

# DEcentralised Citizens OWNed Data ECosystem

*Enabling Citizens' control  
of their personal data*



**DECODE in a  
nutshell...**

**decode**

# What is DECODE?

- EU – H2020 - CAPS call funded project (5 M Eur.)
- 3 years (Jan. 2017-Jan. 2020)
- Coordinated from BCN (Francesca Bria, CTID)

# Who is DECODE?

14 partners, 6 countries (ES, NL, UK, FR, IT, SW)

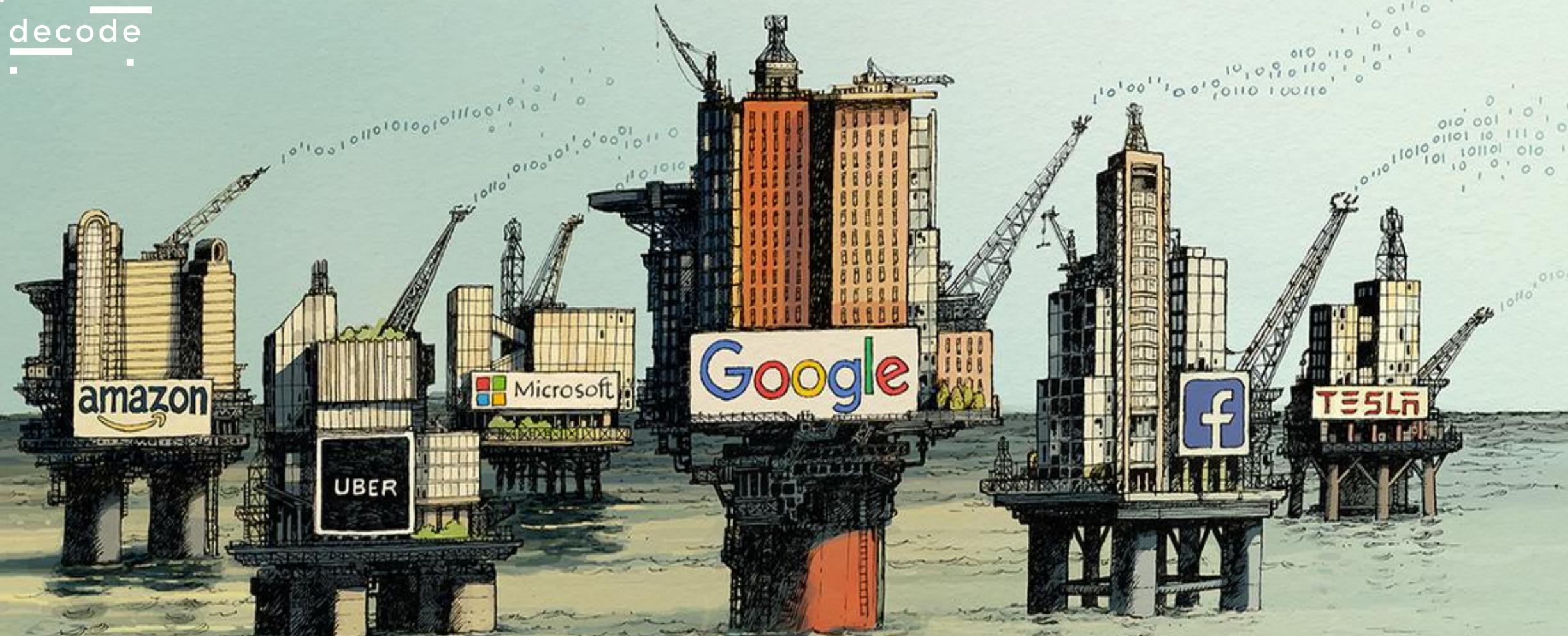


**Nexa Center for Internet & Society**  
Politecnico di Torino



ThoughtWorks®





# IS DATA THE NEW OIL?

David Parkins



**DATA (SHOULD BE)  
THE NEW SOIL!**

# Challenge: Enabling the Digital Commons

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

We want to decide *liquidly* **who** to share it with,  
under which **rules**, **when** and for **what** purpose  
and we want to do it in a **transparently**.

In short: Real **data sovereignty**



# Digital Commons - 3 Axes

People /  
community

Projects

Support /  
playing field

# 3 main challenges

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## Technological (Support/playing field)

- Distributed
- Fully transparent
- Secure?
- Portable / open standard!
- Free & Open source!



## Societal (People/comm.)

- Incentives?
- Legal implications?
- Social awareness?
- Governance?

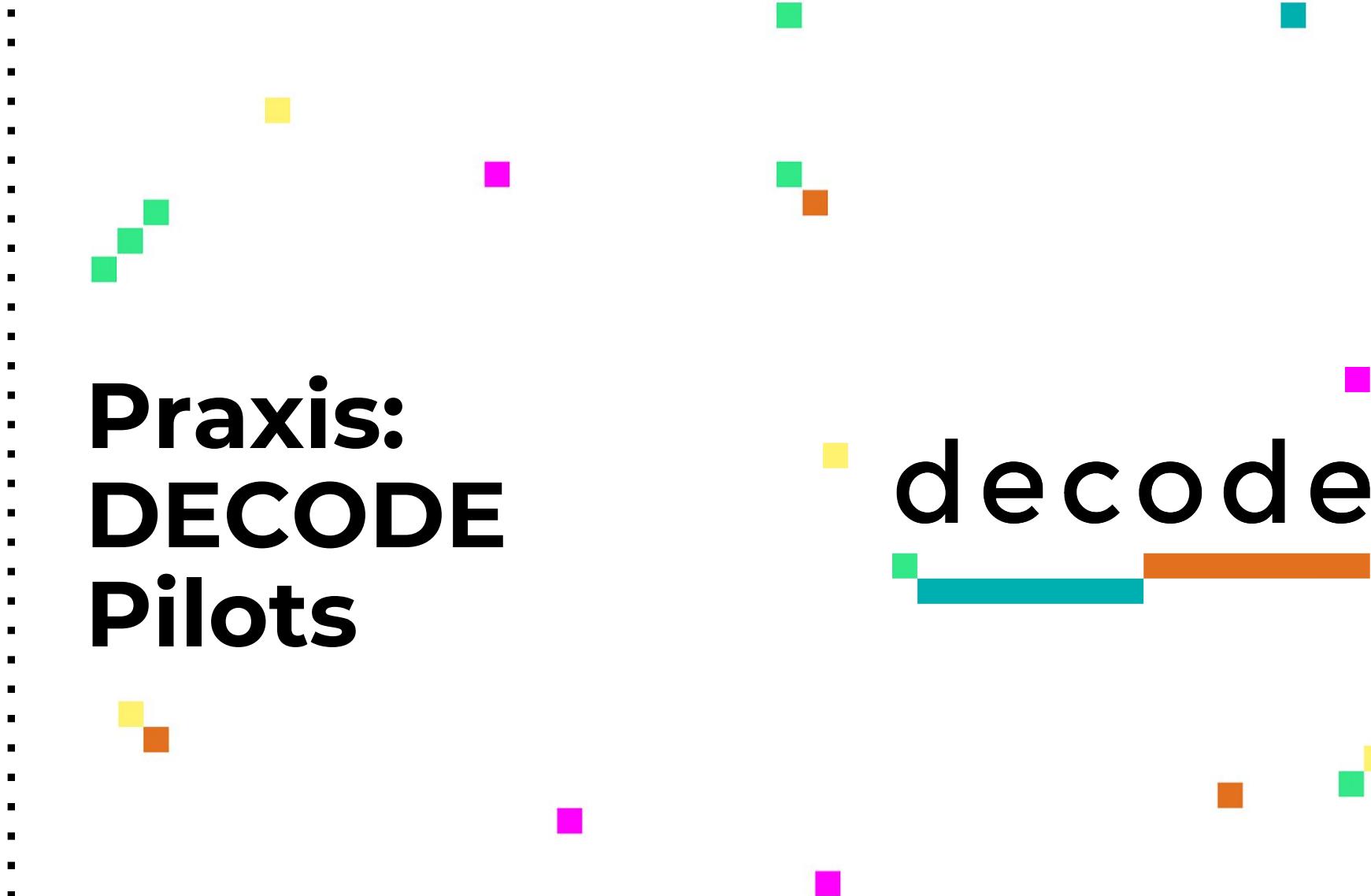


## Practical (Projects)

- Are there good use cases ?
- Can we make it work?
- Will communities understand it?

# **Praxis: DECODE Pilots**

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# Introducing the Pilots

Decidim Barcelona

Català ▾ Registre

Iniç Processos Més informació Rendició de compte

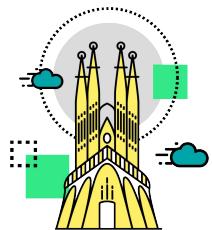
**Decidim la Barcelona que volem**

PARTICIPA

Open Democracy

Benvingut/da a la plataforma de participació de Barcelona. Construïm una ciutat més oberta, transparent i col·laborativa. Entra, participa i decideix

## IDIGITAL / BCNOW PLATFORM



Making Sense

About Campaigns

PLAÇA DEL SOL

Mapping noise in one of Barcelona's noisiest neighbourhoods

Citizen Sensing / IoT

## IOT PILOT INVOLVING #CITIZENSENSE

Nieuws Leden Online platform Coöperatie Starten Over ons Documenten Contact

**Gebiedonline**

Een online platform in coöperatief eigendom waarmee mensen samen de leefbaarheid van hun straat, buur, dorp of stad verbeteren.

Wat kan het platform? Waarom een coöperatie? Ook een lokaal platform?

Nieuws

Collaborative Economy

## GEBIEDONLINE (NEIGHBOURHOOD ONLINE)

fairbnb

community powered tourism

read our manifesto our network keep updated get in touch English ▾

A smart and fair solution for community powered tourism.

What if, in the world of short-term accommodation rentals, guests, hosts and neighbours could collectively decide together with municipalities how to make the rental process fairer, more sustainable and more rewarding for the

Collaborative Economy

## HOLIDAY RENTAL REGISTER / FAIRBNB



# BCN Participatory democracy: Idigital + BCNNow!

## Community:

decidim.barcelona users

## Need:

- **Accountability** on signing petitions, yet **privacy** on political beliefs
- Detection of city problems



**Decidim  
Barcelona**

# BCN Participatory democracy: Idigital

Carme wants:

- To **participate**
- To stay **anonymous**
- To be **counted!**
- To **contribute** to make the city better



# BCN Participatory democracy: BCNNow!

Júlia wants:

- To be **informed**
- To be **found** by peers



# BCN: IoT, Let's talk about data rights!

## Community:

[smartcitizen.me/makingsense](http://smartcitizen.me/makingsense)  
community

## Need:

- IoT data might be privacy-sensitive
- Crowd sensing



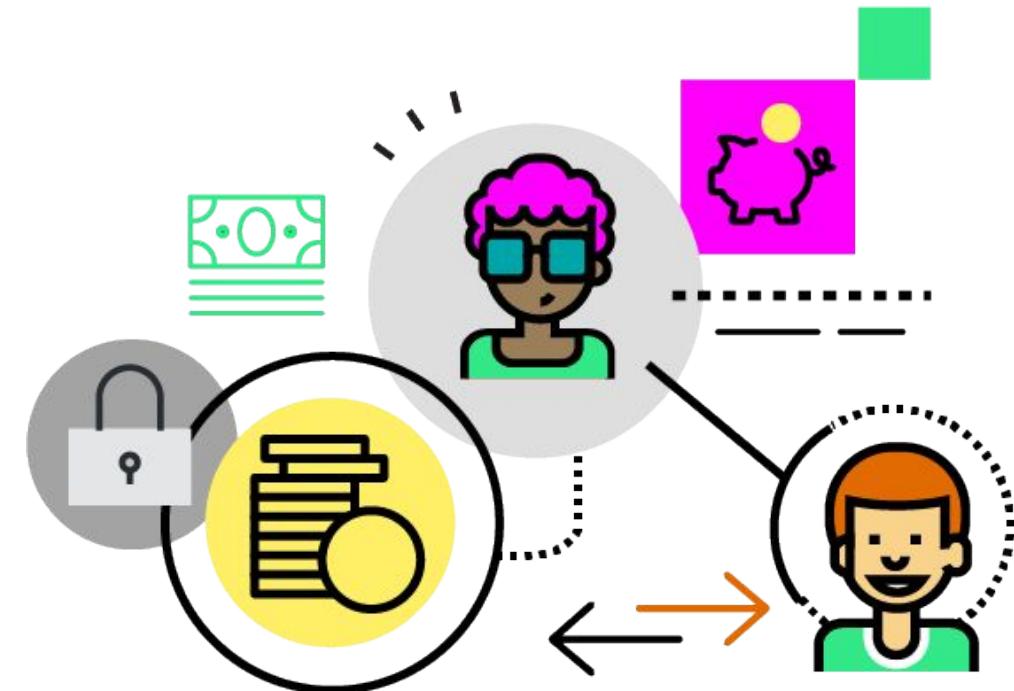
**Making Sense**  
Advances and experiments  
in participatory sensing



# BCN: IoT, Let's talk about data rights!

Alba and Joan want:

- To **collaboratively** gather data
- To **choose how to share their data**



# AMS: Local social networks

**Community:** gebiedonline.nl

**Need:**

- P2P verification by your neighbours
- Make it transparent & auditable

The screenshot shows a local social network platform for the IJburg neighborhood in Amsterdam. At the top, there's a banner with the word 'fellow' and a photo of a riverbank with buildings in the background. Below the banner, there are two main sections: 'KALENDER' (Calendar) on the left and 'BUURTPRIKBORD' (Neighborhood Bulletin Board) on the right.

**KALENDER (Left):**

- VANDAAG (Today):**
  - 19:00 Computerles voor beginners  
Buurtkamer IJburg  
Buurtkamer IJburg
  - 20:00 Hatha Yoga  
Bij Eef  
Bij Eef
  - 20:00 Total Body Small group training  
Fit Earth  
Fit Earth
  - 20:00 GEANNULEERD: Flex Night Live: Fietsen in/naar/vanuit Oost  
FlexBieb  
FlexBieb

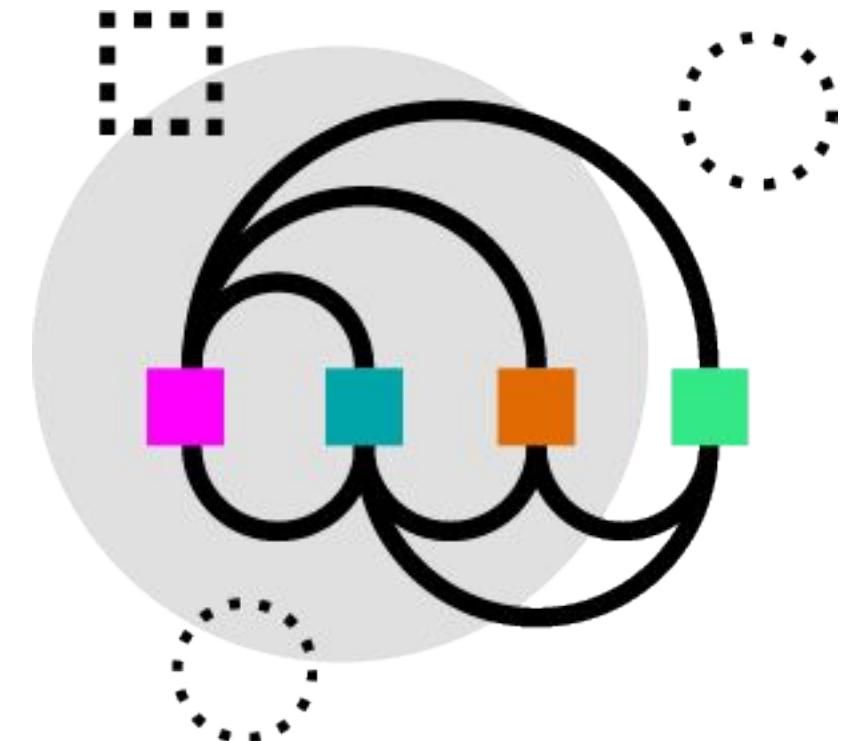
**BUURTPRIKBORD (Right):**

- bericht (Post):**
  - Expositie inzendingen kavel 42A**  
geplaatst op 9 november 17, 11:12 uur, door Anneloes Hummelink
  -  Vanaf 8 november tot en met 31 december 2017 worden in het Architectuurcentrum Amsterdam (ARCAM) alle 4 de ontwerpen getoond die waren ingestuurd voor kavel 42A op IJburg.  
Afgelopen zomer werd bekend ...
- aangeboden (te koop / te huur / te lenen):**
  - Kinderzitje**  


# AMS: Local and social networks

IJburg (AMS neighbourhood) wants:

- To **listen** to everybody's opinions
- To **distinguish** between certified IJburg residents and the rest.



# AMS: FairBnb & Rental register

## A take on the “sharing” economy

**Community:** fairbnb.coop /  
AMS city council

### **Need:**

- Monitor touristic policy in a secure and traceable way
- Minimize data gathering.



community powered tourism

# AMS: Local and social networks

Mariska wants:

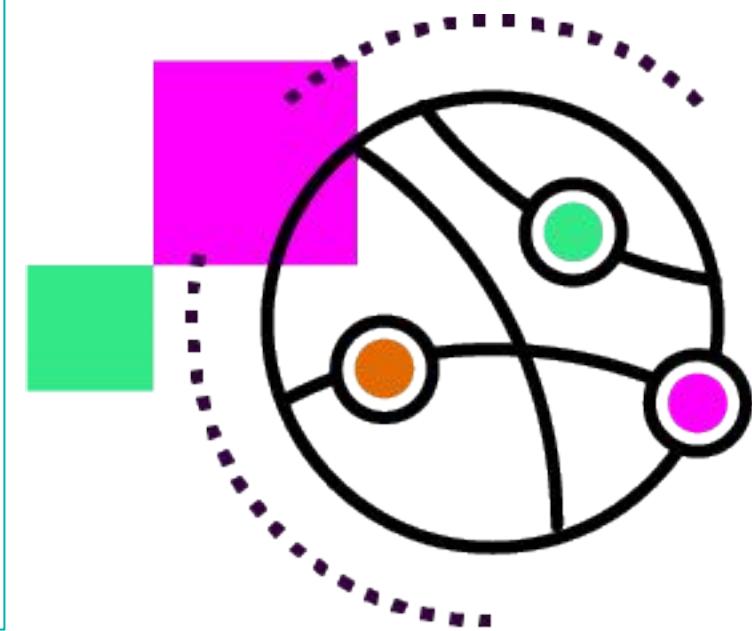
- To **ensure** rules are respected

Teun wants:

- To **redistribute** benefits to the neighborhood

Ellen wants:

- To **be informed** on area tourism use



**DECODE**  
under the  
hood...

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**PRIVATE**

# **Under the hood**

**Distributed  
ledger**

**Zero Knowledge  
proofs**

**Entitlements & smart  
rules**

**IoT Data**

# Distributed Ledger

ger		
51.36	1.36	+180.98
51.36	5.56	+740.21
21.88	8.24	+122.56
78.69	9.62	+140.04
18.75	1.36	+180.98
51.36	5.56	+740.21
		= 56

# Zero Knowledge proofs



# Entitlements to your data

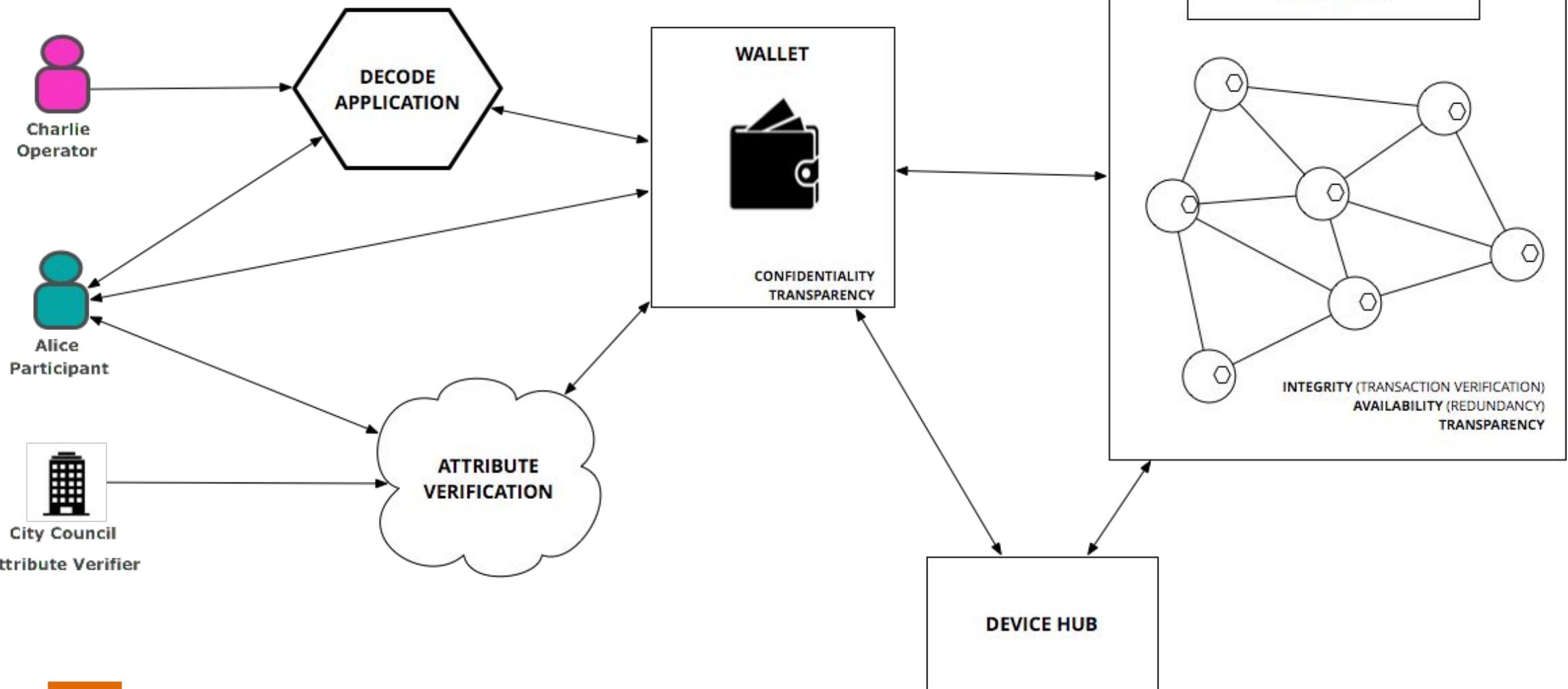
YOU  
HERE

# IoT Data



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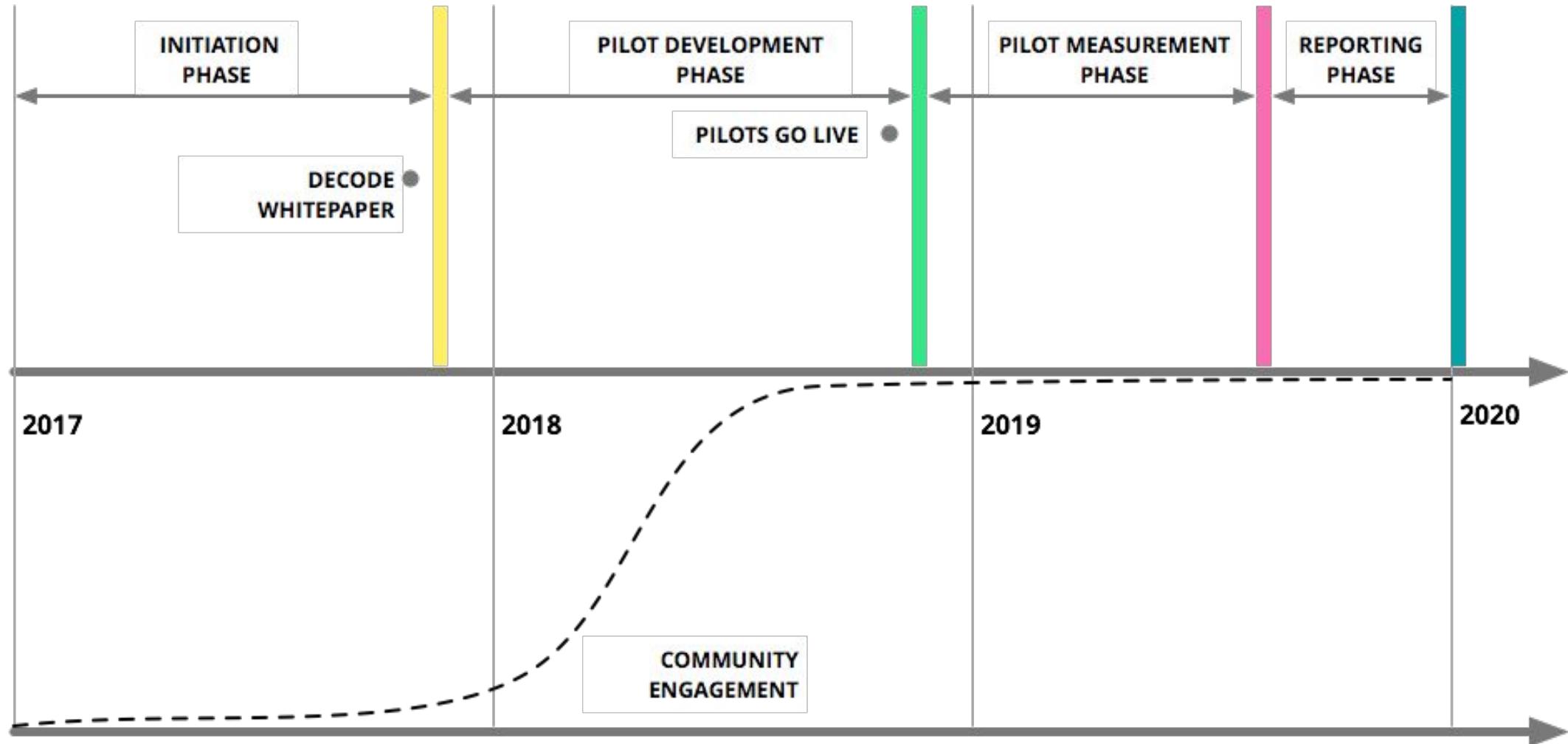
# DECODE Overview



**What's next?**

**decode**

# High Level Plan



A photograph of a large audience in a dark auditorium. Many people are raising their hands, some with phones held up, likely taking pictures or videos. The background features vertical wooden slats, possibly part of a stage set or wall.

# Community

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# How can I get involved?

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 [@decodeproject](https://twitter.com/decodeproject)

