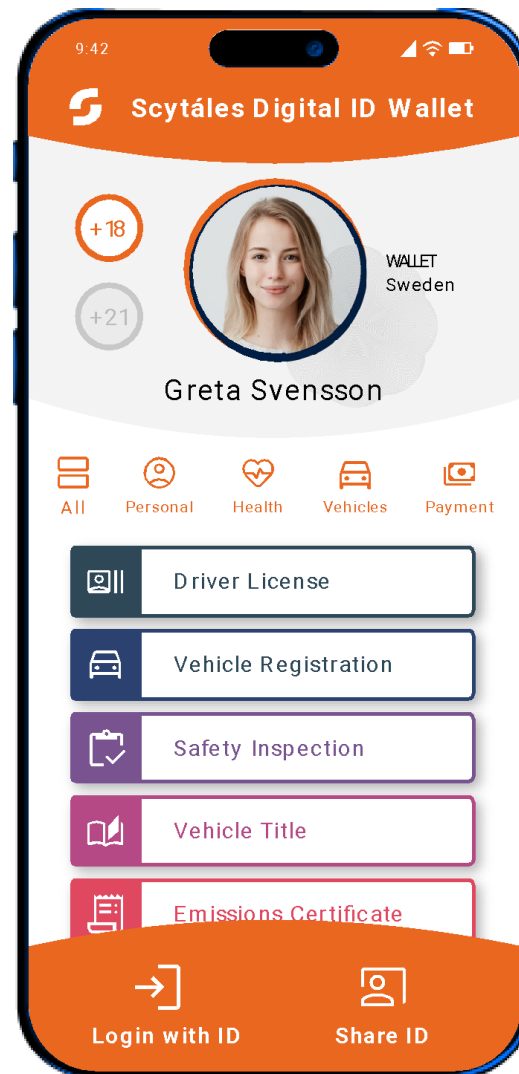
ID Issuers

Organizations such as Government Agency Name that uses the Digital ID Wallet to issue its ID

Relying Parties

Organizations that use the services of the Digital ID Wallet to authenticate its users of customers

9:42

Scytáles Digital ID Wallet

+18
+21

Greta Svensson

WALLET Sweden

All   Personal   Health   Vehicles   Payment

Driver License

Vehicle Registration

Safety Inspection

Vehicle Title

Emissions Certificate

Login with ID   Share ID

Scytáles Digital ID Wallet Concept

Scytáles Digital ID Wallet

9:42

+18
+21

Greta Svensson

WALLET
Sweden

All   Personal   Health   Vehicles   Payment

Driver License

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Emissions Certificate

Login with ID   Share ID

Citizen's Identification documents stored safely on a smartphone and officially recognized

Developed based on PKI principals to ensure Trust, Non-repudiation, privacy and confidentiality

Interoperable and open ecosystem for identification and authentication service

Compliant with the latest ID standards: eIDAS, NIST, ICAO 9303, ISO 18013-5, ISO 18013-7, OpenID

Remote Presentation – Secure identification

- The primary purpose of the Wallet is to offer secure identification and presentation of users' identity at a high Level of Assurance (LoA) for both public and private online services.

- Today users access online services that demand authentication but **lack capabilities to present users' identification data in any standardized way** while accessing these services.

- **The User is also concerned about sharing person identification data (PID) during online interactions.**

- **The EU ARF covers the** objectives for identifying users with services requiring user identification in standardized, cross border interoperable and **maintaining control over personal data sharing**.
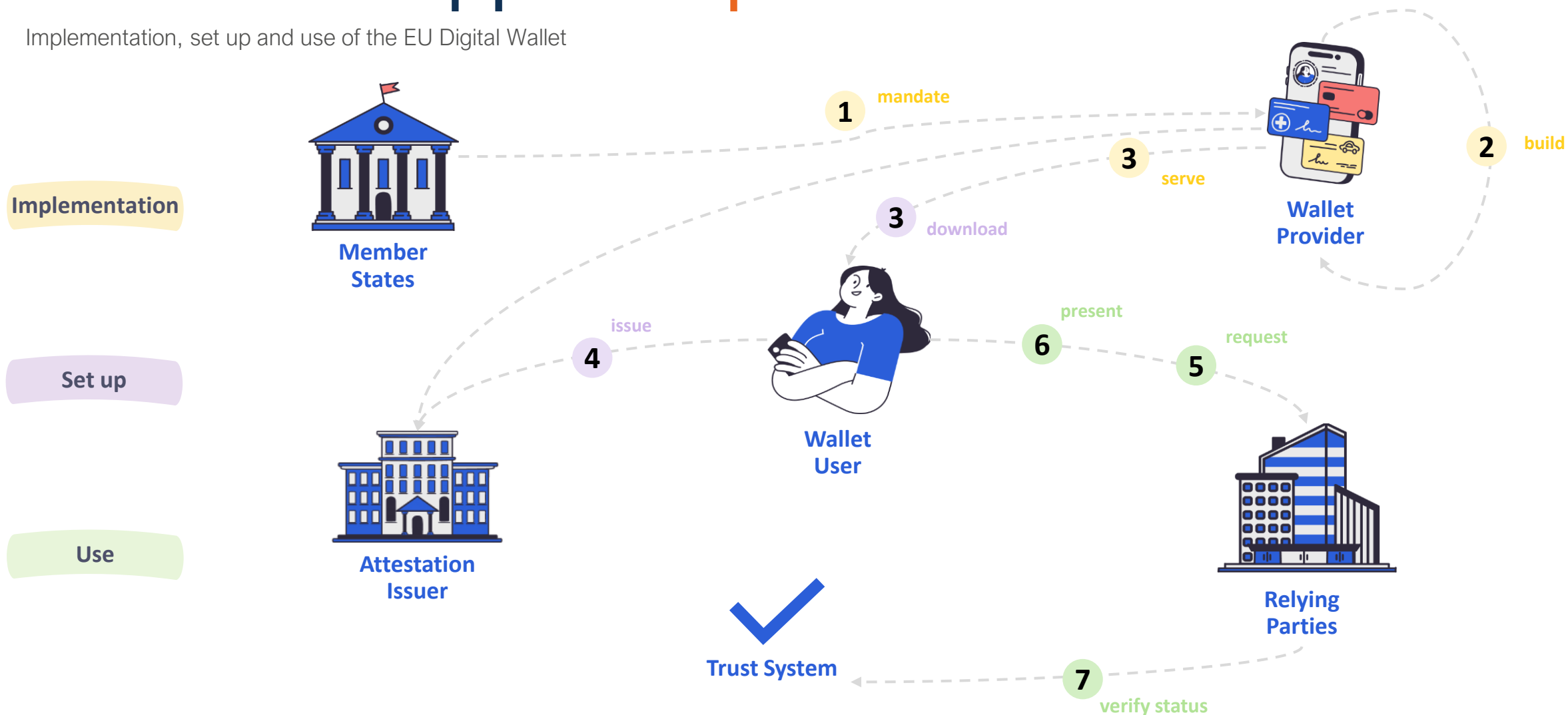
Proximity Sharing

- The use case description concentrates on proximity supervised and unsupervised flows, which involve scenarios where **the User is physically near a Relying Party**, and the mDL or (Q)EAA attribute exchange and disclosure occurs using proximity technologies (e.g., NFC, Bluetooth).

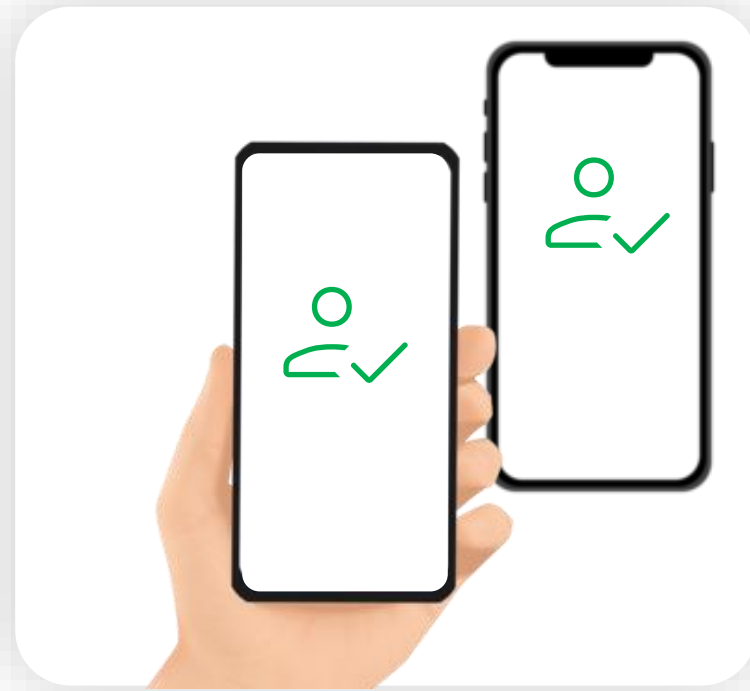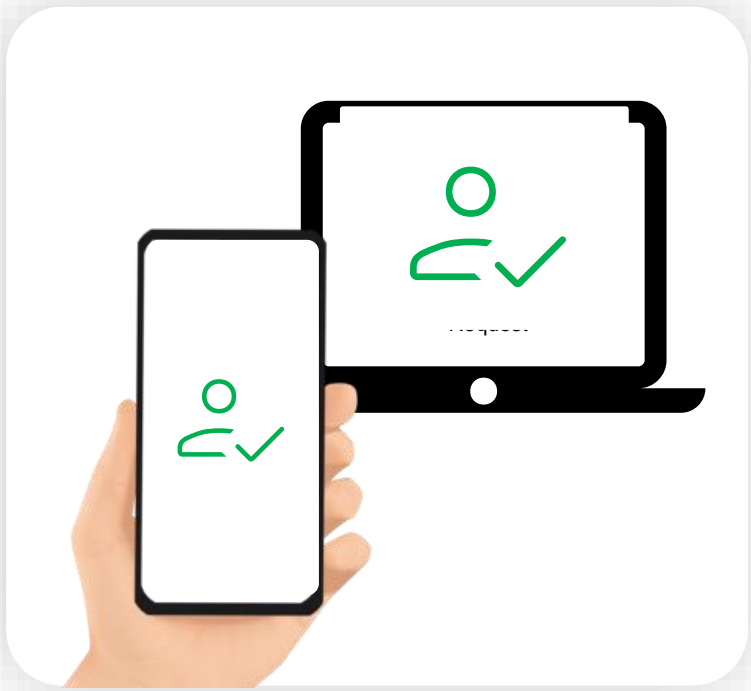- Technically PID can also be shared in proximity.

Signing Use cases

- The signing use cases are well know since eIDAS 1.0 and already cross border interoperable in EU
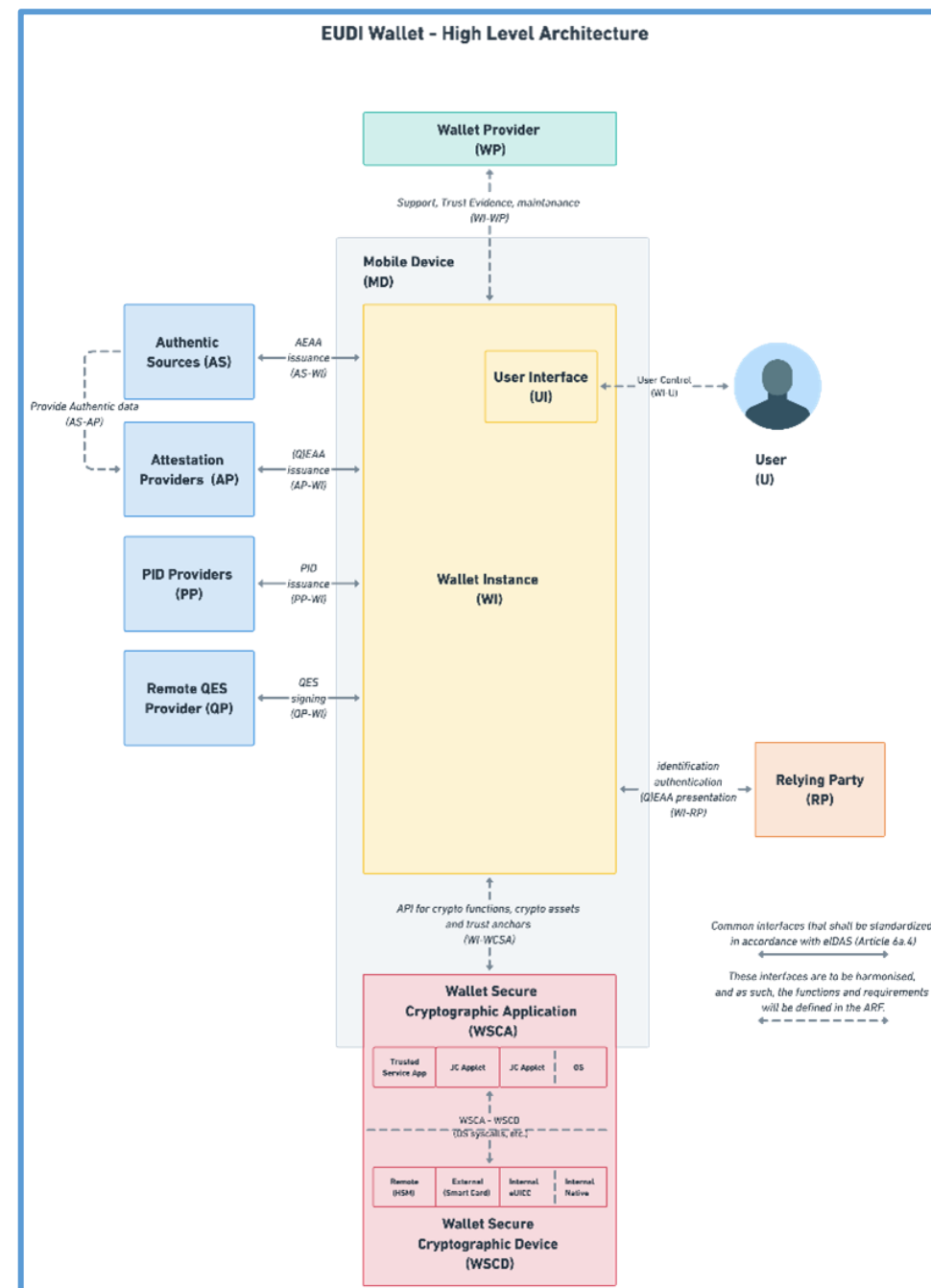
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What will happen in practice?

Implementation, set up and use of the EU Digital Wallet

Implementation

Member States

1 mandate

2 build

3 serve

Wallet Provider

3 download

Set up

issue

4

Wallet User

present **6**

request **5**

Use

Attestation Issuer

Trust System

Relying Parties

7 verify status

eIDAS 2.0 Regulation for digital cross-border interoperability

General Ecosystem Architecture

- EUDI Wallet (in the mobile device)

- Relying Party (readers)
  - Remote Web2App Readers (ISO 18013-7 (OID4VP))
  - Remote App2App Readers (ISO 18013-7(OID4VP))
  - Proximity App Readers (BLE, NFC ISO 18013-5)

- Issuing
  - PID Providers
  - Attestation Providers (Sources) e.g. mDL

- Electronic Signing

EUDI Wallet - High Level Architecture

Thank you!

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