Digital Ethics in the Covid Era

State of the art: Big Questions & Some Responses

Monika Buscher, Charalampia (Xaroula) Kerasidou, Stephen Wilkinson

wellcome

Configuring ethical AI in healthcare

PSCEurope
Public Safety Communication Europe

centre for mobilities research

Lancaster University

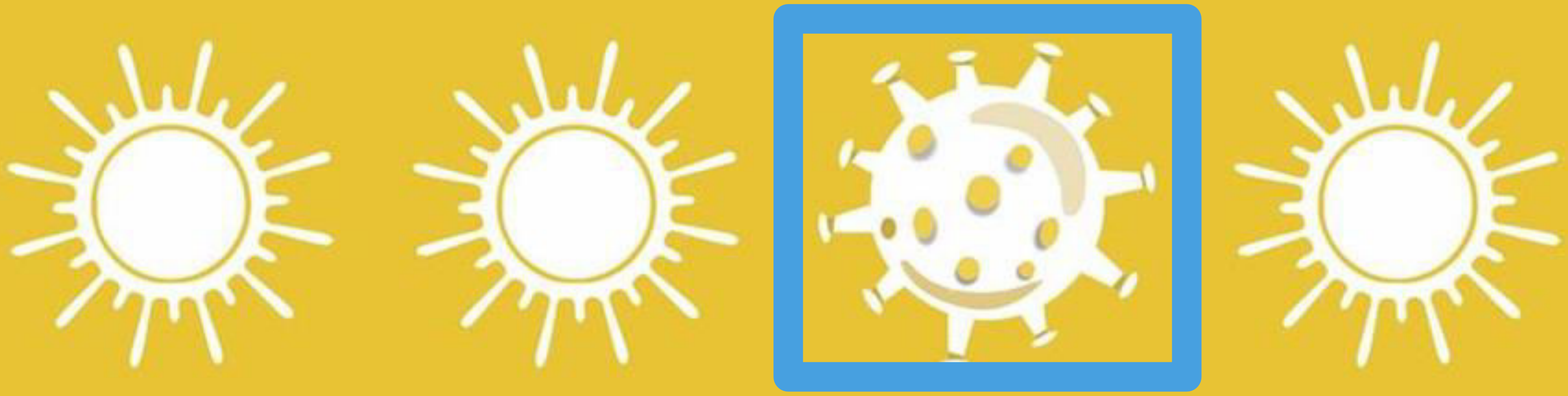
The challenge

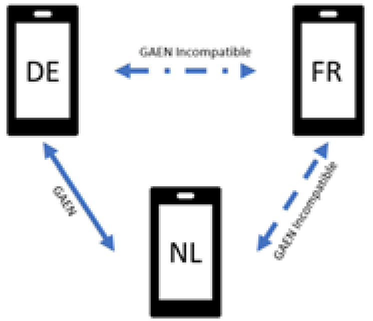
… bad circumstances are not an excuse for bad ethics.

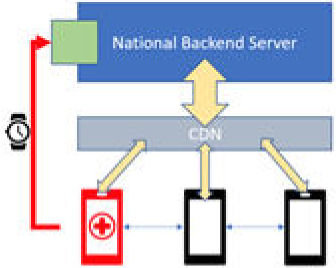
Naomi Zack *Ethics for Disaster* 2009

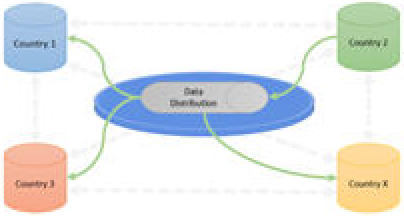
… digitisation puts pressure on our traditional understandings of personhood

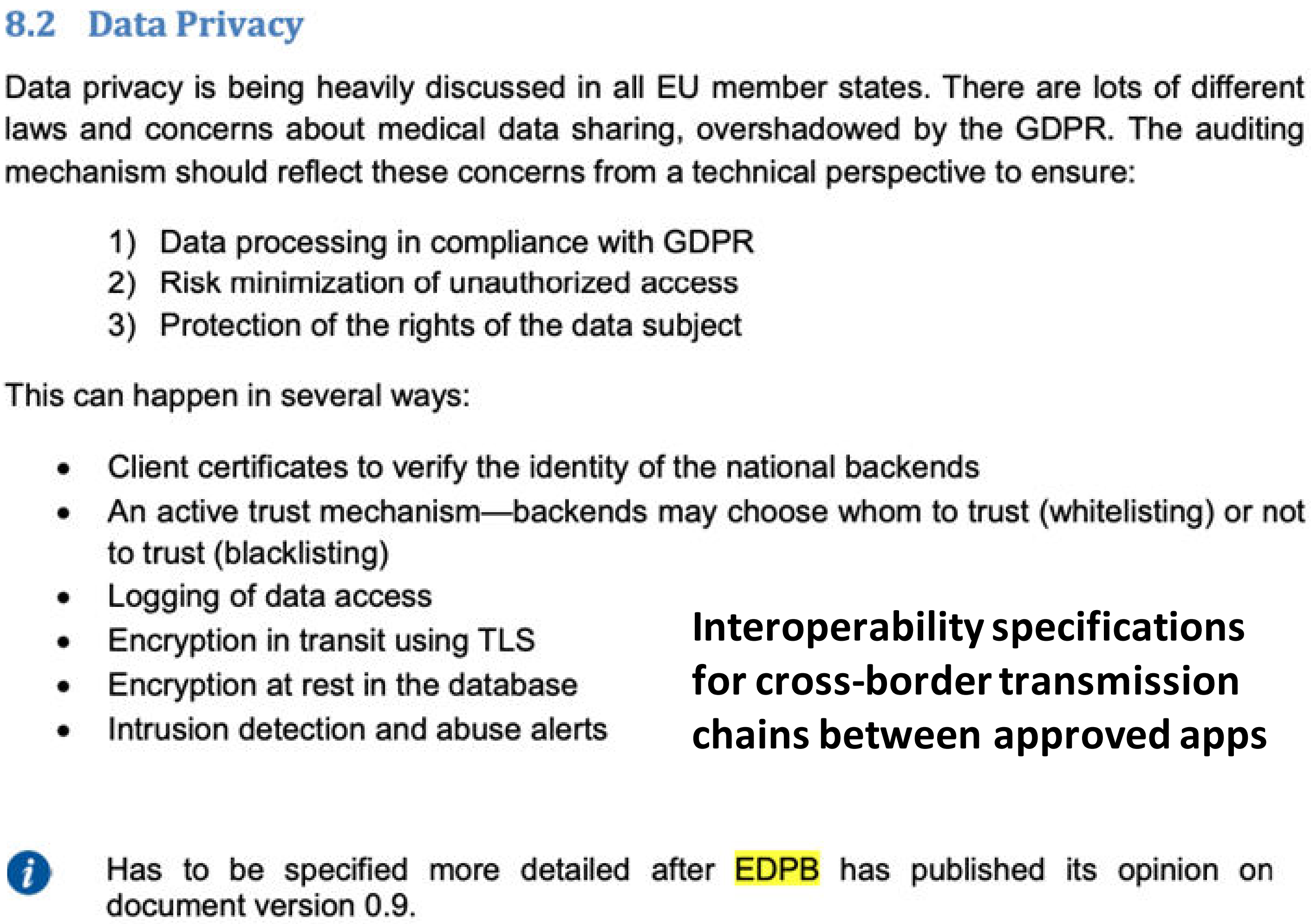
European Data Protection Supervisor's Advisory Group DIgital Ethics 2018











8.2 Data Privacy

Data privacy is being heavily discussed in all EU member states. There are lots of different laws and concerns about medical data sharing, overshadowed by the GDPR. The auditing mechanism should reflect these concerns from a technical perspective to ensure:

1) Data processing in compliance with GDPR
2) Risk minimization of unauthorized access
3) Protection of the rights of the data subject

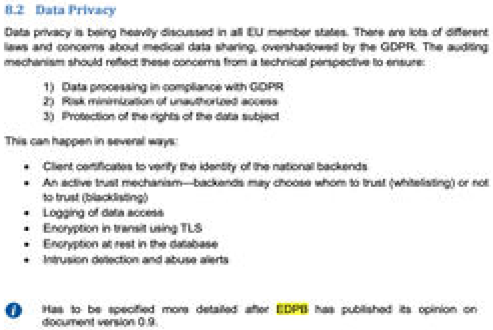
This can happen in several ways:

- Client certificates to verify the identity of the national backends
- An active trust mechanism—backends may choose whom to trust (whitelisting) or not to trust (blacklisting)
- Logging of data access
- Encryption in transit using TLS
- Encryption at rest in the database
- Intrusion detection and abuse alerts

Interoperability specifications for cross-border transmission chains between approved apps

Has to be specified more detailed after EDPB has published its opinion on document version 0.9.

https://ec.europa.eu/health/sites/health/files/ehealth/docs/mobileapps_interoperabilitydetailedelements_en.pdf



8.2 Data Privacy

Data privacy is being heavily discussed in all EU member states. There are lots of different laws and concerns about medical data sharing, overshadowed by the GDPR. The auditing mechanism should reflect these concerns from a technical perspective to ensure:

1) Data processing in compliance with GDPR
2) Risk minimization of unauthorized access
3) Protection of the rights of the data subject

This can happen in several ways:

- Client certificates to verify the identity of the national backends
- An active trust mechanism—backends may choose whom to trust (whitelisting) or not to trust (blacklisting)
- Logging of data access
- Encryption in transit using TLS
- Encryption at rest in the database
- Intrusion detection and abuse alerts

ℹ Has to be specified more detailed after EDPB has published its opinion on document version 0.9.

The EDPB adopted a statement on the interoperability of contact tracing applications, … The EDPB emphasises that the sharing of data about individuals that have been diagnosed or tested positively with such interoperable applications **should only be triggered by a voluntary action of the user. Giving data subjects information and control will increase their trust in the solutions and their potential uptake.** The goal of interoperability should not be used as an argument to extend the collection of personal data beyond what is necessary.

GUIDELINES: IS THIS CONTACT-TRACING APP ETHICALLY JUSTIFIABLE?

Jessica Morley,

Josh Cowls,

Mariarosaria Taddeo &

Luciano Floridi

Those responsible for contact-tracing apps should answer the following.

Principles: is this the right app to develop?

1. Is it necessary? Yes, it must be developed to save lives (+). No, there are better solutions (–).

2. Is it proportionate? Yes, the gravity of the situation justifies the potential negative impact (+). No, the potential negative impact is disproportionate to the situation (–).

3. Is it sufficiently effective, timely, popular and accurate? Yes, evidence shows that it will work, is timely, will be adopted by enough people and yields accurate data and insights (+). No, it does not work well, is available too late or too early, will not be used widely, and is likely to collect data that have false positives and/or false negatives (–).

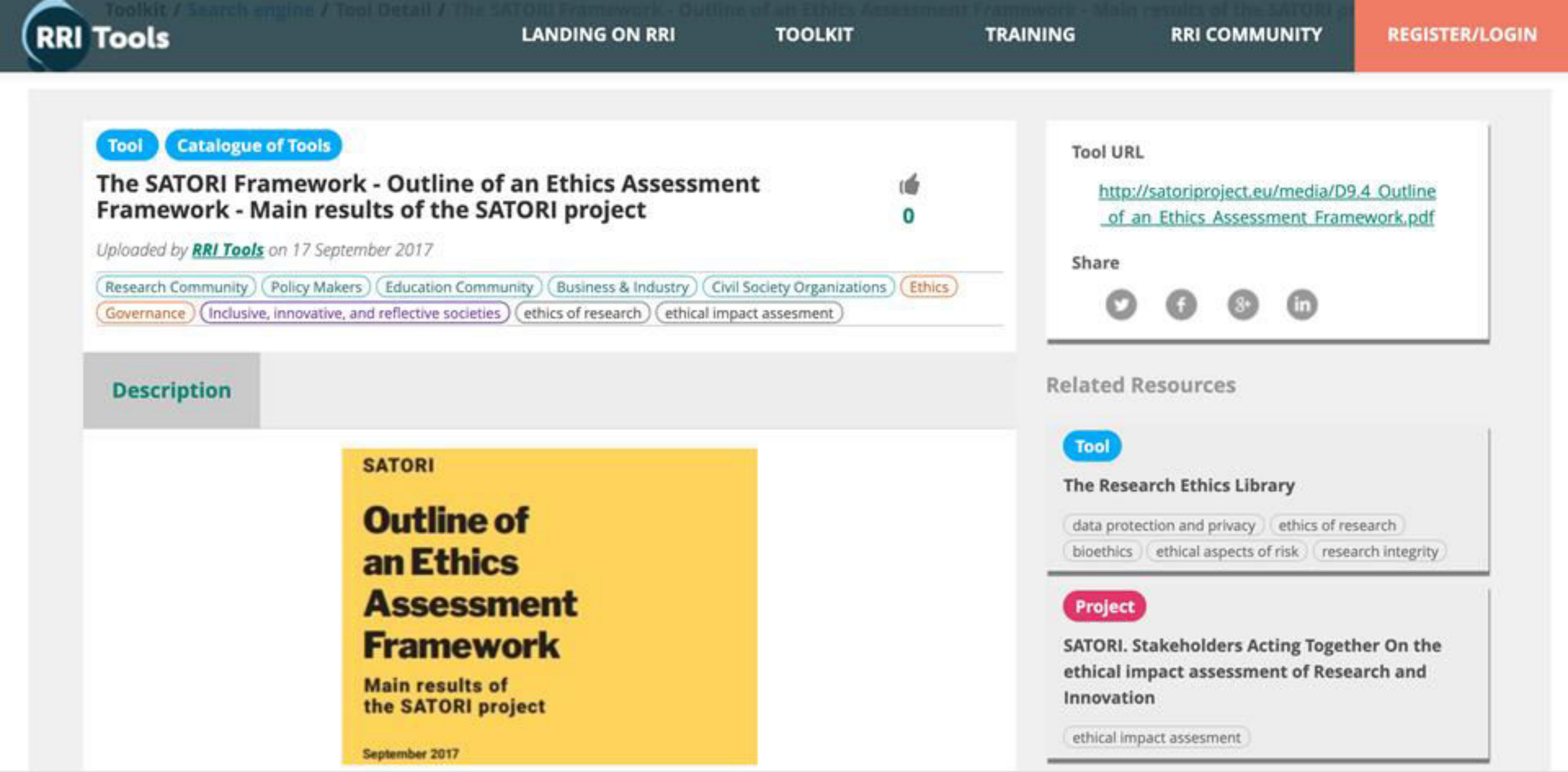
4. Is it temporary? Yes, there is an explicit and reasonable date on which it will cease (+). No, it has no defined end date (–).

Requirements: is this app being developed in the right way?

5. Is it voluntary? Yes, it is optional to download and install (+). No, it is mandatory and people can be penalized for non-compliance (–).

6. Does it require consent? Yes, people have complete choice over what data are shared and when, and can change this at any time (+). No, default settings are to share everything all the time, and this cannot be altered (–).

https://www.nature.com/articles/d41586-020-01578-0



Toolkit / Search engine / Tool Detail / The SATORI Framework - Outline of an Ethics Assessment Framework - Main results of the SATORI p

Tool | Catalogue of Tools

The SATORI Framework - Outline of an Ethics Assessment Framework - Main results of the SATORI project

0

Uploaded by ***RRI Tools*** *on 17 September 2017*

Research Community | Policy Makers | Education Community | Business & Industry | Civil Society Organizations | Ethics | Governance | Inclusive, innovative, and reflective societies | ethics of research | ethical impact assesment

Description

SATORI

Outline of an Ethics Assessment Framework

Main results of the SATORI project

September 2017

Tool URL

http://satoriproject.eu/media/D9.4_Outline_of_an_Ethics_Assessment_Framework.pdf

Share

Related Resources

Tool

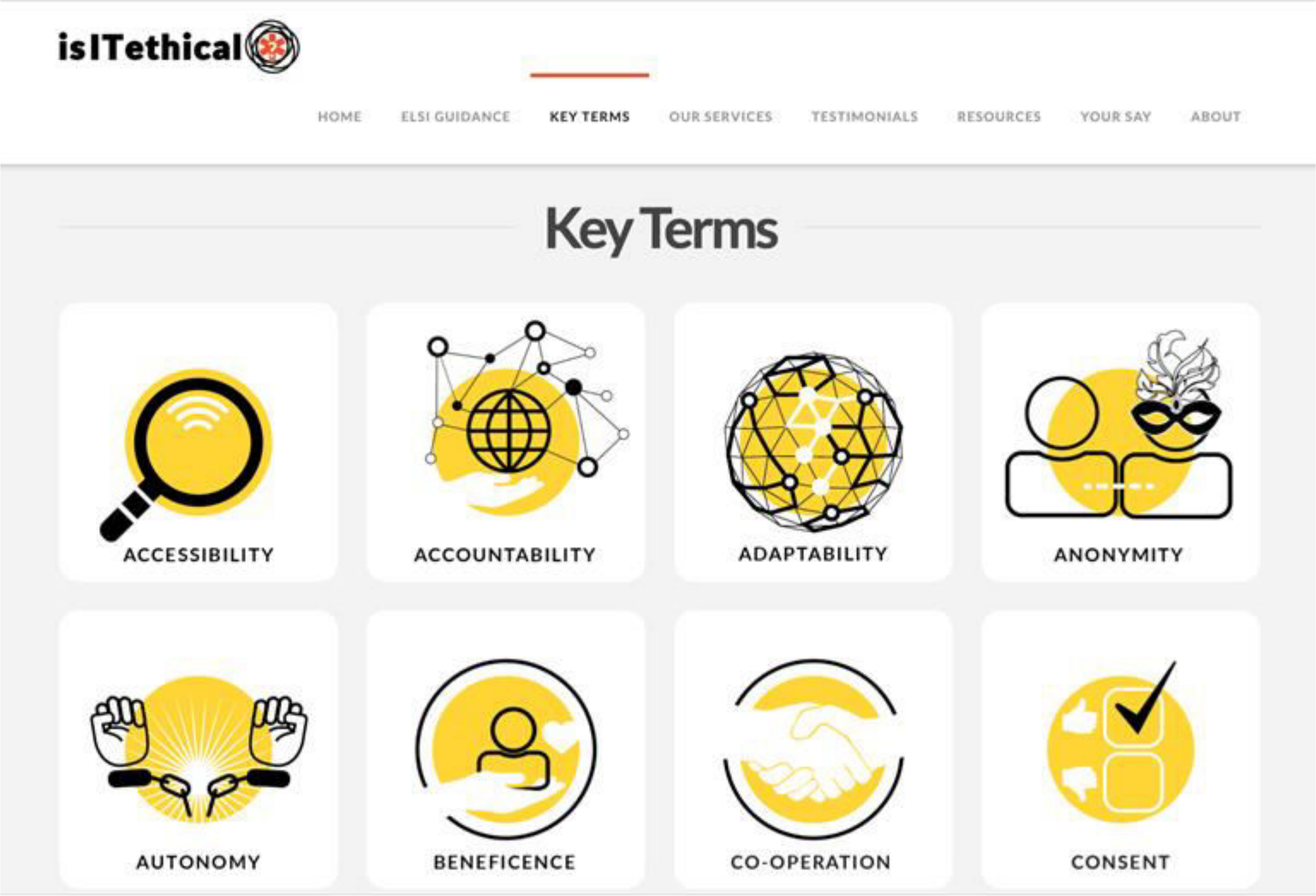
The Research Ethics Library

data protection and privacy | ethics of research | bioethics | ethical aspects of risk | research integrity

Project

SATORI. Stakeholders Acting Together On the ethical impact assessment of Research and Innovation

ethical impact assesment



Key Terms

ACCESSIBILITY

ACCOUNTABILITY

ADAPTABILITY

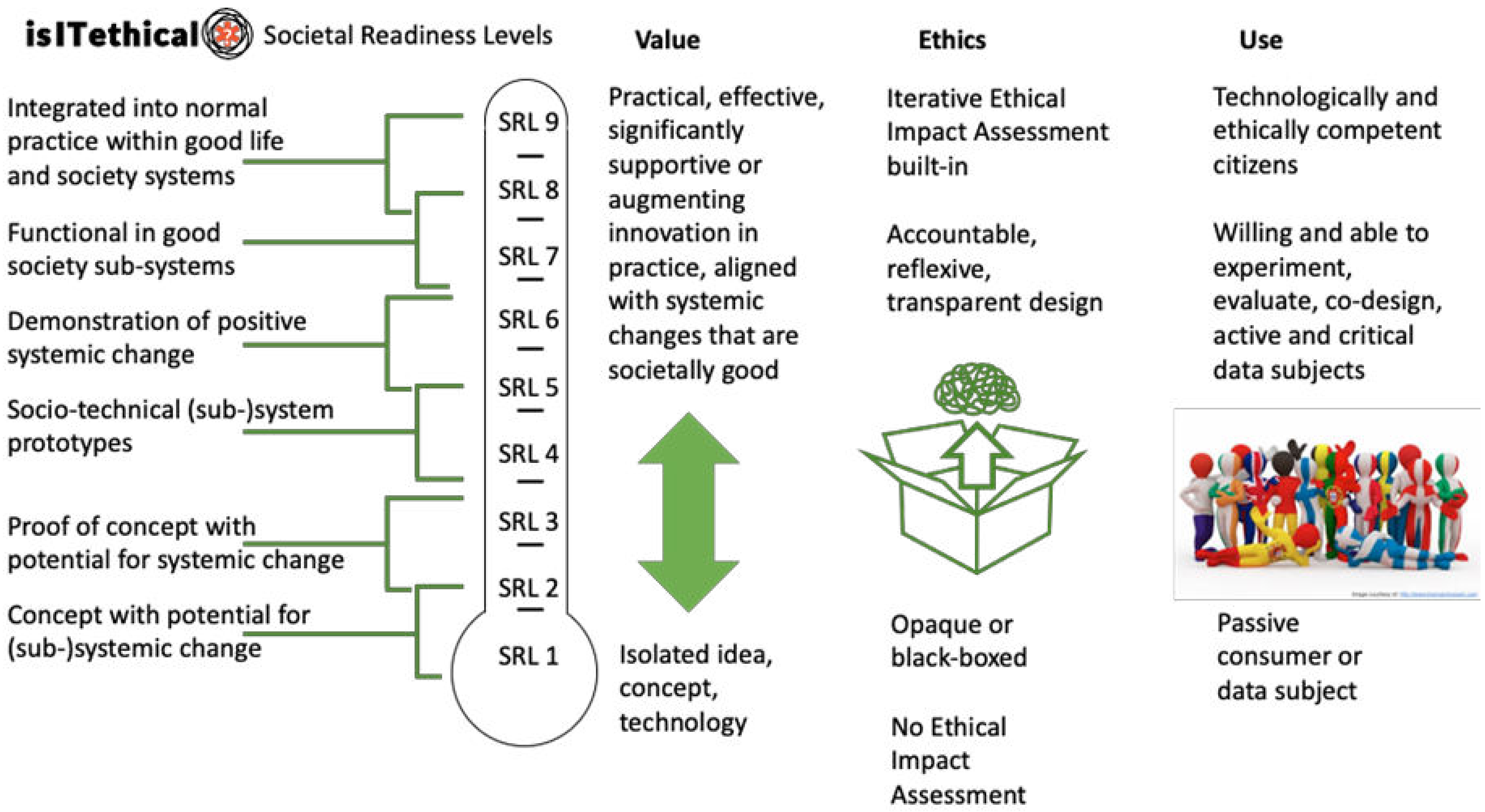
ANONYMITY

AUTONOMY

BENEFICENCE

CO-OPERATION

CONSENT



isITethical Societal Readiness Levels

SRL 9
SRL 8
SRL 7
SRL 6
SRL 5
SRL 4
SRL 3
SRL 2
SRL 1

Integrated into normal practice within good life and society systems

Functional in good society sub-systems

Demonstration of positive systemic change

Socio-technical (sub-)system prototypes

Proof of concept with potential for systemic change

Concept with potential for (sub-)systemic change

Value	Ethics	Use
Practical, effective, significantly supportive or augmenting innovation in practice, aligned with systemic changes that are societally good	Iterative Ethical Impact Assessment built-in Accountable, reflexive, transparent design	Technologically and ethically competent citizens Willing and able to experiment, evaluate, co-design, active and critical data subjects
Isolated idea, concept, technology	Opaque or black-boxed No Ethical Impact Assessment	Passive consumer or data subject

Responses

Socio-technical

- Don’t do IT
- Skilled users
- Regulation (GDPR)

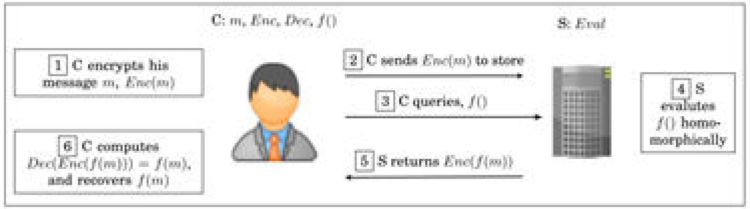

C: m, Enc, Dec, $f()$
S: $Eval$
1 C encrypts his message m, $Enc(m)$
2 C sends $Enc(m)$ to store
3 C queries, $f()$
4 S evaluates $f()$ homomorphically
5 S returns $Enc(f(m))$
6 C computes $Dec(Enc(f(m))) = f(m)$, and recovers $f(m)$

Fig. 1. A simple client-server HE scenario, where C is Client and S is Server.

Privacy Enhancing Techniques

- Pan-European Privacy-Preserving Proximity Tracing (Pepp-PT) protocol
- Homomorphic encryption
- Multi-party computing
- Accountable data-mining

State of the Art: Big questions and first responses

- Which ethics? Consequential, deontological, virtue ethics?
- How to get beyond solutionism?
- Is technology the best/an appropriate response? Are there others?
- Who’s excluded?
- Are we risking exacerbating the digital divide with a biological divide?
- Is opt/in consent the right model for this? What does consent mean in a digitised world?
- Reversibility - can more reversibility be built in?
- Public trust: Complete transparency or assume that they have my best interest at heart?
- What it means to be human is changeable. How can design proceed on shifting ground?