

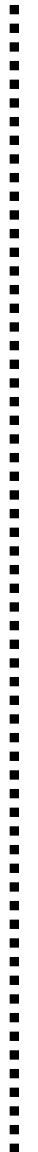
DEcentralised Citizens Owned Data Ecosystem:

Data sovereignty for citizens · decode

Francesca Bria –
Barcelona CTIO,
DECODE Project Coordinator

DECODE in a
nutshell...

decode



What is DECODE?



- DECODE provides tools that put individuals in control of whether they keep their personal information private or share it for the common good
- DECODE will be a free and open source ecosystem of tools, validated in real life context
- EU– H2020 - CAPS call flagship project (5 ML)
- 3 years (Jan. 2017-Jan. 2020)

decodeproject.eu



Preserve the digital
sovereignty of European
citizens

decode

Who is DECODE?



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



Ajuntament de
Barcelona

ThoughtWorks®

eurecat
Centre Tecnològic de Catalunya

UOC
Universitat Oberta
de Catalunya



City of
Amsterdam



waag society

-∞+
ARDUINO

PI.lab
Privacy & Identity Lab

Cnrs



Nexa Center for Internet & Society
Politecnico di Torino

UCL

thingful®

nesta



Data commons vs data extractivism

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Why DECODE?



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**

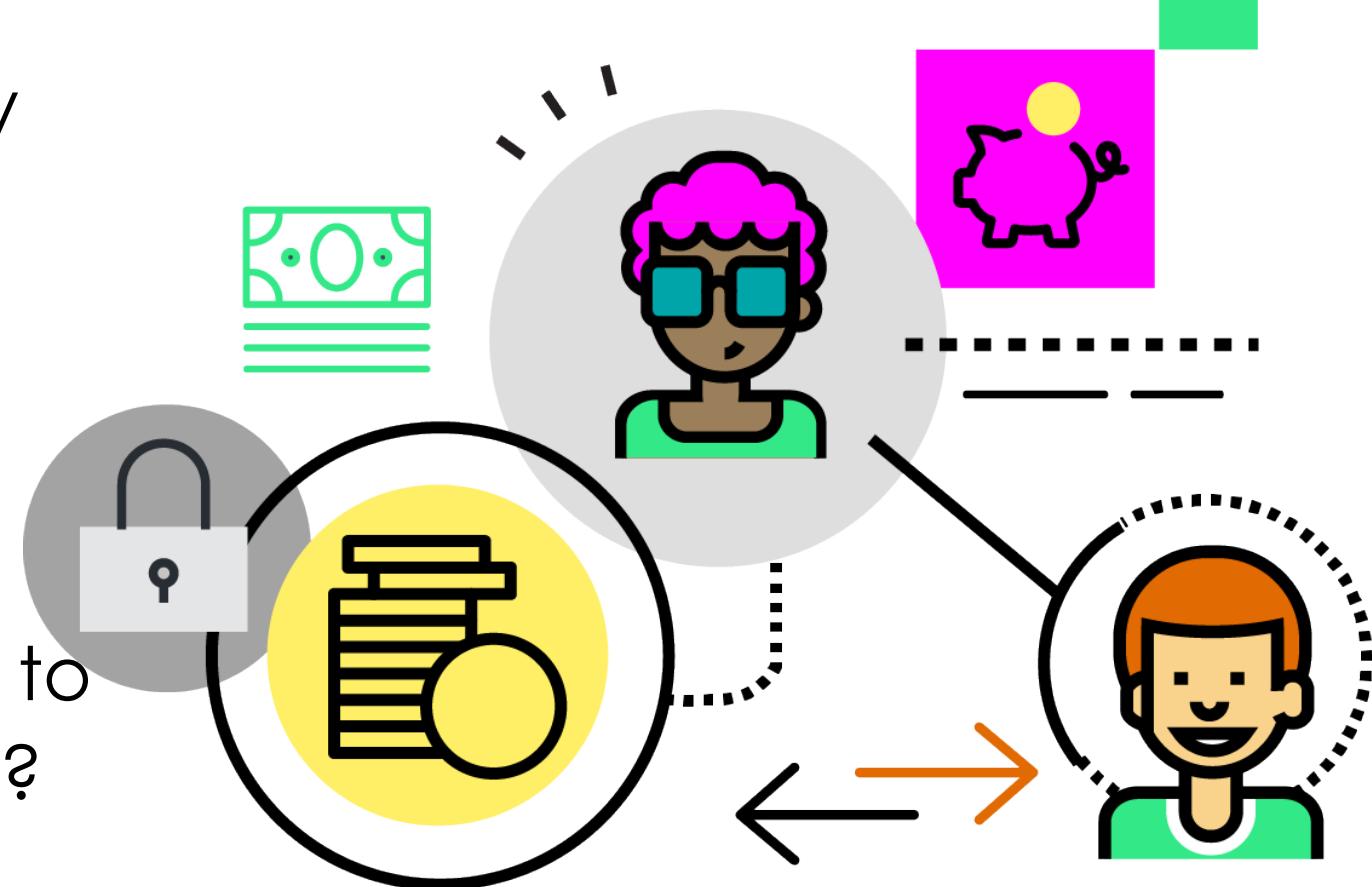
Where is DECODE relevant? (1/n)



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?



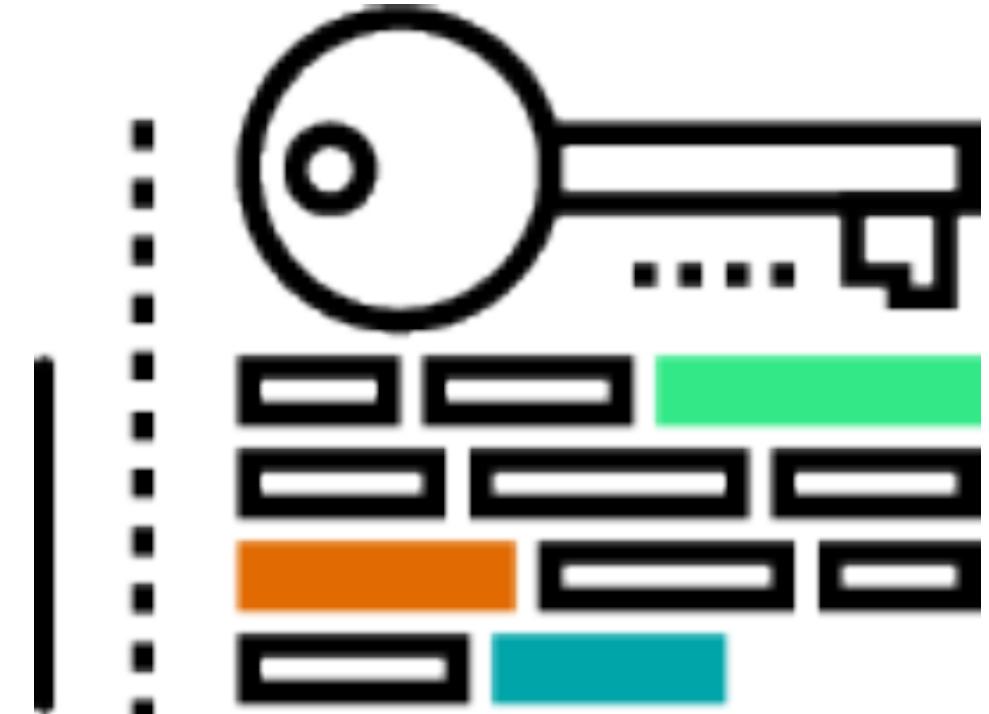
Where is DECODE relevant? (3/n)



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...

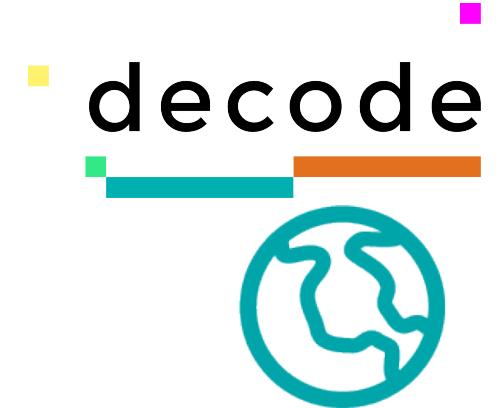


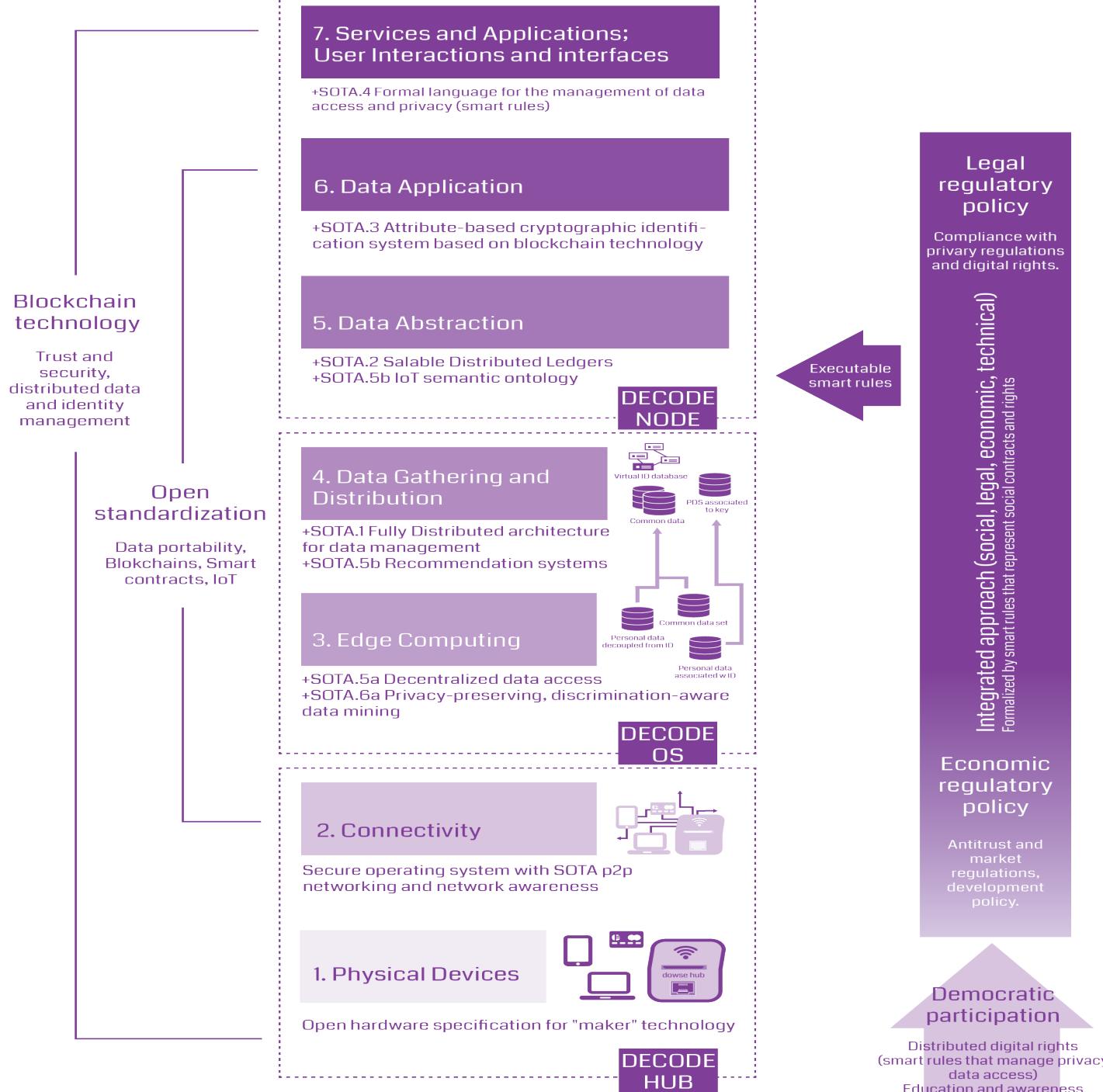
Challenge: Enabling the Data Commons

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

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

In short: Real **data sovereignty**





DECODE ARCHITECTURE

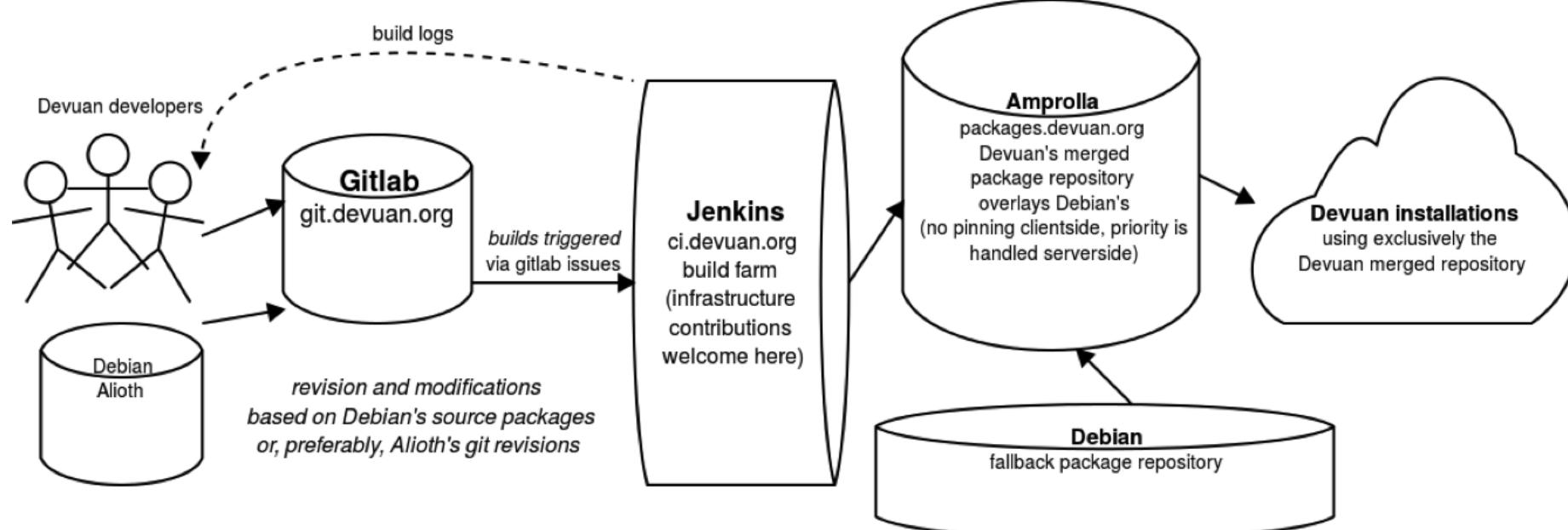
DECODE OS

A GNU/Linux operating system for smart rule applications

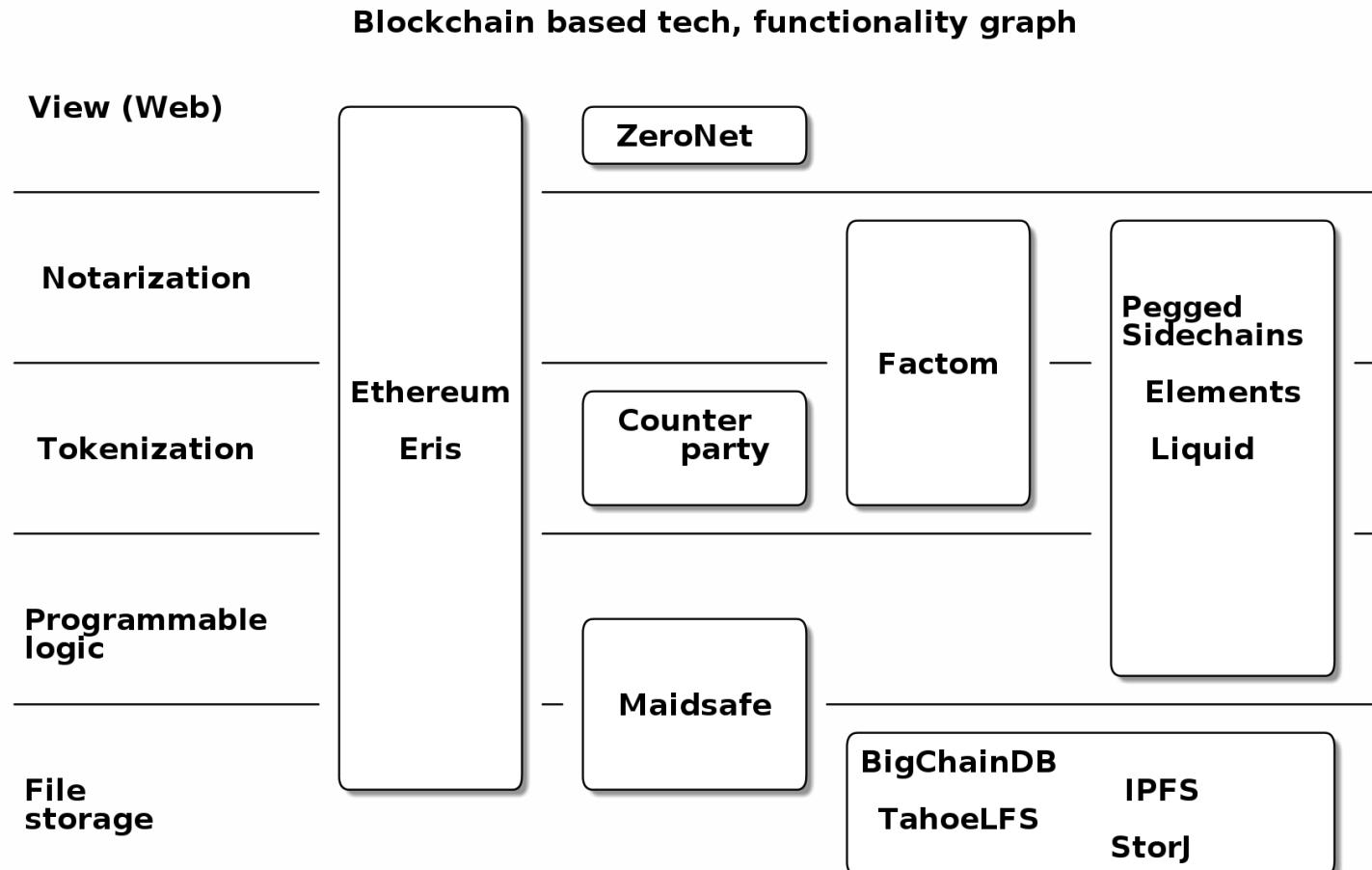


DEVUAN

Continuous Integration for Devuan



DECODE Neutral distributed ledger



DECODE

Main Goals



- Allow participants to manage access to their private data, by granting and revoke access to parts
- Allow operators to write smart contracts sign them and get the authorisation to run them on DECODE
- Allow smart contracts to access private data based on entitlements and matched attributes
- Allow everyone to record entitlements on a distributed ledger whose integrity is resilient and verifiable



A New Social Pact on Data

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3 main challenges of DECODE



Technical

- Distributed data storage architecture
- Fully transparent and secure
- Portable / open standard
- Free & Open source

Socio-economic & political

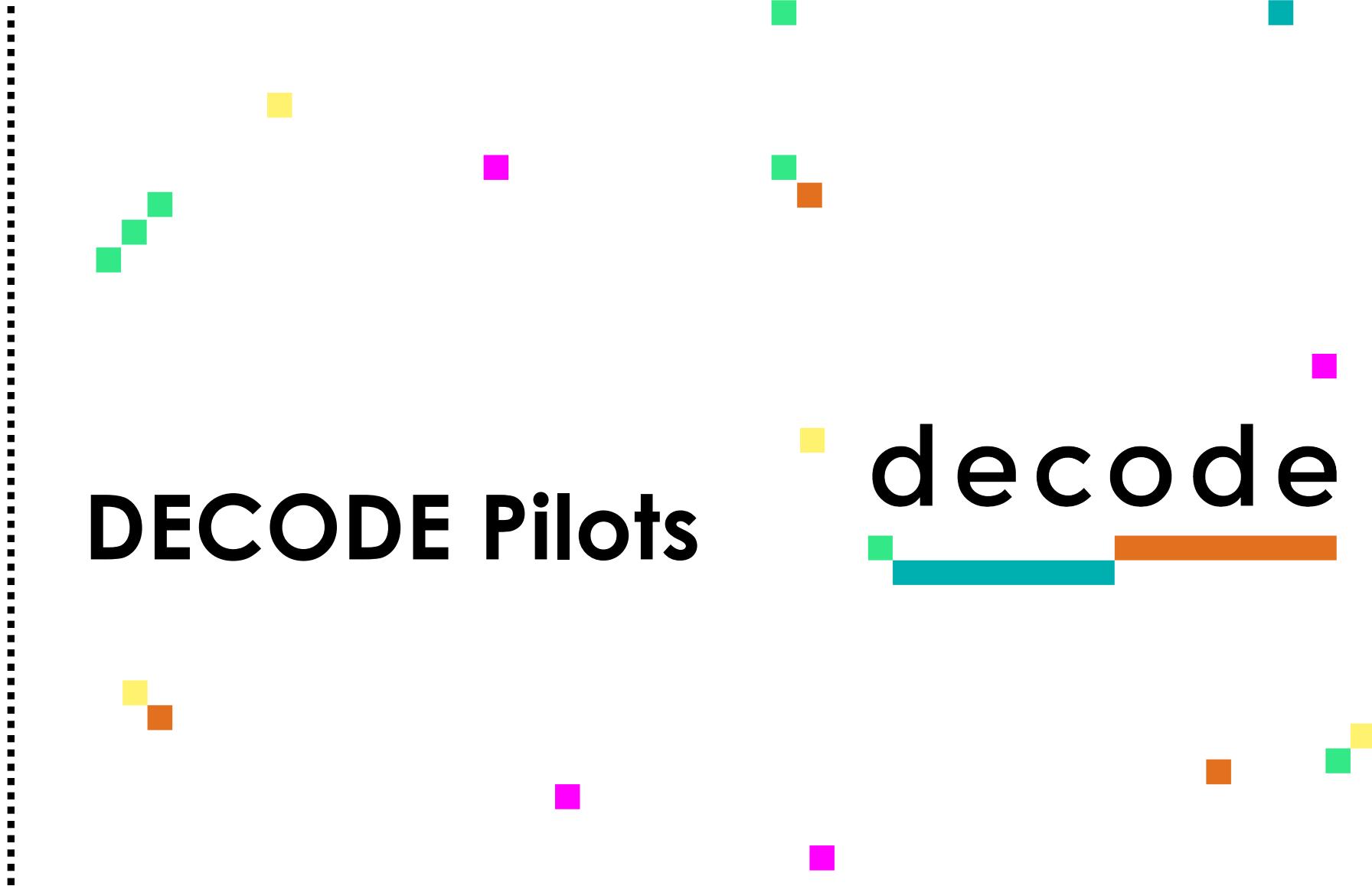
- New paradigm: Incentives
- Legal & economic implications of sharing data
- Who does the data belong to/ Governance
- Social & political awareness
- Fair non –predatory economic models

Mass adoption

- Good use cases
- UX
- Make it work & scale
- Will communities find it relevant & adopt it?

DECODE Pilots

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DECODE Pilots



4 pilots

■ 2 AMSTERDAM:

Localized social networks + FairBnB

■ 2 BARCELONA:

Participatory democracy + IoT citizen sensing

Methodology (I)



■ “Discovery”: AGILE INCEPTIONS - CO-CREATION WORKSHOPS

... provide a practical example that shows how the new proposed technological architecture, legal framework and smart sharing rules can be used to solve an existing problem, while raising awareness on the general problem of data exploitation/privacy/ownership and proposing a (genuinely) different type of approach than the already existing ones.

Community engagement
+ Real Needs
+ Feasability



Methodology (II)



- “Inception”: Co-design with community



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

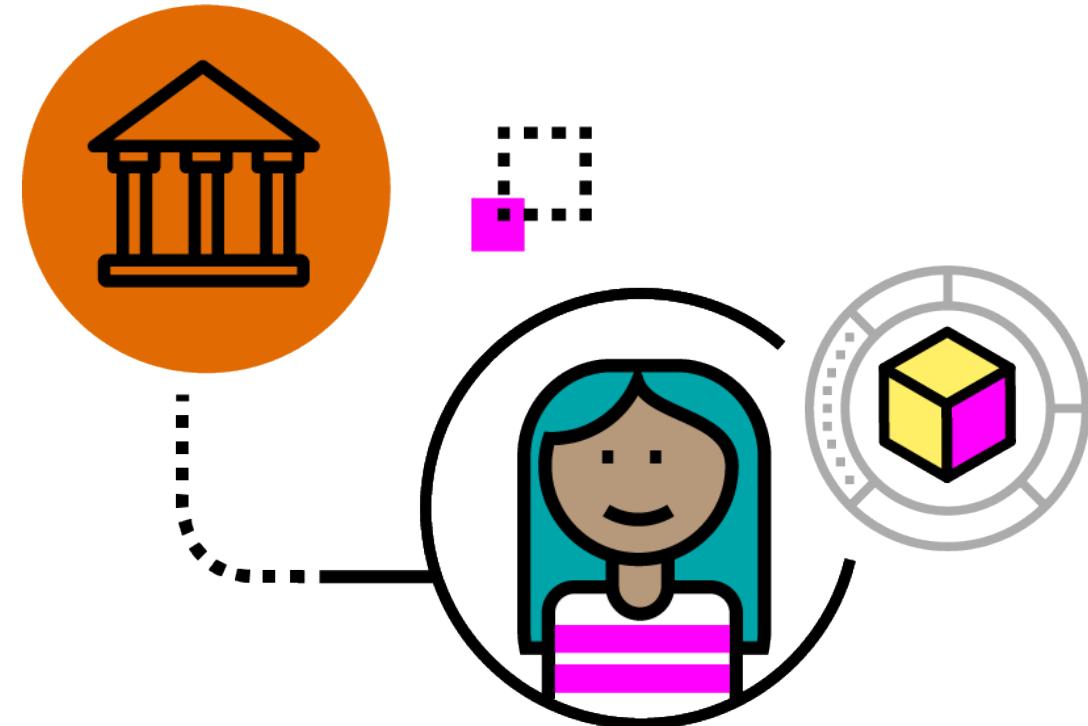
BCN data-driven participatory democracy: Idigital + BCNow!



decidim.barcelona

- Accountability on signing petitions & online voting, yet privacy on political beliefs
- Detection of city problems
- Provide tools to users with similar interests to interact
- Participatory budgeting

- Open source platform for participatory democracy
+30k users



Personalised data commons dashboard



Visualize personalized & relevant citizen interests

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

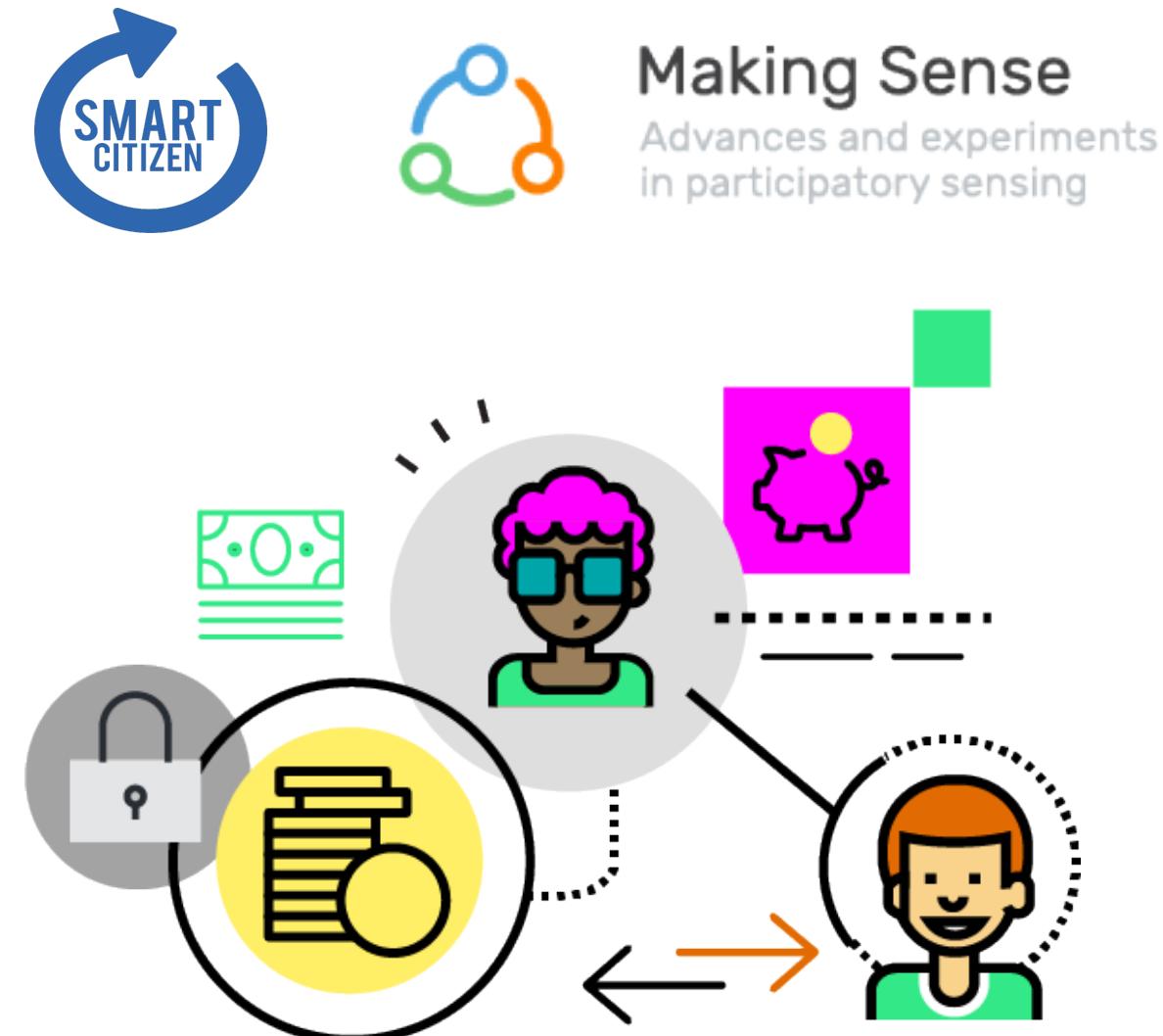


BCN: IoT/citizen sensing Data community rights

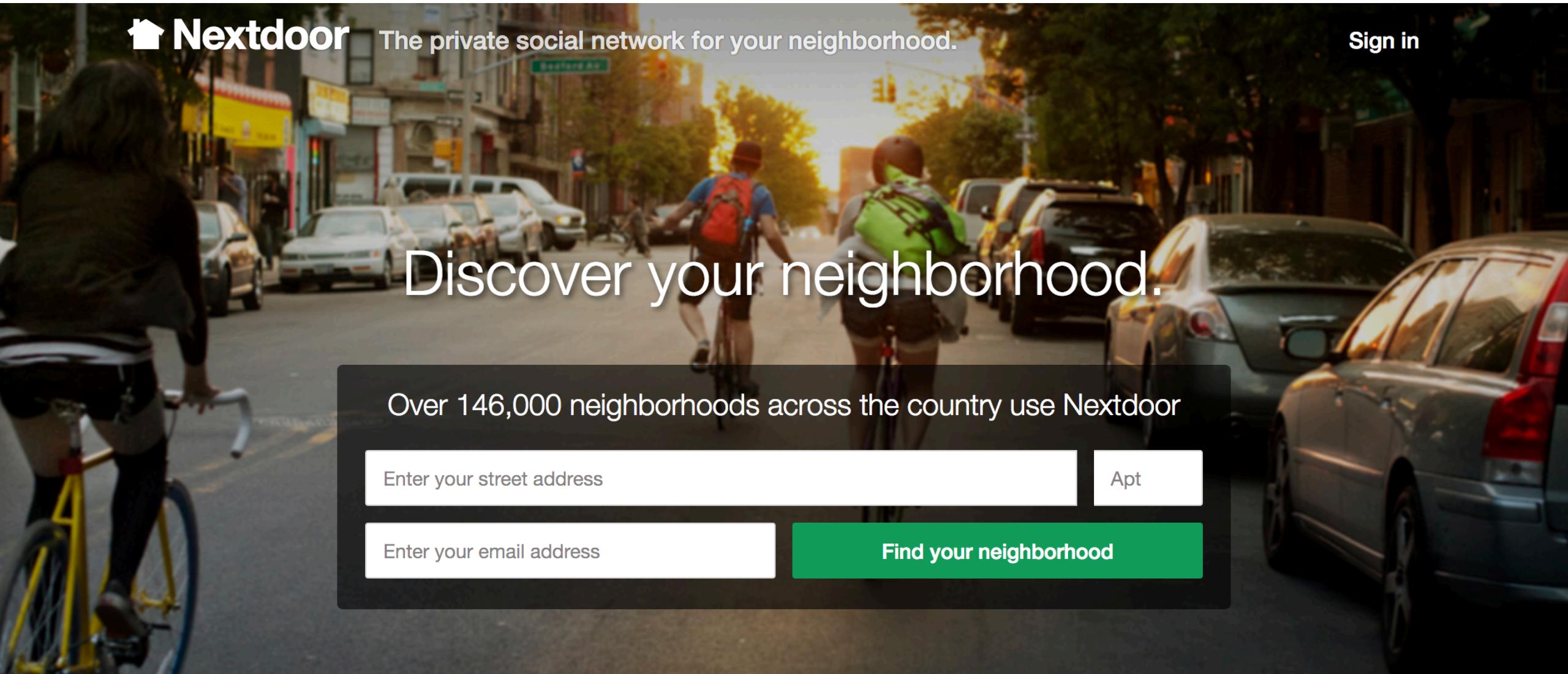


smartcitizen.me/makingsense

- 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



AMS: Local and social networks



The image shows the homepage of Nextdoor, a private social network for neighborhoods. The background is a photograph of a busy urban street with people walking and cycling. The Nextdoor logo is in the top left corner, followed by the tagline "The private social network for your neighborhood." and a "Sign in" button. A large white text overlay in the center says "Discover your neighborhood." Below this, a dark call-to-action box contains the text "Over 146,000 neighborhoods across the country use Nextdoor". It features two input fields: "Enter your street address" and "Enter your email address", both with placeholder text. To the right of the email field is a "Find your neighborhood" button in a green color. The overall design is clean and modern, emphasizing community and local connectivity.

Nextdoor The private social network for your neighborhood. Sign in

Discover your neighborhood.

Over 146,000 neighborhoods across the country use Nextdoor

Enter your street address

Enter your email address

Apt

Find your neighborhood

AMS: Local social networks



gebiedonline.nl

- Crowd certification that someone is a neighbor
- P2P Trust system transparent and auditable

Allow for neighborhood interaction platform that doesn't exploit data for the economic interest of the few:
shared value for the many

- One platform per neighborhood (~20k distributed users)



Cooperative & fair hospitality platform



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.



[read our manifesto](#) [our network](#) [keep updated](#) [get in touch](#) [English](#)



**A smart and fair solution for
community powered tourism.**



DECODE implementation strategy

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BCN DATA COMMONS

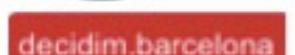
BCN Agencies



ECOLOGIA

B:SM

Institut de cultura.



Ajuntament de
Barcelona



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Barcelona Data Driven City

BCN Data Teams



Data Exchange



Use caees
Insight

BCN Data Analytics Office

Citizens/Business/Academia/
communities



Quality

Robust

What's next?

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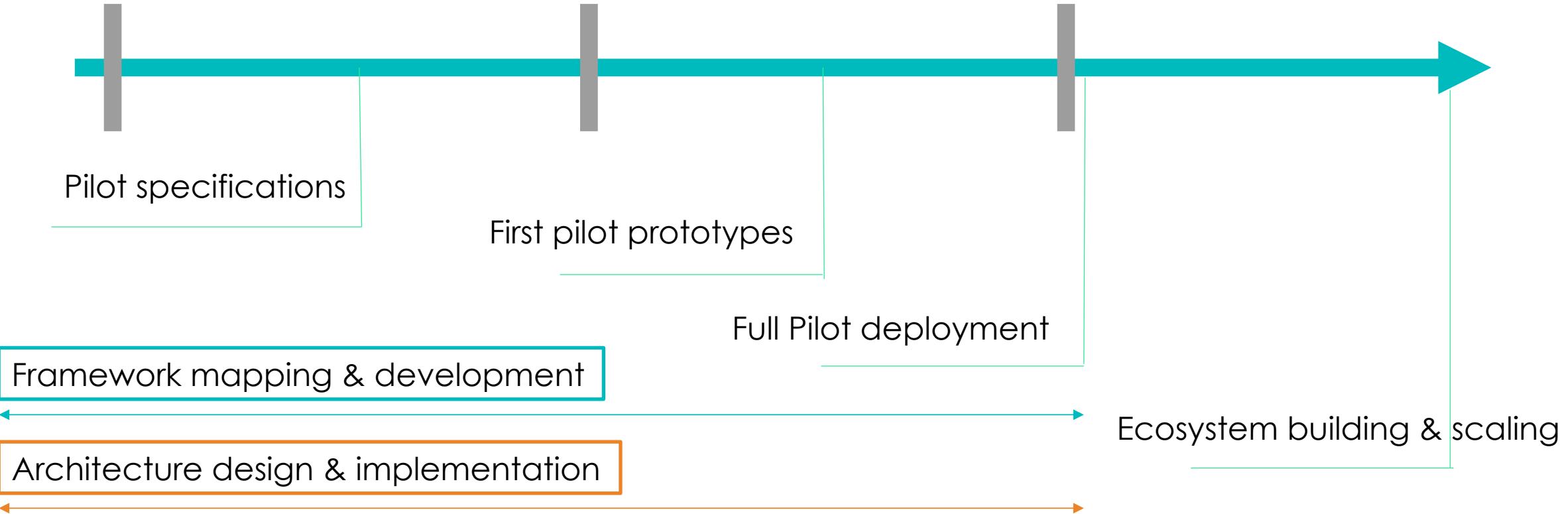
Calendar: Join decode!

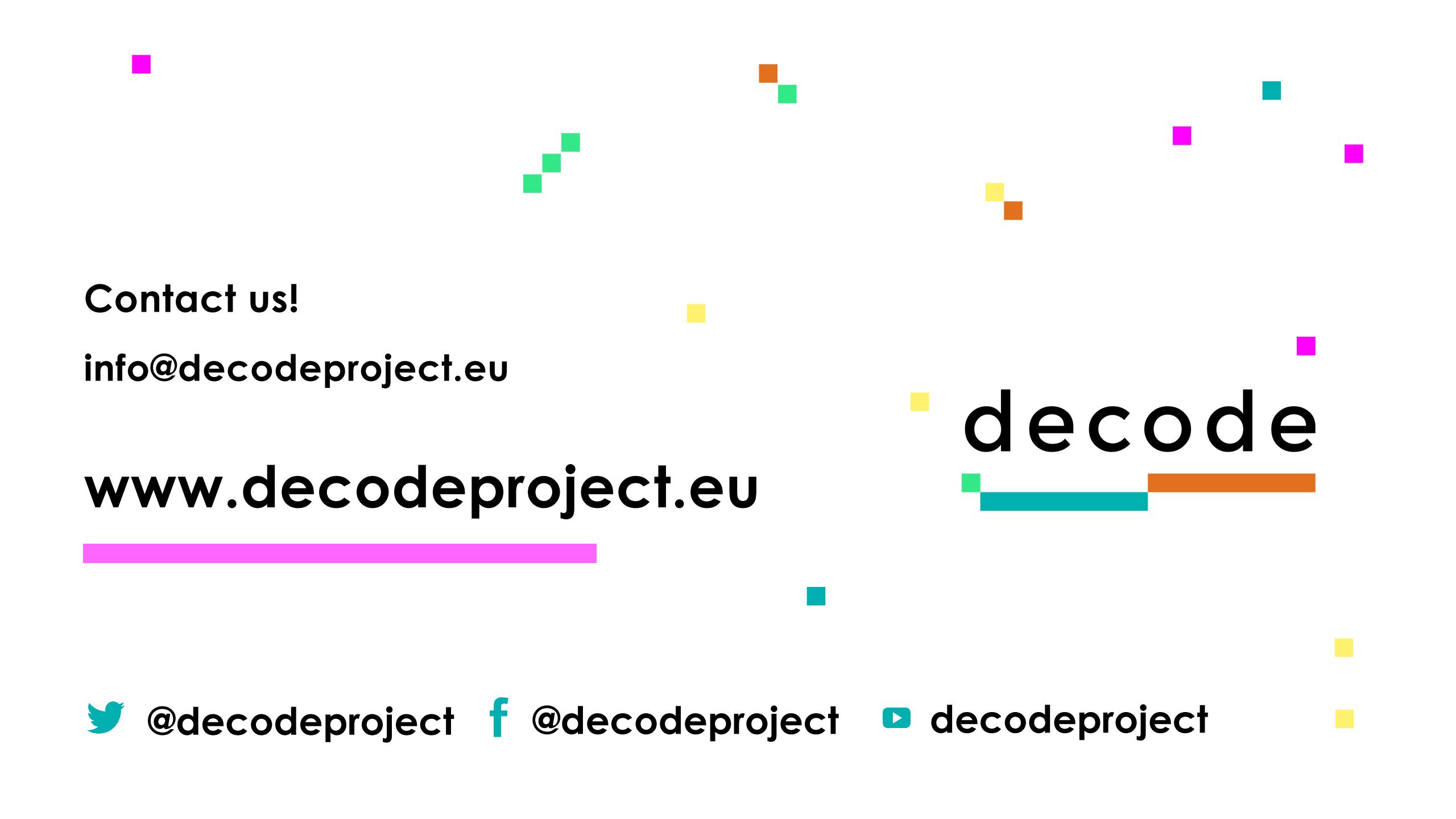


2017

2018

2019





Contact us!

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