



UNIVERSITÉ
DE GENÈVE

DLT and the General Data Protection Regulation

ITU Workshop on DLT security, identity management and privacy



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About myself

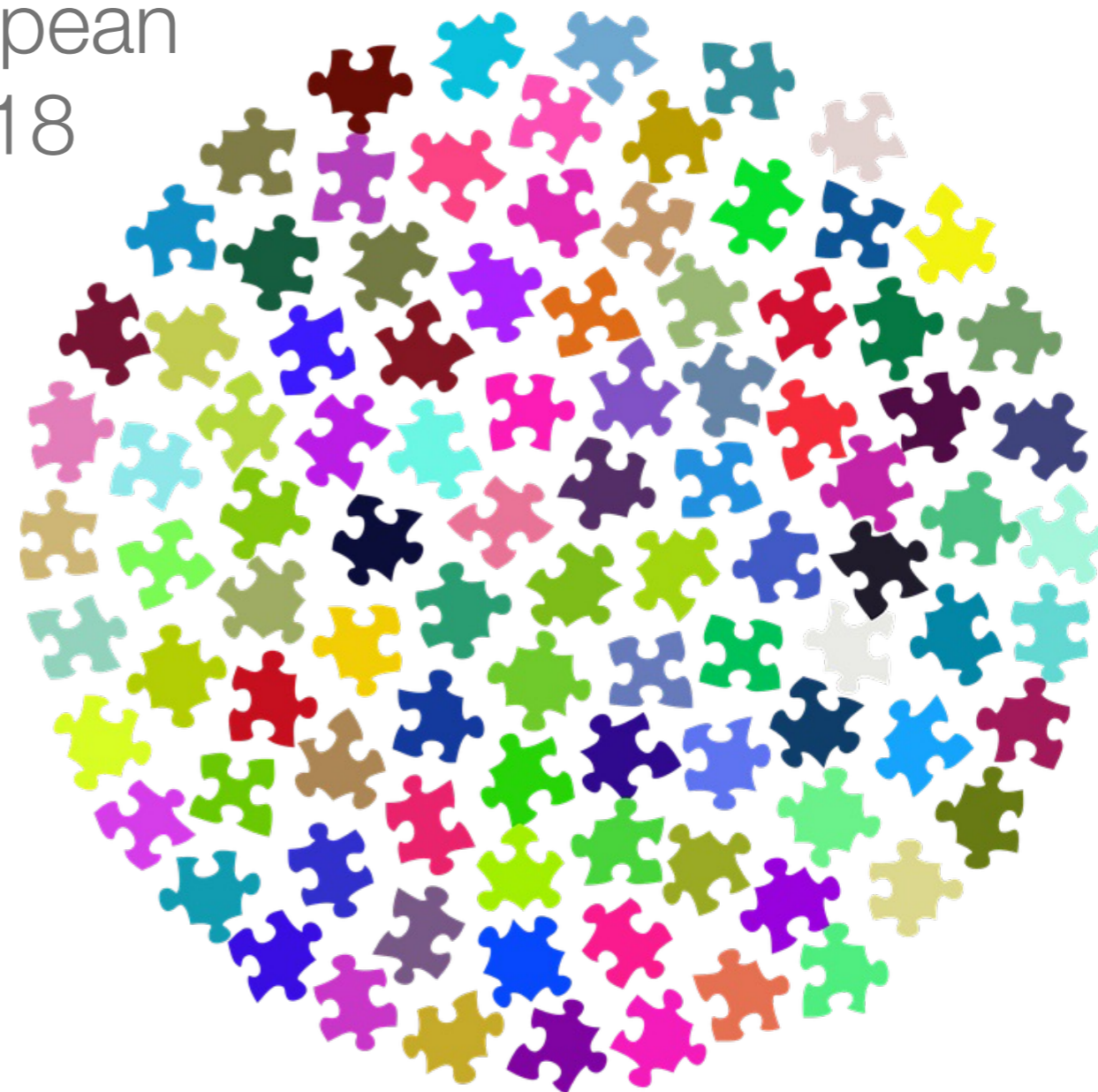


- Background in computer science and law
- Doctoral thesis about the use of blockchain for the verification of long-term revocable credentials
- ITU standardization of DLT
- Consultant for blockchain and data protection as well as sustainable innovation

Two main issues

General Data Protection Regulation (GDPR) applicable in the European Economic Area since May 2018

- Right to be forgotten vs. immutability of DLT
- Accountability vs. decentralization



Can we limit data on blockchains to anonymous data?

The EU declares war on crypto anonymity

In July 2020, Mairead McGuinness, the European Commissioner for financial matters, stated: ***“Cryptocurrency is one of the newest ways to launder money. Our rules will now apply to the whole of the crypto sector. We will ban anonymous crypto wallets and make sure that crypto-asset transfers are traceable.”*** Thus, she promised to eliminate one of the main benefits of cryptocurrencies, namely, their anonymity.

3.3. Public keys as personal data

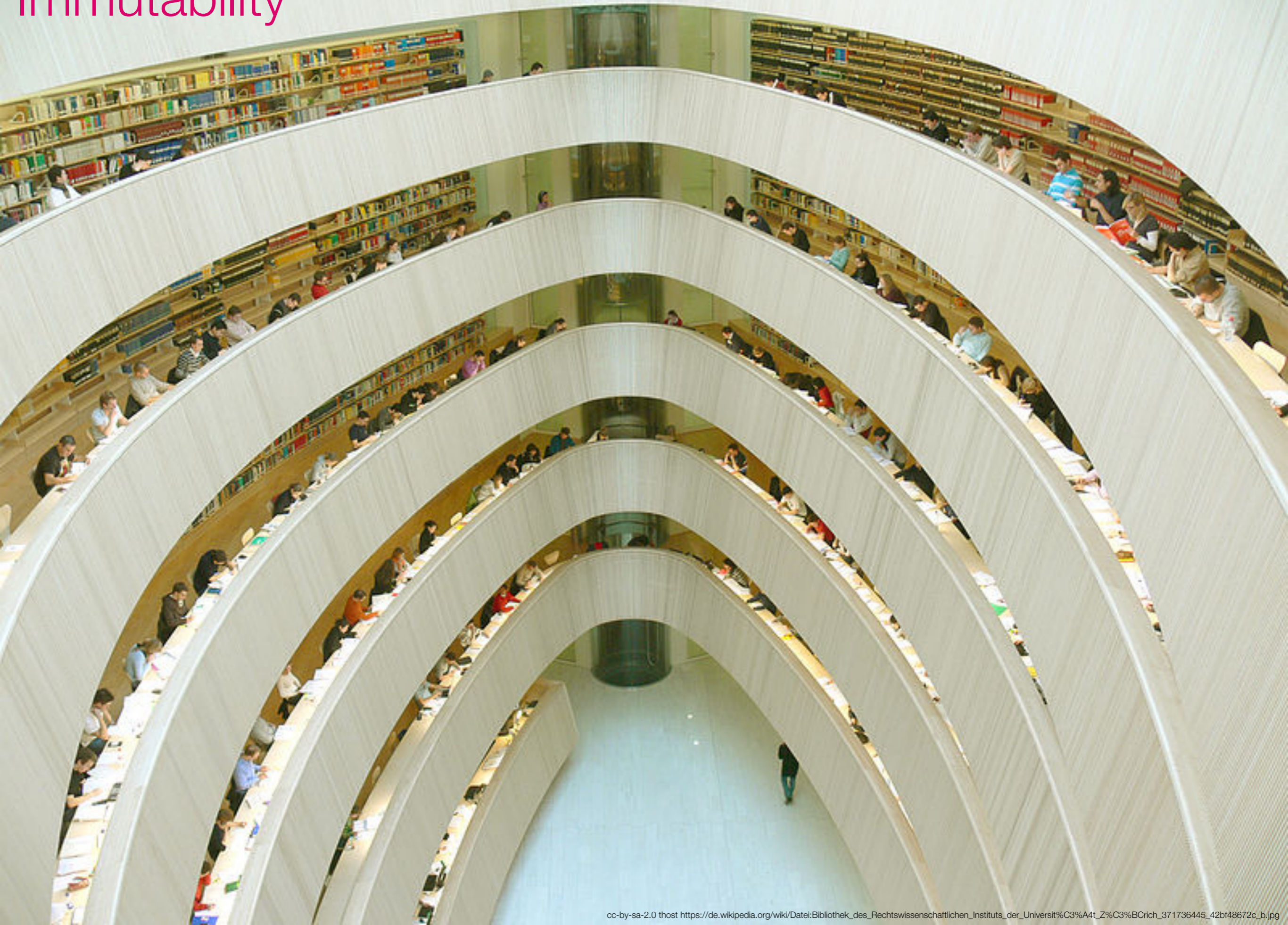
In the blockchain context, public keys serve as the kind of **identifiers** mentioned in Recital 30 GDPR. Blockchains rely on a two-step verification process with asymmetric encryption. Every user has a public key (a string of letters and numbers representing the user), best thought of as an account number that is shared with others to enable transactions. In addition, each user holds a private key (also a string of letters and numbers), which is best thought of as a password that must never be shared with others. Both keys have a mathematical relationship by virtue of which the private key can decrypt data that has been encrypted through the public key.



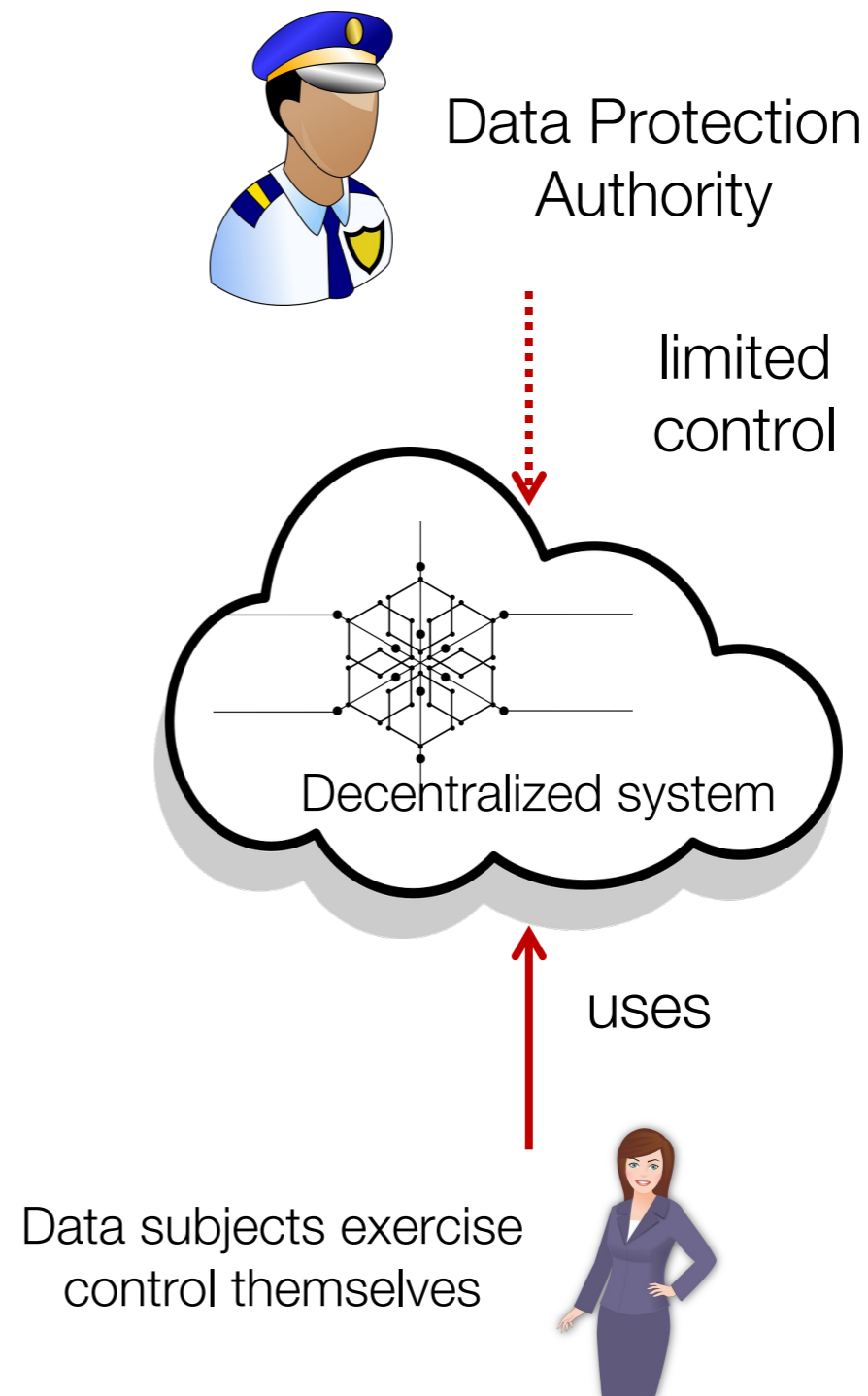
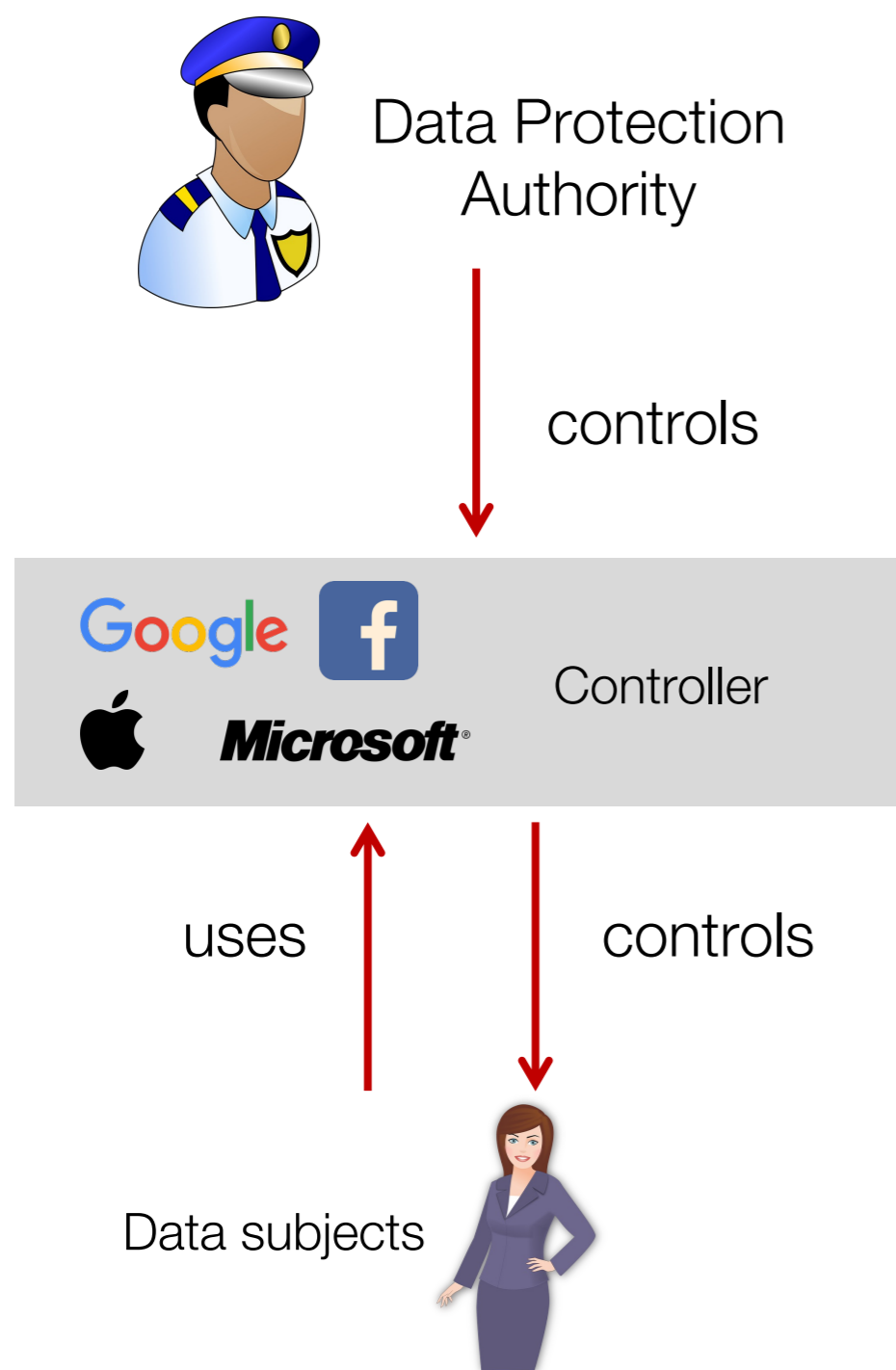
STUDY
 EPRS | European Parliamentary Research Service
 Scientific Foresight Unit (STOA)
 PE 634.445 – July 2019

Dr Michèle Finck

Immutability



Accountability



Controllers on different levels (in my opinion)

Blockchain level

Public Blockchains ↔ Permissioned Blockchains

Smart contract level

Smart contract developers/operators ↔ users
Immutable smart contracts ↔ update possible
Smart contract which serve specific people

Transaction level

Users, holding their private keys, usually have control over the transactions

Limited guidance

- Early, very limited statement from the Hungarian Data Protection Authority (NAIH) in 2017.
- Detailed statement from the French Data Protection Authority (CNIL) in 2018.
- Announced but not delivered statement by the European Data Protection Board EDPB.

Premiers éléments d'analyse de la CNIL

BLOCKCHAIN

Septembre 2018

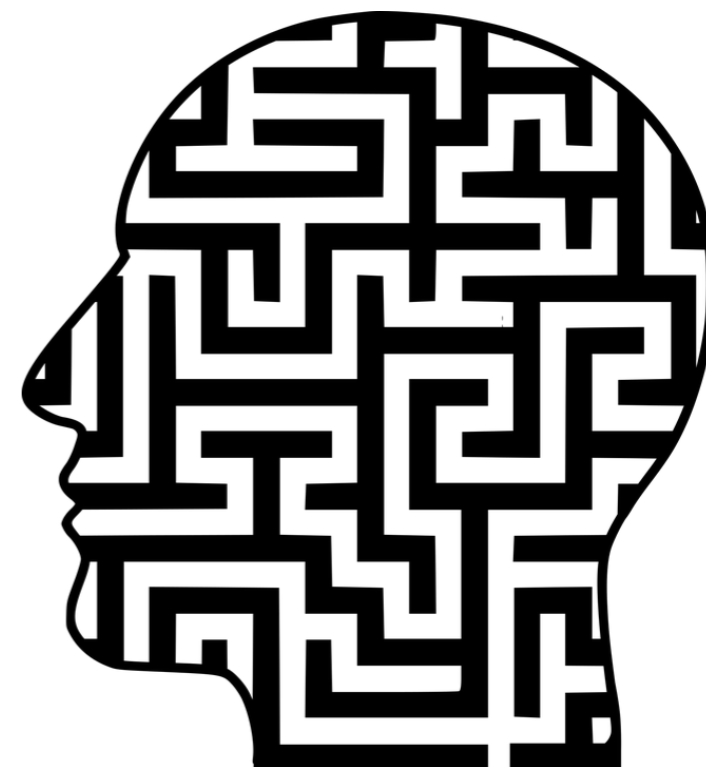
CNIL.
COMMISSION NATIONALE
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Simple solutions (with limited practicability)

Don't write personal data on a blockchain	Blockchain addresses are often already considered personal data
Use blockchains that can forget	Why do you use blockchains in the first place?
Have a centralized entity that controls the blockchain	Is this still decentralized?
Make sure that people consent to the use of blockchain	Consent can always be withdrawn
Have users write data to the blockchain themselves	Do you still control the system or individual transactions?
Use blockchains outside of the EU	One node held by an entity in the EU might be sufficient to render the GDPR applicable

Complex solutions

- Apply privacy by design
- Use privacy enhancing technology where possible
- Make sure immutability can be justified and has a solid, permanent justification
- Only store that part of the data on a blockchain that needs to be stored there
- Use blockchains and smart contracts with existing appropriate governance



Things to avoid

- Unsolicited crypto transactions – particularly airdrops
- Hidden blockchain usage (exception: time stamping)

Regulatory Sandbox



Shaping Europe's digital future

NEWS ARTICLE | Publication 14 February 2023

Launch of the European Blockchain Regulatory Sandbox

The European Commission today launched a regulatory sandbox for innovative use cases involving Distributed Ledger Technologies (DLT).

The sandbox establishes a pan-European framework for regulatory dialogues to increase legal certainty for innovative blockchain solutions. Funded by the [Digital Europe Programme](#) and delivering on the [SME strategy](#), the sandbox is running from 2023 to 2026 and will annually support 20 projects including public sector use cases on the [European Blockchain Services Infrastructure](#). Projects will be chosen through calls for expression of interest. Every year, the most innovative regulator participating in the sandbox will also be awarded a prize. The sandbox will be facilitated by a consortium under the leadership of [Bird & Bird](#) and its consulting arm [OXYGY](#) supported by blockchain experts of WBNoDE and web-designers of Spindox, which has been procured through an [open call for tenders](#) in 2022. The selection process will be overseen by a panel of independent academic experts.

Distributed Ledger Technologies across industry sectors

Distributed Ledger Technologies including blockchain have wider utility beyond financial services. DLT can support regulatory technologies which help public authorities fight counterfeit in global supply chains and protect verifiable credentials (e.g.: education diplomas) against fraud. Companies can facilitate the exchange of non-personal data to train algorithms, and/or create unique digital twins for assets they buy, sell or insure in the mobility, energy and manufacturing sectors. Financial actors expect to use DLT for reducing the cost of trading securities. While pilots have shown a significant potential of DLT across industry sectors, legal uncertainty prevails as governance remains shared between many actors. To increase legal certainty in support of Europe's ambition for digital leadership in this [Digital Decade](#), there is a need for an enhanced dialogue between regulators and innovators. The European Blockchain Regulatory Sandbox addresses this need by offering a trusted environment for regulators and providers of DLT technologies to engage.



European Commission

Related topics

[Advanced Digital Technologies](#)

[Blockchain](#)

Regulatory Dialogues

The goal of the European Blockchain Regulatory Sandbox is to facilitate the cross-border dialogue with and between regulators and supervisors on the one hand, and companies or public authorities on the other hand. In these dialogues, use case developers can present their business case to receive legal guidance from regulators. The law firm Bird & Bird acts as a facilitator, sets up a safe interface between developers and regulators and provides legal advice to selected blockchain use cases. Regulatory questions may concern any area of law. The sandbox will allow supervisors to enhance their knowledge of cutting-edge technologies involving DLT. Lessons learned will be shared between participating regulators, helping the Commission to identify best practices. The European Blockchain Regulatory Sandbox will cooperate with other relevant sandboxing frameworks, in particular the [EU Digital Finance Platform](#) and the Artificial Intelligence Sandboxes once established under the AI Act. This collaboration is of pivotal importance given the increasing convergence of innovative technologies in use cases often involving several industry sectors.



Thank you

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