Consented Data Exchange and Verification Services with Digital Wallets

Making personal data spaces trustworthy, auditable and immutable

Digital wallet presentation to OIX

18 May 2023

MyData Operator 2022

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Your data, your choice.

Contents for today

- Background - Digital Wallets

- Demo and use cases enabled by digital wallets
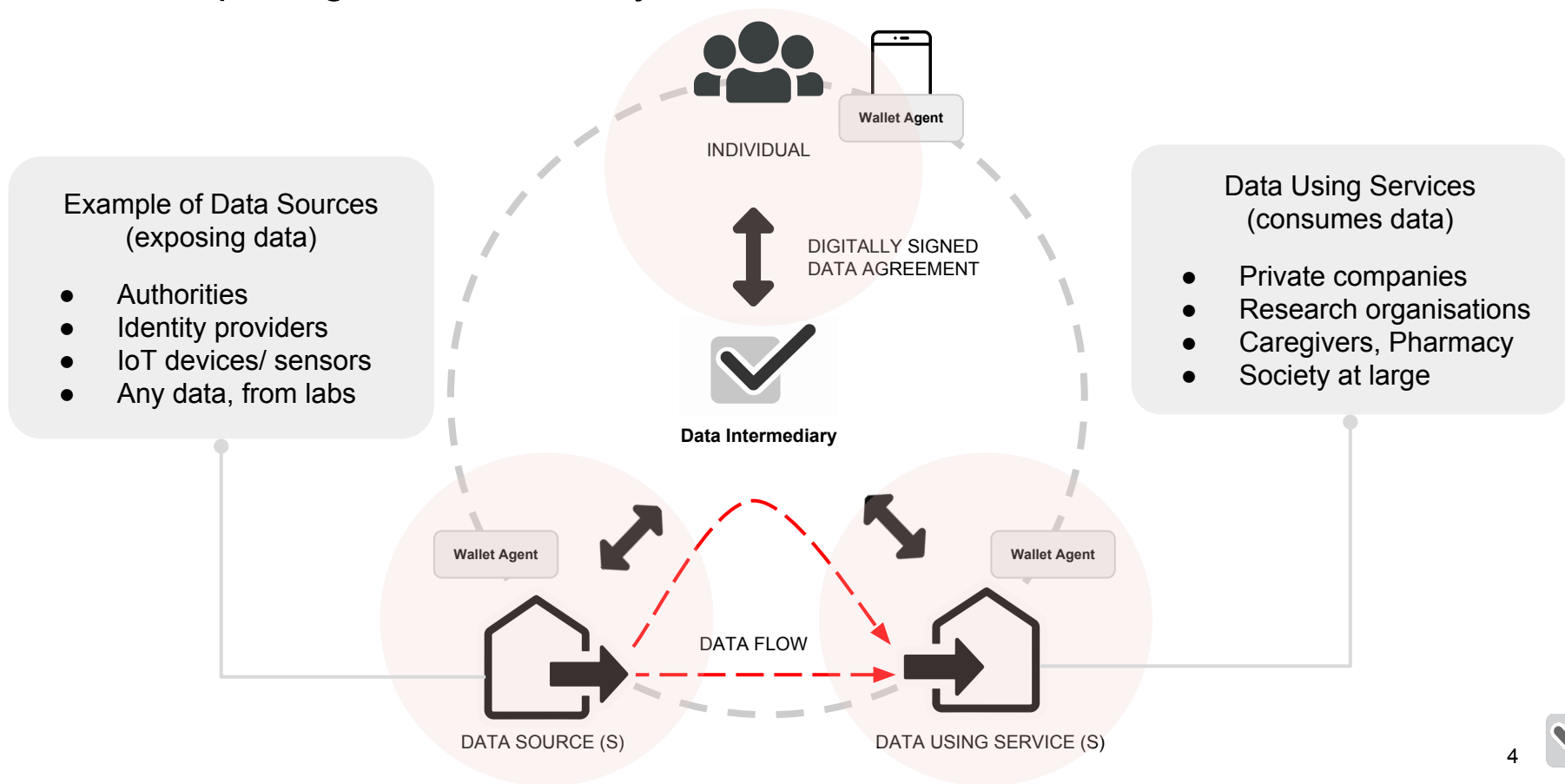
- EUDI Wallet and the ARF

Every time an App or website asks us to create a new digital identity or to easily log on via a big platform, we have no idea what happens to our data in reality. That is why the Commission will propose a secure European e-identity. One that we trust and that any citizen can use anywhere in Europe to do anything from paying your taxes to renting a bicycle. A technology where we can control ourselves what data is used and how.

Ursula von der Leyen, President of the European Commission, in her State of the Union address, 16 September 2020

An example digital wallet ecosystem

INDIVIDUAL

Wallet Agent

DIGITALLY SIGNED
DATA AGREEMENT

Data Intermediary

**Example of Data Sources
(exposing data)**

- Authorities
- Identity providers
- IoT devices/ sensors
- Any data, from labs

**Data Using Services
(consumes data)**

- Private companies
- Research organisations
- Caregivers, Pharmacy
- Society at large

Wallet Agent

Wallet Agent

DATA FLOW

DATA SOURCE (S)

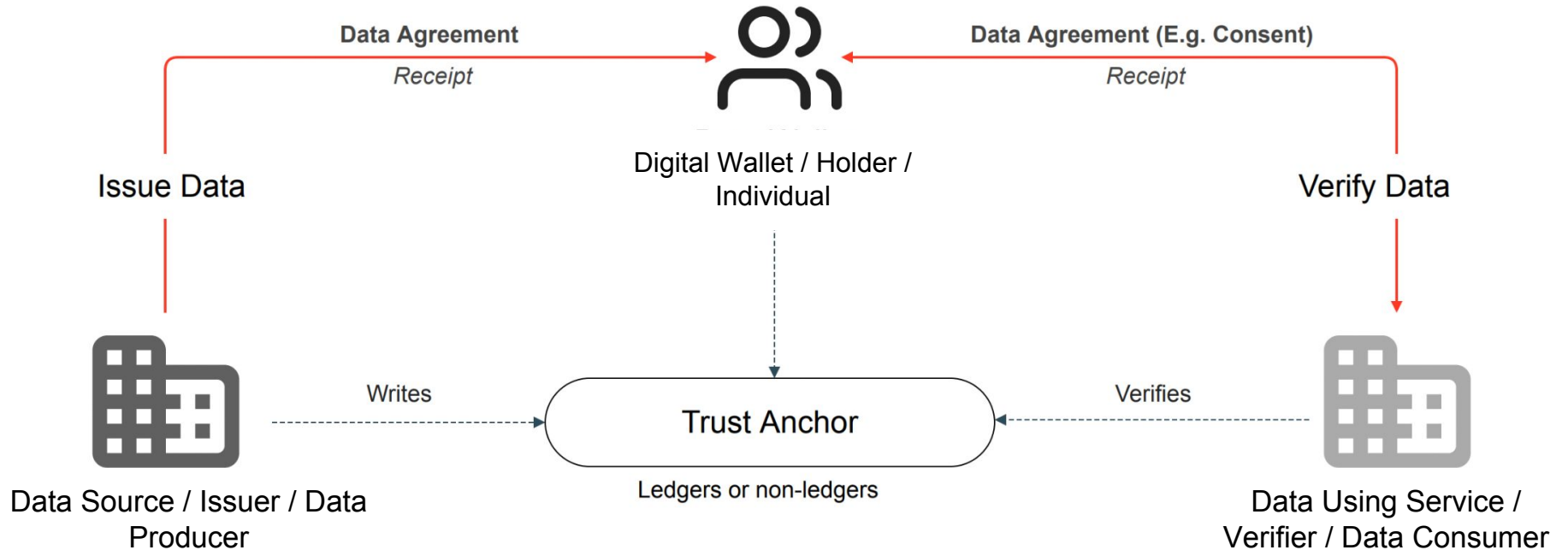DATA USING SERVICE (S)
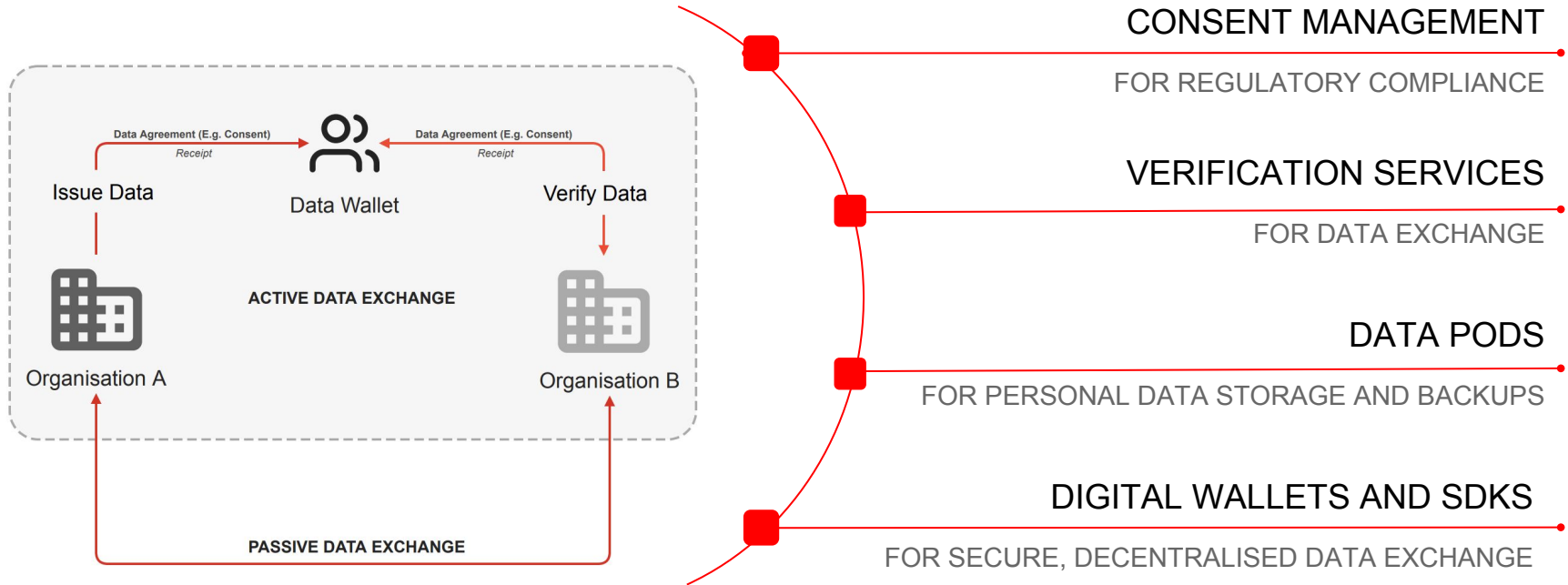
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Key features of a digital wallet

- Secure storage and sharing of verifiable credentials

- Digital identity management

- Privacy and security

- Interoperability

- Compliance with standards and regulations

A typical digital wallet use case scenario

Data Agreement
Receipt

Data Agreement (E.g. Consent)
Receipt

Digital Wallet / Holder / Individual

Issue Data

Verify Data

Writes

Verifies

Trust Anchor

Ledgers or non-ledgers

Data Source / Issuer / Data Producer

Data Using Service / Verifier / Data Consumer

iGrant.io: B2B/B2G SaaS solution offering

CONSENT MANAGEMENT

FOR REGULATORY COMPLIANCE

VERIFICATION SERVICES

FOR DATA EXCHANGE

DATA PODS

FOR PERSONAL DATA STORAGE AND BACKUPS

DIGITAL WALLETS AND SDKS

FOR SECURE, DECENTRALISED DATA EXCHANGE

DEMO

Data Wallet Demo: https://www.youtube.com/watch?v=NF81dlISBeA

Use case 01: Issuer/Verifier Data exchange end-to-end
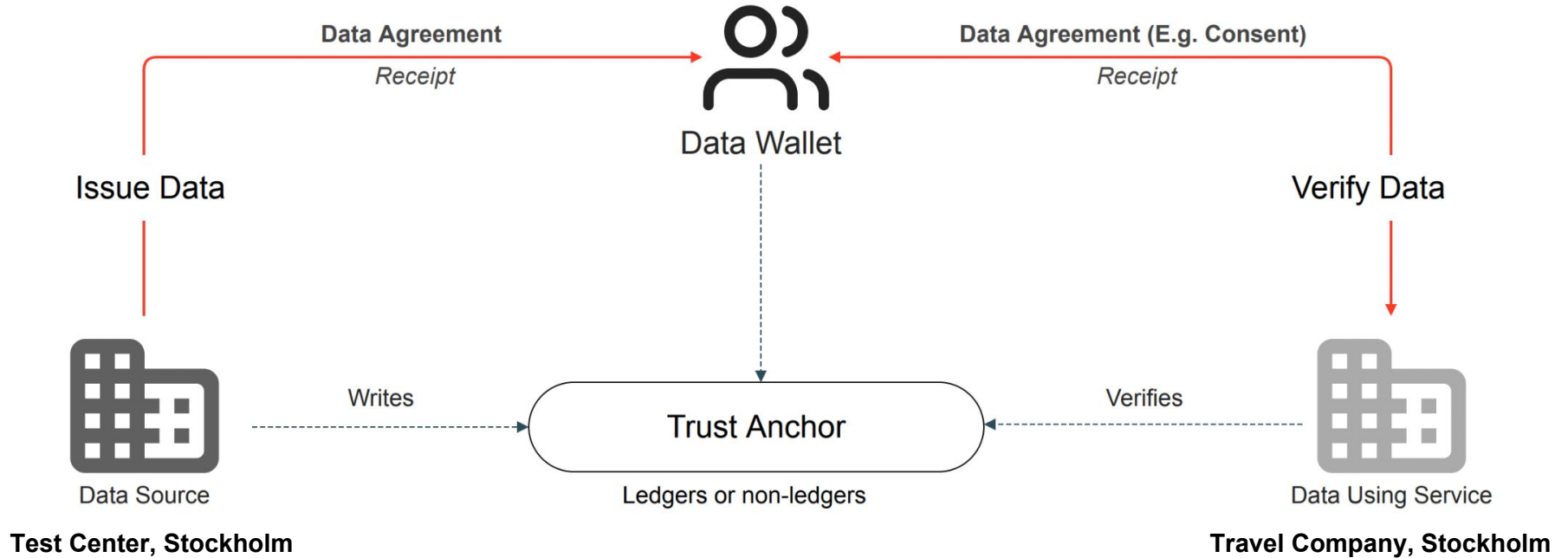
Use case 02: X.509 credentials verification

NFC Enabled Passport, Covid certificate or any physical document

Data Agreement
Data exchange

Passport Data Using Service (Verifier)

Data Wallet
Verifies the signature embedded in the passport with the government issued public key

Verify

X.509 DID Method

Converts the X509 certificates to DIDs

Trust Anchor

X.509 Resolver
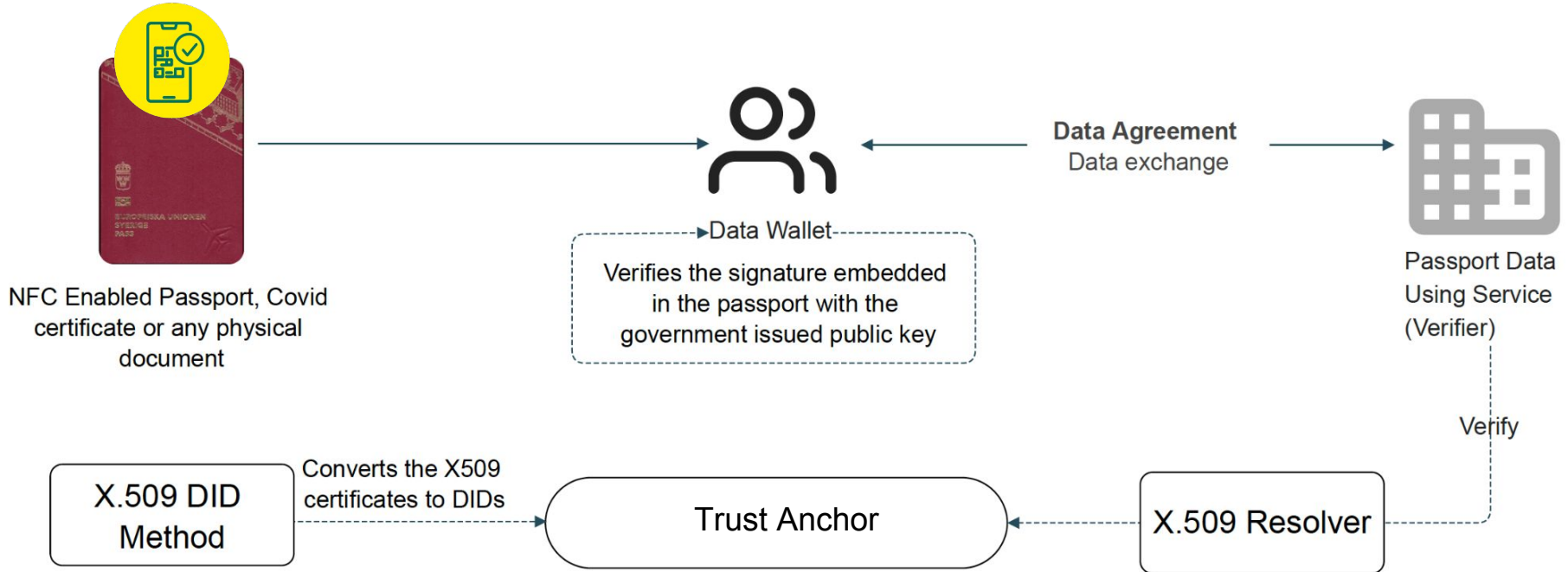
Example Digital Wallet Use Case (Before)

Apply for a bank loan
before

1 — SET UP A BANK APPOINTMENT

2 — MEETING AT THE BANK

A DOCUMENT IS MISSING

3 — PROVIDE ALL PAPER DOCUMENTS

4 — BANK SENDS PROPOSAL

5 — SET UP A BANK APPOINTMENT AGAIN

6 — MEETING AT THE BANK AGAIN TO SIGN THE LOAN AGREEMENT
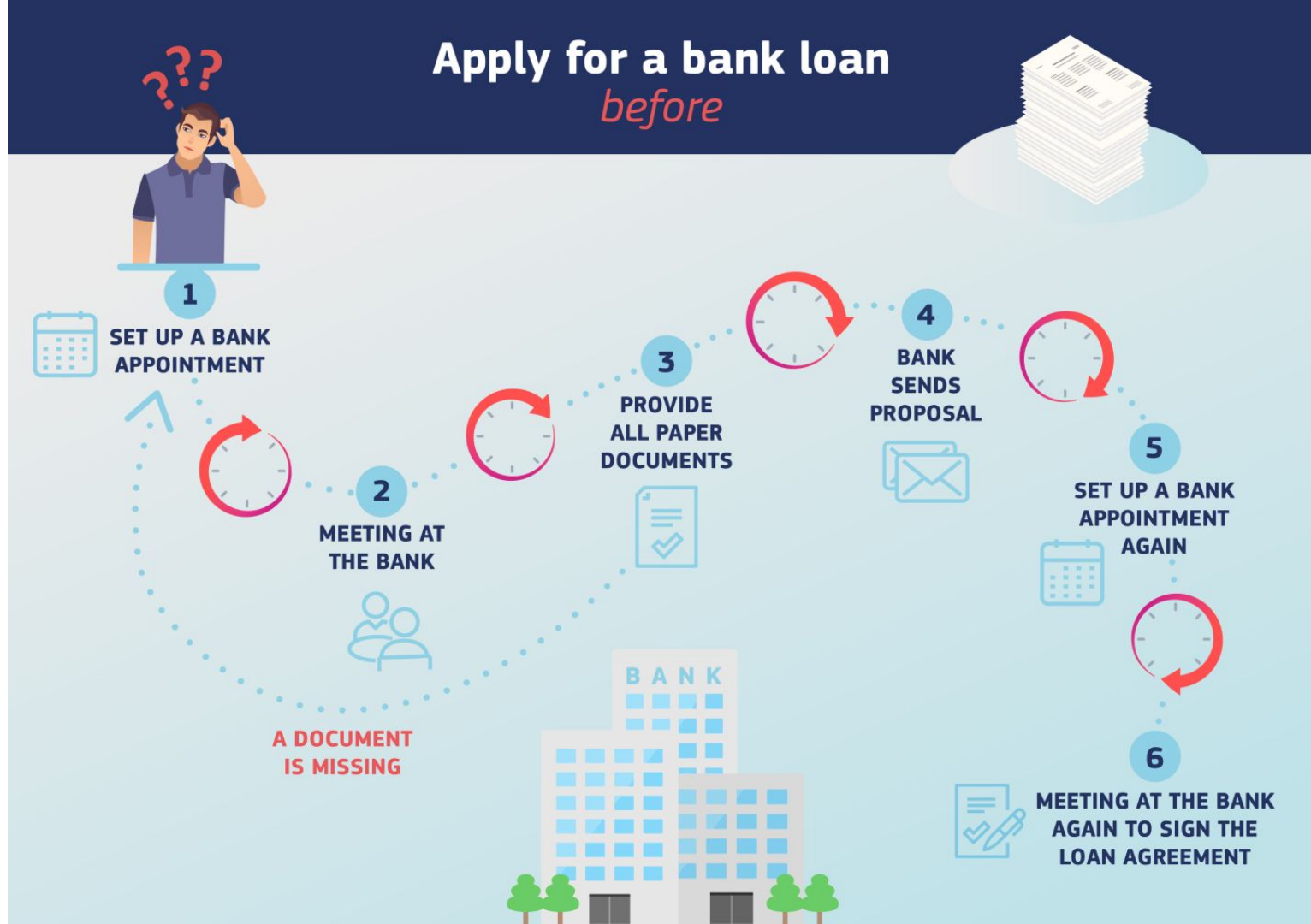
BANK

Example Digital Wallet Use Case (Tomorrow)

Apply for a bank loan *after*

1 THE USER HAS ALL HIS DOCUMENTS IN HIS PERSONAL DIGITAL WALLET, FROM NATIONAL IDENTITY TO INCOME STATEMENT.

2 HE SELECTS ONLY THE REQUIRED DOCUMENTS ASKED BY THE BANK FOR THE LOAN APPLICATION AND SENDS THEM EASILY IN FULL SECURITY.

3 THE BANK RECEIVES THE DOCUMENTS ELECTRONICALLY. IF A DOCUMENT IS MISSING, IT IS ONLY ONE CLICK AWAY FOR THE USER. THE APPLICATION IS READY TO CONTINUE.

EU eID Wallet

Confirm transfer of:

☑ Identity data
  ☑ Surname
  ☑ First name(s)
  ☑ Nationality
  ☑ Identity card number
☑ Credit Rating
☑ Income Statement

BY USING THE EUROPEAN DIGITAL IDENTITY, THIS PROCESS IS STREAMLINED AND MORE TIME EFFICIENT
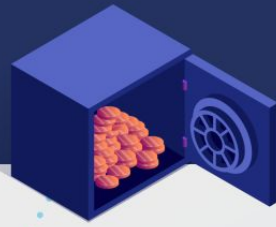
EUDI Wallet Roles and the ARF

EUDI wallet provider

- Each Member State determines mandate or recognition
- Compliance with requirements for EUDIW

PID (Person Identification Data) provider

- LoA: High identity verification of EUDIW User
- Issue PID to the EUDI Wallet according to ARF formats
- Validity status check services for PID
- Each Member State determines PID provisioning

Trusted list provider

- Maintain and make available trusted list of e.g.
- EUDIW providers, PID providers, QEAA + EAA providers, Relying Parties

QEAA provider

- Provided by a QTSP under existing Trust Framework
- Interface for requests and provisioning of QEAA
- Mutual authentication to EUDIW
- Possibly an interface to Authentic Source
- Validity status check service
- MUST NOT learn anything about the use of a QEAA they issue when validity status checks are performed

References

- EU Commission page:
  https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-digital-identity_en

- European Union Digital Identity (EUDI) wallet ARF:
  https://github.com/eu-digital-identity-wallet/architecture-and-reference-framework

- iGrant.io data wallet demo video:
  https://www.youtube.com/watch?v=Ix8F5D9qPQI&t

- Download the data wallet and try it out: https://igrant.io/demo.html

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ebsi
European Blockchain

TECH ARENAN | Top 50 most promising companies in the Nordics

GovStack

VINNOVA
Sweden's Innovation Agency

DIF

TRUST Over IP FOUNDATION

MyData Operator 2020

MyData Operator 2021

MyData Operator 2022

FOLLOW US

- Founding year: 2017
- Employees and contractors: 18
- Headquartered in Stockholm (Sweden) and DevOps subsidiary in Kochi (India)

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