



Digital identities in the Metaverse and the possible contribution of the EU digital identity wallet

Renaissance numérique

The Metaverse dialogues

Dialogue #3 - Data, privacy, identity, regulation:
potential legal challenges

Wednesday 5 July 2023

Claire Levallois-Barth
Coordinator of the Chair
Values and Policies of Personal Information

The question of digital identities is fundamental in the Metaverse

- ▶ To be someone else ... the ability to choose your avatar's features
- ▶ All video games have proved this ability

Difficulties in defining the notion of “identity”

- ▶ In philosophy, one way to address such issue is to distinguish between the *idem* and *ipse*
 - The *ipse* identity corresponds to the individual as he relates to himself
 - The *idem* identity corresponds to a view on the individual from the outside, which treats the individual as a sum of stable characteristics
- ▶ Law uses an **objective approach**
 - G. Cornu defines ‘identity’ as ‘what makes an individual himself and not another; by extension, what allows to recognize and distinguish him from others; [...] the set of characteristics that allow to identify him or her’



Some metaverse's contexts require users to have a reliable digital identity

- ▶ Ensuring business continuity for citizens in a wide range of contexts: e-health, online payments, voting

Other metaverse's contexts require to let users have as many different identities as they wish

- ▶ **Pseudonyms** are essential for whistleblowers, minorities or anyone wishing to escape oppression or be creative and to ensure freedom of expression, non-discrimination

The recognition of everyone's right to establish the components of their identity

- ▶ The possibility for a person to 'project' himself by choosing the elements he wishes to choose to represent him and make him recognized
 - Based on an interpretation of the right to respect for one's private life by Article 8 of the ECHR, and more broadly, as the **right to personal autonomy**
 - See C. LEVALLOIS-BARTH, *Calling for the recognition of a right to multiple digital identities*, <https://cvpip.wp.imt.fr/executive-summary-1/>



**EXPLORING THE POSSIBLE
CONTRIBUTION OF EU DIGITAL
IDENTITY WALLET IN THE
FRAMEWORK OF THE METAVERSE**

eIDAS 1

2014

Regulation (EU) 910/2014

on electronic identification and trust services for electronic transactions in the internal market



eIDAS 2

June 2021

Proposal for a regulation

amending Regulation (EU) 910/2014 as regards establishing a framework for a European Digital Identity

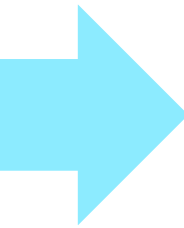
Guarantee access to an electronic identity

- ▶ For natural and legal person
- ▶ On all kind of devices: computers, smartphones ...


Under the control of the user

Highly secure and reliable, including

- ▶ The issuing of the Wallet
- ▶ The infrastructure for the collection, storage and disclosure of digital identity data





 **Digital Wallet**

Identification data

Credentials	Personal attributes
Identity card	Photos
Driving Licence	Date of birth
Travel documents	Gender
Social security	Vegan Address

E-signature **E-payment**

Wallet issuers: a public authority or a company

- ▶ The wallet shall be issued independently from a Member State but recognized by that Member State
- ▶ In a centralised or decentralized way
 - Self Sovereign Identity solutions based on blockchain are possible

Users

- ▶ Can use different wallets
 - A State-certified wallet
 - A company-certified wallet
 - A decentralised wallet ...
- ▶ ? A combination of wallets and their interoperability with cryptocurrency wallet

Relying Parties

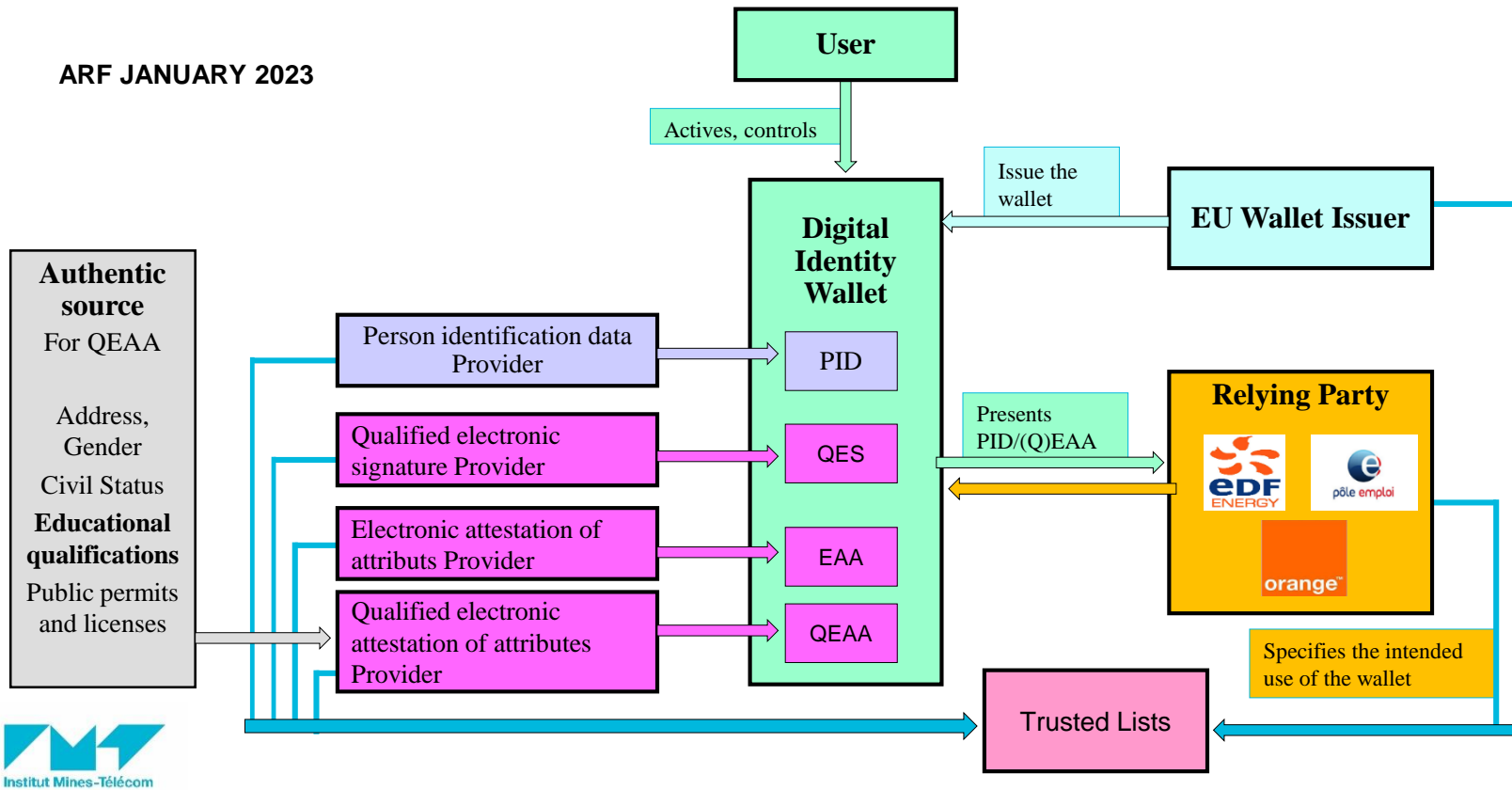
- ▶ A natural or legal persons that relies upon an electronic identification means or a trust service

Trust Service Providers

- ▶ Entities providing a trust service
- ▶ eIDAS 1 regulation
 - E-signature and e-seal
 - E-time Stamps ...
- ▶ eIDAS 2 regulation
 - E-archiving of electronic documents
 - **E-attestation of attributes**
 - **E-ledger (blockchain) ...**



ARF JANUARY 2023



THE EU WALLET AND THE APPLICATION OF THE GDPR

European Commission June 2021

- ▶ Art. 5: Without prejudice to the legal effect given to pseudonyms under national law, **the use of pseudonyms in electronic transactions shall not be prohibited**

European Parliament March 2023

- ▶ Rec. 29: the principle of purpose limitation ... implies a right to pseudonymity to ensure the user cannot be linked across several relying parties
- ▶ Art. 5-2. Without prejudice to the legal effect given to pseudonyms under national law and unless specific rules of the Union or national law require users to identify themselves for legal purposes, **the use of pseudonyms** in electronic transactions, **freely chosen by the user, shall always be allowed** and shall not be prohibited
- ▶ Art. 6a-3 (ac): European Digital Identity **Wallets shall**, in a user-friendly manner, enable the user to ... **generate pseudonyms and store them encrypted and locally within it**

Draft agreement 23 June 2023

- ▶ Art. 5: Without prejudice to specific rules of Union or national law requiring users to identify themselves and without prejudice to the legal effect given to pseudonyms under national law, **the use of pseudonyms, chosen by the user, in electronic transactions shall not be prohibited**
- ▶ Art. 6a-3 (ac): 3. ... Wallets ... shall enable the user in a manner that is user-friendly, transparent, and traceable by the user ... **Generate pseudonyms and store them in an encrypted form**



eIDAS 1

The minimum set of PID uniquely representing a natural person shall contain 4 mandatory attributes

1. Current family name(s)
2. Current first name(s)
3. Date of birth
4. A **unique identifier** constructed by the sending Member State ... **which is as persistent as possible in time**

European Commission

Proposes to include a unique and persistent identifier in the PID

- ▶ To reduce the risk of abuse or error
- ▶ To identify the user **upon their request**
- ▶ Where identification of the user is **required by law**

A dangerous situation

- ▶ In some Member States, unique identifiers have been considered unconstitutional in the past due to a violation of human dignity.
- ▶ **France:** The use of the NIR (social security number) is strictly regulated

Draft agreement 23 June 2023

Taking into account the different culture of the Member States

- ▶ An unique and persistent identifier
 - May consist of either **single or multiple public or private**, horizontal, **sectorial or relying-party specific identification data**,
 - **Associated with a single user**
 - **Within a given system and persistent in time**
- ▶ Including one or more unique and Persistent identifier in the PID for the identification
 - **Of the user upon their request**
 - Only in those cases **where identification of the user is required by law**



Selective disclosure of attributes to relying parties

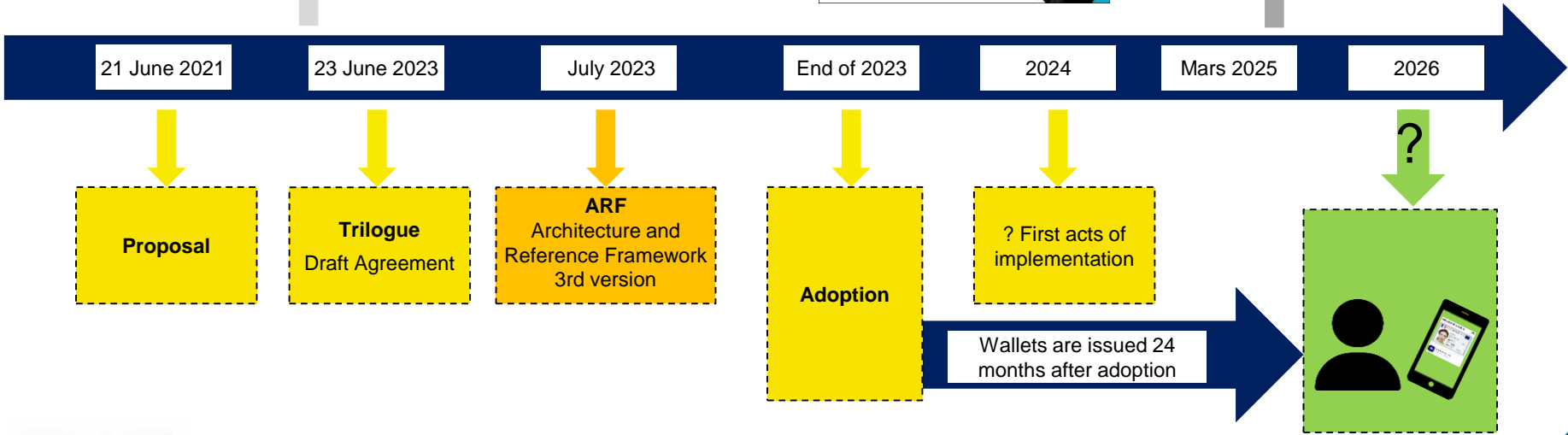
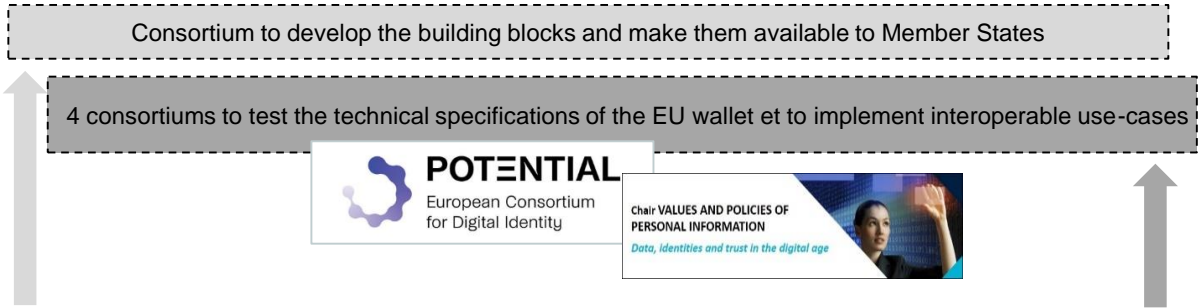
- ▶ This functionality must become a basic design element of the EU wallet
- ▶ The user must be able to control the amount of data transmitted
 - e.g. if he wishes to access a metaverse service for adults: disclose only of his year of birth
- ▶ **Identities and proportionality**
 - e.g. instead of communicating a year of birth to prove majority or too much information, just communicate by answering to the question asked: "Over 18" Yes/No

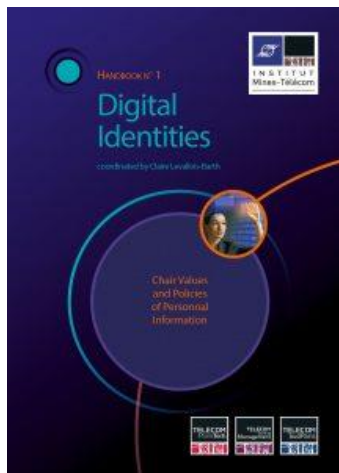
Zero knowledge proof

- ▶ Asked by the European Parliament
 - Cryptographic methods by which a relying party can validate that a given statement based on the electronic attestation of attributes held in a user's European Digital Identity Wallet is true, without conveying any data related to those electronic attestation of attributes to the relying party
- ▶ ? In the final version of eIDAS 2 regulation



- Legislation
- Specification
- Development
- Deployment





- ▶ Calling for the recognition of a right to multiple digital identities, <https://cvpip.wp.imt.fr/executive-summary-1>, 2020, [C. Levallois-Barth](#)
- ▶ Comparative analysis of technical and legal frameworks of various national digital identity solutions, 2023, [M. Naghmouchi](#), [M. Laurent](#), [C. Levallois-Barth](#), [N. Kaaniche](#)

- ▶ Les acteurs de l'écosystème des identités numériques, [C. Levallois-Barth](#), [M. Laurent](#), 2023
- ▶ Les enjeux de la révision du règlement eIDAS : quelle stratégie pour instaurer des identités numériques respectueuses de nos valeurs démocratiques ?, [C. Levallois-Barth](#), in *L'Europe et les nouvelles technologies*, ed. Bruylant, 2023
- ▶ Pourquoi un portefeuille numérique européen à marche forcée ?, 30 avril 2022, [M. Hunyadi](#), [C. Levallois-Barth](#), [I. Meseguer](#), [M. Laurent](#) et [P. Waelbroeck](#), [Tribune Le Club de Médiapart](#)



11 March 2021
21st Conference