

Using SOLID for **Identity & EUDI Wallet providers**

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SOLID Community
February 24, 2025

- 01 HR Use Case
- 02 SOLID for Identity Providers
- 03 Market trends & Our research
- 04 Conclusion



umec

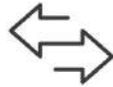
Use Case in HR



I want a new job



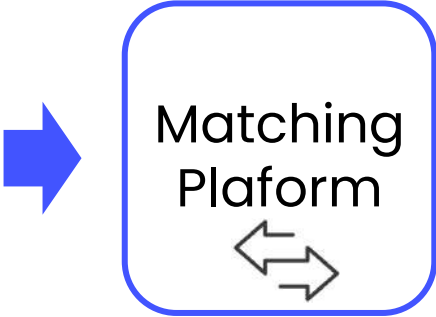
I have a vacancy



Use Case in HR



Candidate



Recruiter



Employer

Use Case Personas



Peter
Persona=Candidate
Scope=Self
Expires=No
Status=Active



Matching Platform
↔



Ann
Persona=Recruiter
Scope=Randstad
Expires=20251231
Status=Active



Candidate

Recruiter

Use Case in HR

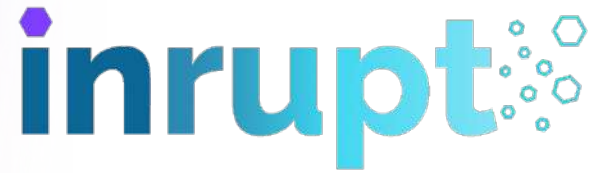


Can you use a self-controlled SOLID Pod and enter the HR ecosystem with your citizen-identity and licences?



1. Decentralisation = Bring Your Own Wallet

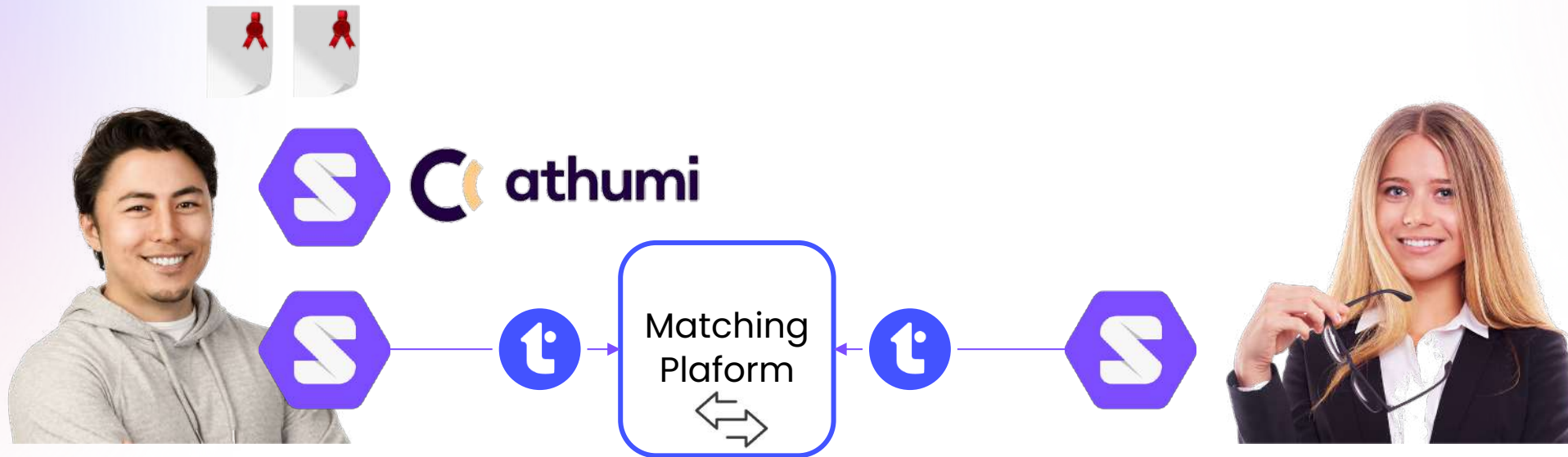
SOLID Pods are intended to be interoperable

The logo for Inrupt, featuring the word "inrupt" in a blue sans-serif font. The letter "i" has a small purple hexagon above it. To the right of the text is a cluster of small, light blue hexagons of varying sizes.



1. Decentralisation = Bring Your Own Wallet

SOLID Pods are only interoperable in theory



Research recommendation

→ Ensure universal interoperability and consider a worldclass standardisation process

2. Decentralisation = Bring Your Own Identifier

SOLID Pod adopts WebID as identifier

```
<#me>
  a foaf:Person ;
  foaf:name "Carlo Schupp" ;
  foaf:maker <https://use.id/carloschupp/profile> ;
  schema:nationality "Belgian" ;
  ex:hasDriversLicense [
    a ex:DriversLicense ;
    dct:expires "2088"^^xsd:gYear ;
  ] .
```

2. Decentralisation = Bring Your Own Identifier

The WebID identifier is not compatible with other platforms, eg. EUDI

```
<#me>
  a foaf:Person ;
  foaf:name "Carlo Schupp" ;
  did:identifier "did:ion:EiD2bX...longDIDstring"
  did:authentication [
    a did:VerificationMethod ;
    did:publicKeyJwk {...}
  ] ;
  did:service [
    a did:Service ;
    did:serviceEndpoint <https://my-solid-pod.org/>
  ] .
```

Research recommendation

→ Add mandatory support for W3C DID as identifier

3. Decentralisation = Federate Your Own ID

SOLID is not universally OIDC ready for federated login

The image displays two sequential screenshots of the TrustBuilder account creation interface for Jobmatch.

Left Screenshot: Registration Form

- TrustBuilder** logo and title: "Maak een account aan om in te loggen bij Jobmatch"
- Gebruikersnaam:** Input field containing "cnick".
- WebID:** Input field containing "use.id/carloschupp".
- Wachtwoord:** Input field with masked characters and an eye icon.
- Herhaal wachtwoord:** Input field with masked characters and an eye icon.
- Consent:** A checked checkbox with the text: "Ik geef toestemming voor Jobmatch om de gegevens van mijn WebID te verwerken en mijn WebID op te slaan. Telkens Jobmatch wordt gevraagd om identiteitsgegevens te delen met derden, zal Jobmatch specifiek daarvoor jouw toestemming vragen."
- Buttons:** "Maak account aan" (blue) and "Ik heb al een account" (light blue).

Right Screenshot: Confirmation Step

- TrustBuilder** logo and title: "Maak een account aan om in te loggen bij Jobmatch"
- Text:** "Om door te gaan zouden we graag nog eerst bevestigen dat de WebID van jou is. Om dit te doen zou je het **volgende triplet moeten kopiëren in je WebID Profile**. Nadat je dit gekopieerd hebt kan je op "Bevestig" klikken, waarna wij jouw WebID kunnen bevestigen en jouw WebID registreren bij Jobmatch"
- Text:** "Kopieer deze triplet in je WebID profile"
- Code Block:**

```
<https://tbaly.solidcommunity.net/profile/card#me> <http://www.w3.org/ns/solid/terms#oidcIssuerRegistrationToken> "6c6fd40d-be42-482-af53-7164ab6890d"
```
- Button:** "Bevestig" (blue)

3. Decentralisation = Federate Your Own ID

To federate with WebID, a side effect needs to be used

```
@prefix solid: <http://www.w3.org/ns/solid/terms#>.
@prefix pim: <http://www.w3.org/ns/pim/space#>.
<https://use.id/carloschupp/profile> <http://www.w3.org/1999/02/22-rdf-syntax-ns#type> <
<https://use.id/carloschupp/profile> <http://xmlns.com/foaf/0.1/maker> <https://use.id/c
<https://use.id/carloschupp/profile> <http://xmlns.com/foaf/0.1/primaryTopic> <https://u
<https://use.id/carloschupp> <http://www.w3.org/1999/02/22-rdf-syntax-ns#type> <http://w
<https://use.id/carloschupp> pim:storage <https://pods.use.id/a1c552de-a236-54b6-81c4-bf
<https://use.id/carloschupp> <http://www.w3.org/ns/solid/interop#hasRegistrySet> <https:
<https://use.id/carloschupp> solid:oidcIssuer <https://idp.use.id/> .
<https://use.id/carloschupp/profile/card#me> <http://www.w3.org/ns/solid/terms
#oidc|ssuerRegistrationToken>"6c6fd40d-be42-482-af53-7164ab6890d" .
```

Research recommendation

→ Add mandatory support for OAuth/OIDC federation

4. Decentralisation = Control Your Own Privacy

SOLID Pods count on WAC/ACLs to protect its contents

```
<#me>
  a foaf:Person ;
  foaf:name "Carlo Schupp" ;
  foaf:maker <https://use.id/carloschupp/profile> ;
  schema:nationality "Belgian" ;
  ex:hasDriversLicense [
    a ex:DriversLicense ;
    dct:expires "2088"^^xsd:gYear ;
  ] .
```

4. Decentralisation = Control Your Own Privacy

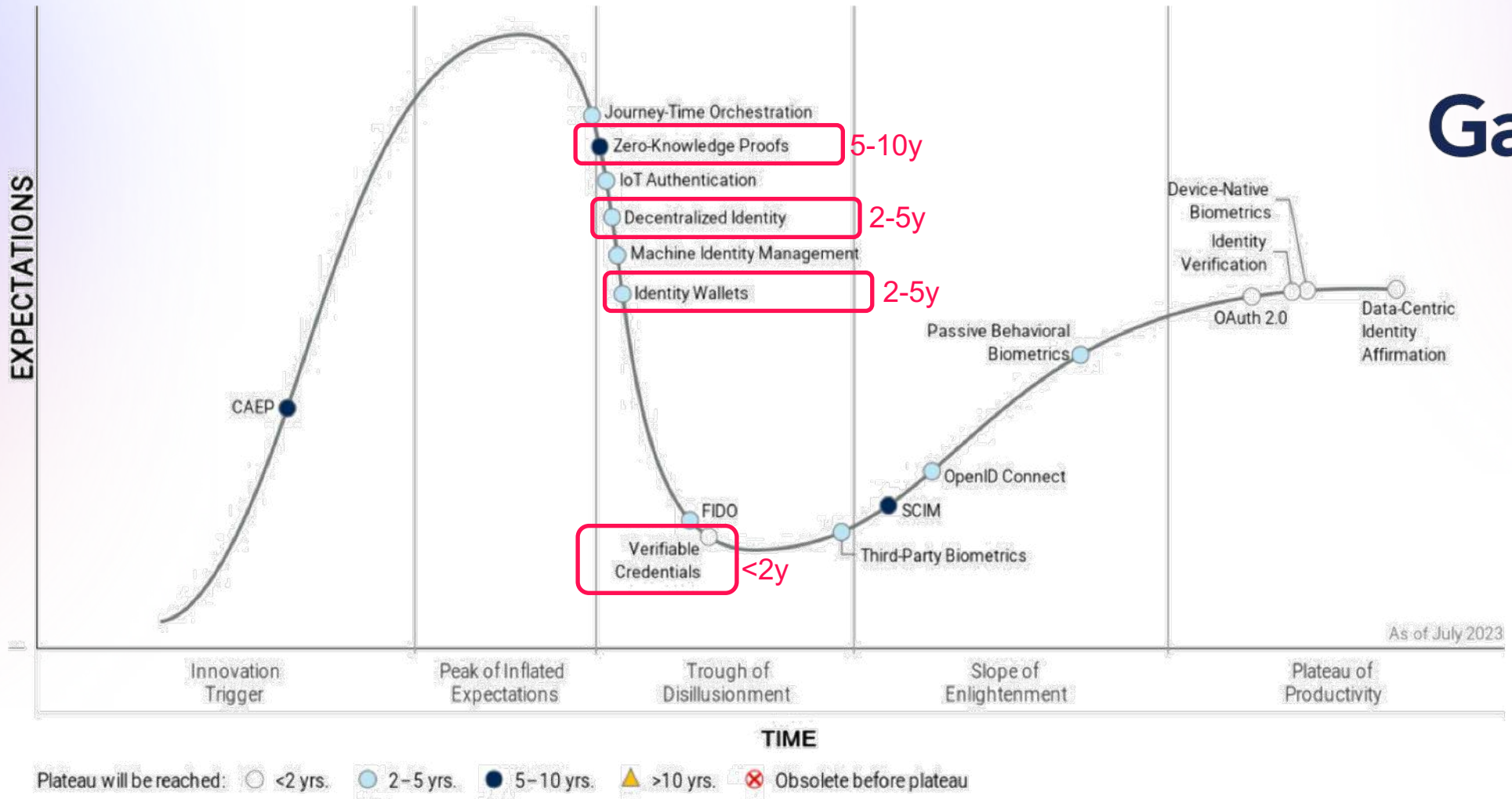
SOLID Pods can not be considered a vault

```
<#me>
  a foaf:Person ;
  foaf:name "Carlo Schupp" ;
  foaf:maker <https://use.id/carloschupp/profile> ;
  schema:nationality "Belgian" ;
  ex:hasDriversLicense [
    a ex:DriversLicense ;
    dct:expires "2088"^^xsd:gYear ;
  ] .
```

Research recommendation

→ Add mandatory support for contents encryption & sharing-consents inside the Pod

Gartner Hype Cycle for Digital Identity, 2023



Our research as IAM provider

Gartner's key impediments of Decentralised Identity

1. Trust

How to rely on a BYOI? What is the chain of trust?

2. Interoperability

How to truly enable free choices? What is the extent of standardisation?

3. Adoption

How to get companies interested? What is the commercial model?

4. User experience

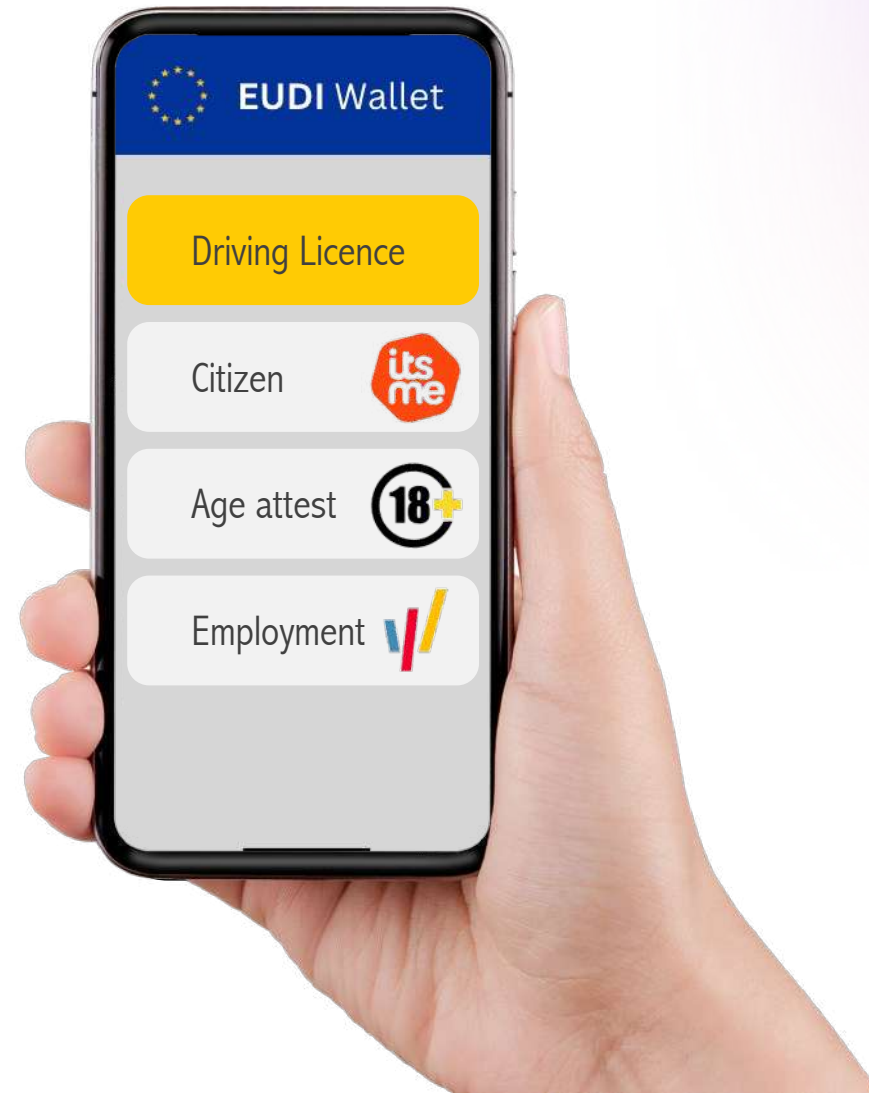
How to get and keep ordinary people interested?

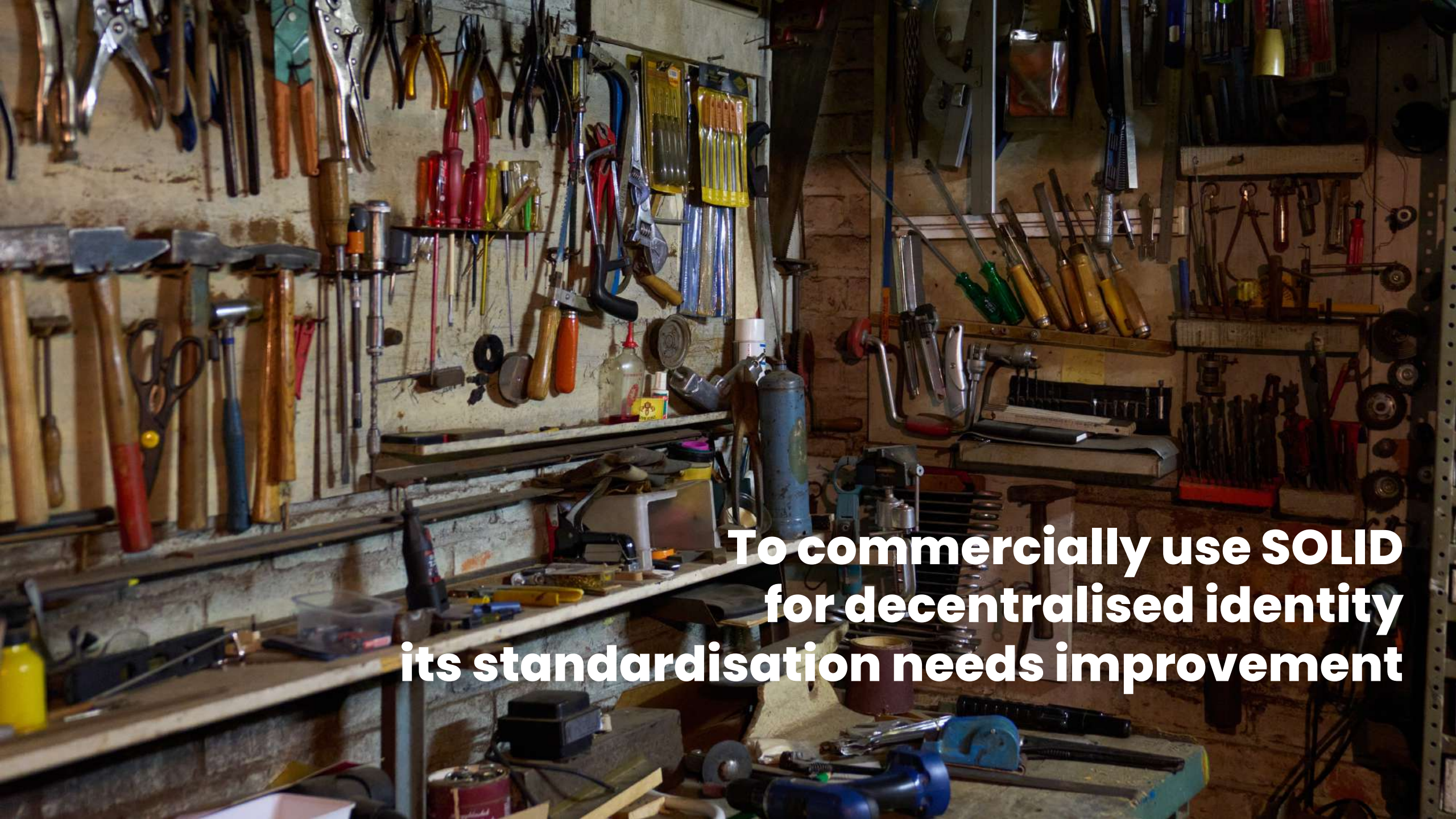
→ **While SOLID doesn't currently alleviate these obstacles, EUDI explicitly addresses these**

Our research conclusions as IAM provider

The EUDI Wallet has provisions currently missing in the SOLID specs

1. Public Identity Providers
2. Secure Enclave
3. End-to-End Encryption
4. Qualified Electronic Signatures
5. Signed Verifiable Credentials
6. OpenID Federation
7. Assurance Levels
8. Attest-based Authorisation
9. Trust Anchors & Revocation
10. Legal recognition





**To commercially use SOLID
for decentralised identity
its standardisation needs improvement**