

Using SOLID for Identity & EUDI Wallet providers

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



mec

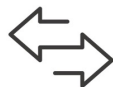
Use Case in HR



I want a new job



I have a vacancy



Use Case in HR



Use Case Personas

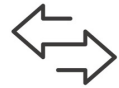


Peter

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



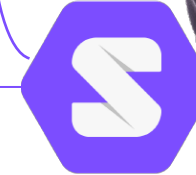
Matching
Platform



Candidate

Ann

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



Recruiter



Use Case in HR



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



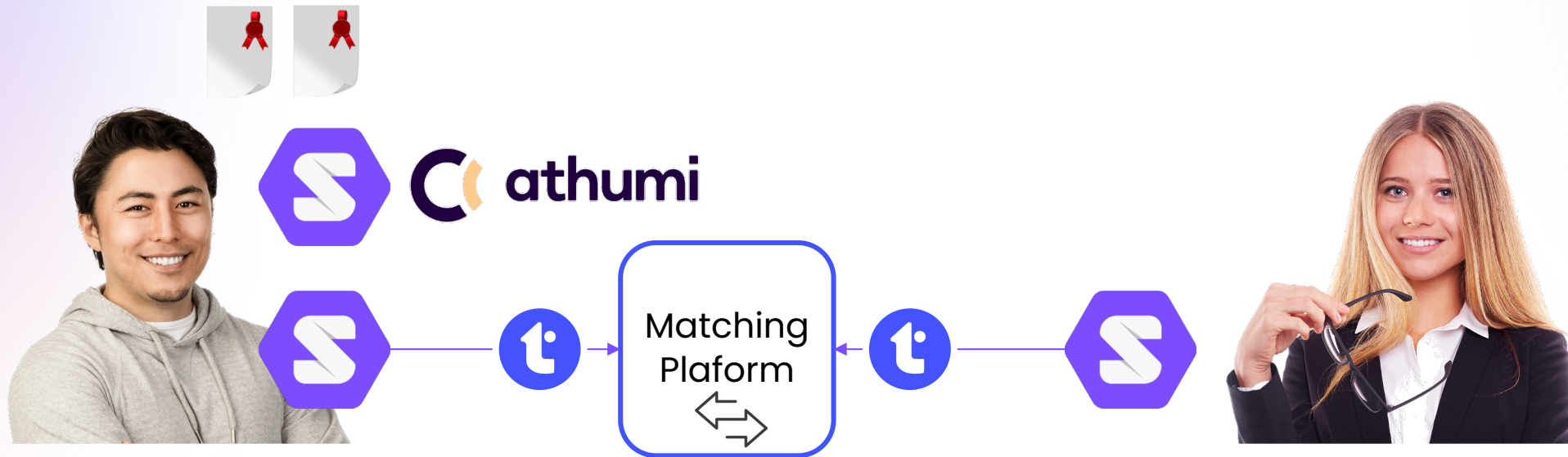
1. Decentralisation = Bring Your Own Wallet

SOLID Pods are intended to be interoperable



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:makes <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

**TrustBuilder**

Maak een account aan om in te loggen bij Jobmatch

Gebuikersnaam

cnick

WebID

use.id/carloschupp

Wachtwoord

Herhaal wachtwoord

☒

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.

Maak account aan

Ik heb al een account

**TrustBuilder**

Maak een account aan om in te loggen bij Jobmatch

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

Kopieer deze triplet in je WebID profile

<https://tbaly.solidcommunity.net/profile/card#me> <http://www.w3.org/ns/solid/terms#oidcissuerRegistrationToken> "6c6fd40d-be42-482-af53-7164ab6890d"

Bevestig

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

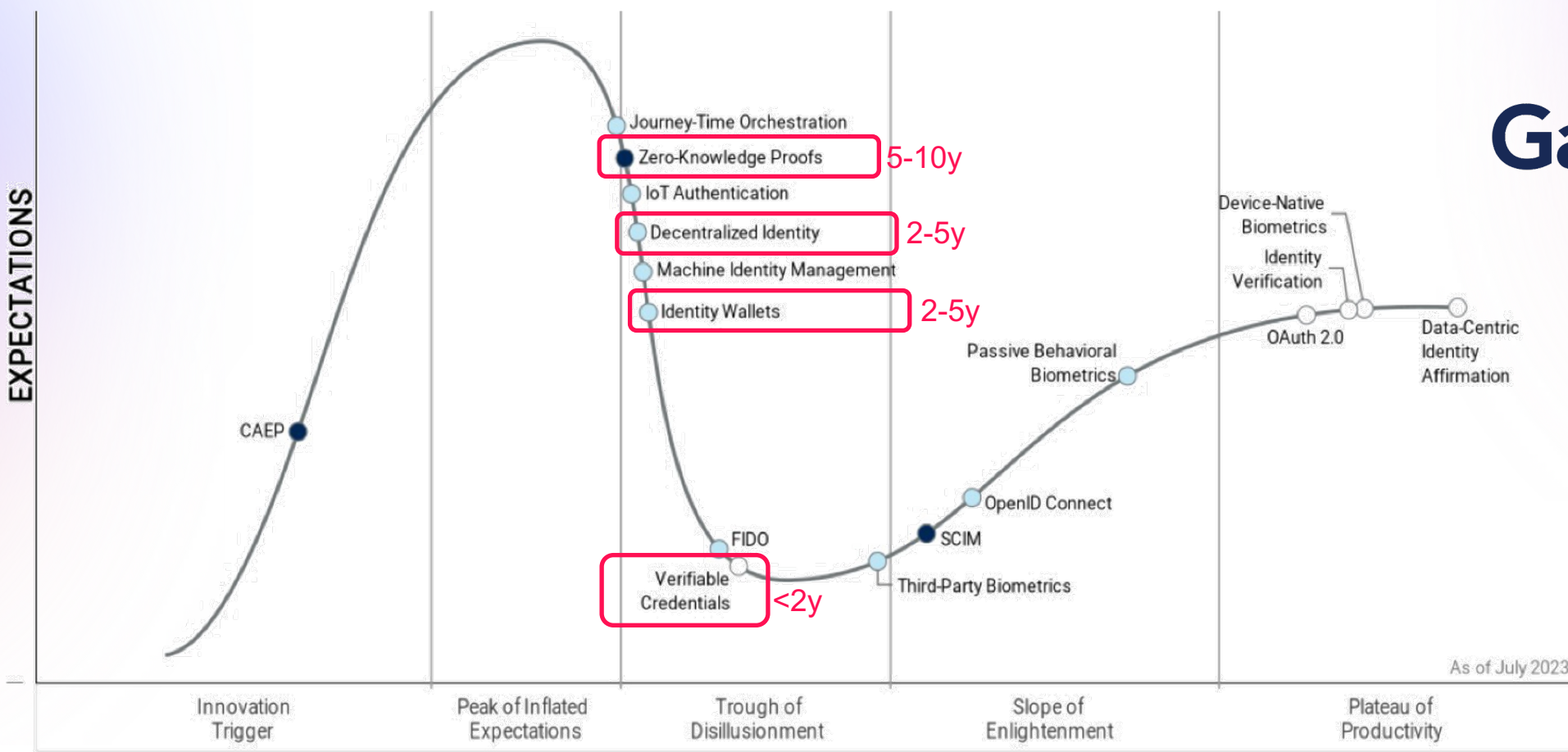
SOLID Pods can not be considered a vault

```
<#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



Gartner®

As of July 2023

Plateau will be reached: ○ <2 yrs. ● 2-5 yrs. ● 5-10 yrs. ▲ >10 yrs. ✗ Obsolete before plateau

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

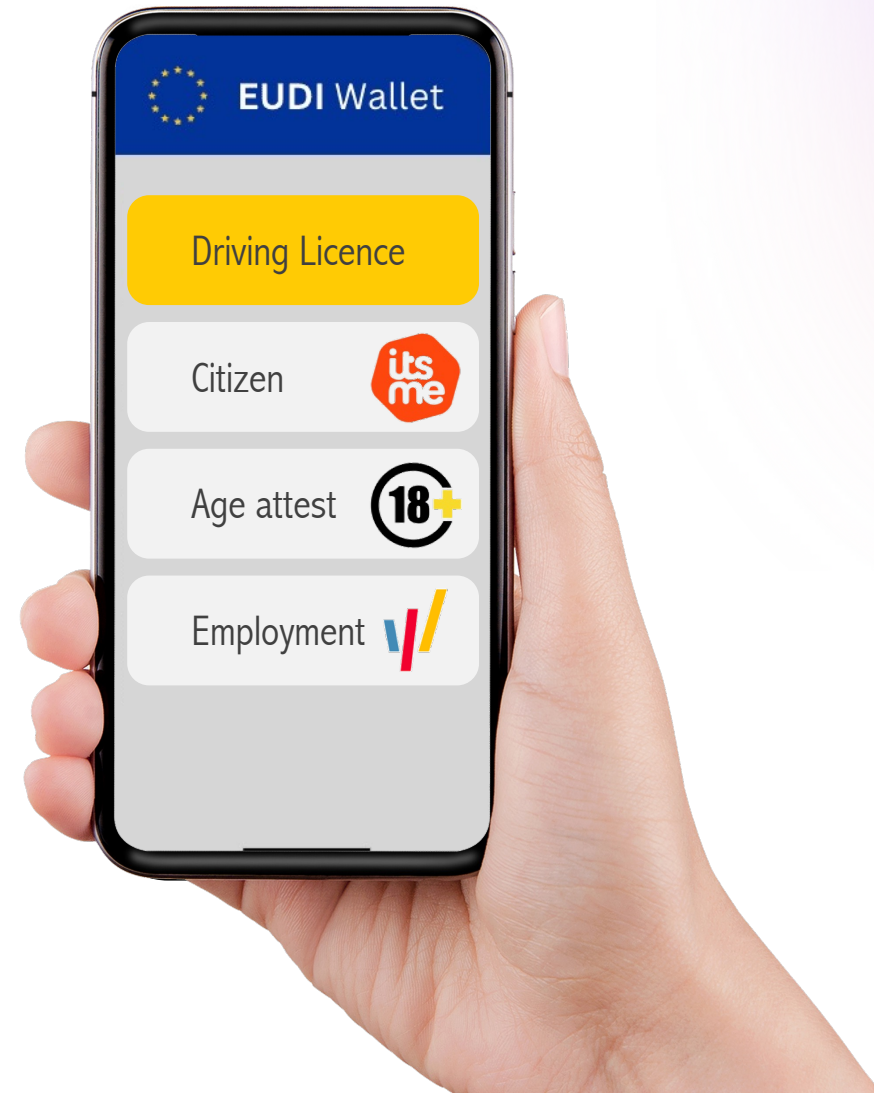
How to get and keep ordinary people interested?

→ **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



A detailed view of a workshop. The background wall is covered with various tools hanging on a pegboard, including pliers, wrenches, and screwdrivers. Some tools are in their original packaging. In the foreground, there's a workbench with a blue vise, a yellow container, and other miscellaneous items. The lighting is warm and focused on the work area.

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