decode

Update on community engagement report

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DECODE

DEcentralised Citizens Owned Data Ecosystem

D5.10 Update on community engagement report
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PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Approved by: Francesca Bria (DECODE Project Coordinator)
Date: 15/12/2019

This report is currently awaiting approval from the EC and cannot be not considered to be a final version.

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Abbreviations

AMS	Amsterdam CITY COUNCIL
ABC	Attribute Based Credentials
IRMA	I Reveal My Attributes (App for ABC by RU)
WP	Work Package
PET	Privacy Enhancing Technologies
BCNNow	Barcelona Now (tool described in detail in deliverable D5.3)
GO	Gebiedonline
DSI	Digital social innovation

1. Introduction

DECODE is part of a wider ecosystem of efforts to promote and develop technology that is open source, privacy conscious, and embodies values like data ownership and data sovereignty. DECODE both draws from and contributes to this larger ecosystem. This interaction aids in the project's:

- **relevance** - DECODE addresses existing needs and opportunities;
- **quality -** Useful tools which are based upon the same or similar principles as DECODE have already been made, allowing DECODE room to borrow, focus, and specialize; and
- **sustainability -** DECODE outcomes can now be adopted and used by others. In many cases, this is already happening.

Ensuring this relevance, quality, and sustainability required DECODE partners to undertake dedicated efforts towards engaging people from all walks of life. Specifically, the DECODE engagement strategy intended to target public administrators, the general public, and developers across a wide range of fields. A key component of this strategy has been bringing these three groups of people together in a variety of settings in order to help each group better understand the issues and technologies surrounding issues like data privacy, data ownership, and digital identity. Co-creation and co-development with a number of external partners also established the uptake of DECODE values and technology within governments, communities, external developers and other organizations.

2. Community Engagement Strategy

2.1 General Strategy

The engagement strategies in DECODE were largely based upon the question of how to make the most of its unique context and position as a bridge between groups like technical developers, governments, ethical hackers, privacy advocates, and citizens. Generally, the DECODE engagement strategy was executed over the project's lifespan through the following steps:

1. Project partners **identified communities**, **raised interest** in the project, **and found viable pilots through the initial community engagement**, particularly during the pilot discovery process[1].
2. Partners **developed DECODE technology and executed local pilots** through a series of workshops, co-development sessions, and meetings **with key stakeholders** (pilot partners and organizations, civil servants, developers, citizens, etc.).
3. Meanwhile, project partners also **participated in and held events to disseminate** DECODE's outcomes, **advocate** for its principles, **and educate** others about issues surrounding digital identity.
4. Now, through **making the project outputs open and accessible** and by **collaborating** with people and organizations who are involved in ongoing projects, **DECODE principles and technology are sustained** and can contribute beyond the project's lifespan.

2.1.1 Defining core target groups

Target groups were identified at an early stage in the project, and most generally include policymakers, technical developers across fields, and the general public.

Technical target group: This group was largely engaged during the pilot selection process, and remained closely involved throughout the project's lifespan. It includes groups like ethical hackers and open source developers.

The technical target group was engaged on a number of levels. The most directly involved members of this group were partners selected for piloting like Gebiedonline, Decidim and Smart Citizen, who worked closely with the DECODE technical team in a highly detailed and dedicated process. Other technical communities have been involved in workshops about the development of ethical standards, have utilized DECODE technology, and supported the broader development of DECODE approaches, analysis and policy work. The evolution of the DECODE components and infrastructure have been published in the public repository

[1] In Amsterdam, the discovery process was called 'the DECODE Challenge' while in Barcelona, the process took place during a set of dedicated discovery meetings.

(https://github.com/decodeproject), where each of these technical groups are able to have access. Furthernore, Dyne, Dribia, Waag and Arduino directly engaged with external developers that are building on the DECODE technology. An overview of the DECODE tools can be found here: https://tools.decodeproject.eu/.

Policymakers target group- Policy Toolkits for data sovereignty: Policymakers have been engaged in Spain and the Netherlands at levels ranging from local to national. Most fundamentally, the municipalities of Barcelona and Amsterdam were partners in the project, leading to a significant policy impact in both of these cities and beyond via the creation of the Cities Coalition for Digital Rights. At European level the project stringly engaged with the European Commission and with the European Parliament.

The Barcelona City Council was closely involved with the development and execution of DECODE pilots in the city, often playing critical roles in the overall coordination[2]. As part of the BCNNow pilots, for example, the city council provided access to data from its own sources. This close proximity to the DECODE pilots in multiple ways (coordination, execution, data source) has helped solidify the importance of digital identity and data privacy within Barcelona. In its Digital Transformation Plan[3], the city of Barcelona released a very innovative ethical data management policy, that explicitly mentions the data sovereignty and data commons frameworks tested within the DECODE project. The Barcelona CTO Francesca Bria (and DECODE Project Coordinator) also released a set of "ethical digital standards", mandating privacy, ethics and security by design and prototyping a novel concept of "data sovereignty clauses" in procurement contracts. These ethical standards are the foundation of the manifesto in favor of technological sovereignty and digital rights for cities[4] that inspired and informed the Cities Coalition for Digital Rights supported by the United Nations.

In the Netherlands, a series of meetings and sessions with governmental officials led to partners developing the 'wegingskader', a policy paper which contains recommendations for how DECODE principles can be adopted by policymakers. Following this engagement effort, seven large municipalities[5] and multiple national agencies have begun to implement technologies like ABC into their digital systems.

General public target group: People from all walks of life are affected by issues surrounding digital identity. In many cases, members of the general public are aware of and worried about these issues. However, the complexity of these issues poses a challenge for many people in addressing them. A goal of DECODE is thus to connect these highly technical issues with the day-to-day questions of the real life of citizens.

[2] More detailed accounts of the Barcelona City Council's involvement in DECODE pilots can be found in D2.6 and D5.9.
[3] https://ajuntament.barcelona.cat/digital/en/digital-transformation
[4] https://www.barcelona.cat/digitalstandards/manifesto/0.2/
[5] Almere, Amersfoort, Amsterdam, Groningen, Haarlem, Nijmegen, and Utrecht

The general public was a specific focus in the publications and materials made available through the Amsterdam Digital Identity Lab[6] and of the DECODE Symposium. Groups part of the Decidim community and the Smart Citizen/Making Sense project formed the basis for the citizen group engaged during the Barcelona participatory democracy and IoT pilots. Meetups and other events were often designed to include a broader audience and connect them with policymakers and members of the free software, blockchain, and PET (privacy-enhancing technology) community. Ultimately, these efforts combined to make the subject of data sovereignty and control of personal information and digital identity more approachable and comprehensible for citizens.

2.2 Pilot Selection

In both Amsterdam and Barcelona, external pilot partners were identified and selected through a public pilot discovery process. The selection of pilots was central in both developing and executing an early engagement strategy. In both cases, the search for pilots:

1) helped project partners to identify relevant communities and partners;

2) provided the basis for subsequent engagement efforts; and

3) served as a strong early engagement activity, which raised awareness, piqued interest, spurred involvement, and created contact between a number of previously disparate groups of citizens, policymakers, developers, businesses, and communities concerned with issues surrounding digital identity.

2.2.1 Pilot selection in Amsterdam

The DECODE challenge was one of the first public engagement activities related to DECODE in Amsterdam. The process was designed to collect as many ideas for the pilots as possible, and to connect with target groups including people and organizations who were already working on ethical approaches and alternatives to technology.
A number of organizations showed interest in the challenge and submitted applications. These organizations were invited to work with the DECODE technical team to build something that would be tested in the pilot.

Ultimately, this process led to the selection of Gebiedonline as a pilot in Amsterdam[7]. More information on pilot selection in Amsterdam can be found in D1.1, Chapter 5.1.

[6] https://policylab.waag.org/
[7] Amsterdam pilot coordinators selected the Claim Verification pilot at a later time.

2.2.2 Pilot Selection in Barcelona Community Engagement Strategy and Foundations

IMI BCN together with the Barcelona partners UOC and Eurecat, and TW conducted a discovery process in Barcelona. They began by meeting with different communities in order to understand if the goals from the project were interesting and workable, and if values and motivations were aligned. This step gave the additional benefit of attracting the attention of different communities from a variety of fields related to digital social innovation. Many of these communities clearly stated that the DECODE principles were in line with their existing goals, meaning that DECODE partners would be able to select from a range of potential pilots that were already prepared to actually take up and implement DECODE principles.

A series of meetings were held with potential pilot partners, as well as with members of the general public who were interested to learn more about the project. The selection process was based on 3 main criteria:

- Are they tech-ready?
- Do they have a defined need?
- Do they have a community that can take on the project after the process?

Ultimately, this process led to the selection of two pilots in Barcelona: Digital Democracy and Data Commons[8], and Citizen Science Data Governance. Moreover, the pilot selection process raised awareness about the project and engaged a dedicated group of developers, civil servants, and citizens for the forthcoming project stages.

Further information regarding the DECODE pilot selection process in Barcelona can be found in D1.1, Chapter 4.

2.3 Identifying Needs

Early in the engagement process in both Amsterdam and Barcelona, pilot coordinators identified the needs of the target groups they had identified and begun to work with during the selection process. Project partners in both cities identified a similar need: *While everyone seems to care about what DECODE cares about, the different issues addressed by the project can be so complicated that non-specialists in government and the general public have difficulty understanding them.*

Amidst the tech and data, DECODE's engagement efforts also had to answer to philosophical questions. A main question thus became: How to bridge highly technical information with real user day-to-day situations?

[8] More information on the theoretical background of the DDDC pilot can be found at https://decodeproject.eu/publications/technopolitical-democratization-and-digital-commoning-case-digital-democracy-and-data

2.3.1 The role of co-development and co-design

DECODE partners addressed this question by bringing various groups together, offering a wide range of information at various levels of complexity. This also helped to put together groups of people with different skills who could then learn from one another.

DECODE often combined small-scale workshops with major events. Each year (2017-2019), the project held congresses on democratic tech and smart cities. People from the project also participated in panels. Pilot kickoffs were public events, done in collaboration with a network of free and open source advocates. The project's values and concerns also began to gain the attention of business groups and universities from around the world[9]. Examples of these events are provided in the following section, Chapter 3 'Events and Series'.

Including communities and target groups in the development process allowed project partners to create technology that was very close to the pilots themselves. The communities were in charge of doing the integration of their technology and DECODE technology, while hackathons and other helped to co-create good technology. This process allowed for full integration between pilots and DECODE technology, and also served as a proof of concept that others wishing to adopt DECODE technology may be able to do so.

[9] A more detailed description of Kickoff and early engagement (in Barcelona in particular) can be found in the previous report issued on Barcelona pilots, D5.6 'Deployment of Pilots in Barcelona' : https://decodeproject.eu/publications/deployments-pilots-barcelona

3. Events and Series (Hackathons, Challenges, Sessions, Symposia, and Conferences)

DECODE hosted a number of events which ranged in size, scope, and style depending on the goals at hand. These events generally fell into the following categories:

- **Events, meetups, co-design sessions** were central to both engagement and development. These meetings often included software developers, public administrators, and/or the general public dedicated to exploring or developing a particular topic or use case. The goal of these sessions was for all 'target groups' to gain something from the interaction: for example, providing developers with feedback and relevance while providing public administrators with valuable knowledge and information.
- **Speaking engagements and presentations** often occurred during external events and helped to share DECODE's values, research, and technology.
- **Conferences and symposia** were hosted by DECODE at various stages in the project. They were the most major DECODE events, during which both internal and external groups and speakers. gathered together (in person and online) to explore DECODE's technology, implications, related research and more. DECODE Symposium 2018 held during the Barcelona Biennale of Knowledge is documented here: https://ajuntament.barcelona.cat/digital/en/blog/biennial-of-thought-offers-the-decode-symposium and here: https://decodeproject.eu/events/beyond-surveillance-capitalism-reclaiming-digital-sovereignty . DECODE Symposium 2019 is documented here: https://decodeproject.eu/events/our-data-our-future-radical-tech-democratic-digital-society
    - Example events of each type are presented in the following sections. For a more complete list of events, please consult https://decodeproject.eu/events and the final DECODE dissemination and communication reporting.

3.1 Events, meetups, and design sessions

3.1.1 Events, meetups, and design sessions in the Netherlands

A selection of meetups and design sessions in the Netherlands is presented below.

- WeMakethe.City 2019 - This large conference brought together different groups. The 'cities for digital rights' conference program focused on protecting digital rights in cities.
- Data Union Fork - Waag's artist in residence Larisa Blazich made artistic intervention based on DECODE OS. Using the metaphor of a 'union' she argued that people should unite together for data rights and protection.

- Developing Values in Technology - This session, hosted at Greenhost, challenged people (both developers and non-specialists) to develop single value-based solutions·
- Adversarial Design - This workshop at Waag considered the concept of 'friction in design' to raise awareness and change behavior·
- Public Stack Summit - This event during WeMakeThe.City 2018 considered an 'open stack' of alternative technologies to create a more open and fairer Internet·
- Black Box Bellagio - This game night invited people to use their personal data as collateral for betting buy-ins in a metaphorical activity that raised insight into how personal data is used and sold online·

- Project partners in Amsterdam have placed an emphasis on engaging governmental officials with the DECODE project, and have encouraged governments to take active steps towards

  improving aspects related to digital identity in their jurisdictions. Often, these events were also open to the general public. Some of those meetings include
- January 31, 2018: Data Commons and the City[10] was a public event that introduced DECODE and its themes in Amsterdam.
- June 21, 2018: Next Generation Cities[11], a full-day conference hosted by Waag during the WeMakeThe.City event in Amsterdam.
- January 15, 2019: Staat van het Internet[12], an event where a set of speakers from the fields of art and technology discussed the current state of the Internet.
- February 15, 2019: General assembly at Waag including DataVakbond, a member of the European Parliament, and a member of the Dutch privacy authority (AP)[13].
- June 19, 2019: 'Cities for Digital Rights' in Zuiderkerk[14], a conference where DECODE partners Waag and CTO Amsterdam took part in answering the question: *How do we protect civil rights*

- *in fast digitising cities* July 3, 2019: DECODE presented at 'iBestuurCongres', an informatics/IT conference for Dutch municipalities and governments.
- September 11, 2019: Presentation and workshop at the Haarlem municipality regarding digital rights, digital identity, and digital sovereignty.
- September 13, 2019: Waag hosted a workshop on stakeholders and use cases, posing the question: How to involve citizens in a debate on digital rights and digital sovereignty?[15]

[10] https://waag.org/en/event/decode-data-commons-city
[11] https://waag.org/en/event/next-generation-cities
[12] https://waag.org/nl/article/de-staat-van-het-internet-2019
[13] https://waag.org/nl/event/meetup-datavakbond
[14] https://waag.org/en/event/cities-digital-rights
[15] This information is also provided in D5.8 'FInal Report on Pilots Amsterdam'

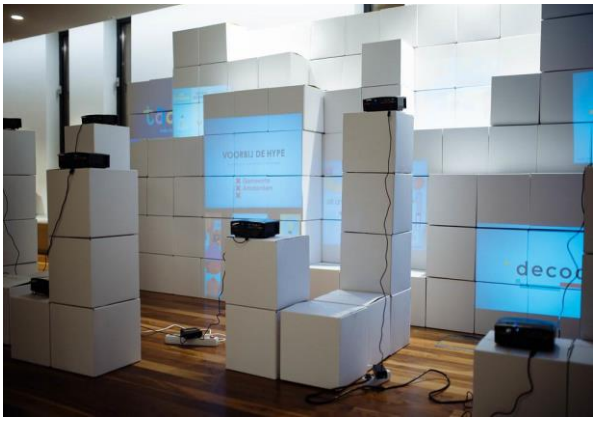

Figure 1: Staat van het Internet 2019. Photo from https://www.flickr.com/photos/waagsociety/46722581332/in/album-72157677818354538/

3.1.2 Events, meetups, and design sessions in Barcelona

A public event on October 18, 2018 marked the launch of DECODE pilots in Barcelona[16]. Design sessions following this launch played a major role in the development of pilots in Barcelona. The Digital Democracy and Data Commons pilot (DDDC) was led by the Barcelona City Council, UOC and technically by DRIBIA. As a starting point, there were three UX sessions with users of the metadecidim community[17] on May 8th, 2018; June 5th, 2018; and September 20th, 2018. The sessions were mainly divided into two sections: First, consortium partners evaluated the technology background of the user related to the DECODE context. Next, participants in the workshop provided feedback on the different functionalities of the app scale model. More than 20 people were interviewed in this process, including people from very diverse socio-demographic groups in order to mitigate design bias[18].

Beyond the UX meetings, the DDDC was focused on a participatory process of six months of duration and nine meet ups with researchers, practitioners, civil servants, and local SMEs to test the integration of the DECODE technology with Decidim[19], and to debate the data politics of the present and the future (a result of which was a manifesto on data commons). Around 300 people participated, online an offline. Some of the events included:

- 18 October, 2018: Distributed architectures for data sovereignty. DDDC pilot kick off. A debate and workshops debating legal, economic and technological aspects of data today and setting up the lines of work of the participatory process.
- November 2018 and 2019: sharing cities summit.

[16] This event is described in detail in D5.6.
[17] More information at meta.decidim.org.
[18] This information is also provided in D5.9 'Final Report on Pilots Barcelona'
[19] Decidim is a digital platform for participatory democracy, more information at decidim.org.

- 27 February & 5 March, 2019: Data Control Wars. Two workshops based on a speculative role-play game where people embody different actors of the digital society and their struggles to define the future.
- 18-19 March, 2019: DDDC Sprint – DDDC Manifesto co-writing meeting, a collaborative drafting of the final version of the Manifesto.
- 01 April, 2019: DDDC Finale – Beyond surveillance capitalism: towards digital democracy and data commons. A public debate on the Manifesto, followed by the first public test of the DECODE-Decidim technology.

More details on DDDC can be found at https://dddc.decodeproject.eu.

The IoT and BCNNow pilots also engaged citizens and other stakeholders during public events. For instance, during the IoT pilot process, six workshops with an average attendance of 25 people and 2 presentations in public events with more than 100 participants took place. In addition, the pilot team held a set of UX sessions in order to gather feedback from users about the developed tools'[20]. The BCNNow pilot also made use of a mix of UX design sessions and public events. See for instance the documentation of the IoT pilot onboarding in June https://elaragon.net/2019/06/21/decode-iot-pilot-tech-onboarding/ and fourth workshop held on July 10th here: https://ajuntament.barcelona.cat/digital/en/blog/the-fourth-workshop-in-the-decode-pilot-project-citizen-science-data-governance-iot-has-been

The final session held on October 2nd 2019 of the IoT citizen data governance is documented here: https://ajuntament.barcelona.cat/digital/en/blog/final-session-of-the-decode-pilot-project-citizen-science-data-governance-iot and here by Pablo Aragon from Eurecat: https://elaragon.net/2019/10/03/decode-iot-pilot-wrap-up/

Further details on pilot meetups and design sessions in Barcelona can be found in D2.6 and D5.9.

3.2 Speeches and presentations

Speeches and presentation opportunities for DECODE partners to share key project's values and outcomes with the broader scientific, policy and industry community. Some of these events are organized in collaboration with other similar projects, or with other leading organisations in similar fields. These events took place over the course of the project. A few examples are presented below. A detailed list of DECODE events is presented in D 6.7.

- December 11-12, 2017: Data Transparency Lab, a conference held in Barcelona with DECODE coordinator Francesca Bria as keynote speaker: https://decodeproject.eu/data-transparency-lab
- February 7, 2017: 'Data Sovereignty for a Collaborative Economy', the kickoff event of DECODE in Barcelona in collaboration with the DSI community: https://decodeproject.eu/dsi4bcn-data-sovereignty-collaborative-economy-and-caps-infoday
- 2017, 2018, and 2019: Each year, DECODE was presented at the Smart City Expo World Congress in Barcelona: http://www.smartcityexpo.com/en/home

[20] D2.6

- November 13, 2017: Francesca Bria presented at the IAAC Symposium for Responsive Cities: https://activepublicspace.org/2017/11/17/responsive-cities-symposium-2017-active-public-space/
- March 29, 2018: Beyond Data, beyond the citizens, a big data conference where DECODE partners presented about the role of citizens in digital cities: https://waag.org/en/article/beyond-data-beyond-citizens
- June 16, 2018: Maker Faire Barcelona, where DECODE partners presented the BCNNow pilot: https://barcelona.makerfaire.com/maker/entry/564/
- July 23 2018: Privacy Enhancing Symposium, Barcelona. OPERANDI 2018, Open Day for Privacy, Transparency and Decentralization. Organised by DECODE, Next Leap, Panoramix: https://petsymposium.org/2018/workshop.php
- April 6, 2019: DSI4EU Policy Event in Brussels, where Nesta presented on DECODE outcomes: https://ec.europa.eu/research/index.cfm?pg=events&eventcode=40065FC2-D920-5279-8F531652C14B5F06
- 9 May 2019, Francesca Bria testified as expert in the Data Ethics Committee of the German Government. DECODE has been analyzed as best practice in Europe: https://www.bmjv.de/DE/Themen/FokusThemen/Datenethikkommission/Datenethikkommission_EN_node.html
- 25 September 2019, Next Generation Internet Festival. Francesca Bria presented in the panel on human- centric approach to data governance: https://www.ngiforum.eu/agenda/
- 27 November 2019, Internet Governance Forum Berlin, Francesca Bria participated in the panel on Public Interest Data: https://www.intgovforum.org/multilingual/content/igf-2019-–-day-2-–-raum-ii-–-ws-191-public-interest-data-where-are-we-to-do-what-raw

3.3 Tech Event Sessions

Three DECODE Tech Symposiums took place during the course of the project:

- London (September 20th-21th 2017)
- Barcelona (May 3rd 2018)
- A tech track and Expo during the symposium in Torino (November 5th-6th 2019) described in D5.8[21]. The most recent tech symposium took place as part of the wider DECODE conference in Torino. During this tech Symposium, project partners Dribia, Eurecat, Dyne, and Amsterdam (Waag and CTO) had one hour each to:
- Explain to a developer what the software do, from a developer's perspective
- Show how the software is written and organized, what are the requisites
- Demonstrate how the software can be built and deployed
- Show how the software can be extended, with some examples
- Introduce any technical and/or hardware requirements.

These sessions intended to provide developers with the components and knowledge necessary to re-use the individual components developed within DECODE. Specifically, these sessions were related to components of the DECODE app, BCNNow dashboard, Zenroom, and the Claim Verification 18+ box and software. More information about this set of tech

[21] This included presentations and workshops related to the DECODE components and pilot. This session was not an internal tech Symposium, as was the case in London and Barcelona (mentioned above).

event sessions can be found on the event page[22]. More information regarding the Symposium in Torino generally is provided in the upcoming section 3.4.2, 'Our Data, Our Future'.

[22] More information at https://decodeproject.eu/events/our-data-our-future-radical-tech-democratic-digital-society/decode-tech-sessions

3.4 Conferences and Symposium

3.4.1 Beyond Surveillance Capitalism: Reclaiming Digital Sovereignty (16-17 October, 2018 in Barcelona)

Beyond Surveillance Capitalism was a meeting point for 'articulating a strategic vision of how digital technologies can facilitate the transition from today's digital economy of surveillance capitalism and data extractivism'[23]. A diverse and multidisciplinary range of presentations included:

- *The Dangers of Surveillance Capitalism* by Shoshana Zuboff, Harvard professor who coined this term in 2015 to identify a new economic order;
- *Chinese Technology and the New World Order* by Yuezhi Zhao, Professor of Communication at Simon Fraser University, who focuses her research on the interdependence between communications, economics and politics in a global environment; and
- *An Analysis of the Current State of Digital Capitalism* by Evgeny Morozov, researcher, analyst and writer

These examples are indicative of the breadth of perspectives included, providing an approach that includes political, technical, legal, economic and social perspectives.

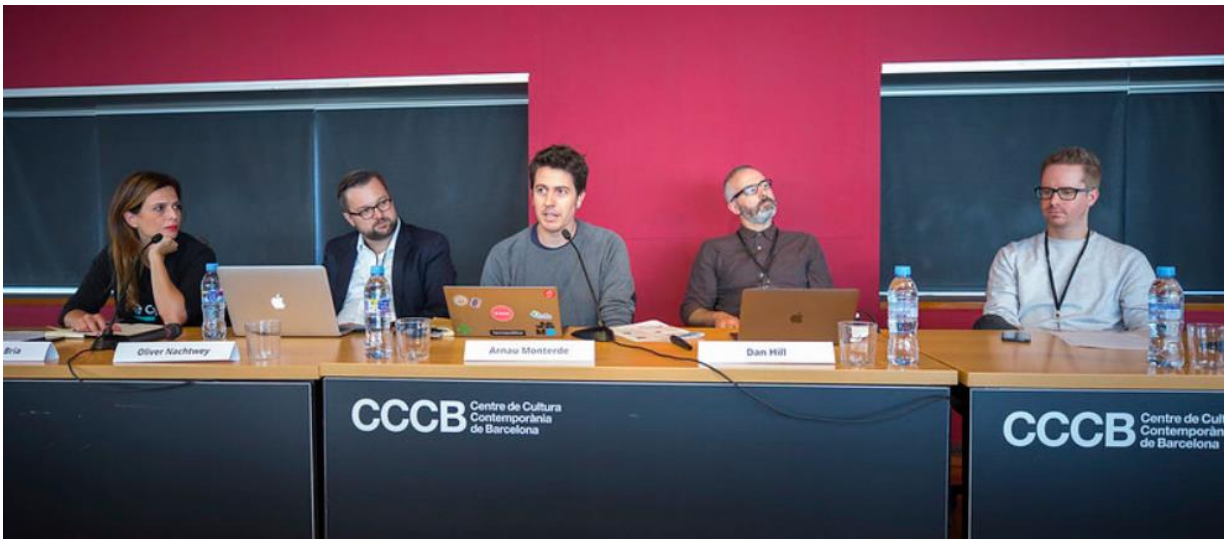

Figure 2: Panel discussion at *Beyond Surveillance Capitalism* in Barcelona[24].

[23] This quote and further information regarding the event can be found at https://www.decodeproject.eu/events/beyond-surveillance-capitalism-reclaiming-digital-sovereignty
[24] The original photograph can be found at https://www.flickr.com/photos/165796077@N08/44964360745/in/album-72157697715892330/

3.4.2 Our Data, Our Future: Radical Tech for a Democratic Digital Society (5-6 November, 2019 in Turin)

Our Data, Our Future was the final symposium in DECODE. The event DECODE facilitated discussion on 'the policy agenda that could help realize the radical democratic potential of decentralized digital technologies. This included both reviewing the technologies and outputs from the project, as well as discussion on how DECODE's outcomes and values could 'fit into the broader context of Europe's efforts to restore the economic and technological sovereignty of its citizens[25]' The event also provided a review of the most promising and impactful technologies generally, and facilitated a broader discussion on how to place these projects in relation to the protection of fundamental citizen rights.

A variety of stages, sessions, exhibitors, and workshops engaged attendees on a variety of levels – actively, academically, technically, and socially. More information and an agenda of the two-day event can be found at https://www.decodeproject.eu/events/our-data-our-future-radical-tech-democratic-digital-society.

The final DECODE Symposium will are documented in detail in D6.7.

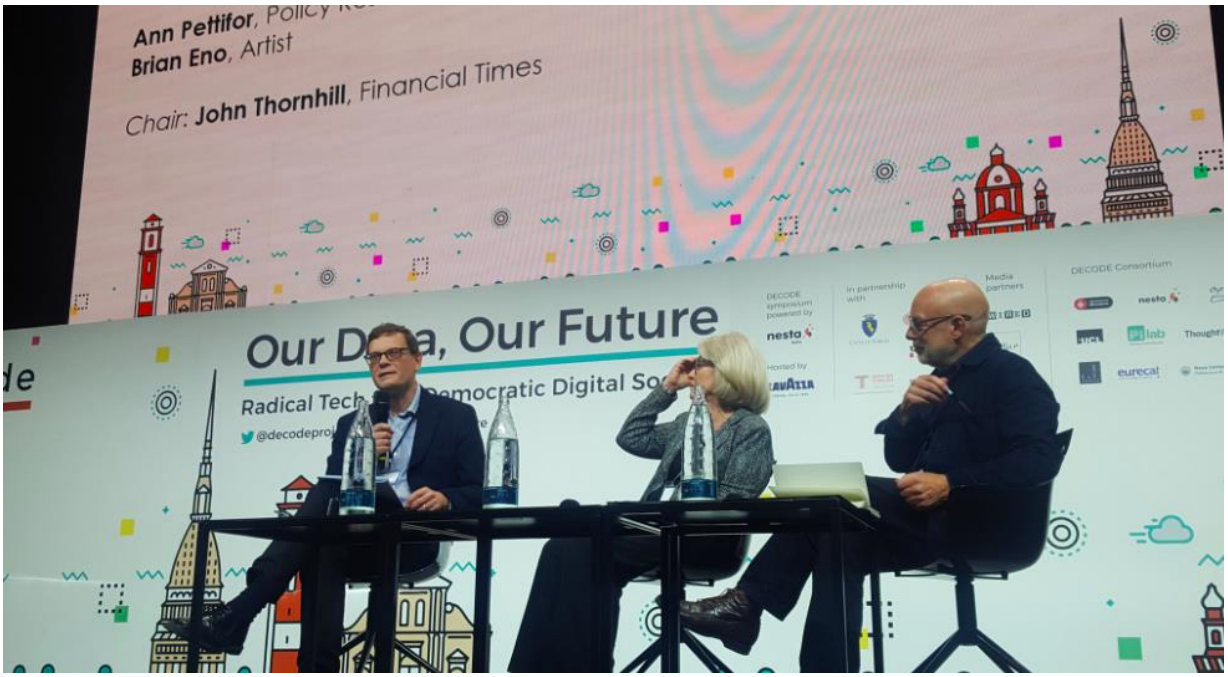

Figure 3: Brian Eno and Ann Pettifor during a discussion on the Green New Deal at the *Our Data, Our Future* Symposium in Turin. Photo by Francesca Bria.

[25] https://decodeproject.eu/events/our-data-our-future-radical-tech-democratic-digital-society

3.4.3 Democratizing Technology (11 November, 2019 in Amsterdam)

The event held in Amsterdam was focused on the control of citizens' personal data and the creation of public spaces, defined as digital spaces for public good. Following this line, there was a debate on practical solutions for responsible data management, led by a panel of researchers from different fields of expertise, such as information engineering, data law or geopolitics. Other topics of discussion included encryption as a human right, privacy for economic justice, and data trust (rather than data security).

For this purpose, the discussion was not only addressed in a more general and abstract manner, but also issued practical guidelines, with particular emphasis on the pilot projects that are being developed in Amsterdam and Barcelona.[26]

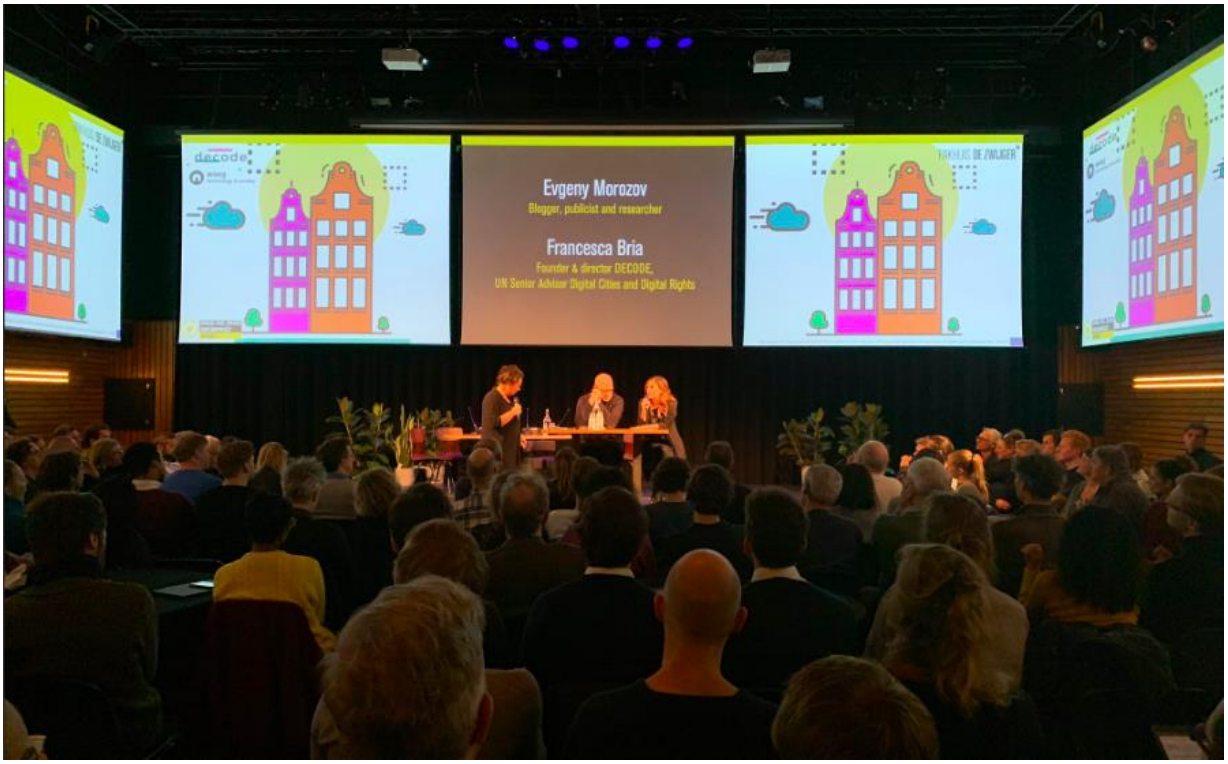

Figure 4: Marleen Stikker, Evgeny Morozov, and Francesca Bria take the stage in Pakhuis de Zwijger during the *Democratizing Technology* event in Amsterdam. Photo by Aik Eemeren.

[26] Further information on this event can be found at https://dezwijger.nl/programma/democratizing-technology and https://waag.org/en/event/democratizing-technology

4. Outputs and Sustainability

DECODE succeeded to engage people and organizations on a level where they could continue their progress after the project's completion. By working in collaboration with these actors, DECODE partners spread knowledge and motivation that helped to ensure the technical, political, and social sustainability of the project's values.

Technical Sustainability

Engagement of partners outside of the DECODE consortium, especially with regard to the pilots and uptake of DECODE software components, allowed for DECODE technology to be implemented and in some cases taken up by others. Developments were made following the Unix philosophy: rather than write monolithic software, components were written for a single purpose. The analogy can be made that this was like 'building with Lego bricks', such that a single component can be reused in multiple scenarios. Because of this, a number of software components developed in the pilots are general purpose and can be reused. Examples include:

- Zenroom- The Zenroom Crypto VM is available at https://github.com/DECODEproject/Zenroom . The Zenroom policy engine has been integrated, for example, into the Trezor Model T[27].
- Zenbridge is an API-based blockchain interop layer which offers a back-end abstraction layer.
- DECODE OS for Raspberry Pi 3 is now being tested by Caelum Labs.

Political Sustainability

- The Dutch Ministry of Internal Affairs has provided funds[28] for cities to implement IRMA into their digital infrastructure.
- The Dutch governmental bodies at all levels have shown deep interest in DECODE principles, and have taken significant steps towards pursuing their uptake. For example:
- Multiple municipalities who were involved in DECODE have continued to pursue the uptake of DECODE principles including data sovereignty, data privacy, and data ownership, in particular thanks to the Cities for Digital Rights Coalition that include over 60 cities globally and is supported by the United Nations. The UN is currently working to extend the Barcelona and DECODE digital ethical standards globally to cities that are developing a citizen-centric smart city approach. This is a huge political success and legacy for the project.

[27] https://twitter.com/tomfuerstner/status/1182611008034131971
[28] https://www.digitaleoverheid.nl/overzicht-van-alle-onderwerpen/innovatie/innovatiebudget/toekenning-innovatiebudget-2019/

- There is interest amongst policymakers in pursuing the development of a national system for regulating home rentals (such as AirBnB) which utilizes ABC to help protect the privacy of renters.[29]

- In Barcelona, close contact with the Barcelona City Council's CTIO and Data Office has contributed to the office's continued efforts toward implementing ethical data technologies, standards and frameworks[30]. Among these efforts are the city's Digital Transformation Plan which lays out the city's strategy for ethical and responsible data management[31].

Social Sustainability

Perhaps most importantly, the values championed by DECODE are now stronger across multiple fields. There are many examples of ongoing initiatives which champion these same values and were aided or inspired by DECODE. Some examples include:

- Manifestos (and subsequent actions) by coalitions including the Manifesto in favor of technological sovereignty and digital rights for cities[32], Public Spaces and Tada![33]. The Data Commons Manifesto is a collaborative manifesto regarding data management, which has been signed on DDDC - Decidim in a secure and transparent manner using DECODE technology[34].
- Platforms for participation and citizens engagement like Decidim and Gebiedonline will continue to implement privacy enhancing technologies.
- Groups like the Barcelona Data Commons Network (created out of activities and sessions in the Barcelona pilot) help to carry forward a vision and set principles that are shared with DECODE[35].

[29] This same description is also provided in D5.8 'Final Report on Pilots Amsterdam'.
[30] D1.12, chapter 2
[31] https://ajuntament.barcelona.cat/digital/en/blog/ethical-and-responsible-data-management-barcelona-data-commons
[32] https://www.barcelona.cat/digitalstandards/manifesto/0.2/
[33] https://publicspaces.net/ and https://tada.city/en/home-en/
[34] D2.6
[35] D2.6. More information on the Barcelona Data Commons Network can be found at https://datacommons.barcelona/es/