# **DE**centralised **C**itizens **O**wned **D**ata **E**cosystem:

# Data sovereignty for citizens

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# Preserve the digital sovereignty of European citizens

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# Who is DECODE? 14 partners, 6 countries (ES, NL, UK, FR, IT, SW)

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DECODE provides tools that put individuals in control of whether they keep their personal information private or share it for the common good

Since January 2017 US tech firms have grown by an amount greater than the GDP of Norway ($950BL).

China Alibaba &Tencent ($450BL).

Giant investment, sovereign funds, & new tech Funds:

$100BL Vision Fund (SoftBank+ Saudi Arabia); $10BL investment in Uber.

# THE LARGEST COMPANIES BY MARKET CAP
The oil barons have been replaced by the whiz kids of Silicon Valley

Top 5 Publicly Traded Companies (by Market Cap)       ⬢ Tech    ⬢ Other

|  | #1 | #2 | #3 | #4 | #5 |
|---|---|---|---|---|---|
| 2001 | GE $406B | Microsoft $365B | EXXON $272B | citi $261B | Walmart $260B |
| 2006 | EXXON $446B | GE $383B | TOTAL $327B | Microsoft $293B | citi $273B |
| 2011 | EXXON $406B | Apple $376B | PetroChina $277B | Shell $237B | ICBC $228B |
| 2016 | Apple $582B | Alphabet $556B | Microsoft $452B | amazon $364B | facebook $359B |

SURVEILLANCE CAPITALISM

# DATA IS THE RAW MATERIAL OF THE 21ˢᵗ CENTURY

"Who owns the data will decide in the end whether democracy, a participatory social model and economic prosperity can be combined"
Angela Merkel

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Data commons vs data extractivism

# WHAT CAN GO WRONG?

## HACK BRIEF: UBER PAID OFF HACKERS TO HIDE A 57-MILLION USER DATA BREACH

# WHAT CAN GO WRONG?



TRUMPING

Donald Trump during the presidential campaign. Image: Gage Skidmore

## The Data That Turned the World Upside Down

# WHAT CAN GO WRONG?

**Data protection**
Opinion

## Giving Google our private NHS data is simply illegal
## John Naughton

The Royal Free hospital's attempt to gloss over its transfer of more than a million health records to the AI developer DeepMind is boneheaded and dishonest

720    275

# Why DECODE?

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## Current paradigm

- Data is a **fictitious commodity**, that can be sold and traded in markets
- Data handling & monetization is **opaque**
- Even if there is regulation, there is **no possible enforcement**
- We produce the data, *they* own it
- Benefits of data *sharing* are privatized ("surveillance capitalism")

## Intended paradigm

- Data is a **common resource & infrastructure** where to build upon (new services)
- Data handling and usage is **transparent & privacy-friendly**
- Data is shared according to rules set by **common** (enforceable) **governance**
- Shared benefits of data sharing
- New political, economic, and legal regime that recognize **social and communal rights to data**
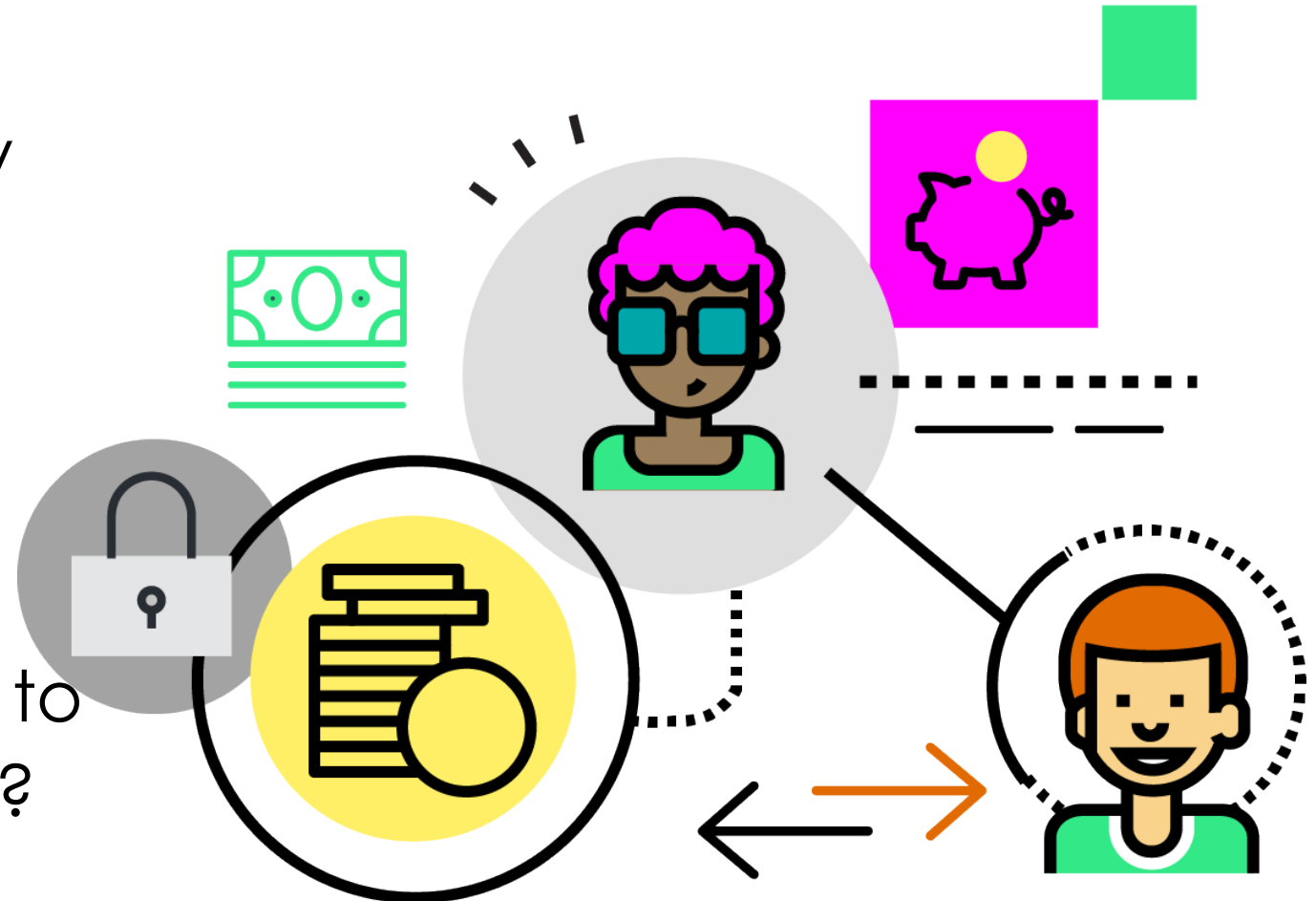
# Where is DECODE relevant? (1/n)

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## Sharing Economies… ?!

but with whom are we really sharing our needs and desires?

Can we build platform cooperatives & alternatives to current predatory platforms?

# Where is DECODE relevant? (2/n)

**Internet of Things…**
communicating on our behalf…

but who are they speaking with and about what?

Can we have data entitlements for the IoT?

# Where is DECODE relevant? (3/n)

**Partecipatory democracy…**

One can **detect issues** and collaboratively **solve** them!

One can **decide in a democratic way** based on trust

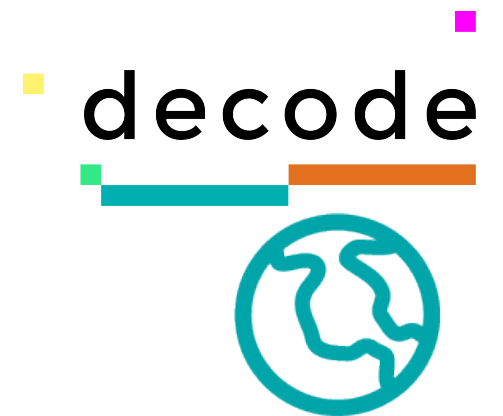but if data is a monopoly of a few, **collective intelligence** is lost…

# Challenge:
# Enabling the Data Commons

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Can we **regain control** of our data?

We want to decide **who** to share it with, under which **rules**, **when** and for **what** purpose?

**Data rights & entitlements**
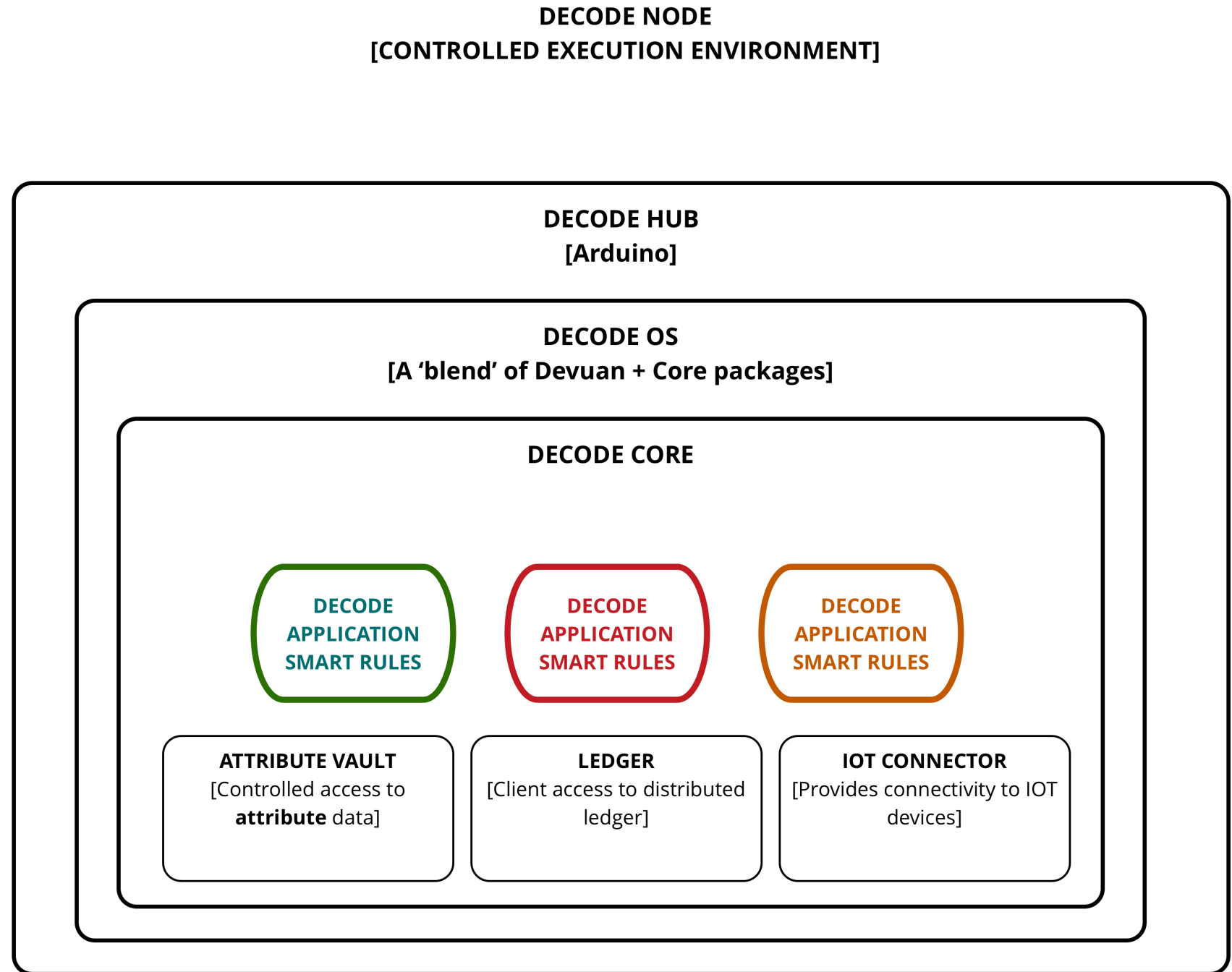
In short: Real **data sovereignty**

■ DECODE

# Technical architecture

# Building blocks

- Attribute Based Cryptography
- Distributed Ledger
- Secure OS ✗CANVU
- Privacy-focused smart rules language

**DECODE NODE**
**[CONTROLLED EXECUTION ENVIRONMENT]**

**DECODE HUB**
**[Arduino]**

**DECODE OS**
**[A 'blend' of Devuan + Core packages]**

**DECODE CORE**

**DECODE APPLICATION SMART RULES**

**DECODE APPLICATION SMART RULES**

**DECODE APPLICATION SMART RULES**

**ATTRIBUTE VAULT**
[Controlled access to **attribute** data]

**LEDGER**
[Client access to distributed ledger]

**IOT CONNECTOR**
[Provides connectivity to IOT devices]

# A New Social Pact on Data

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## DECODE Pilots

# Methodology

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- ■ "Agile Inceptions"
- ■ Co-design with community

Community engagament + Real Needs + Feasability



iDIGITAL SESSIONS

*Proto Personas, Empathy Mapping, Elevator Pitch & User Journey*

Elevator pitch + Personas + User journeys + Tech sessions + RAID analysis

# BCN data-driven participatory democracy: Idigital + BCNow!

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## Decidim Barcelona

**decidim.barcelona**

- **Open source platform for partecipatory democracy +30k users**

- Accountability on signing petitions & online voting, yet privacy on political beliefs
- Detection of city problems
- Provide tools to users with similar interests to interact
- Partecipatory budgeting
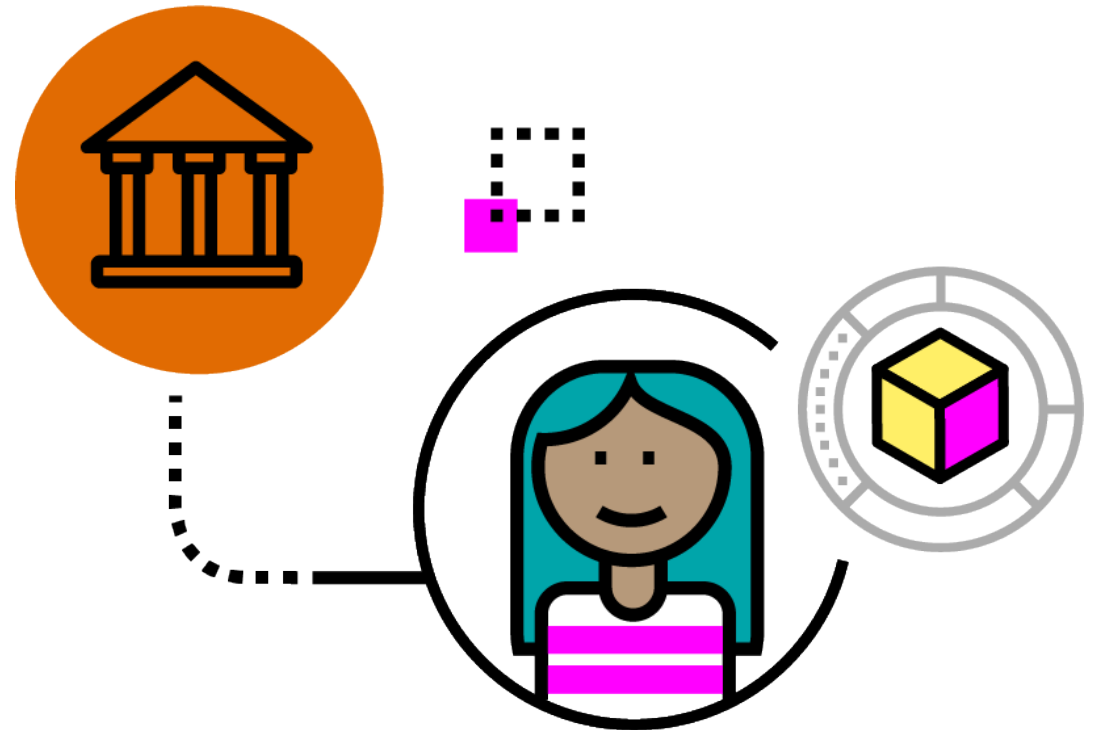
# Personalised data commons dashboard- BCNNow

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Visualize personalized & relevant citizen interests

merging public data + data from the commons + personal interests to find/be found by similar profiles while ensuring privacy

# BCN: IoT/citizen sensing Data community rights

**smartcitizen.me/makingsense**



- IoT data might be privacy-sensitive
- Crowd sensing of a problem with IoT in a community
- Users can decide to whom and under which conditions they share data
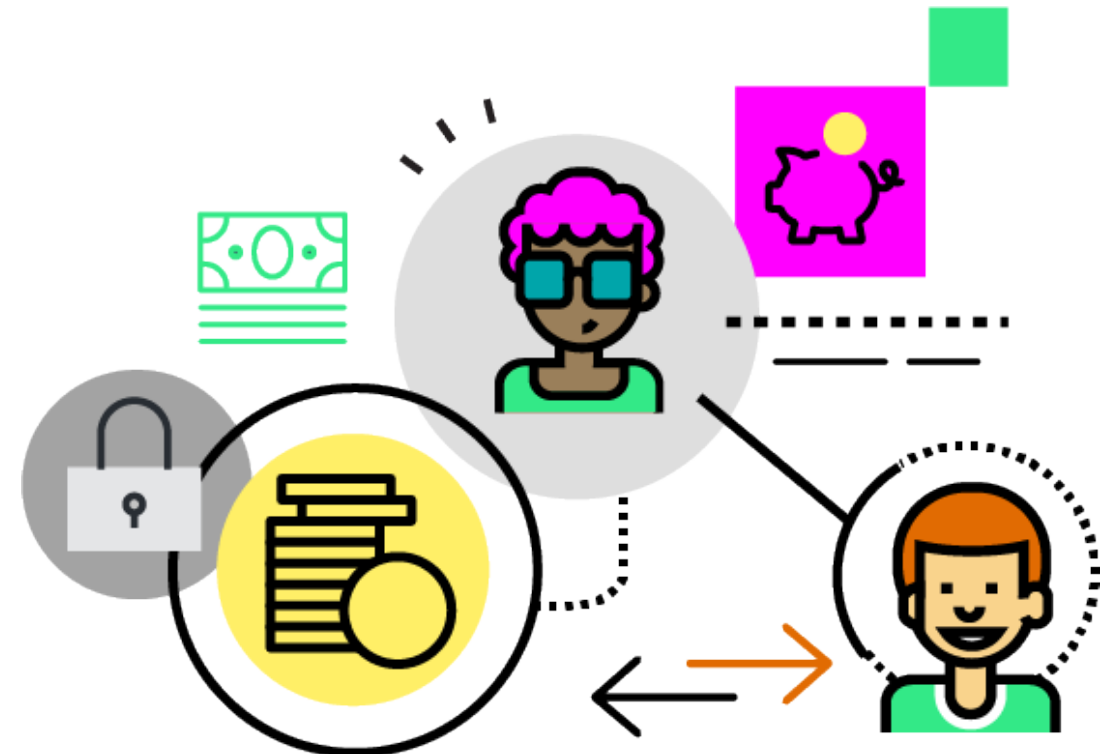
# City digital registry: fair home rental

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A verified, anonymous short-stay rental register. By only revealing the relevant attributes: (1) I live in the house that I let (2) I have not rented it out for more than 60 days.

Return benefits to community to mitigate effects of tourism



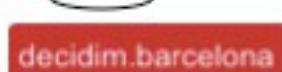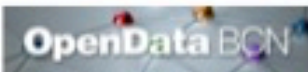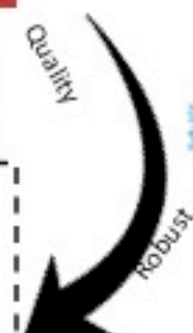**Amsterdam, other EU cities, urge Brussels to take action on Airbnb data**

City of Amsterdam

# DECODE implementation strategy
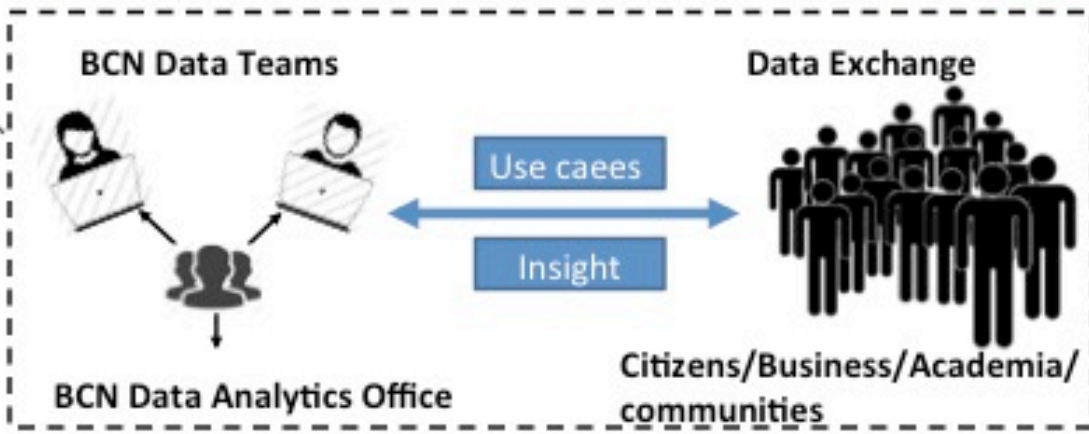
# EUROPE MUST SHAPE A PEOPLE CENTRIC DIGITAL FUTURE



Europe's next competition clash: Online data

Monopoly watchdogs appear to want to treat tech giants like state-owned water or energy utilities, which could be legally fraught.

- Make GDPR an opportunity
- Mandate data and algorithmic transparency
- New Rules against market dominance of tech companies & platform giants (Fair competition/antitrust)
- Fund decentralised, privacy-enhancing, rights preserving digital infrastructures
- **Ensure Data sovereignty of citizens**

**We need ambitious & structural interventions that will tackle the question of data ownership & who is going to own AI services built with that data**

**Contact us!**

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# www.decodeproject.eu

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