

Weaving Solid into the fabric of media

Projects and First Results

Steven Dewaele & Tim Theys



Symposium The Decentral Web and Solid

14 juni 2023, 13.00-17.00 uur

Aula van de Koninklijke Bibliotheek, Prins Willem-Alexanderhof 5, 2595 BE Den Haag



**Vlaamse
overheid**



DEPARTMENT OF
ECONOMY
SCIENCE &
INNOVATION



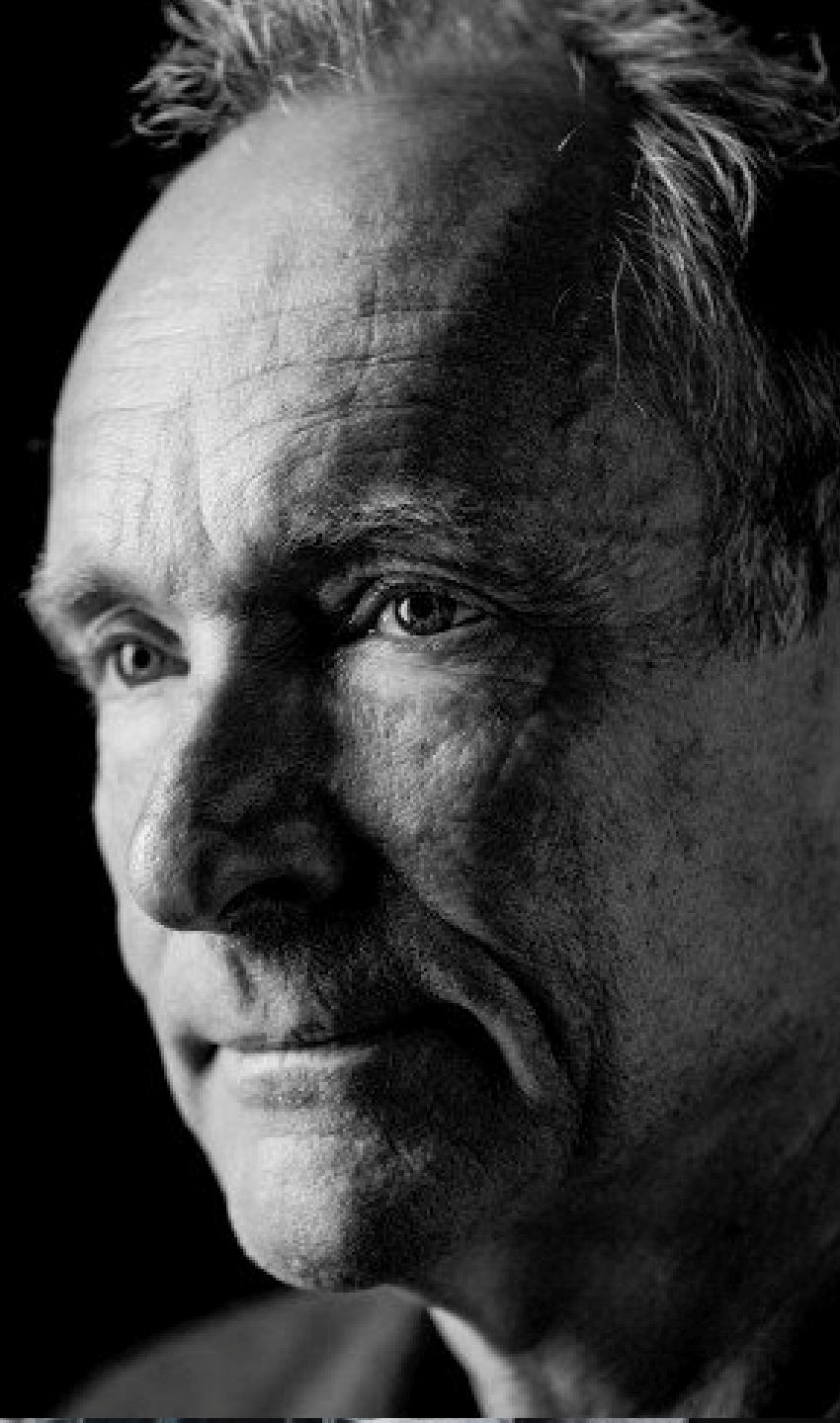
**Gefinancierd door
de Europese Unie**

NextGenerationEU

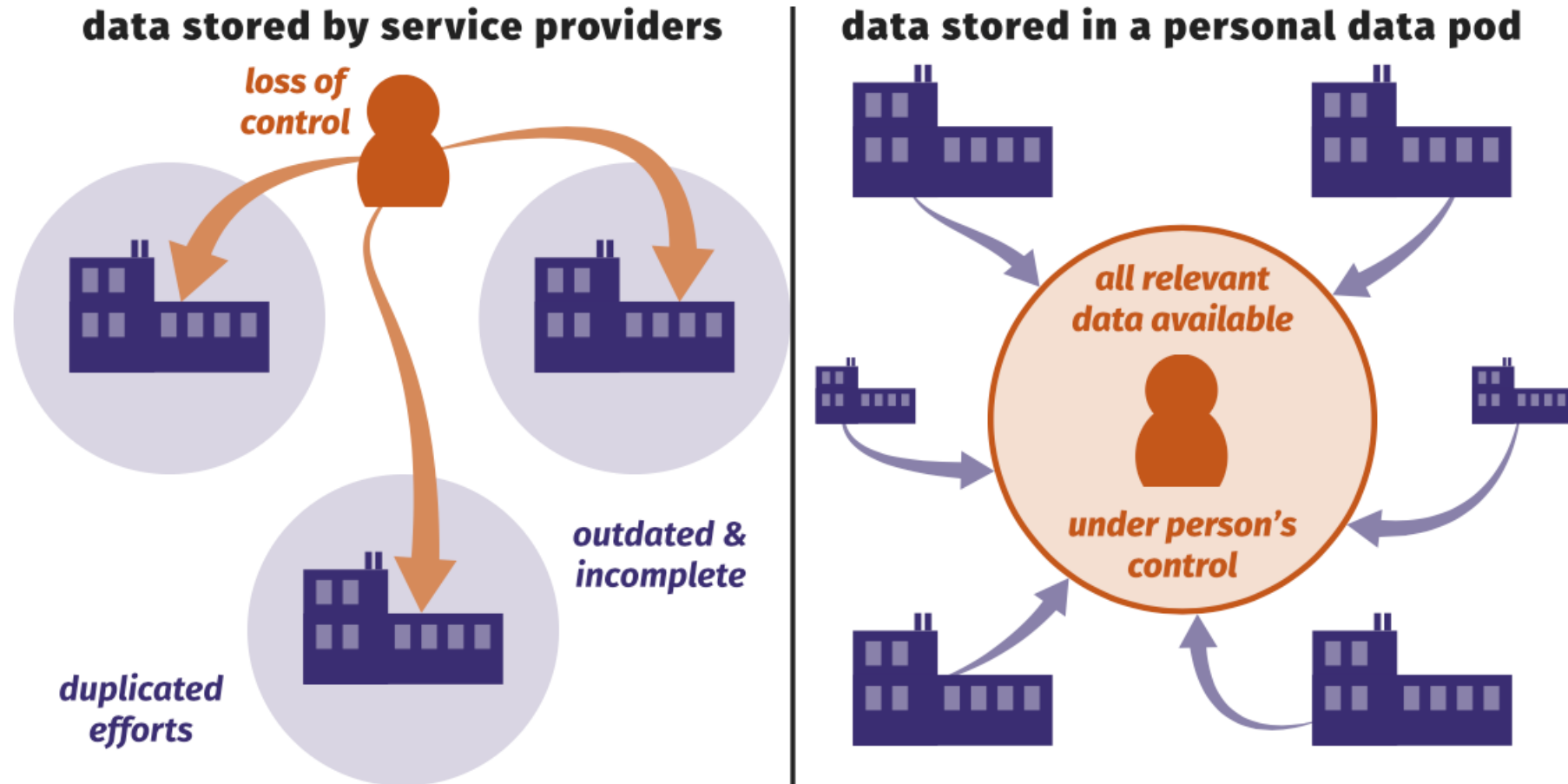
Introducing SolidLab Flanders

“We need a **midway course**
correction for the Web.”

Sir Tim Berners-Lee

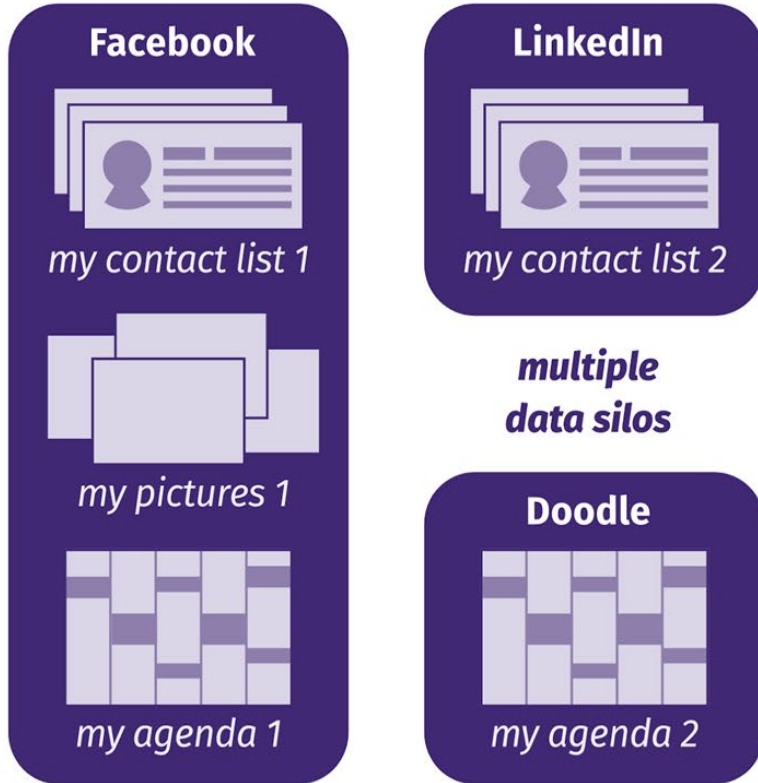


Control of your own “perfect” data

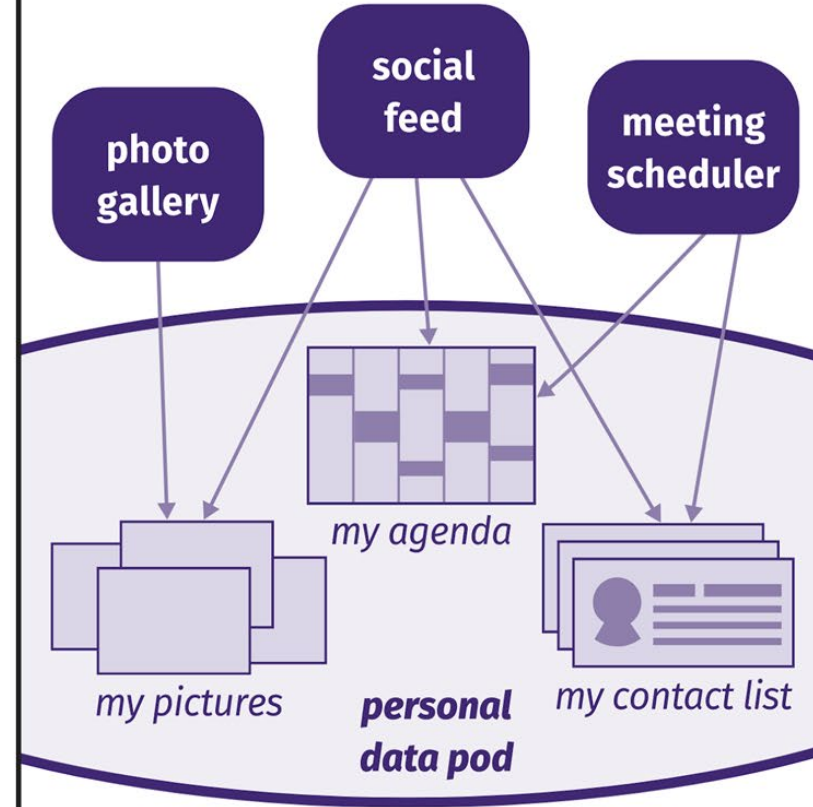


Applications evolve into views

centralized Web applications

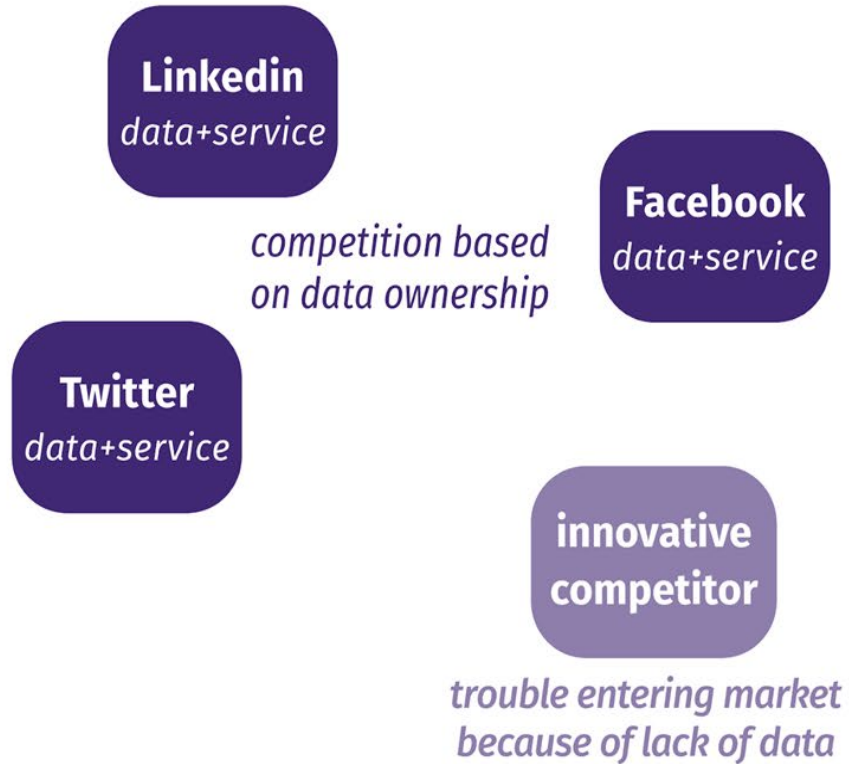


decentralized Web applications

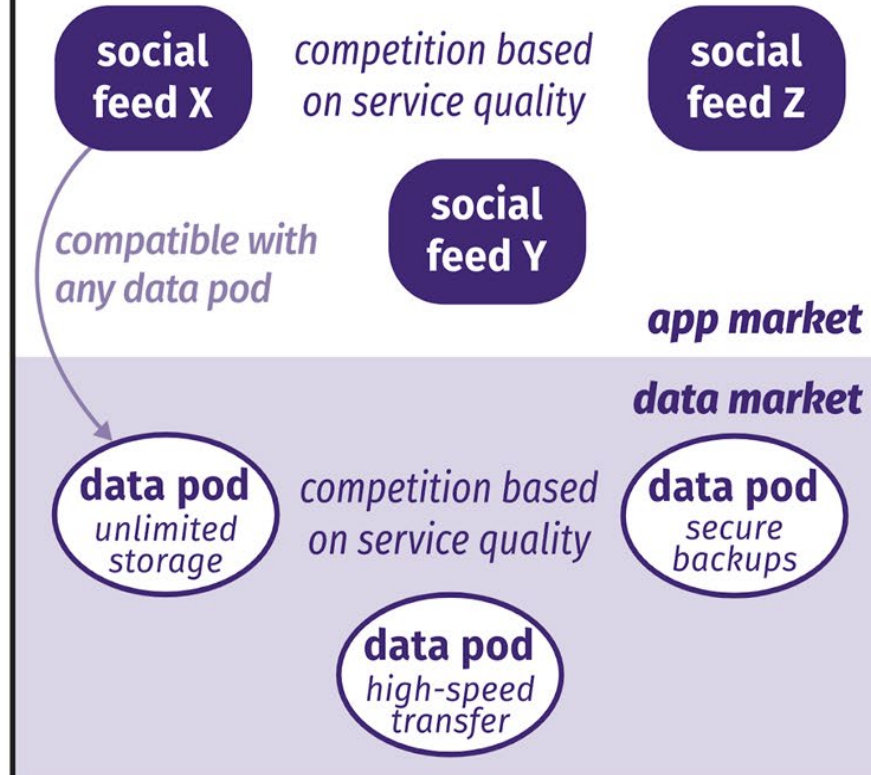


Two-level competition with Multiple Winners

single market for centralized apps

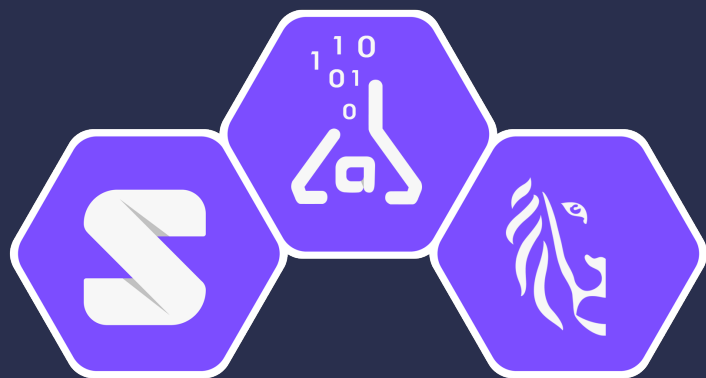


separate data and app markets



Academia & Universities

A comprehensive R&D-project

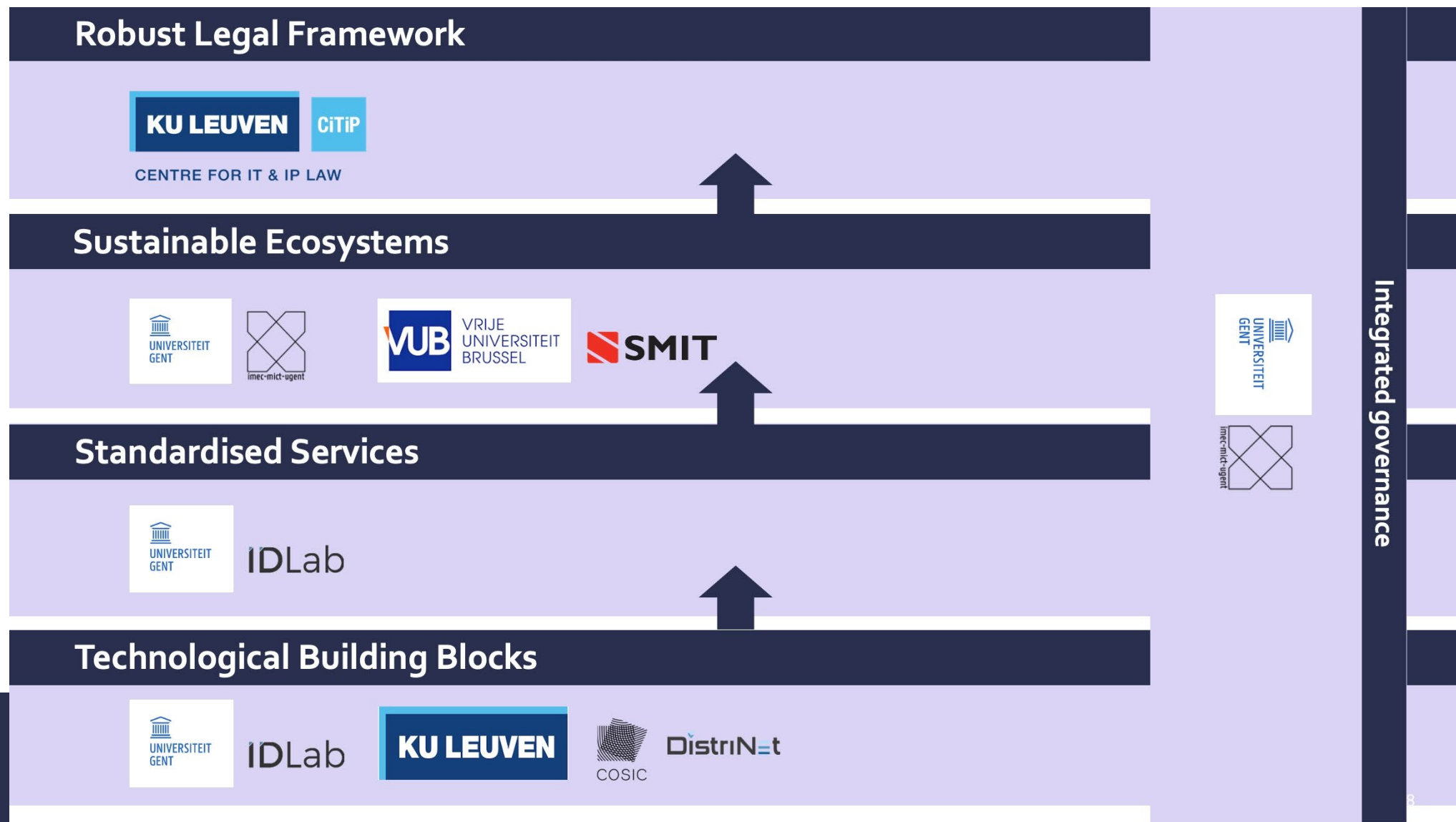


SolidLab Flanders

research into the genes of a trustworthy,
sustainable data economy



SolidLab Basic Research - Challenges & Teams



Further SolidLab Basic & Applied Research into use cases

- **SHARCS**

secure and selective sharing of accredited personal data and permission data

- **Living Lab SOLID₄MEDIA**

exploration and validation of the potential of Solid technology together with various media partners in a real media context

- ...

APPROVED

APPROVED

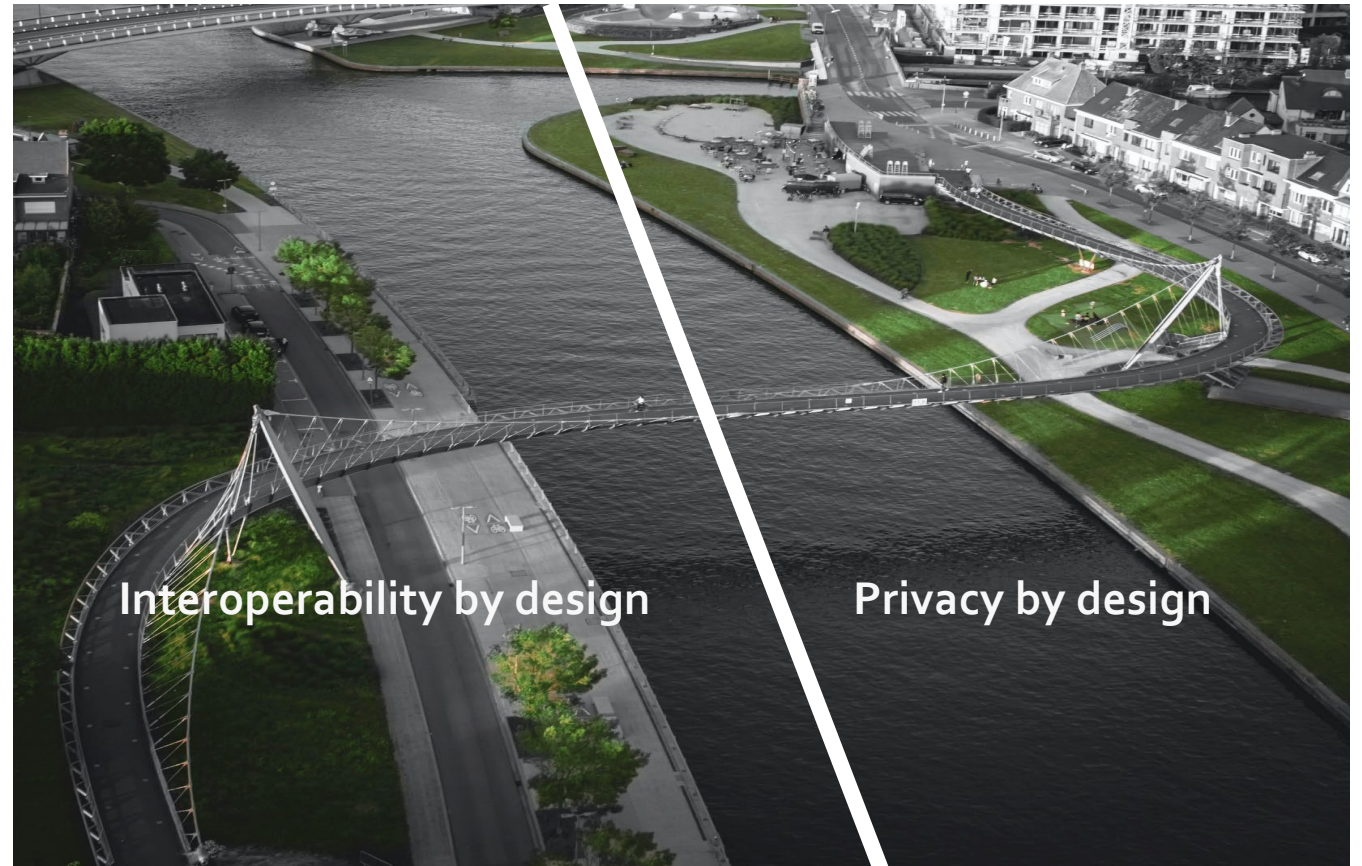
Government & Public Sector

A new public utility company

Athumi, the Flemish Data Utility Company



*Secure data sharing.
More privacy than ever.*



Industry & Business

Private ventures into Solid

Solid Entrepreneurs



Konsolidate



*Solid is the future,
Digita shows you the
way.*

*We build your Solid
applications*

*We take care of your
data
You take care of your
customers*

*Give citizens and
patients control over
their data*



Solid Community Flanders

The Quadruple Helix

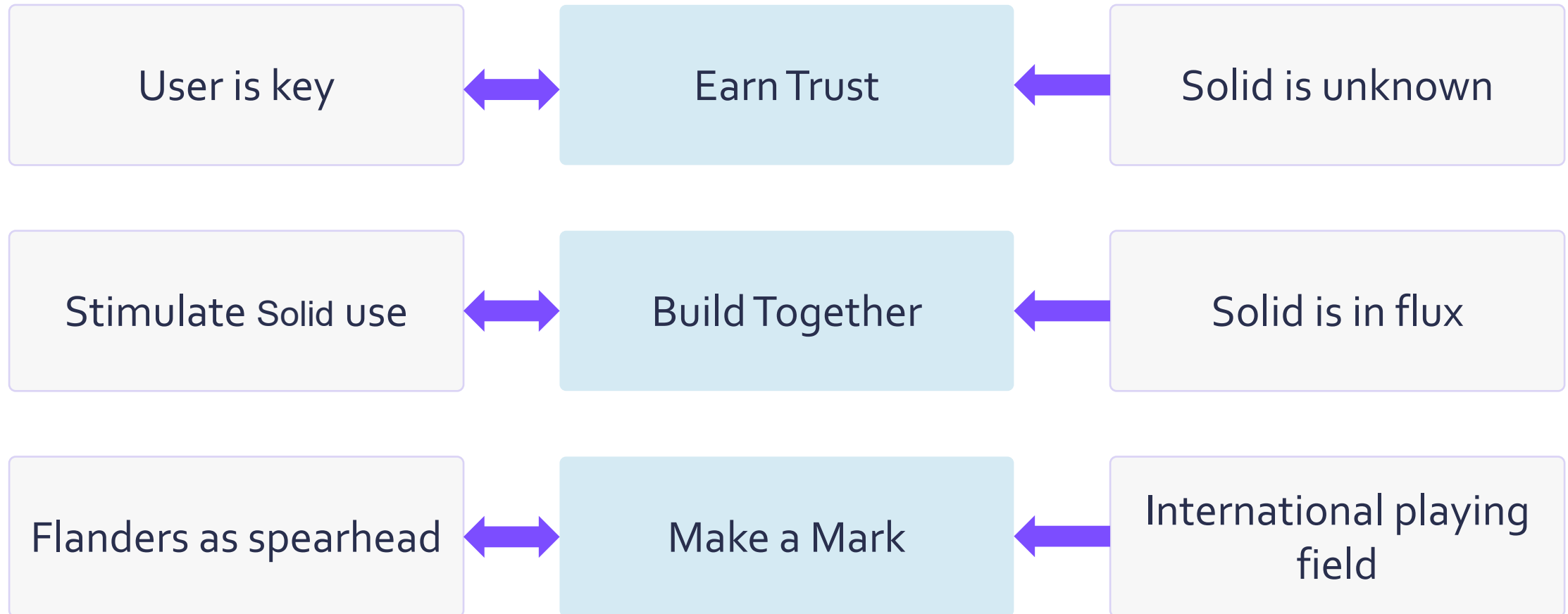
Our main Solid Goal



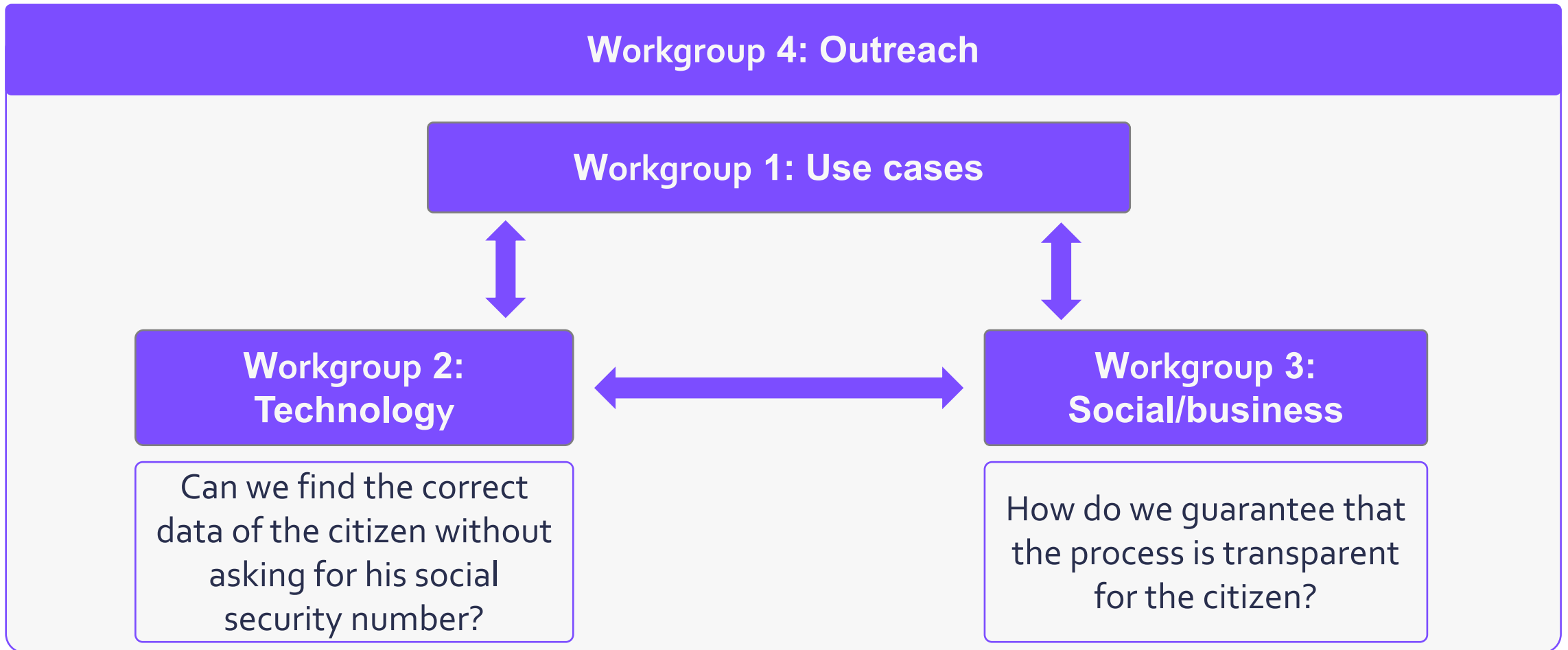
Build a Solid Eco-system together



Our Solid Community Goals



Working Groups



Solid Community Charter Principles



1. We safeguard the philosophy of Solid
2. We always put the added value for the end user first
3. Participation in the community provides added value for the partners
4. We will only use Solid when Solid has added value
5. We create space for experiment
6. We work in full transparency (unless other arrangements are needed)
7. We are transparent about why we participate in the community
8. We strive for international cooperation
9. Our communication is independent
10. We work in a self-directing way, with stakeholder representation in a Governance Committee

International Cooperation

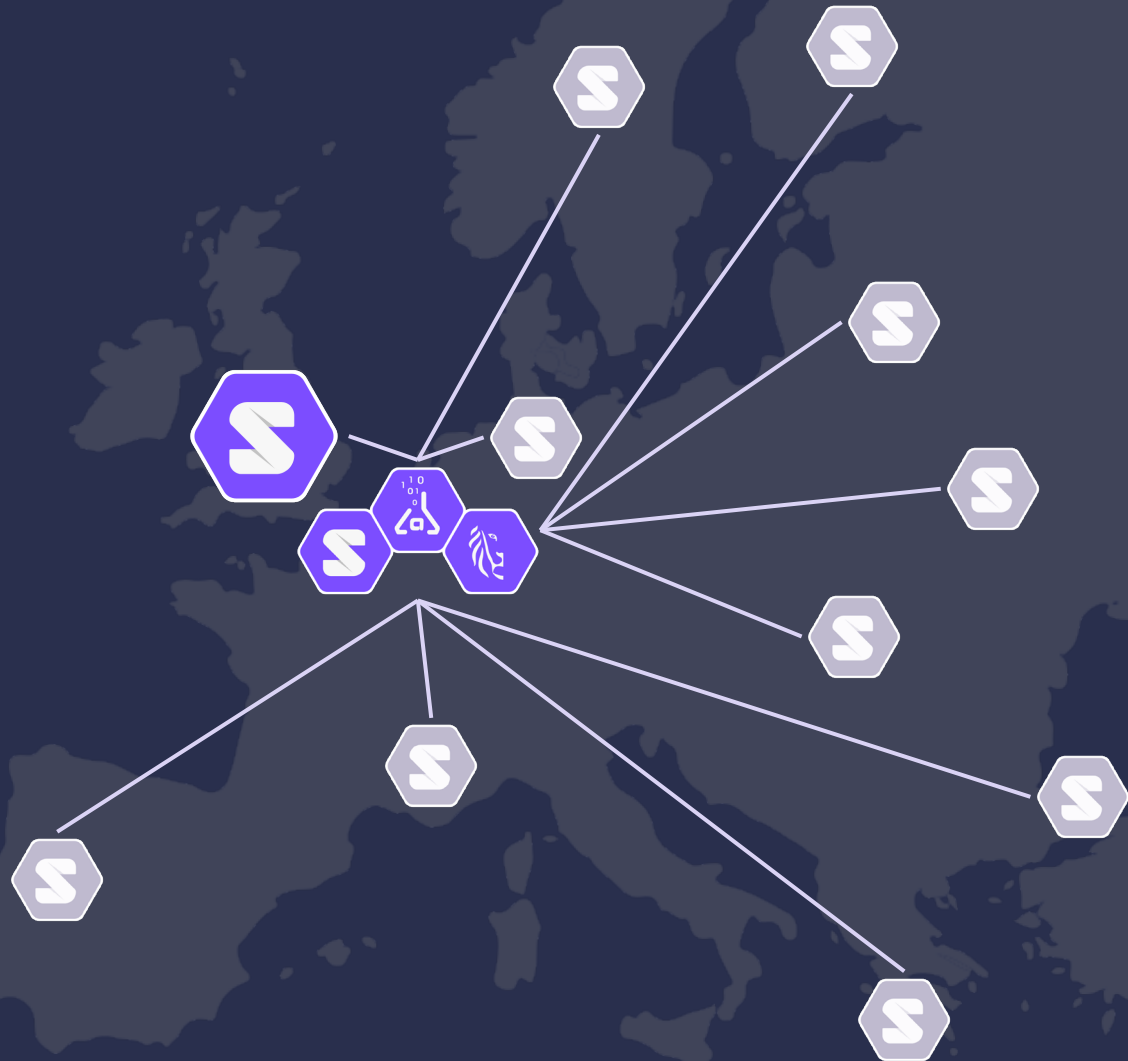
Connecting Solid dots across Europe

How can we
work together?

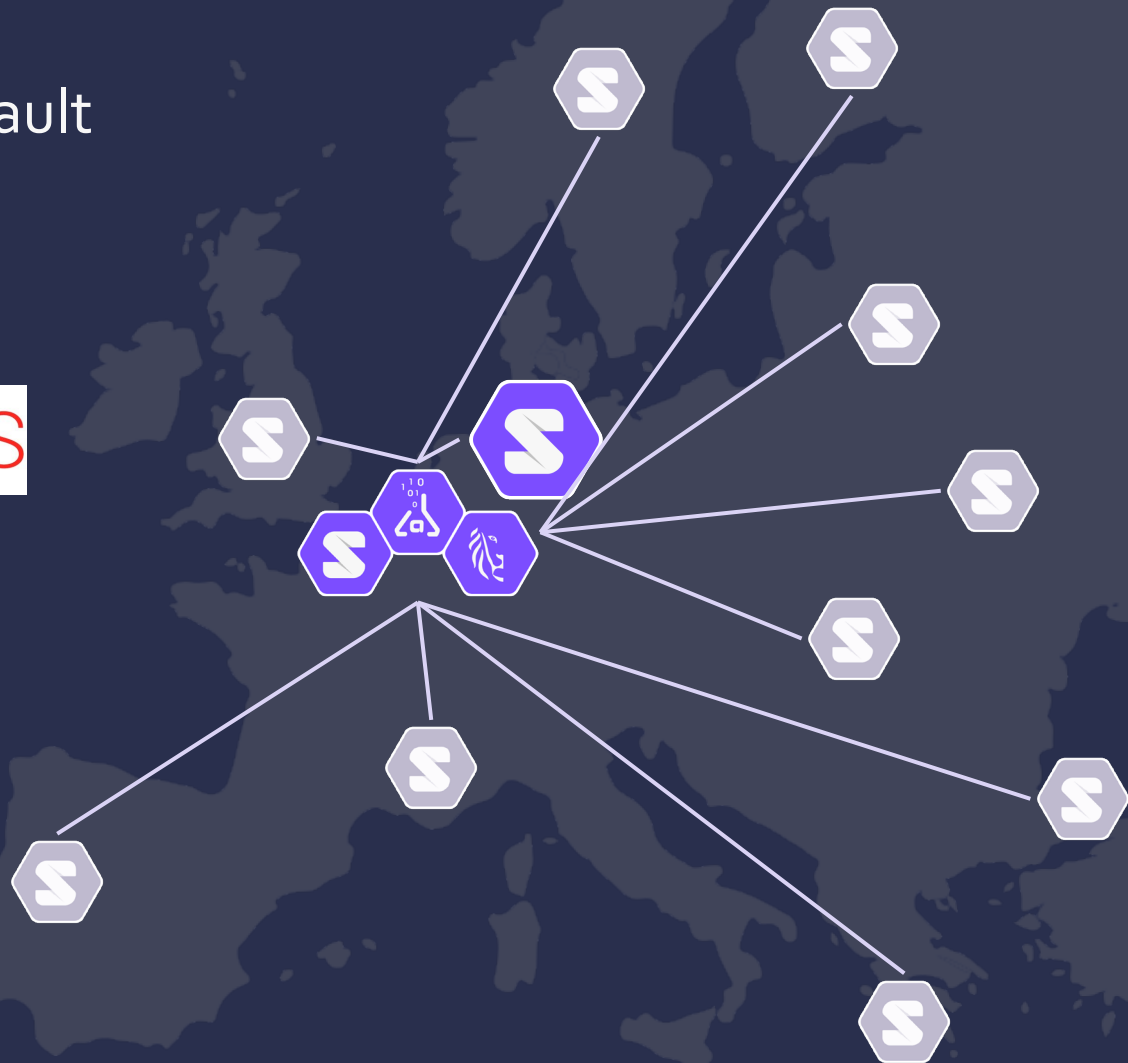




Data Pod
Provided by the **BBC**
**A Data Pod is a secure space
that you control
where all your data can be kept.**



Dutch Media Companies working together on a Dutch data vault



Solid4Media, a Living Lab

Solid4Media

How do we deal responsibly
with user data?

Does the use of pods improve
media users' confidence in media organizations?

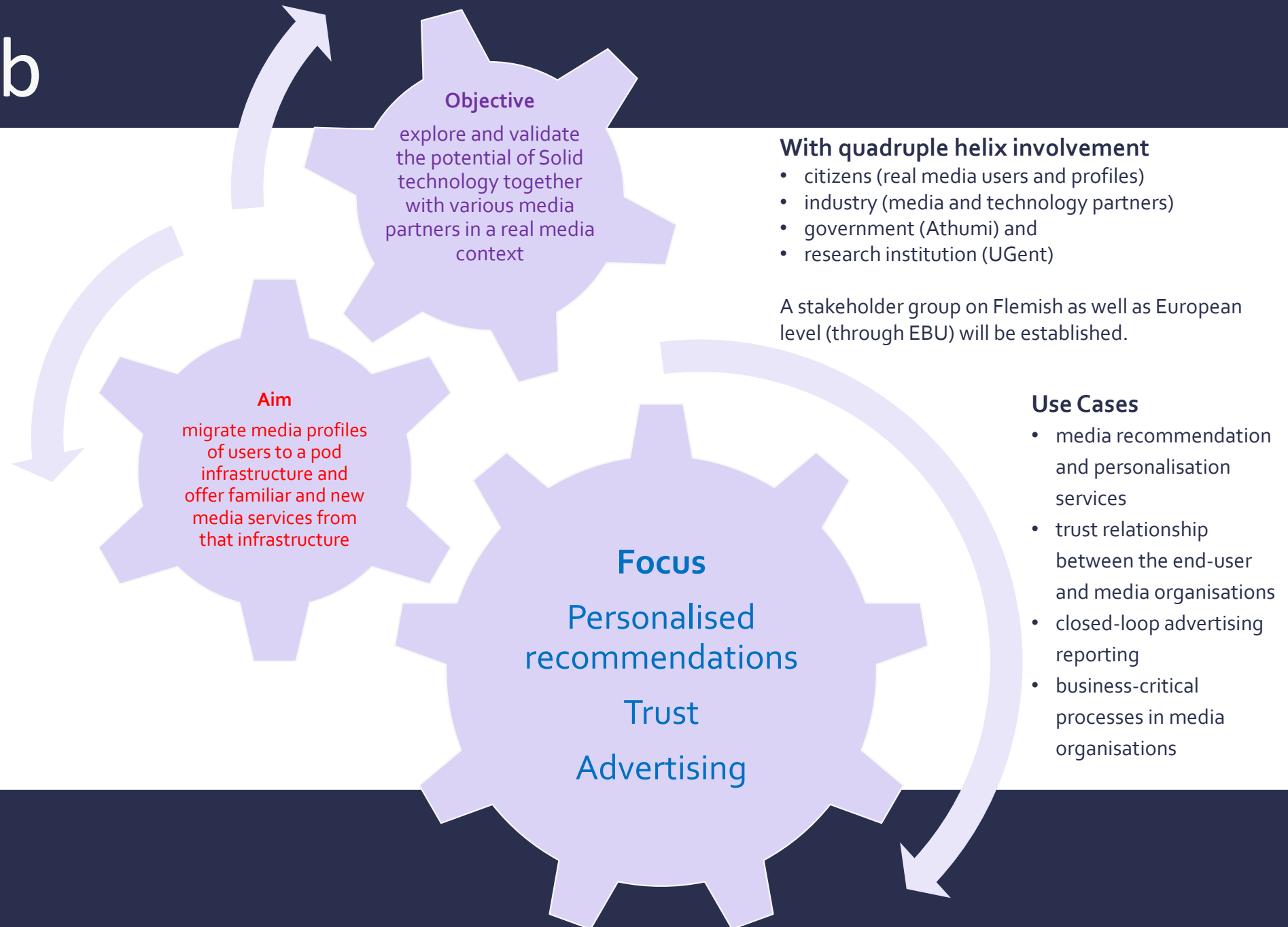
Does that trust strengthen
the relationship with media consumers?

Can Solid improve
the quality of recommendations?

Are there any new media
applications possible with Solid?

A Living
Lab

A Living Lab



Multiple perspectives

- End-user's /Viewer's perspective
- Business perspective
- Technological perspective
- Legal perspective
- Eco-system perspective

Research Goals

1

Design and validation of technical infrastructure for data ecosystem that can serve real-time and scalable media scenarios

2

Data standardisation and interoperability

3

Understand users' attitudes, opinions and behaviours in relation to media pods' functionalities, services and UI design

4

Identify sustainable business models based on improved and more trustful access to personal data

5

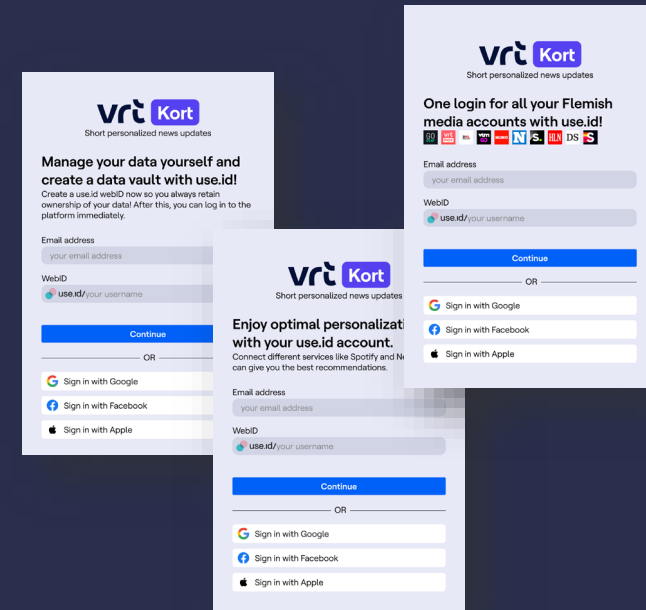
Definition of data governance model including legal perspective

First experimental results

Results of two consecutive experiments

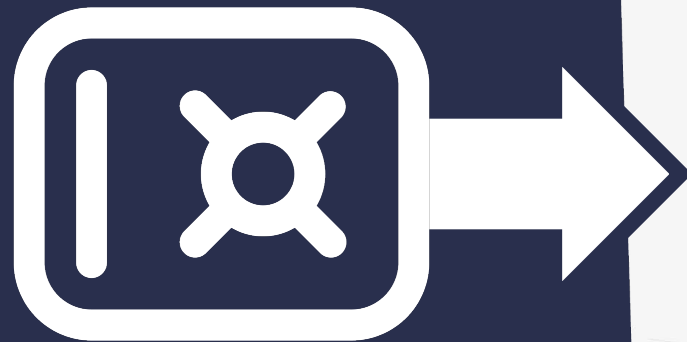


1) How does a **data vault** integration in the **news website** of the public broadcaster affect the **user experience**?



2) How can we **heighten the users' intention to use Solid**?

How does a **data vault** integration in the **news website** of the public broadcaster affect the **user experience**?



Gepersonaliseerd nieuws

gebaseerd op [jouw leesgedrag](#)



Omdat je leest over **Binnenland**

Fik (98) uit Meerhout getuigt na 75 jaar pas over zijn oorlogsverleden bij de Brigade Piron

© 15/9/2022 16:37



Omdat je leest over **Binnenland**

Regen doet slotshow OdeGand van het water naar 't Kuipke verhuizen: "Zelfde muzikaal spektakel, andere magische locatie"

© 15/9/2022 18:46



EUROPA

Oekraïense president Zelenski betrokken bij verkeersongeval in Kiev: "Geen ernstige verwondingen"

© 15/9/2022 01:28



Omdat je leest over **Binnenland**

"Het is een jongen!": Koningspinguin geboren in ZOO Antwerpen

© 15/9/2022 13:15



Omdat je leest over **Binnenland**

Armoedebaarometer: Mensen in armoede vorig jaar nog armer geworden, ook lage middenklasse stilaan in de problemen

© 15/9/2022 06:00

Test case

The user receives **personalized news** recommendations based on his/her reading behavior.

The effect of different levels of transparency and control over personal data processing was tested using 3 conditions.



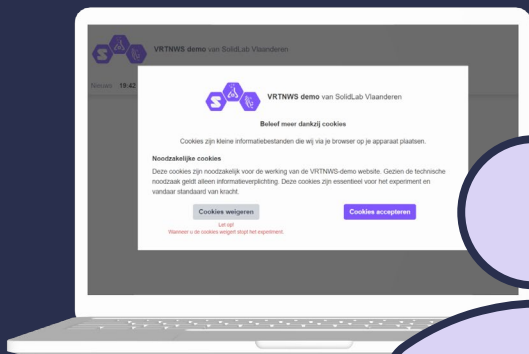
Cookies



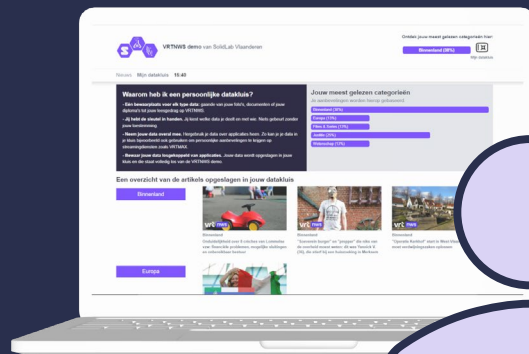
Data vault transparency



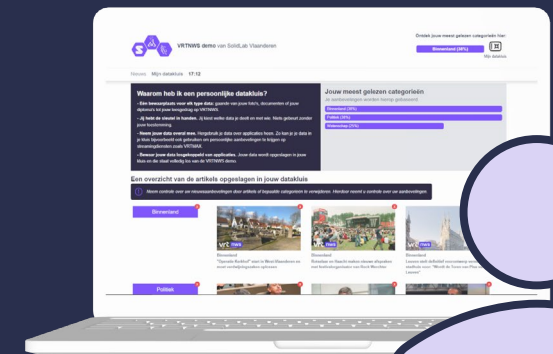
Data vault transparency & control



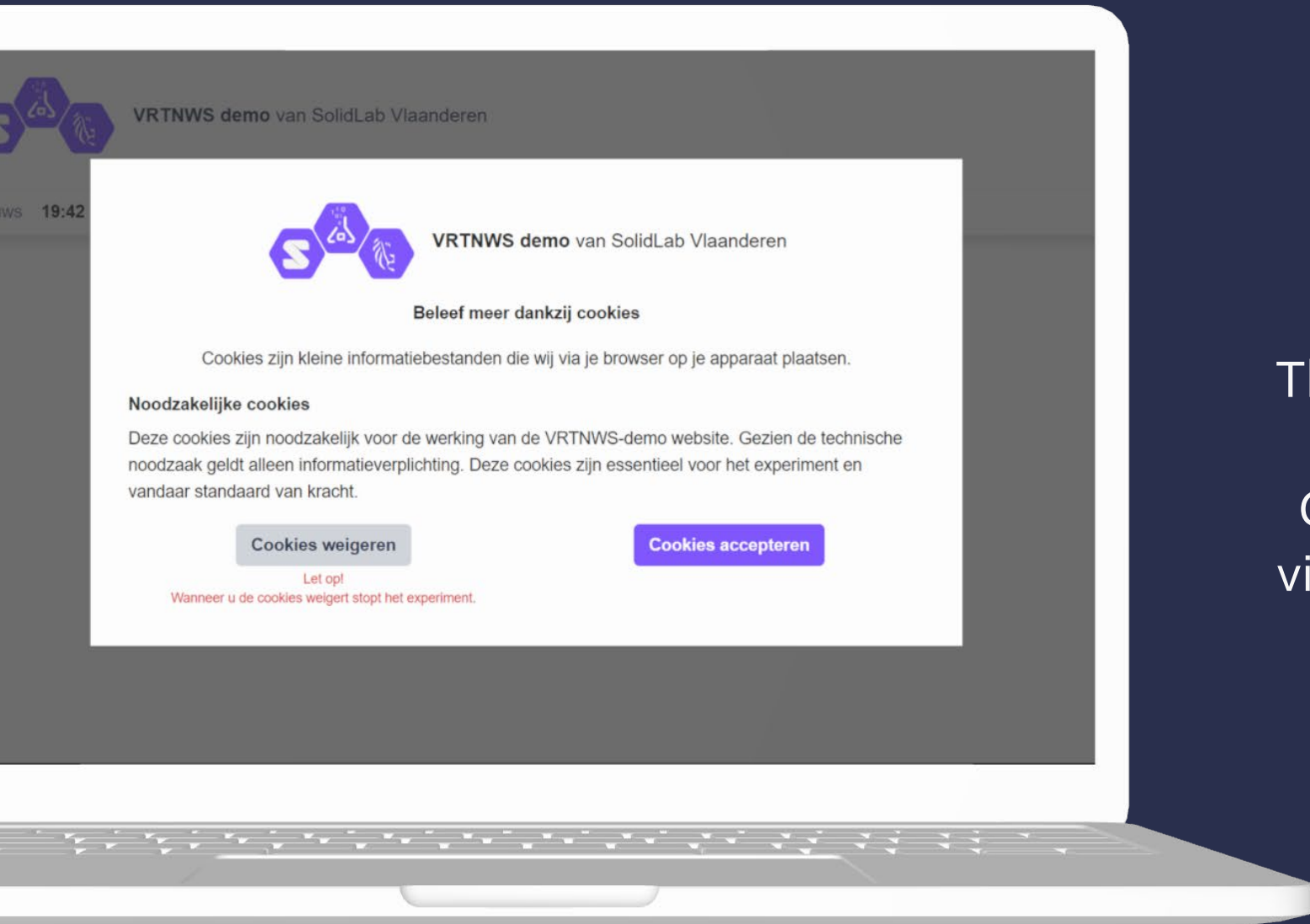
n=110



n=150



n=142



1. Cookies

The reading behavior of the user is processed via cookies. Consequently, the user cannot view or manage the stored data.



Binnenland (38%)



Mijn datakluis

Waarom heb ik een persoonlijke datakluis?

- **Eén bewaarplaats voor elk type data:** gaande van jouw foto's, documenten of jouw diploma's tot jouw leesgedrag op VRTNWS.
- **Jij hebt de sleutel in handen.** Jij kiest welke data je deelt en met wie. Niets gebeurt zonder jouw toestemming.
- **Neem jouw data overal mee.** Hergebruik je data over applicaties heen. Zo kan je je data in je kluis bijvoorbeeld ook gebruiken om persoonlijke aanbevelingen te krijgen op streamingdiensten zoals VRTMAX.
- **Bewaar jouw data losgekoppeld van applicaties.** Jouw data wordt opgeslagen in jouw kluis en die staat volledig los van de VRTNWS demo.

Jouw meest gelezen categorieën

Je aanbevelingen worden hierop gebaseerd.



Een overzicht van de artikels opgeslagen in jouw datakluis

Binnenland



Binnenland
Onduidelijkheid over 8 crèches van Lommelse vzw: financiële problemen, mogelijke sluitingen en onbereikbaar bestuur



Binnenland
"Soeverein burger" en "prepper" die niks van de overheid moest weten: dit was Yannick V. (36), die stierf bij een huiszoeking in Merkssem



Binnenland
"Operatie Kerkhof" start in West-Vlaanderen en moet verdwijningszaken oplossen

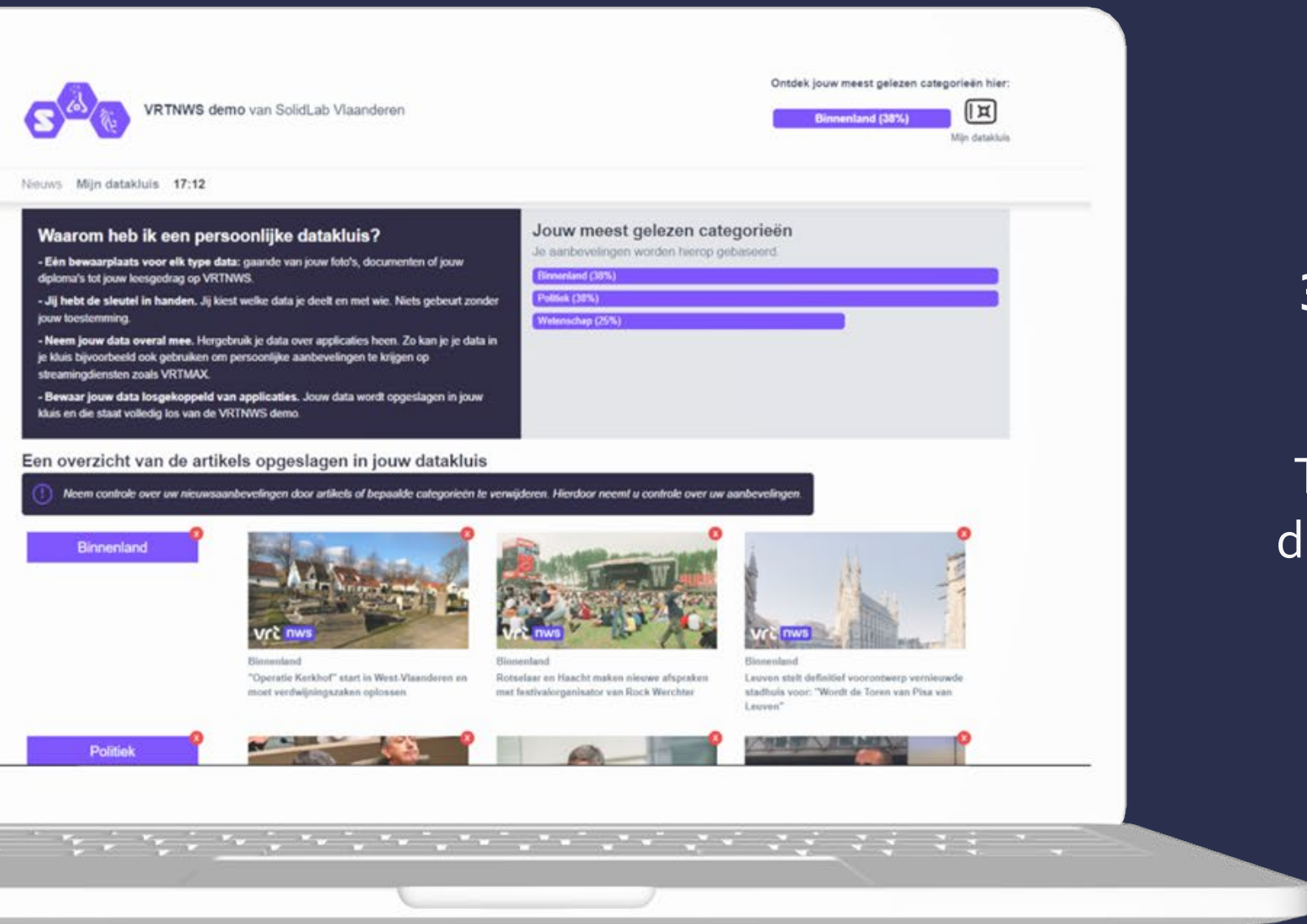
Europa



2. Data vault transparency

The user can access his/her stored data through the data vault tab.





3. Data vault transparency & control

The user can access the stored data and delete articles through the data vault tab.

The effect of **different levels of transparency and control** over personal data processing was tested using **3 conditions.**



Cookies



Data vault
transparency



Data vault
transparency &
control

Transparency: Insight into what data is processed for personalization.

No

Yes

Yes

Control: Ability to delete the data collected to affect personalization.

No

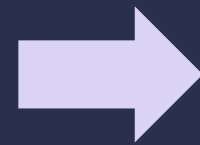
No

Yes

Experiment flow



10 min interaction with one of
the three conditions



Survey of perceptions

Surveyed perceptions



Transparency

I have a clear view of how my personal data is processed.



Control

I feel like I have control over my personal data.



Understanding

I understand how my personal data is processed.



Trust

I trust the way my personal data is handled.



Usability

I found the website easy to use.



Intention to use

I plan to use this website in the future.

The integration of a **data vault** has
a **significant positive impact** on:



Transparency 

I have a clear view of how my
personal data is processed.



Control 

I feel like I have control over my
personal data.



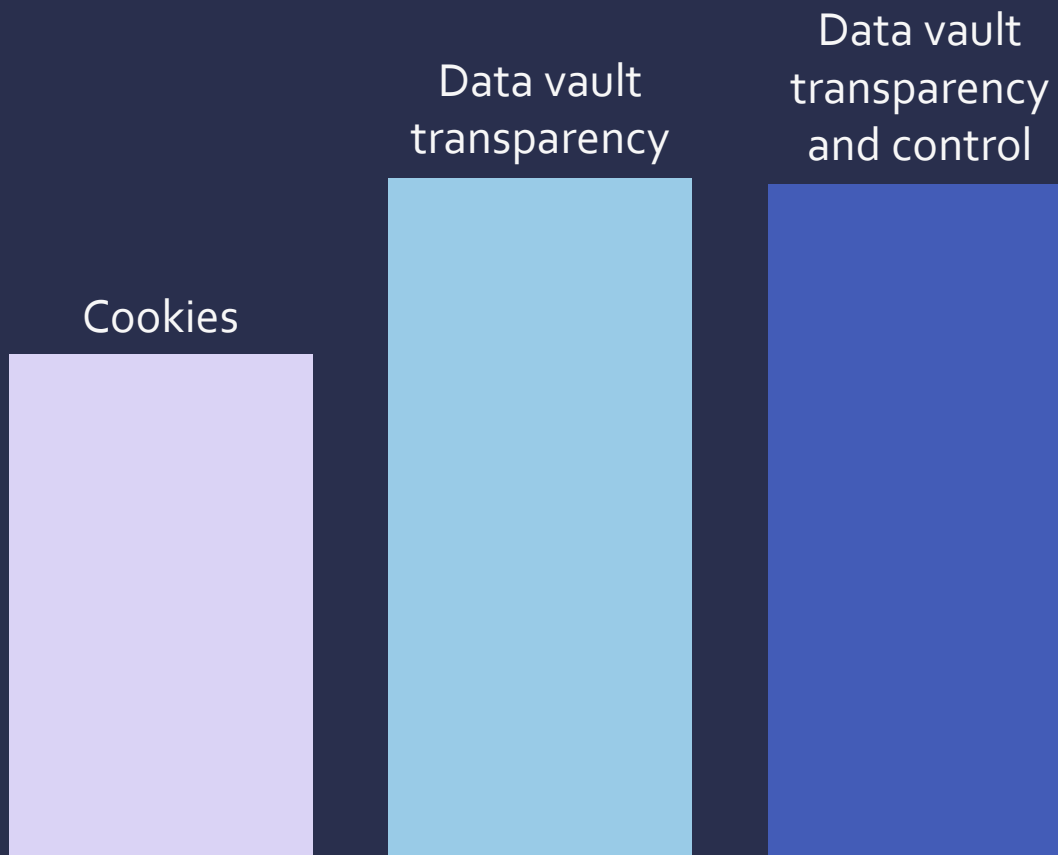
Understanding 

I understand how my personal data is
processed.



Transparency

I have a clear view of how my personal data is processed.



A data vault makes people feel that they have a **clearer view of how their personal data is being handled.**



Understanding

I understand how my personal data is processed.

Cookies

Data vault
transparency

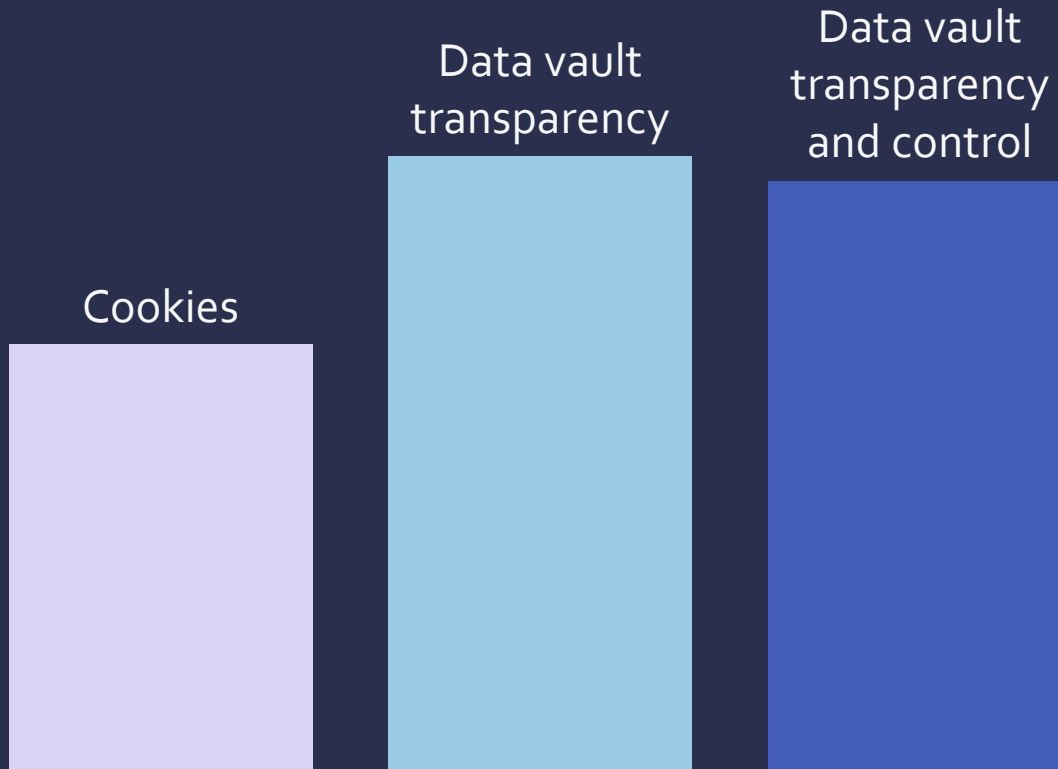
Data vault
transparency
and control

Greater transparency about data processing through a data vault also leads to a **better understanding** of it.



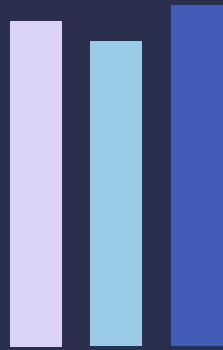
Control

I feel like I have control over my personal data.



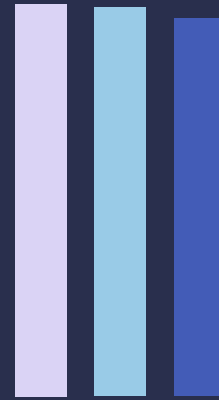
Remarkable: **Transparency in particular influences perceived control.** We see no additional effect by also effectively giving the user more control.

The integration of a data vault had no significant impact on:



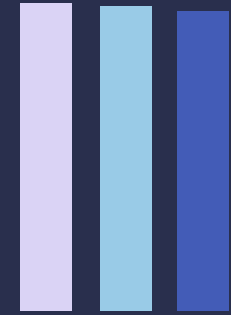
Trust

I trust the way my personal information is handled.



Usability


I found the website easy to use.



Intention to use

I plan to use this site in the future.

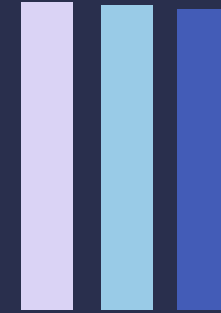
 Cookies

 Data vault transparency

 Data vault transparency and control

Experiment 2

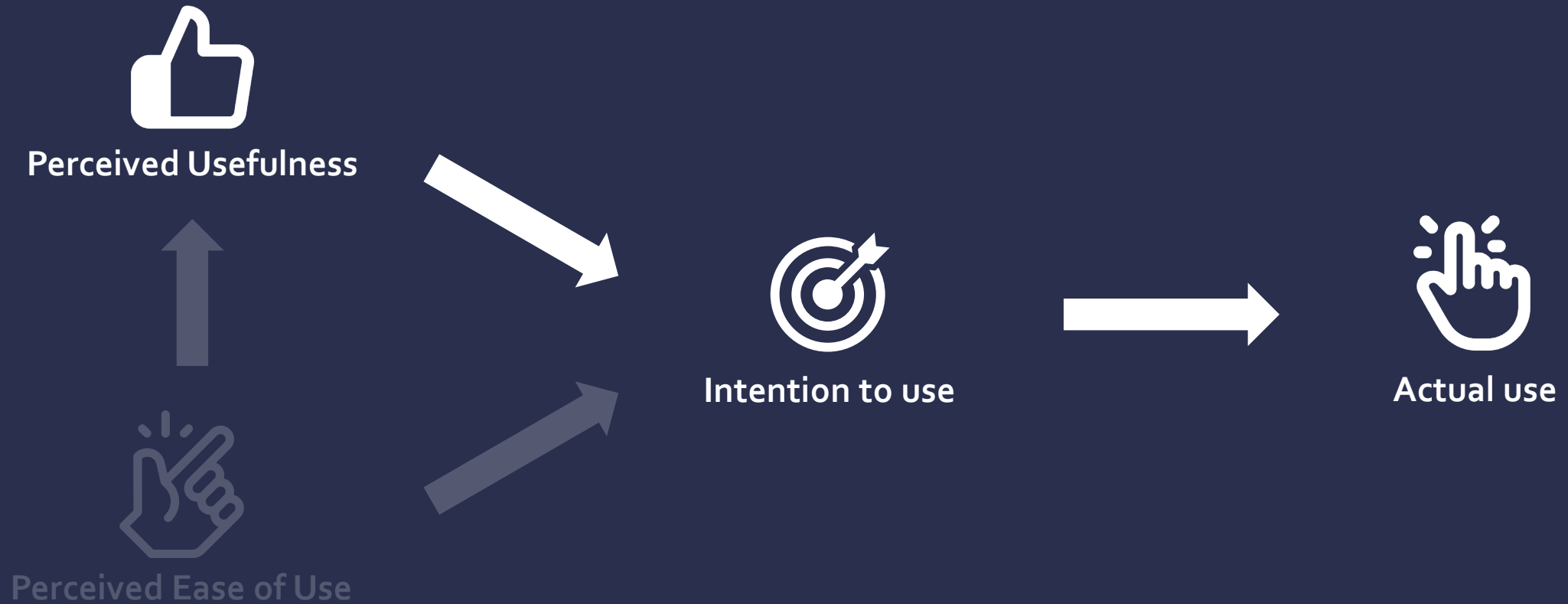
How can we **heighten the users' intention to use Solid?**



Intention to use

I plan to use this site in the future.

Technology Acceptance Model



3 different arguments aiming to heighten the perceived usefulness of Solid

Enhanced control

vrt Kort
Short personalized news updates

Manage your data yourself and create a data vault with use.id!
Create a use.id webID now so you always retain ownership of your data! After this, you can log in to the platform immediately.

Email address
your email address

WebID
use.id/your username

Continue

OR

Sign in with Google

Sign in with Facebook

Sign in with Apple

Enhanced personalization

vrt Kort
Short personalized news updates

Enjoy optimal personalization with your use.id account.
Connect different services like Spotify and Netflix so we can give you the best recommendations.

Email address
your email address

WebID
use.id/your username

Continue

OR

Sign in with Google

Sign in with Facebook

Sign in with Apple

Single Sign-On

vrt Kort
Short personalized news updates

One login for all your Flemish media accounts with use.id!

GO vrt DWS VRT HUMO N S HLN DS S

Email address
your email address

WebID
use.id/your username

Continue

OR

Sign in with Google

Sign in with Facebook

Sign in with Apple

Proportion of users opting for Solid over login


Email address
your email address


WebID
use.id/your username


Continue

VS

OR

 Sign in with Google

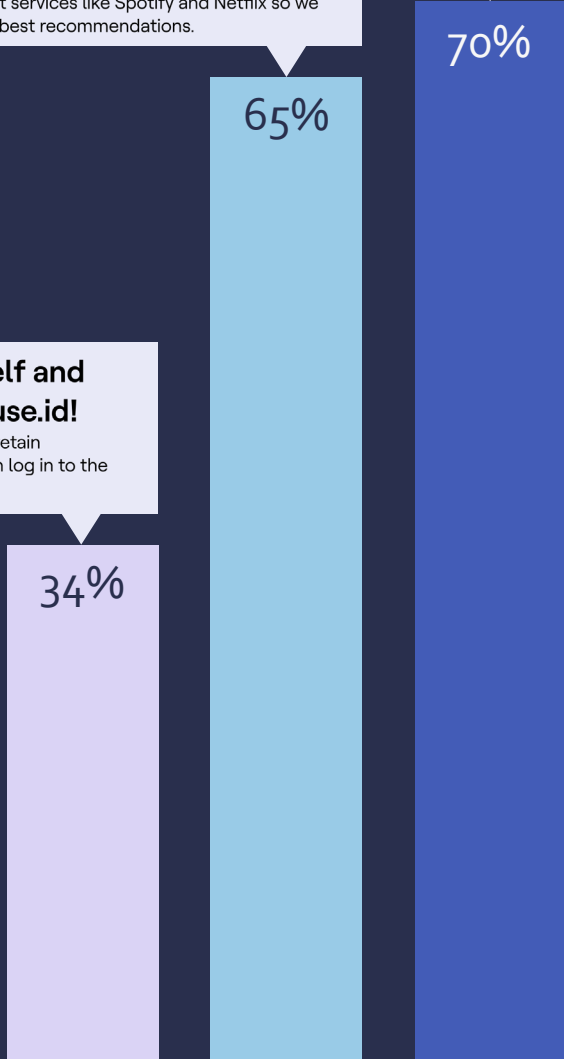
 Sign in with Facebook

 Sign in with Apple

Enjoy optimal personalization with your use.id account.
Connect different services like Spotify and Netflix so we can give you the best recommendations.

Manage your data yourself and create a data vault with use.id!
Create a use.id webID now so you always retain ownership of your data! After this, you can log in to the platform immediately.

One login for all your Flemish media accounts with use.id!



Conclusion

Solid is a promising approach to heightening users' perceptions of:




Transparency



Control



Understanding

But In order to enhance users' intention to use  Solid, it appears more effective to emphasize the benefits of Solid, such as improved personalization services, or position Solid as a Single Sign-On (SSO) solution, rather than placing the emphasis on enhanced control over personal data.

Contact

- Steven Dewaele, Solidlab stakeholder & proposal manager: steven.dewaele@imec.be
- Tim Theys, doctoral researcher, imec-mict-ugent: tim.theys@ugent.be

More information at

- <https://solidproject.org>
- <https://solidlab.be>
- <https://solidcommunity.be/charter/>



Gefinancierd door
de Europese Unie
NextGenerationEU