

RESPECT4U & BIG DATA

A new Lens for using personal data and occurring innovation | Somayeh Djafari



TNO innovation
for life

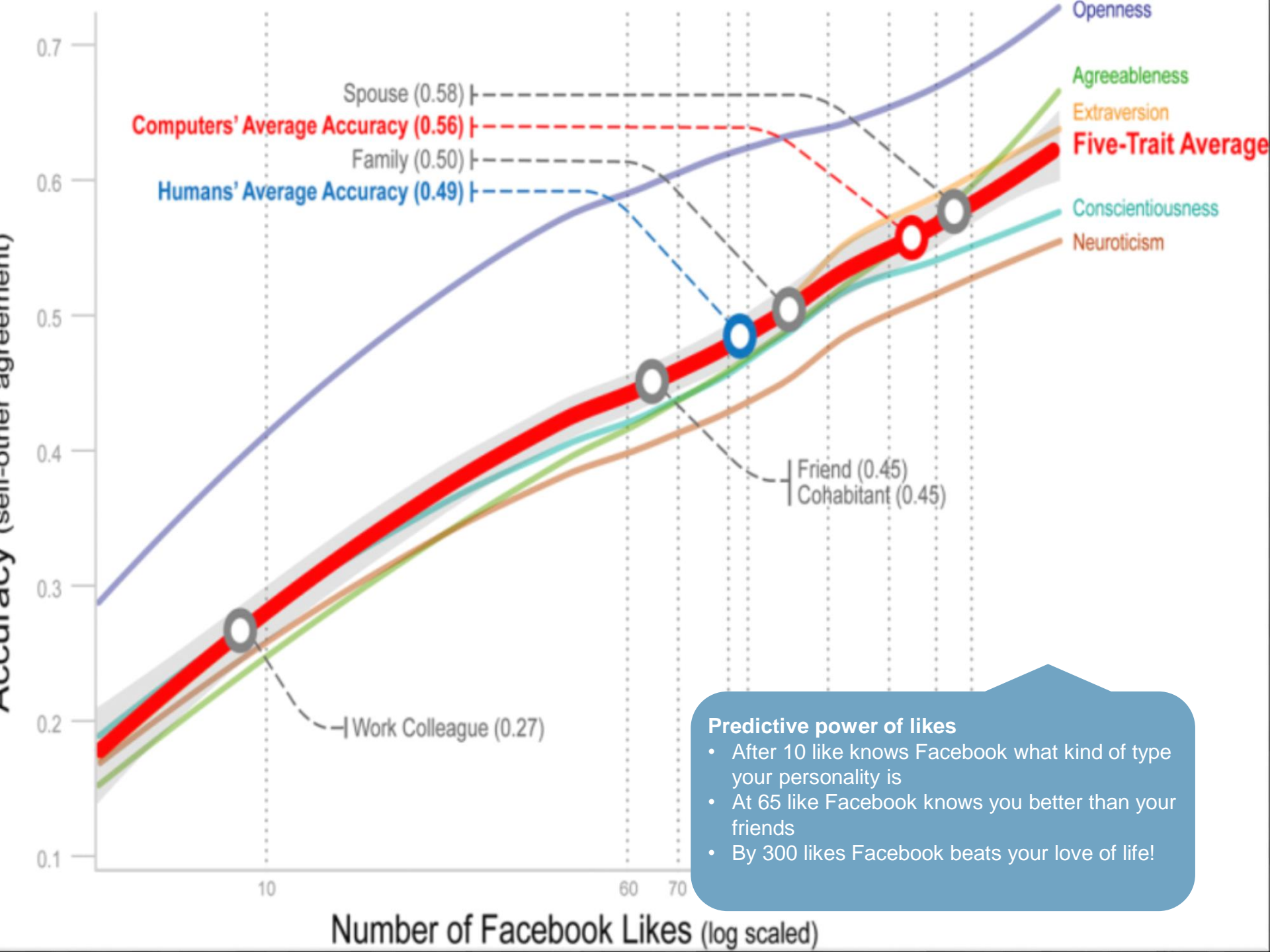
Big data have emerged to a field of innovation on (i) technology ...

enrichment of data by combination with open data and machine learning techniques/data analytics.

Big Data:
Expanding on 3 fronts
at an increasing rate.



- Disruptive feature of data: change of actors, of playing field, of nature of transactions



Predictive power of likes

- After 10 like knows Facebook what kind of type your personality is
- At 65 like Facebook knows you better than your friends
- By 300 likes Facebook beats your love of life!

These challenges to privacy and the protection of personal data have been researched in various reports.



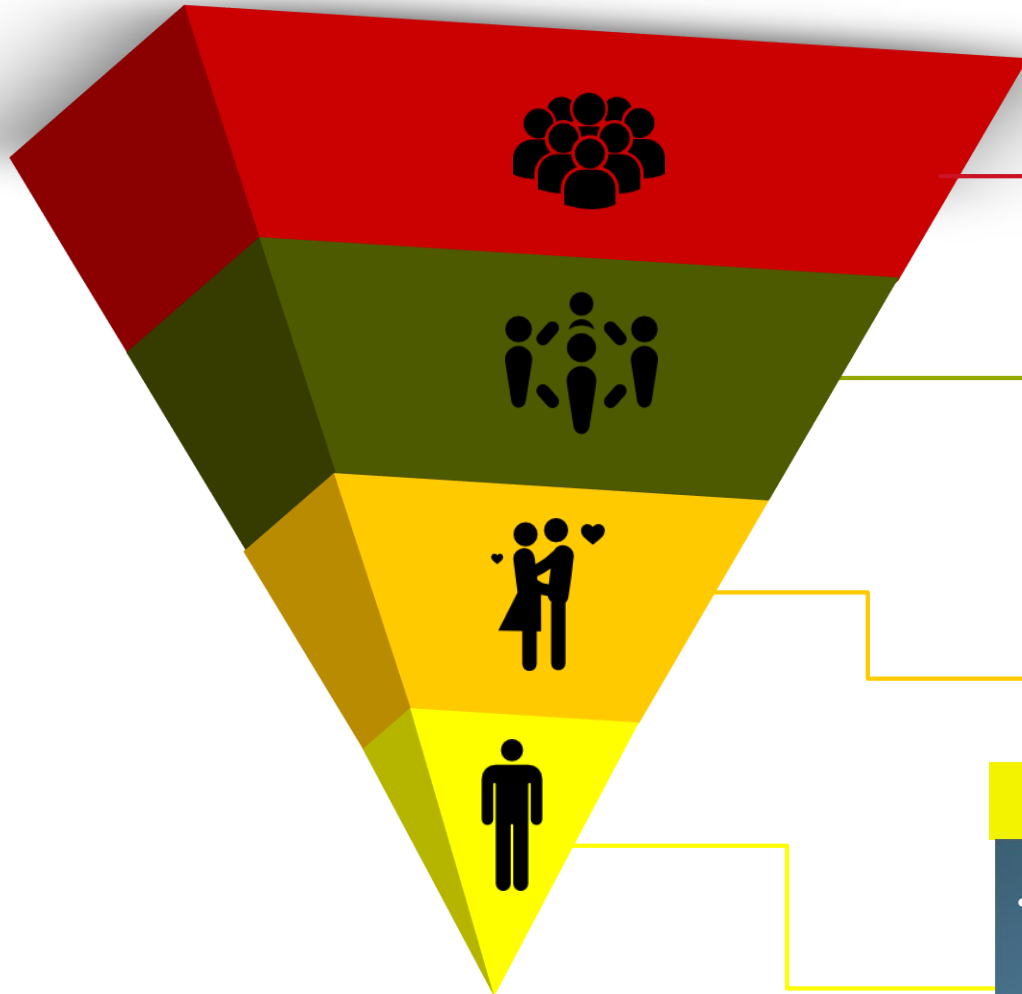
RESPECT4U consists of acronyms and these are the basics elements of it, which reflects with the letters of RESPECT4U:

- R** RESPONSIBLE
- E** EMPOWERMENT
- S** SECURE
- P** PRO-ACTIVE
- E** ETHICAL
- C** COST-BENEFIT
- T** TRANSPARANT





4U



4U

- concerns crowd of crowds where the individual is subjected to the rules of society

3U

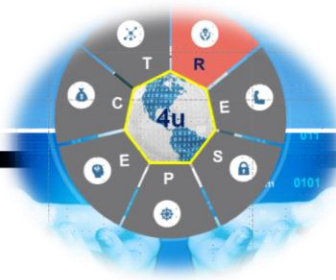
- Individual can only control to some extent how s/he is known by others

2U

- concerns a relationship, friendship, family

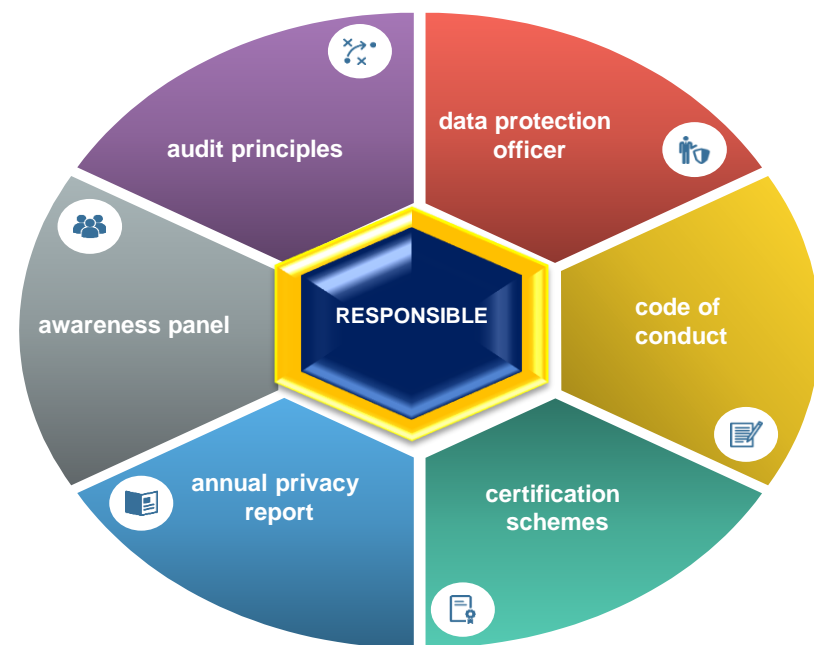
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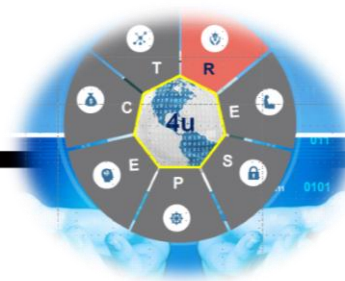
- concerns only you as a person.



RESPONSIBLE

- shift away from organizational approaches that **merely focus on being efficient**, cheap and fast **towards approaches** that also have an eye for **being sustainable, safe, inclusive and privacy respecting**
- **societal norms** have become **more relevant** for organizations
- **being able to demonstrate acting responsibly**



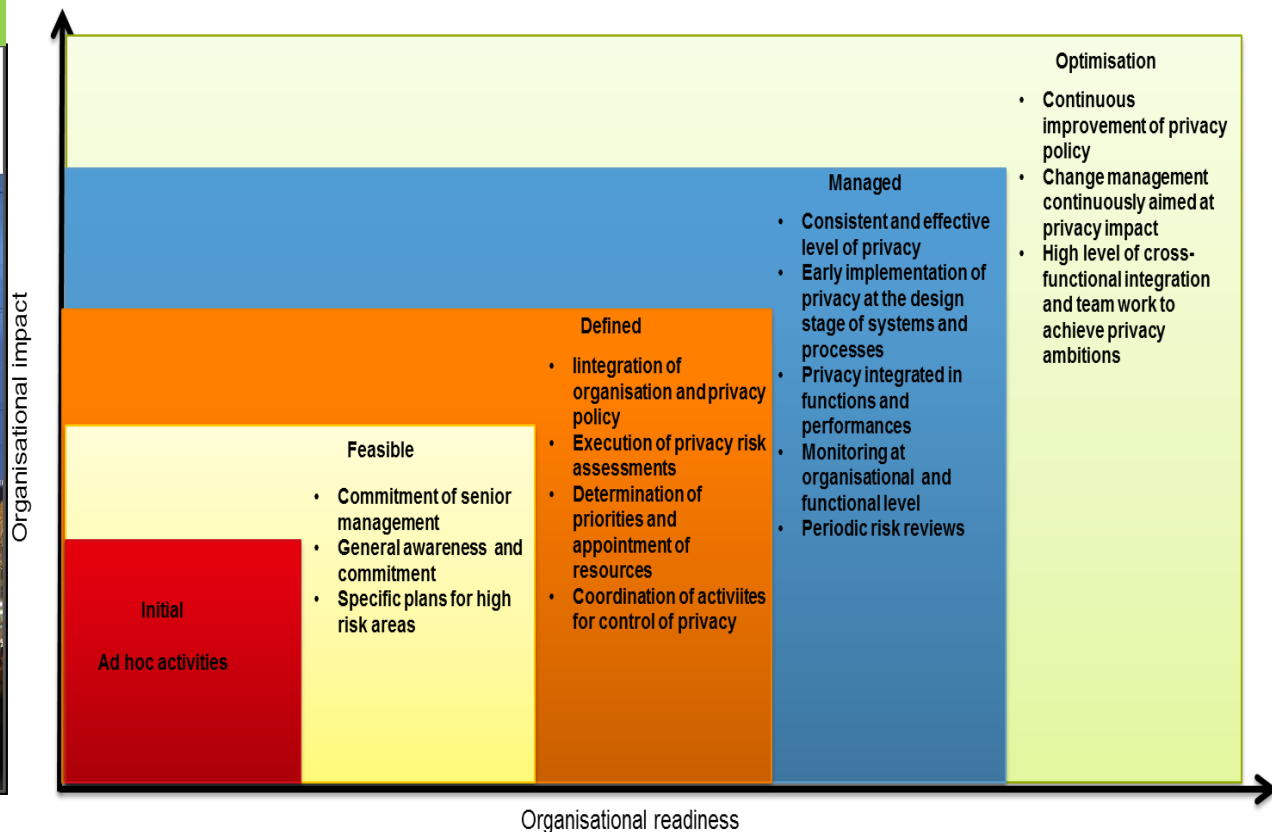


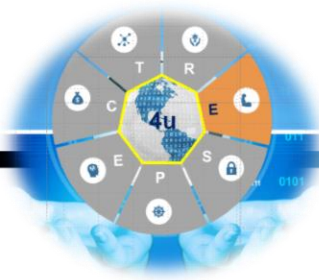
(II) RESPONSIBLE

Alliander with a discussion paper on how to involve citizens in energy platforms



(2) is TNO using PMM for stepping up in promoting the responsible processing of personal data





EMPOWERMENT

- recognition of individual role in data-economy
- acknowledges the fundamental digital rights
- no “one size fits all” policy in empowering individuals e.g. thinking about how to meet the rights of data subjects

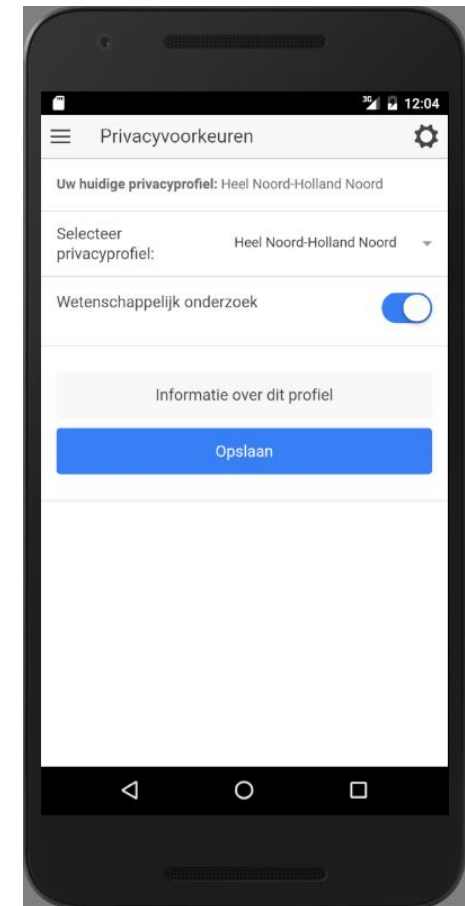
Privacy rights

MORE AND CLEAR INFORMATION ABOUT PROCESSING	RIGHT TO MOVE DATA FROM ONE SERVICE TO ANOTHER	RIGHT TO NOTIFICATION IF DATA IS COMPROMISED
RIGHT TO RECTIFY	RIGHT TO REMOVE DATA	RIGHT TO ACCESS DATA
LIMIT ON AUTOMATED DECISION MAKING WITH SIGNIFICANT EFFECTS	RIGHT TO OBJECT ON THE PROCESSING	CONSENT

(II) EMPOWERMENT



- European Institute of Innovation & Technology (EIT)-Personal Information Management Ecosystem (PIME) i.c.w. (TNO and Atos)
- Pilot in **Westfriesegasthuis (Hoorn)** by prenatal care.
- In which we **research how a privacy dashboard should look like** to help patients in being informed
- Start **by simple app**, elaborating to **full-fledged privacy dashboard**



SECURE

The measures undertaken to achieve security form the appropriate technological & organisational measures. Security technologies have evolved over the past decades and enable sophisticated management and processing of encrypted data.



- Access control
- Audit Control
- Encryption
- **Identity and Access Management**
- Facility Access Controls
- Workstation Security
- Signing and verifying

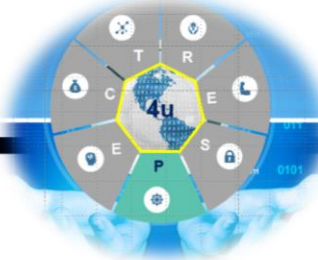
secure access

- Homomorphic encryption
- **Hashing**
- Watermarking
- Steganography

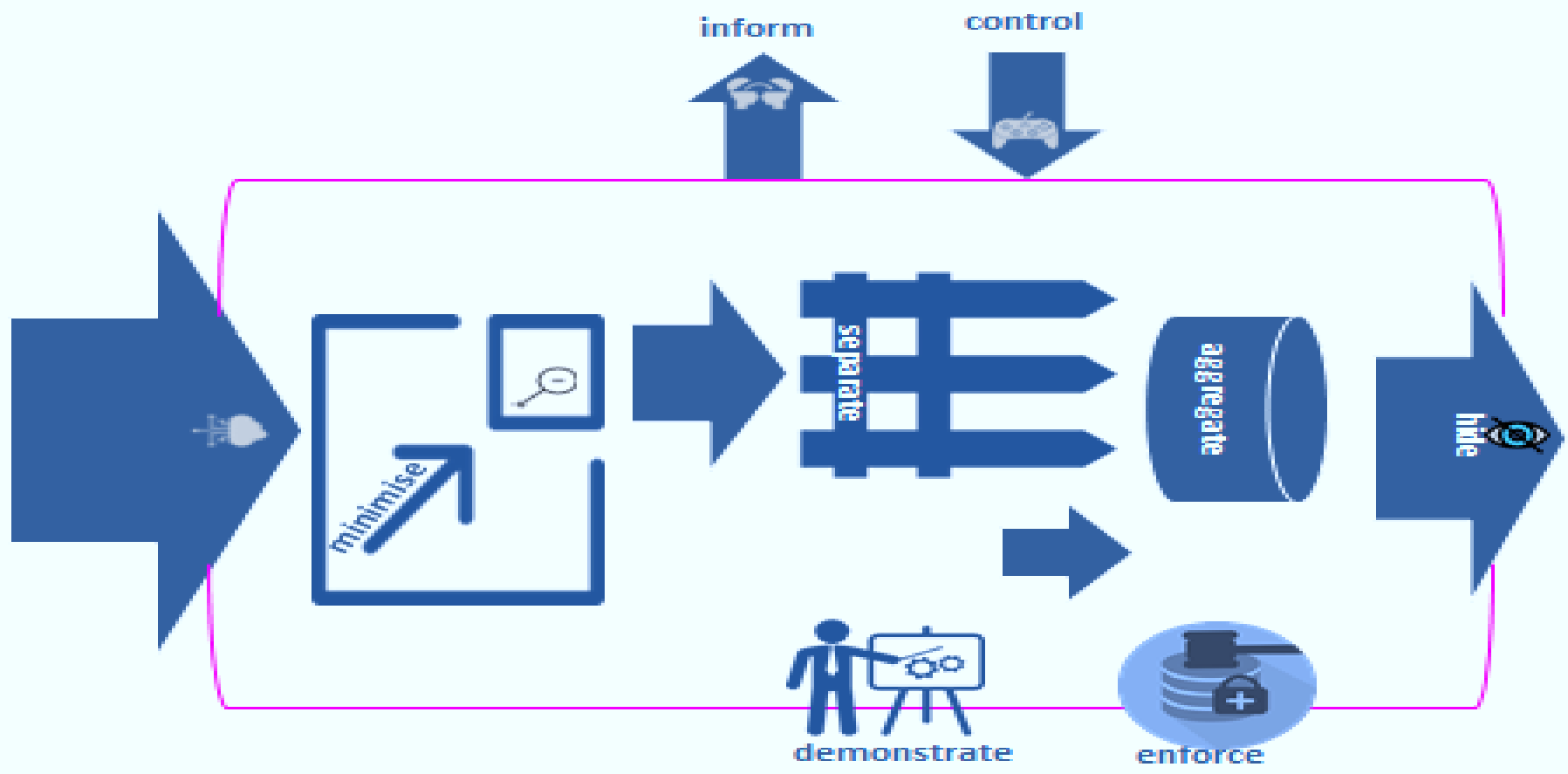
secure data

- **Attribute based credentials**
- Polymorphic encryption and pseudonymisation
- Homomorphic encryption
- Anonymisation
- Pseudonymisation

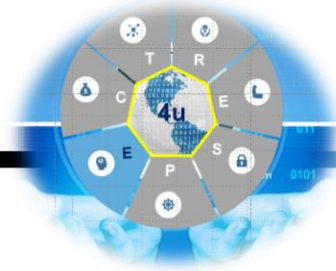
Secure processing
of data



PRO-ACTIVE



In developing systems, privacy by design strategies and patterns can be invoked



photos app

(1) being aware of the **potential ethical impacts** which may have due to **flaws in data collection** and **data processing activities**.

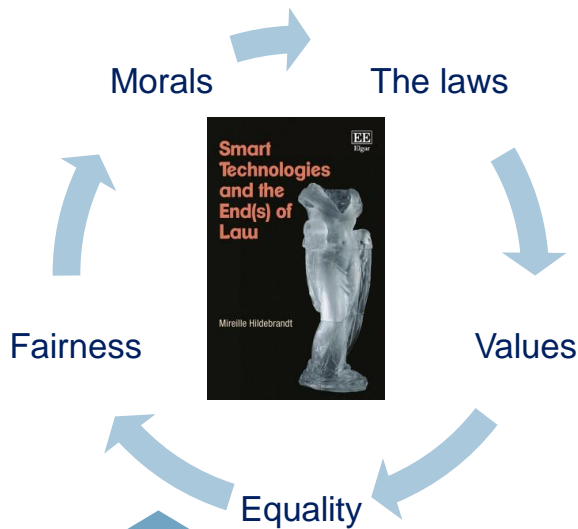
(2) being aware of potential **negative consequences** such as **discrimination, exclusion, stigmatisation** and **unfair treatment**.

transgenders are sick
transgenders are wrong
transgenders are crazy

based on what it
learns from the
people who use it



(II) ETHICAL



In the PI.lab, there is attention for ethical issues and there are **researches** available about **unintended consequences of using data**. One of the most recent work is made by **Mireille Hildebrandt** who has elaborated **on machine learning**.

Grip op data
Green paper Big Data

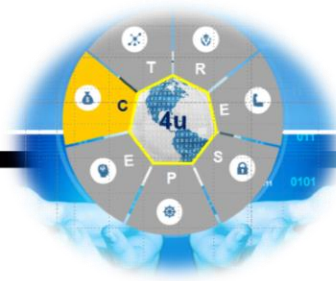
VERBOND VAN VERZEKERAARS

Verbond van Verzekeraars acknowledges this and has published a **report** about the **consequences** of privacy and **solidarity**.



Responsible Data Innovation

we are working on having a workshop about the ethical framework



COST-BENEFIT ANALYSIS

One needs to **address costs and benefits in a comparative manner**. This is challenging

Not always are benefits falling towards parties making the costs.

CBA and business modelling **help understanding** costs (e.g. establishing a DPO).

Benefits can be a lower risk on privacy breaches or not being fined for data leakage or for not fulfilling requirements of GDPR, but also reputation impacts.

Sometimes, costs have to be made immediately while benefits only demonstrate in the long run.

HOW TO WIN

HOW TO PARTNER

EVALUATE & SELECT

Benefit ladder/
Value Proposition

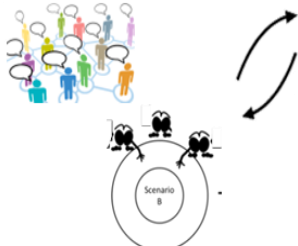
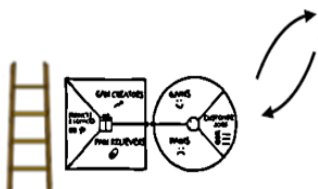
Value Network
Analysis

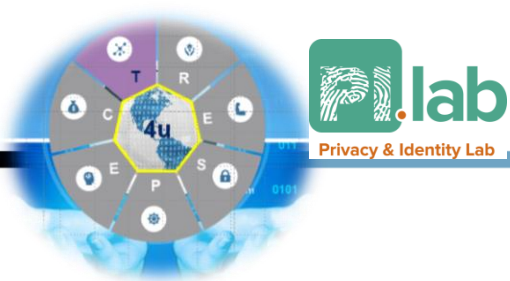
Multiple business
models

Business
Case(s)

Risk
assessment

Business
planning





(I) TRANSPARENT

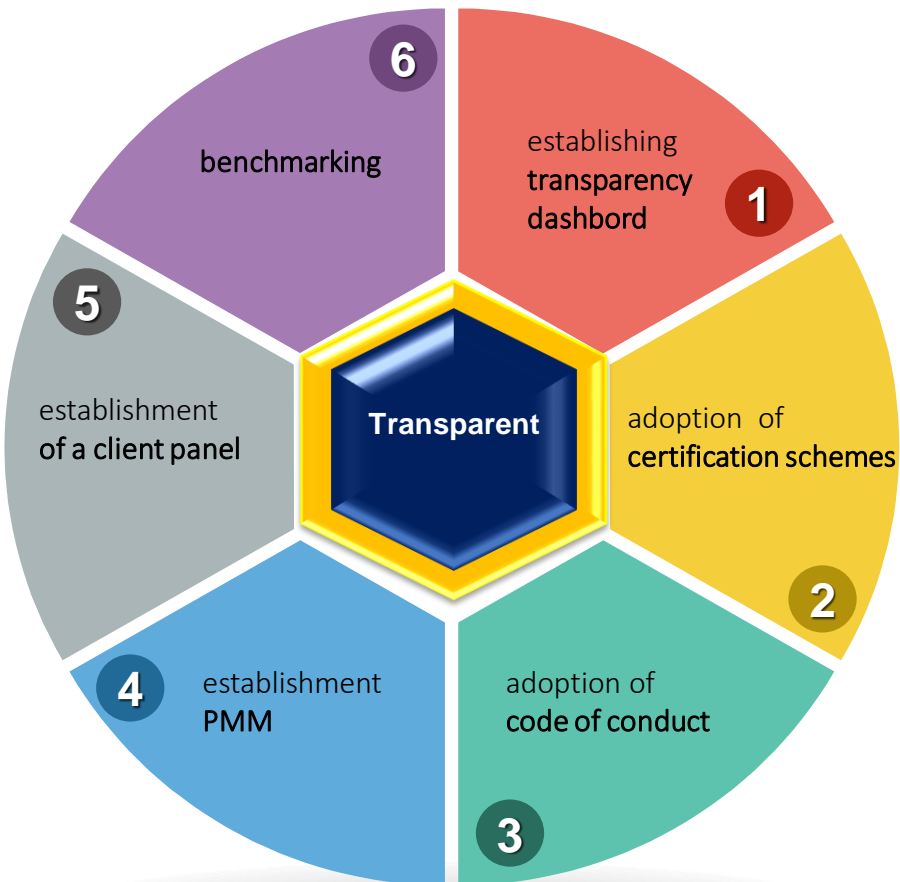
Legal obligations require that organisations offer transparency to individuals.

Transparency measures help:

- (1) in **meeting these legal requirements** and
- (2) in **promoting a responsible attitude** throughout the organisation.

Behaving transparent **creates organisations** that **act predictably**, that **behave trustworthy** and that **succeed** in a **trusted relation** with their clients.

(II) Transparency can be promoted by:.



- it should **indicate the data policy** of an organisation (e.g. how are rights of data subjects met)
- It can help in **promoting a responsible and mature attitude within the organisation** with **responsible processing of personal data.**

- it **indicates formal procedures** the organisation **will meet**

- It is used to **discuss novel products** or services and that **may help in receiving feedback** on the **privacy maturity** of the organisation

**Privacy
Xpress**

ECP and EZ



**Workshop
Mobility**

What are our next steps?



- Promoting RESPECT4U as framework by managing the responsible processing of personal data.
- For us, it guides our research activities.
- We will keep on working to develop instruments for each elements.
- We will create an learning environment and we will seek parties to cooperate.
- So we hope next time to inform you about our progress



1 min



1 min



2 min



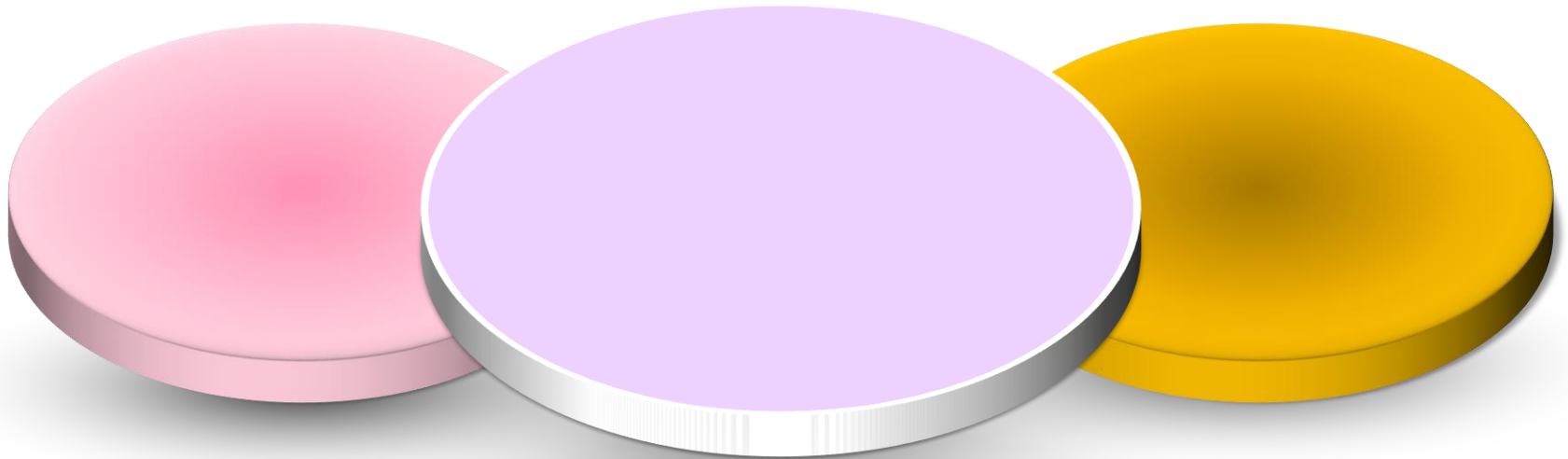
5 min

QUESTIONS

What are
strengths/weak
nesses of
RESPECT4U?

How can we
bring
RESPECT4U
further?

Which role do
you want to play
in
RESPECT4U?



If you like more information, you can contact us, or just take our flyer with you 😊



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"Your recent Amazon purchases, Tweet score and location history makes you 23.5% welcome here."

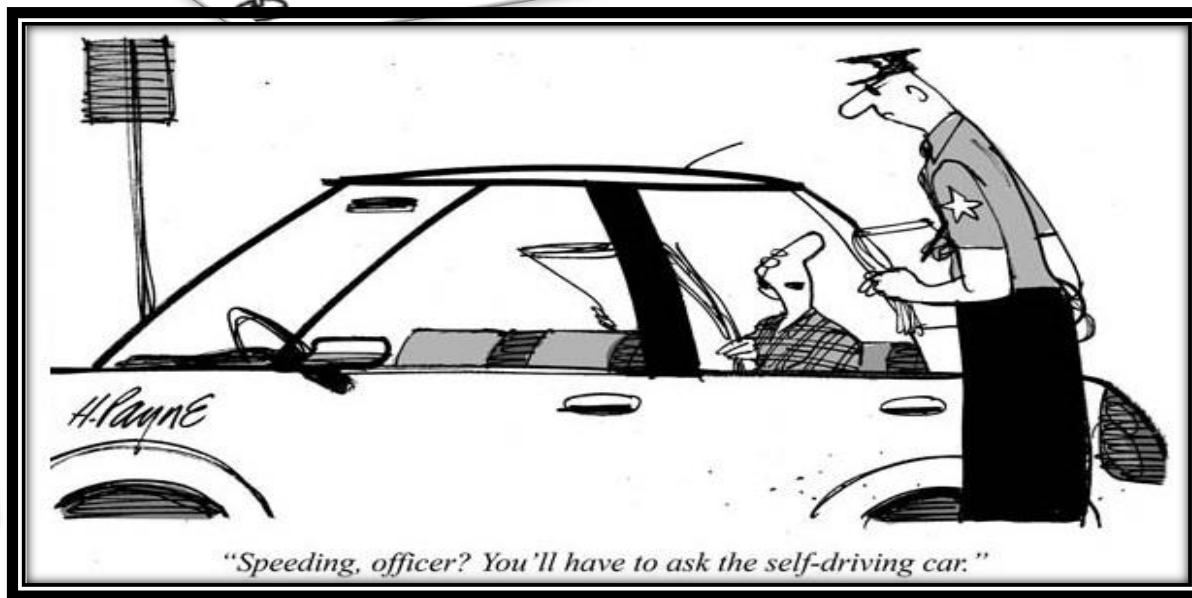
TG'1



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"You can't keep adjusting the data to prove that you would be the best Valentine's date for Scarlett Johansson."

Goff



H. Payne

"Speeding, officer? You'll have to ask the self-driving car."

› **THANK YOU FOR YOUR ATTENTION**

Take a look:
TIME.TNO.NL

TNO innovation
for life