



decode

D6.7

Project Communication,



exploitation plans, events

report and overall

project impact



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Project no. 732546

DECODE

DEcentralised Citizens Owned Data Ecosystem

D6.7 Project Communication, exploitation plans, events report and overall project impact

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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)

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

D6.7: Project Communication, exploitation plans, events report and overall project impact

Deliverable Description: This includes reports of communication and dissemination activity, exploitation plans, overall impact and recommendations. It also includes a report of all the main events- symposiums, and the final technical outreach event led by the Project Coordinator, Dyne, Nesta with the collaboration of Dribia, and other major events.

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Summary

This report summarises the communications, dissemination, and events activity of the DECODE project. It also summarises policy and pilot impacts and the project's plans for exploitation

- Approximately 80 media mentions, including 8 op-eds, in major international, online and trade outlets. Including the BBC, Final Times, The Guardian. New Scientist, the Times, El Mundo, Wired, Vice, Il Sole 24 Ore, Il Corriere della Sera and La Stampa.
- Held +10 main events, 51 smaller events, held and attended 48 academic events, and attended a further +150 events reaching an estimated audience of around 20.000 people.
- 17 academic publications and posters
- c.75,000 unique website visitors, 25,000 blog views and c.14,000 report page views
- Strong social media presence, finishing the project with 6,400 followers, gaining on average 575 every quarter
- Grown an active ecosystem of open source and commercial developers who are building on top of the DECODE technology that have been showcased at the final DECODE Symposium.
- Demonstrated successful use cases through project pilots - three 'ready-to-implement' use-cases for DECODE tools to be used in other cities:
 1. DECODE Attribute Based Credentials (ABCs) provide an open standard for more robust identity systems that give users control and minimize data leakage.
 2. The DECODE-Decidim tool provides a ready-to-use app for more privacy preserving digital democracy applications.
 3. Smart Citizen Kits, the DECODE onboarding site, and BarcelonaNow dashboard provide tools for community data commons for citizen science.
- Strong policy impact at municipal and European level. Agenda-setting project narrative, including high level officials and policy makers in the European Commission echoing the project's achievements to give European people digital sovereignty.

Introduction

DECODE is a project about decentralised technology for data sovereignty, but it is also a campaign, a community and a movement. This report tells the story of how, as a project, we have used a combination of traditional communications mediums, events, co-creation, public engagement, art, community building and dissemination to ensure a wide reach, deep impact and lasting legacy for DECODE.

DECODE's long-term mission is to fundamentally change the way that personal data is used and the value we seek from it. It is a task which requires ground-breaking new technology, but also political, economic and social change. This could not be achieved through technology alone. This three-year project enabled the first steps on that journey to be taken, which are summarised here.

At the outset of the project, we set out our strategy in D6.1, and an updated version D6.2 at the half-way point of the project. These set the framework and direction for the project's communications work, but also created an environment in which partners were empowered to use their own creativity and judgement to direct their own work. This report summarises this work, drawing on work in other deliverables, and consolidating three years of activity from all organisations involved in the DECODE consortium. The project was a truly collective effort and while some organisations are mentioned specifically in discussing certain activities, it is important to bear in mind that blogs, reports, events and community building were activities of every organisation in our consortium.

Other relevant deliverables

This report is intended as a concise summary, and draws upon a number of other DECODE deliverables and reports. Fuller descriptions of much of the activity described in this report can be found in the following documents.

- Hackathons, Challenges and Community Engagement is described in D5.10
- Co-creation strategy D6.5
- Challenges and discovery meetings for pilot development - D1.1
- Standardisation - D6.4
- Developers Conference Opening up the DECODE App and tools to third-party developers and entrepreneurs (Exploitation) - D5.8
- Amsterdam Pilot - D5.7
- Barcelona Pilot D5.9
- Barcelona Symposium report
- Torino Symposium report (forthcoming)
- Tech Symposium Reports
- The DECODE Visual Identity and Website (D6.4)
- DECODE Dissemination Strategy and Communications Plan - Initial (D6.1) Interim (D6.2)

Partner Responsibilities and Working Methods

Nesta led WP6 which held responsibility for communication and dissemination strategies, the DECODE website, and overall coordination of associated work across the consortium. Community

building and associated communications and events featured heavily in WP5, led by the Waag, who were also responsible for open standardisation activities. Additional specified work was carried out by Dyne.org (stakeholder engagement and co-creation methodologies).

All other partners contributed to communications, dissemination, exploitation and events where required. Specifically, they were responsible for: their own individual communication, dissemination and exploitation plans. They were also responsible for producing blogs about their work and pro-actively communicating with Nesta to prepare communication assets and plans.

The website was built to allow decentralised access and publishing by partners. Each individual participating on the project was given the ability to post events and blogs directly to the website without the need for Nesta to sign-off. This was to avoid bottle-necks and to embrace the decentralised ethos of the project.

An agile working method was used with a set of core strategic objectives and an agile approach to achieving this. The regular all consortium calls were used for high-level coordination. For specific activities, meetings, frequencies and communication approaches were judged on the needs of the task at hand.

DECODE Communications and Dissemination Strategy

Visual Identity, Branding and Assets

The DECODE visual identity was developed with the support of Marmelo, a London-based digital design agency, who also built the DECODE website. The design incorporated feedback from the consortium (gathered at the Kick Off meeting) and was also shared for comment in its development. The design aimed to capture concepts such as: privacy, accessibility and openness.

Nesta produced a Communications Toolkit for all partners to use throughout the project. It contained: branded powerpoint templates, digital assets, logos, a written manual on using the website and guidance on how to produce effective blog posts.

Strategy

At the outset of the project, the following were adopted as the objectives of DECODE's dissemination strategy. They were chosen specifically to align with DECODE's broader mission statement to give people privacy and control over their personal data.

- To promote public awareness - of the need for tools which give people control of their data, the benefits of having free and open data commons, and the economic problems associated with data monopolisation by internet businesses. Given the highly technical nature of DECODE, it is essential that the communication and dissemination of the project enables a wide and varied non-technical audience, including citizens, businesses and policymakers, to understand the objectives and technology of this project. Where needed, Nesta provides support to consortium partners to ensure that outputs such as reports, blogs, media releases and videos use plain language to achieve this objective.
- Build a community of people interested in using the technology in Barcelona and Amsterdam. The project aims to build a groundswell of users during the pilot activity in

these two cities. In the second half of the project, dedicated communications work will accompany the launch of the pilots in Barcelona and Amsterdam.

- Portrays DECODE as a live process, being co-created with its users and stakeholders which our target audiences can engage with
- To promote and nurture the ecosystem of organisations, projects and movements within which DECODE exists
- To promote standardisation and exploitation of the DECODE technology to ensure wide and long-lasting impact

At the beginning of year 2 of the project, once the foundational work had been completed, we developed a series of campaigns aimed at bringing together a range of different communication mediums, events and community building to achieve specified objectives. These were pursued over the remainder of the project. These are outlined in detail in D6.2 - Interim Dissemination Strategy and Communications Plan.

These campaigns tied into the community engagement strategies conducted in Amsterdam and Barcelona as part of the development and delivery of the pilots, for instance using pilot meetups as a chance to both engage people in the use of DECODE technology and also to disseminate its key messages. These campaigns attempted to communicate DECODE in a way which brought together its diverse audiences - city government public administrators, ethical hackers, commercial businesses, through to officials in the European Commission. It brought these groups together in a range of settings, and with a range of methods, to help understand DECODE's technology and explore concepts such as data privacy, data control, and digital identity. In the remainder of the report, our progress against these campaigns will be described.

Campaign	Objectives	Activity
1. Community building Barcelona	<ul style="list-style-type: none"> Recruit participants into the pilots Bring together people interested in privacy, data, local politics, community, and give them opportunities to be active around DECODE Co-create aspects of DECODE 	<ul style="list-style-type: none"> Bi-monthly meetups centred around pilot use-cases Speaking opportunities at events in BCN with like-minded organisations and movements Pro-active outreach to complementary networks and organisations to raise awareness of DECODE with them Social media content (blogs and tweets) Tech demonstrators and training Local press coverage
2. Community building Amsterdam	<ul style="list-style-type: none"> Recruit participants into the pilots Bring together people interested in privacy, data, local politics, community, and give them opportunities to be active around DECODE Co-create aspects of DECODE 	<ul style="list-style-type: none"> Bi-monthly meetups centred around pilot use-cases Speaking opportunities at events in AMS with like-minded organisations and movements Pro-active outreach to complementary networks and organisations to raise awareness of DECODE with them Social media content (blogs and tweets)

Campaign	Objectives	Activity
		Tech demonstrators and training Local press coverage
3. Community building - tech	Build a community around the DECODE tech to develop and ensure it has long-term sustainability and can be widely disseminated	Hackathons Challenge based around Making Sense data in Barcelona Privacy summer school Privacy symposium Technical symposiums Tech demonstrators
4. Policy makers	Build a network of policy makers in city government who want to pursue DECODE/DECODE's objectives	Press release and op-eds in major nationals following publication of D1.10 Targeted coverage in specialist press Messaging to be incorporated in speaking engagements e.g. FutureFest, MyData, Smart Cities Expo BCN 2018, EC ICT Conference, MWC 2018 and more. Push reports and message to networks of CTOs etc
5. Beyond the usual suspects	Persuade the general public that they should care about their personal data and can use it for public benefit	DECODE video Public polling of attitudes to data sharing

Communication Methods

Method	Examples	Intended Impact
1. Communications	Press coverage Videos Reports Social media Blogs	Reaching large and dispersed audiences with key DECODE messages

Method	Examples	Intended Impact
	Website	
2. Events	Major conferences and events DECODE events Speaking opportunities	Raising awareness of DECODE's key messages and detail with specific target audiences
3. Co-creation and community building	Meetups Hackathons Challenges Community building	Building communities, co-creating DECODE with people in Amsterdam and Barcelona, and creating 'word of mouth' publicity

DECODE Messaging

At the project's Kick Off meeting in Barcelona, Nesta led a workshop to produce the key messaging statements for the project, including a strapline. The objective of this messaging and strapline was to capture the project's essence and core mission. During the communications workshop, potential straplines were crowd-sourced from participants and then voted on using sli.do. The chosen strapline was:

DECODE - giving people control of their personal data

This has been used over the course of the project and has proven to be a powerful and catchy statement about the project's mission. While the underlying details and nuance of DECODE has evolved throughout the project, this top-line messaging has proved extremely durable and has helped us to communicate the DECODE story to a wide range of different audiences.

The Kick Off meeting was also used to develop tailored messaging for each of the stakeholder groups identified as relevant to the project's work: businesses, the European Commission, the open source and civic hacker movement, city governments, and people. These messages were updated at the half-way point of the project (D6.2) to reflect the agile nature of the project and emerging findings.

Communication and Dissemination

At the outset, the project adopted a set of KPIs for these as a means of tracking progress across the project, which are summarised at the top of each sub-section below. The KPIs were monitored every three months using an open access spreadsheet which all partners could contribute to. It used an overall dashboard for summary results and individual tabs for specific areas such as events, media, website, social media etc. For a full list of events, media and other KPI statistics, see Appendixes 1-4.

Media

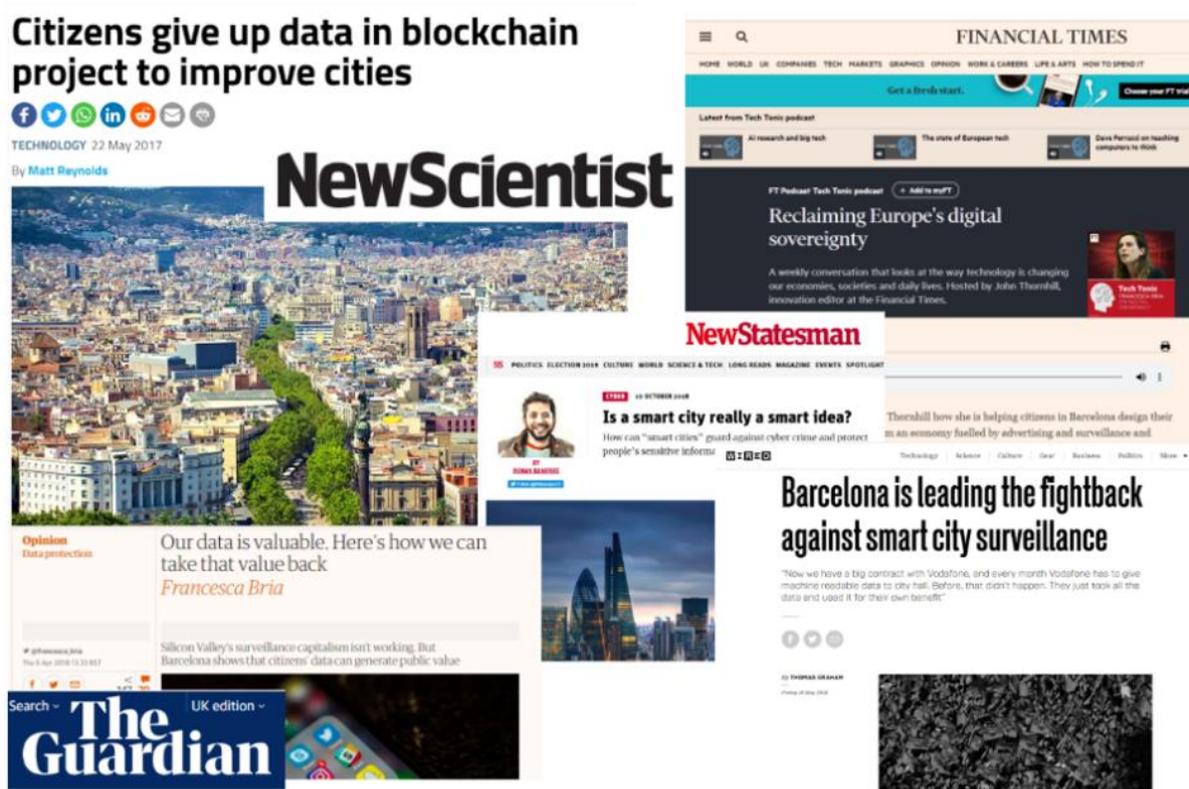


Figure 1 - Examples of DECODE media coverage

Headline KPIs

Media	Number of op-eds by consortium members	8
	Total media mentions of the project	80
	Total media enquiries received	20

There have been six key media moments for the project where a concerted media campaign, pro-active outreach to journalists and press releases have been used to generate coverage for the report: the project launch (May '17), the first major policy report (Sept '17), the General Assembly in Amsterdam (Jan '18), the second major policy report (July '18), the launch of the pilots (summer '18), the final Symposium and launch of the pilot impact studies (Nov '19).

These efforts, combined with *ad hoc* pro-active and reactive work have resulted in 80 media mentions of the project, including 8 op-eds from project members. The overall quality of the coverage has been high, with the project mentioned in publications and coverage including: the Financial Times, BBC, The Times, Wired, El Mundo, Forbes Australia, Vice, The Guardian, Sifted, Business Review, Der Freitag, Il Sole 24 Ore, La Stampa, El Pais Catalunya, aPolitical and Quartz.

These media moments have occurred across the lifespan of the project, enabling us to communicate the project progress and unfolding narrative as we went through. There have also been other more targeted media campaigns, for instance towards the end of the project Nesta and Dyne on promoting DECODE's technology in specialist publications.

Social media

Headline KPIs

Social media		
Number of Twitter followers		6417
New twitter followers		575
Impressions		1,996,200
Engagement rate		1.00%
Link clicks		7266
Retweets		3069
Likes		4525
Replies		200

The DECODE social media was used from the start of the project to build the community around the project, share developments and updates, promote events and publicise DECODE work.

The Twitter account was coordinated by Nesta, but with input from Dyne.org and Francesca Bria in particular on Twitter, and input from other partners where relevant. Twitter was used to tell the story of the DECODE project to the wider community, and increase engagement with the pilots, research and tools. Regular tweeting of updates was supplemented of sharing of external work relevant to the issues at the heart of the project.

For each of the DECODE symposiums, a team from the consortium, led by Nesta, created a social media plan in the run up to the event - generating interest and sign ups. Then, each event was live

tweeted to share the sessions with a wider audience and encourage greater social media dissemination of symposium content by participants.

The number of Twitter followers has steadily increased throughout the project, with peak engagement on social media around the symposiums, where participants and those not present liked, retweeted and responded to tweets, as well as creating their own content using the DECODE symposium hashtag. This is illustrated by an example of the November 2019 statistics. A couple of the most popular tweets are shown below alongside their impact statistics.

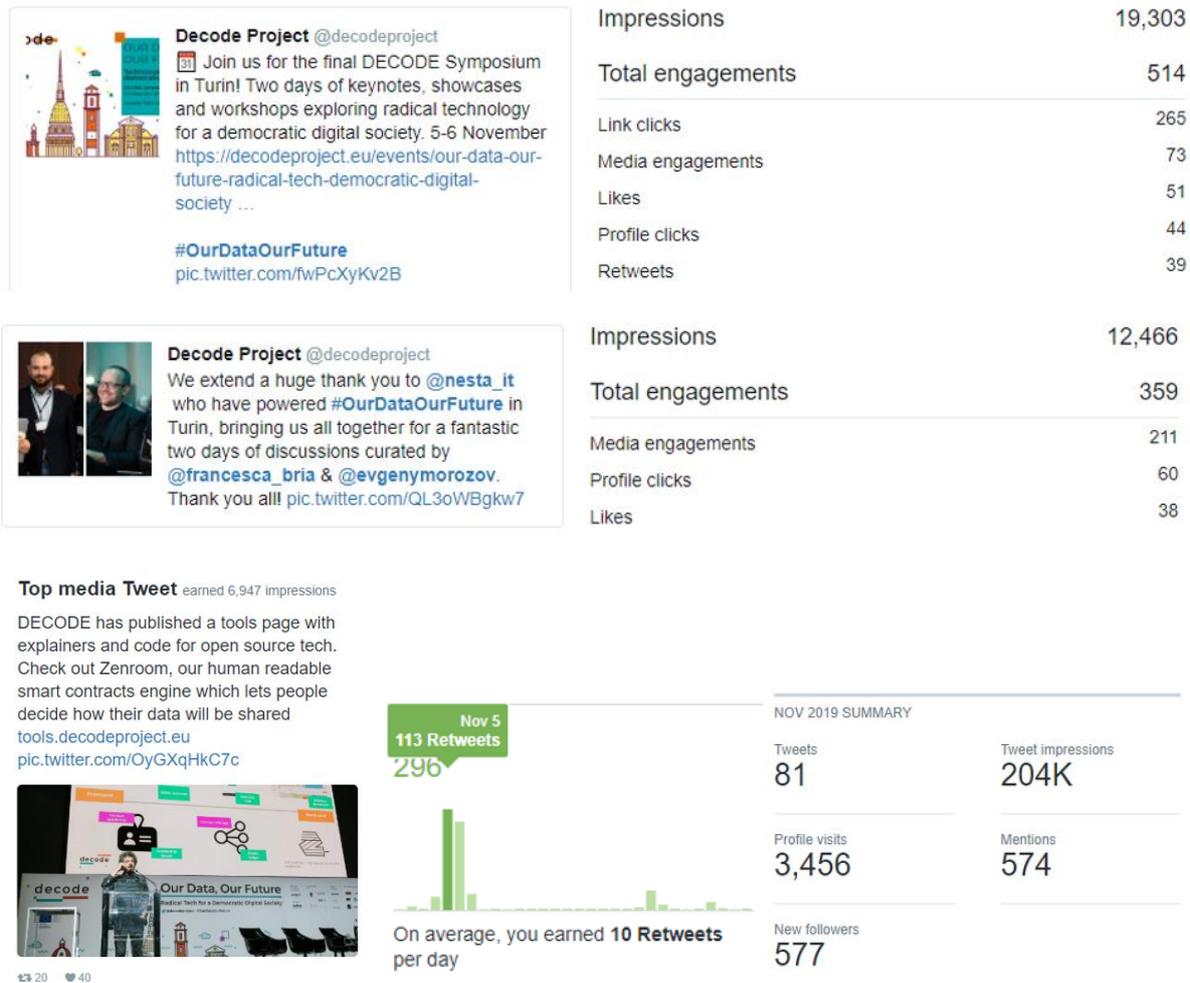


Figure 2 - DECODE social media examples and statistics

Academic publications and academic events

Headline KPIs

Academic Publications and Posters Accepted Journal Articles

8

Working Papers	5
Posters	4
Citations	8

At the start of the project it was decided between the consortium that each partner would be responsible for promotion of their work for publication in academic journals. Overall, the consortium had 8 accepted journal articles, publications (across a range of fields) from ‘Sustainability’ to ‘Urban Science’. Additionally, the project created 5 working papers, 4 posters and generated 8 citations.

Alongside publications, DECODE work was presented at a number of academic events. The 12 academic conferences ranged from the ‘Networks And Distributed Systems Symposium’ to the ‘ICBC’ international conference on blockchain. Consortium partners also participated in an academic symposium, 9 academic workshops and 26 academic seminars, sharing the DECODE work widely within relevant academic fields.

Blogs

Headline KPIs

Website	Blog readership (unique page views - DECODE and Nesta website combined)	25256
	<i>DECODE website</i>	8992
	<i>Nesta website</i>	16264

In total, 27 blogs were published to the website. These were all promoted through the DECODE twitter account and selected blogs and reports were also published to the Nesta website which added significantly more reach. Their presence on the Nesta website also enabled them to be distributed in the Nesta newsletter, which has [30k] subscribers. In total, these blogs received c25,000 unique views.

At the outset, a more frequent blog schedule has been agreed upon by the consortium. However, it soon emerged that this schedule was not effective because it did not coincide with when the project had key messages to promote. In response, a less frequent schedule was adopted which enabled partners to blog when they had an important message to disseminate.

The most read blog was produced early on in the project and was highly successful at drawing attention to the project. The blog was titled “Blockchain Powers A Personal Data Revolution” and in total was viewed 6,671 times across both the DECODE and Nesta websites.

Blockchain powers a personal data revolution

By [Eddie Copeland](#) on [Tuesday 2nd May 2017](#)



Though millions have benefitted from the rise of internet giants like Amazon, Facebook and Google, there is growing unease at the way they - and many companies like them - require or encourage users to give up significant control of their personal information in exchange for services. 2017 will be the year when the blockchain-based hardware, software and business models that offer a viable alternative reach maturity, ensuring that it is not just companies but individuals who can get real value from their personal data.

The story behind this prediction starts in March 1989, when a little known CERN employee named Tim Berners Lee (now Sir Tim) wrote a short and innocuously titled paper Information Management: A Proposal. Described as 'vague but exciting' by his then boss, Mike Sendall, it would literally change the world. It defined the original outline of the World Wide Web. First used by Sir Tim's colleagues at CERN, in 1993 the organisation agreed to make the code and protocols that underpinned the web available to anyone for free.

Today it is used by more than three billion people. Sir Tim has said of this open philosophy: "Had the technology been proprietary... it would probably not have taken off. You can't propose that something be a universal space and at the same time keep control of it." Death to

Figure 3 - "Blockchain powers a personal data revolution" blog on DECODE website

Reports and publications

Headline KPIs

Website	Report page views (combined of DECODE-related reports on Nesta and DECODE website)	14219
	<i>DECODE website</i>	6668
	<i>Nesta website</i>	7551
	Unique visitors (total avg per quarter)	6984
	Unique visitors (running total)	76683
	Page views	152006

The DECODE site was designed to enable all partners to post-content, to host reports, blogs and events, and to be a means of telling the DECODE story as the project progressed. The website received on average just under 7,000 unique visitors a quarter, or c.2300 per quarter. Over the lifetime of the project there were 150,000-page views on the site, or c.4100 a month. There was a

total of c.84,000 visits to the site. DECODE reports were downloaded c.1500 times from the DECODE site.

Website analytics show that the project had a wide-reach globally, but with particular strength in Europe, North America and South America.

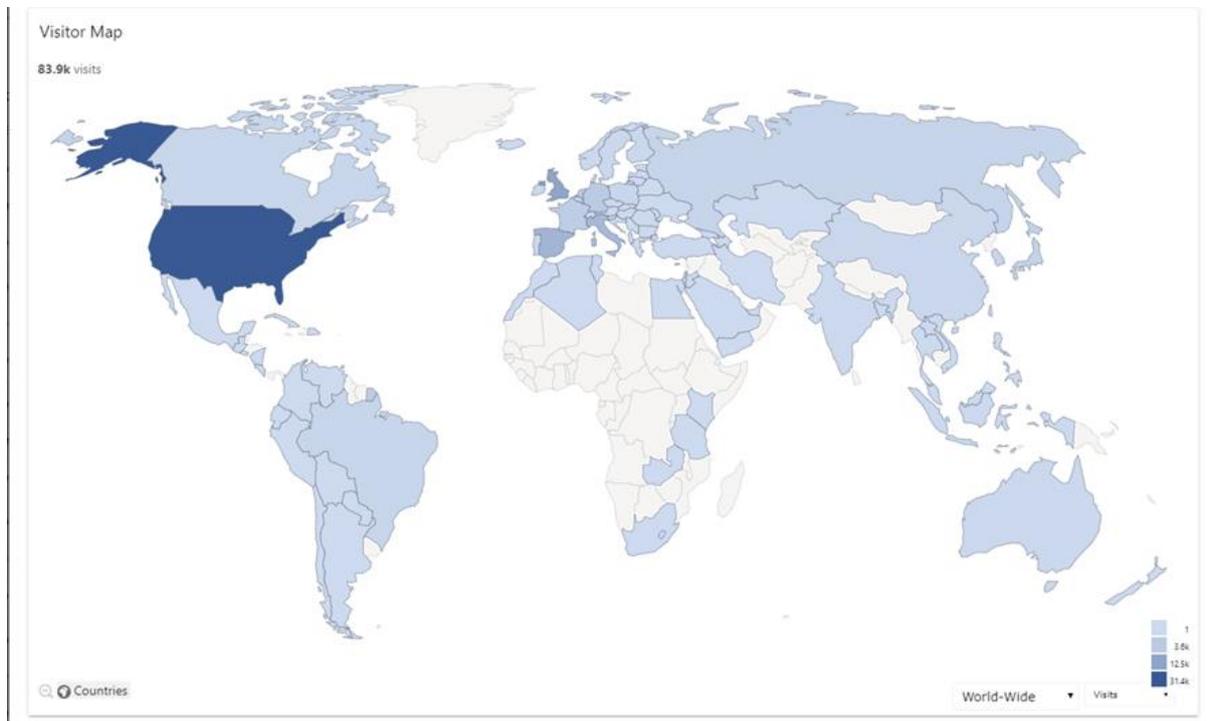


Figure 4 - DECODE website visitor map

Throughout DECODE, a large number of reports were produced by consortium partners to share the development of the project. All of the reports which were suitable for public dissemination were made available for download on the DECODE website, with some also being available on the Nesta website or linked to by consortium partners.

Promotion of reports was done through the DECODE Twitter social media account, with additional sharing by consortium partners on social media and offline. For some of the major reports, press releases were drafted and published.

The report with the highest number of downloads was “Me, my data and I: The future of the personal data economy”, with a total of 4932 downloads (1051 on the DECODE website, and 3881 on the Nesta website). Other well-read reports include “DECODE Architecture - first version” (568 downloads) and “DECODE's Co-creation framework, methodologies and templates” (269 downloads).



Figure 5 - Examples of DECODE reports

The DECODE Newsletter

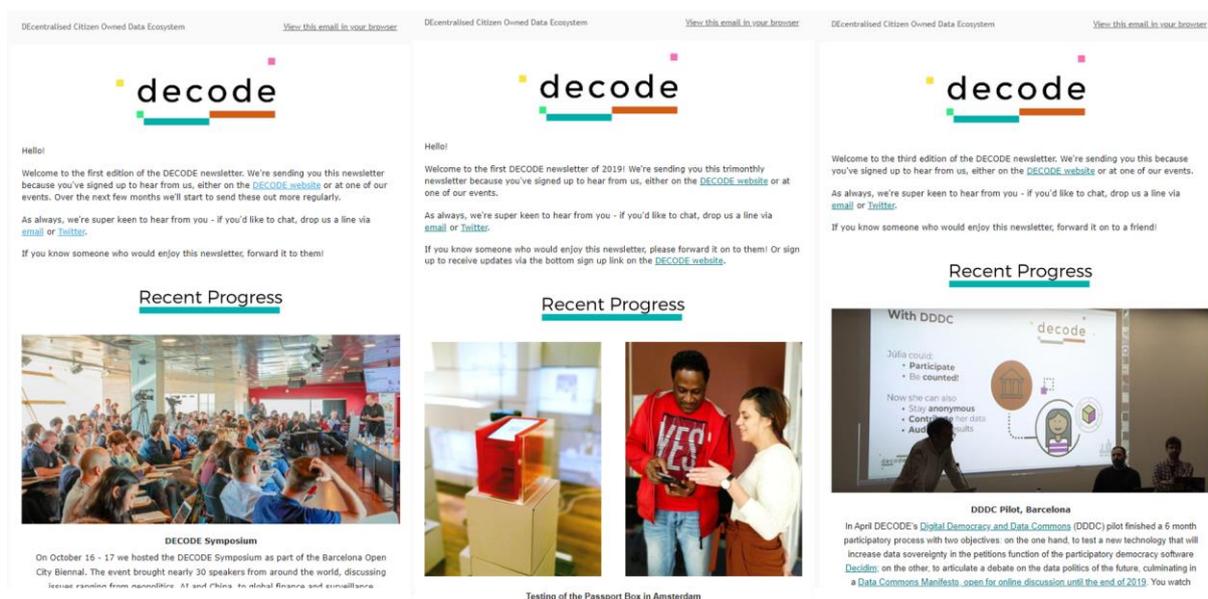


Figure 6 - DECODE newsletters

During the project, we published 3 DECODE newsletters. These were designed to share updates and highlights of the project with the wider community of interest (who could sign up to receive emails on the DECODE website or at events). Each edition included recent progress, tech updates, new publications, upcoming activity and interesting links - with each section linking to relevant sections of the DECODE website. Data on the newsletters is in the table below.

	Open rate	Click rate	Reach (top locations by opens)
Newsletter one	235 opened (54.4%)	64 clicked (14.8%)	USA, UK and Japan
Newsletter two	237 opened (47.7%)	56 clicked (11.3%)	Netherlands, USA and UK
Newsletter three	268 opened (49.2%)	49 clicked (9%)	USA, UK and Japan

Assets

Videos and Digital Assets

To aid communication across social media and the website two videos have been produced to explain DECODE as a project. The first was produced based on footage captured at the General Assembly (January 2018) and provides an overview of the project, using event footage and interviews with key project personnel. This was a collaborative effort between Nesta and Dyne.org.



Figure 7 - Still from “Introduction to DECODE” video

The second video bookends this and was produced at the final Symposium (Turin, 2019). It features footage from the event, interviews with project personnel and key speakers and provides a

concluding narrative about the project. In addition, at each Symposium, interviews were conducted with high profile speakers and hosted on the [DECODE Vimeo site](#).¹

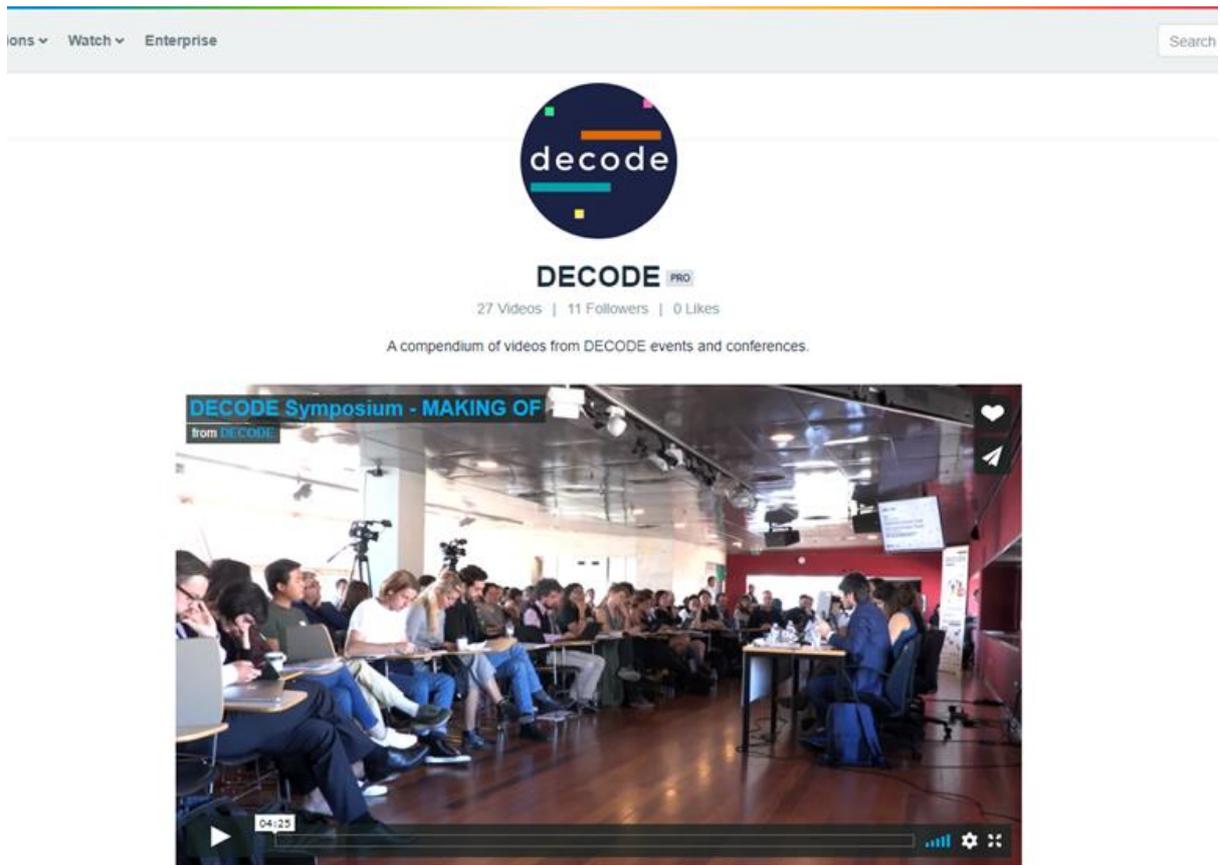


Figure 8 - “DECODE Symposium - MAKING OF” video

DECODE has also uploaded event photos to a [Flickr account](#) and digital assets to the website. At the outset of the project, multiple digital assets were created to make presentations and website more engaging and communicate key concepts such as decentralisation, sharing economy, and Internet of Things.

¹ Videos from final Symposium are in production and will be uploaded in early January 2020

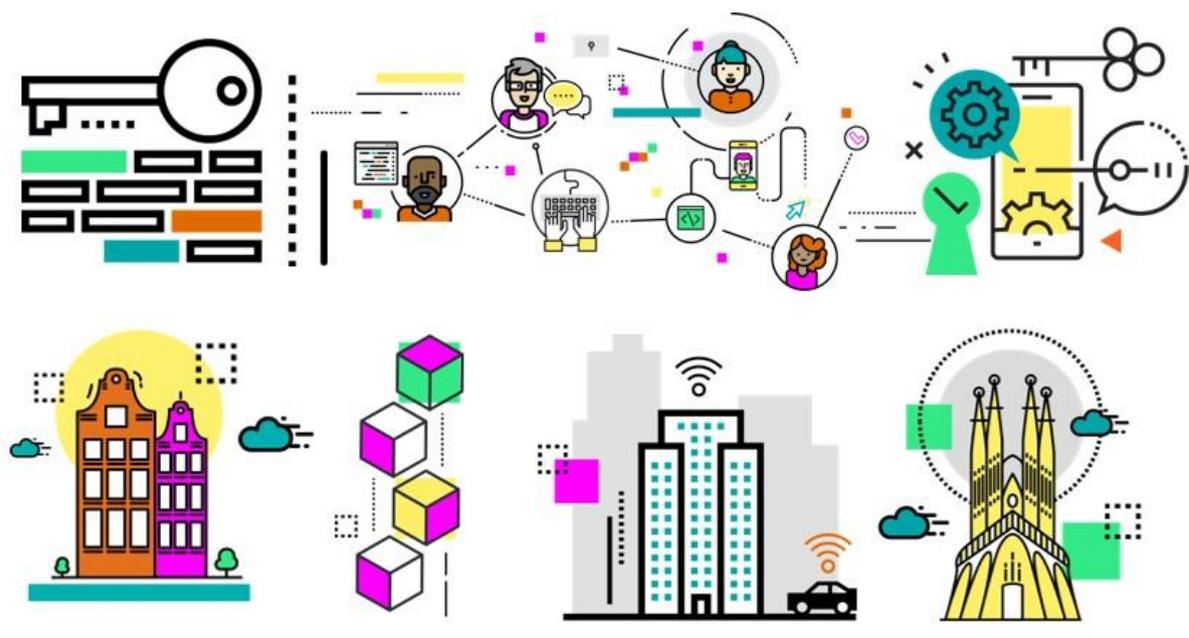


Figure 9 - DECODE digital assets

Factsheets, posters, leaflets/flyers

Several physical assets were designed and printed to be disseminated at all DECODE events. These had the aim of promoting the project, providing information to those interested and giving a physical handout for people to refer back to the project after the event.

At each of the DECODE events we had large posters printed to share key information with participants in a way which aimed to be both visual and easy to absorb. The examples below show one setting out the four key principles of the project, and a second showing the pilot projects.

Giving people control of their personal data

DECODE (Decentralised Citizen-owned Data Ecosystems) will develop technology that puts people in control of their personal data, giving them the ability to decide how it is shared.

In DECODE, entitlements attached to private data, including from IoT devices, will be searchable in the public domain but will grant access only to those parties that have the entitlement to access it.

Architectural Principles

- Free and open source
- Mobility and interoperability
- Decentralisation and federation
- Privacy, security, ethics by design
- Reuse don't invent

Tech Foundations

- Decentralisation of trust
- A distributed ledger
- Zero knowledge proofs
- Attribute Based Credentials
- Cryptographically verifiable entitlements
- An English-like "Smart Contract" language to express governance of participants' data
- A highly verifiable and controlled execution environment

Attribute Verification Using ABICs

Identify with DECODE means the smart wallet provider privately identifies with you into about the operations of the services they are responsible for and you privately identify them in return. They then agree with you but the service looks everything about the identity of the participants.

Smart Contracts in English-Like Language

The main aim is to communicate with DECODE nodes and operators by functions by a smart contract in simple English. All code that sets decisions affecting entitlements and sharing conditions can be expressed in "Decider", a programming language that can be read and written by non-programmers, designed to become a robust standard for authentication relevant personal data.

The DECODE technology has four key principles

Secure Open Source Operating System

The DECODE OS enables easy development and deployment of distributed applications without any constraints on the hardware stack being used. It is a Linux-like distributed platform with modular, open source components that are designed to be peer-to-peer networked among other running nodes, offering services across the inside and outside.

Distributed Ledger

As part of the mission of DECODE, we present a distributed ledger implementation based on a blockchain. Distributed by the entire foundation's infrastructure, it is a secure, tamper-resistant, and transparent record of all transactions. It is designed to be used for a wide range of applications, from simple record-keeping to complex, multi-party transactions.

DECODE applications

- Participatory democracy through anonymous but authenticated signing of petition
- Enabling the anonymous sharing of citizen sensing data into an open commons
- Peer-to-peer ID and reputation verification
- Controlled sharing of personal data into a digital commons

Tools tested in action with real communities and cities

A privacy-enhancing, rights preserving digital wallet

DECODE lets people decide what data they want to keep private, what data they want to share, with whom, and on what terms.

Decentralised, open source architecture

Testing the technology with real people

DECODE is working with Barcelona and Amsterdam City Councils to build prototype applications and test them in partnership with real communities. The pilots include:

- Privacy-enhanced petition signing**
- Anonymous proof of ID**

Collecting and sharing citizen sensed data

An ethical, locally owned social network

Our vision of new 'commons' for data

DECODE aims to enable a new generation of peer-to-peer digital applications, where communities can leverage the collective value of their data.

@decodeproject
info@decodeproject.eu
www.decodeproject.eu

Figure 10 - Posters produced for DECODE events

Flyers were designed and printed as handout materials to spread information about the DECODE project, pilots and learnings. These included flyers for each of the Symposiums - sharing an introduction to the project, the theme of the symposium, the programme and speaker biographies. Additionally, for the Symposium in Turin, an impact factsheet was created to share further information with participants on the impact that the pilots have had. These flyers were handed out to participants at the events and at the DECODE stall.

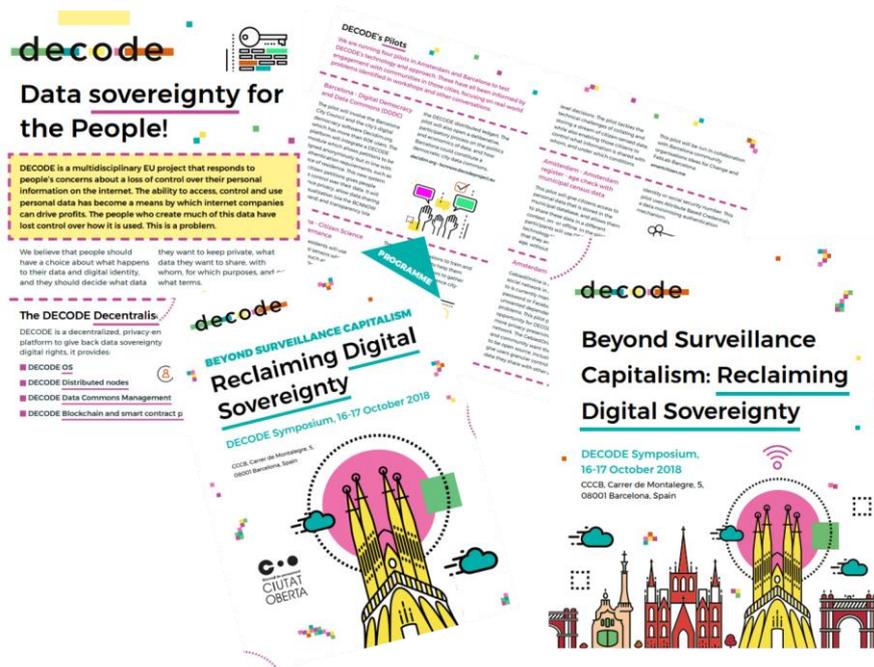


Figure 11 - Examples of DECODE handout materials

Additionally, stickers were created using the DECODE branding/designs, to help share the project in a fun way. These were available to symposium participants visiting the DECODE stall, for example (see image below). The DECODE branding was also used in the stage backdrop design at the Turin symposium.

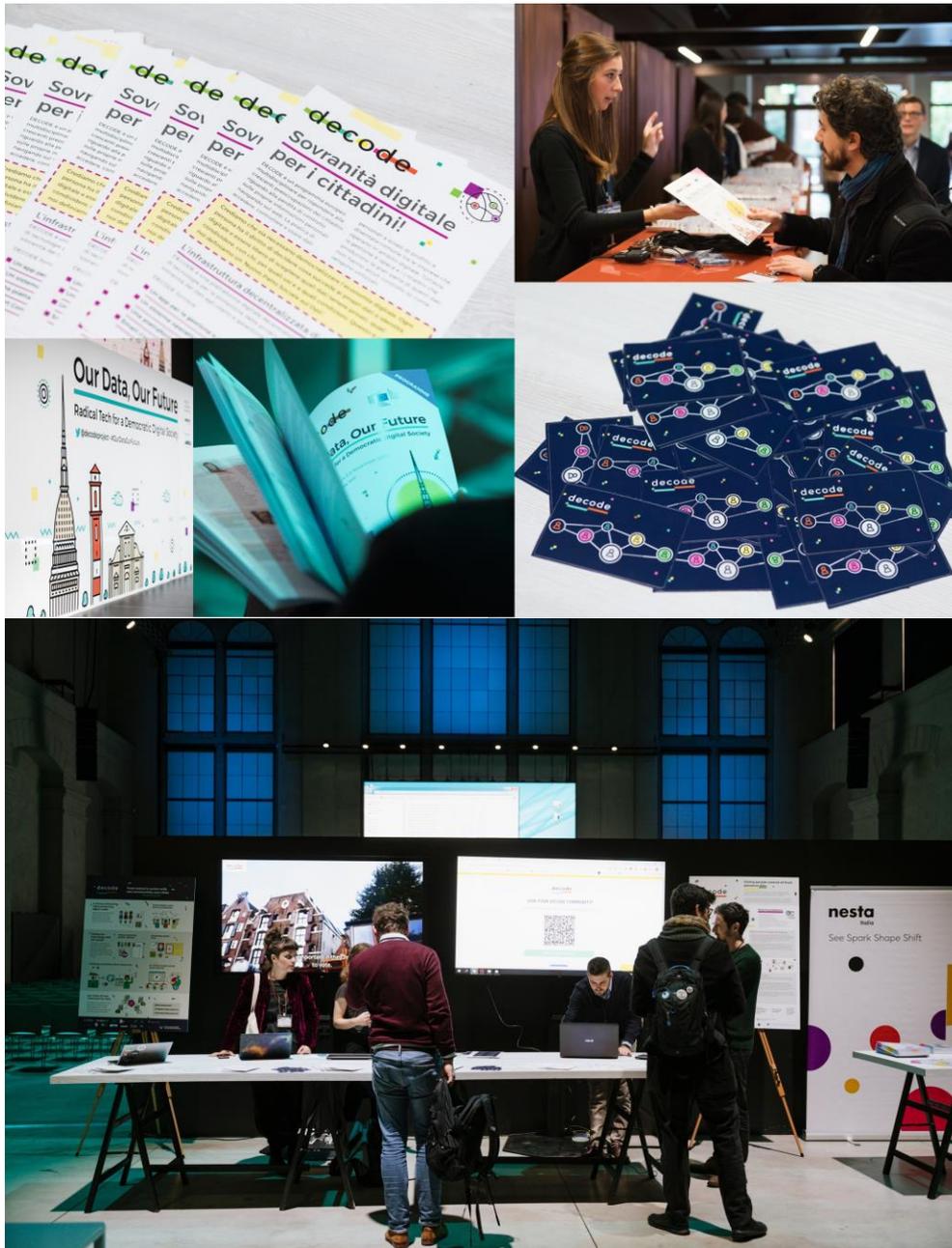


Figure 12 - Images of DECODE materials, stickers and DECODE stall at symposium in Turin

Technical Exploitation and Ecosystem Development

Exploitation Strategy Fundamentals

DECODE's efforts on technology exploitation and ecosystem development were done with the specific objective of ensuring that the technology continues to be used and developed upon beyond the life-cycle of the project's funding. A common problem with open source tech projects funded by grants is that when the funding stops at the end of the project, so does the technology. From the outset, our strategy to avoid this had three pillars:

1. Building a rich, modular, general-purpose, open-source software stack
2. Pro-actively promoting the technology on the basis of its fundamental capabilities/use-cases
3. Building a community of developers and for-profit companies around the tech who will be able to usefully benefit from the tech, and by extension, will be motivated to participate in its ongoing maintenance and development.

While the technology was originally built for the pilots, almost all of the pilots were designed and developed with these three pillars in mind. They all have modularity and extendibility and run on some core general-purpose software components:

- Zenroom
- DECODE-OS
- Zenbridge
- DECODE App
- BCNNow dashboard

These can be easily embedded and re-used by third party developers in applications that have little or no connection to the pilots or the pilots purposes, industry and target users e.g. people living in Barcelona and Amsterdam and concerned about noise pollution etc.

The website <http://tools.decodeproject.eu/> has been developed by Nesta and deployed by Dyne.org on its website. It was developed using Elementor as "builder" like <https://zenroom.org> and a similar set of plugins is installed on the website. The "look and feel" designed and developed for it has been re-used in the DECODE app and the BCNNow dashboard landing pages.

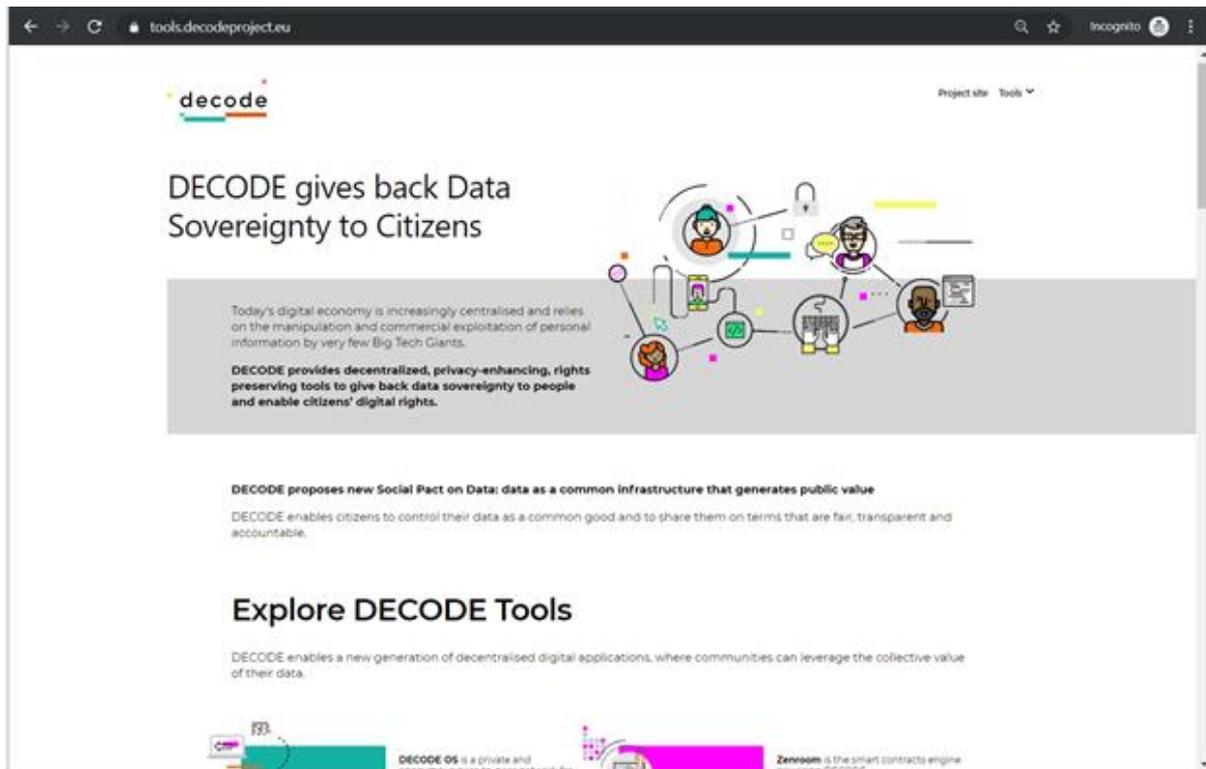


Figure 13 - DECODE tools website <http://tools.decodeproject.eu/>

Exploitation - free and open source community

As an open source project there is a high potential for exploitation. Most crucially, there is a fully-documented DECODE GitHub repository and a community of c.[X?] who have formed around the technology.

In addition, DECODE has worked alongside other open source projects. These include:

- [DECIDIM](#), a well-established platform for deliberative democracy with more than 100 active instances worldwide. Following the publication of pilot results, the work will be integrated into the original sourcecode for DECIDIM - Consul - and will be freely available to any instances around the world. This means that there is ongoing public funding commitment to the platform hosting some of the DECODE technology, and potential that it will enable governments to implement citizen proposals and other participatory processes enabled by DECODE.
- The tech developed for the Digital and Democracy Data Commons (DDDC) pilot is expected to continue in usage. Barcelona City Council are its main promoter and largest user base and as consortium members are highly likely to continue to promoting as it solves a genuine real-world problem related to anonymisation and data fidelity.
- [Smart Citizen](#) - The smart citizen hardware and software project is mature and will continue to operate, as will the community of interested users formed in the pilot. The successful test of the developed infrastructure, and the fact that it is already integrated into SmartCitizen, opens the door for its use as a default rather than an experimental part of the onboarding process. SmartCitizen has expressed interest in using the base code of the

DECODE App to generate their own version of the app for this specific use, as well as reuse the log-in mechanisms developed for BarcelonaNow for the sharing of data.

- [BarcelonaNow](#) - The primary sustainability plan of the pilot is to turn BarcelonaNow into a paradigmatic free libre open source software to explore geolocated urban data in an accessible way to non-expert users. It has been identified the need to extend the technical documentation of BarcelonaNow to guarantee that an ecosystem of contributors can emerge in an effective way.

Over the life-time of the current Barcelona Mayoral term (2019-2023) a major e-consultation project will take place. Such a project needs a credential management service and the city council is studying DECIDIM as a base infrastructure for it, hence DECODE, with its powerful visual capabilities (dashboard), secure infrastructure and integration (see D5.1 “Barcelona Open Data, Sentilo and IRIS API available” and D5.2 “CityOS connection”) into the municipal systems, is a well suited candidate for a task that is targeted at the entire Barcelona population (>1M people).

In Barcelona, the emergence of the Data Commons network, federating citizens, social collectives, research groups, public bodies, cooperatives and SMEs, foundations and other related actors will help in the spread of adoption and promotion of DECODE values and solutions.

Dyne.org has been actively pursuing partnerships with well-respected organisations in the cryptography and blockchain space, such as:

- Sovrin foundation (member since 2019)
- ISO (member of the ISO TC/307 “Blockchain standardization” since 2019)
- OW2 (member since 2019)
- Hyperledger foundation (membership pending)
- Inatba (membership pending)
- Cosmos/Tendermint Foundation (a partnership is being discussed for targeted blockchain interoperability development)

Arduino has designed an open source single bed computer board based on the hardware needs of the DECODE hub. This board can be useful in many other scenarios. Similar to the other components of the DECODE technology, releasing this board open source, makes it possible for anyone to further build on the core design and iterate to meet other needs and use cases.

Exploitation - commercial

Dyne is participating in Open Manufacture Partnerships (OEM) which are cross-sectoral collaborations which enable commercial organisations to integrate new third party technologies, often from the open source world, without needing large specialised IT teams. Some of the components are already being tested in soon-to-be available commercial application, which would embed the software component within a larger solution targeted to a vertical. This is currently intended to be the primary exploitation path for Dyne.org’s developed components (Zenroom, Zenbridge, DECODE OS) and DRIBIA (who was in charge of the development of the App and its copyright, despite it being open source with a permissive license) is currently evaluating a similar strategy. Revenue streams would derive from:

- Offering paid support

- Offering re-licensing for cases where the OEM product would breach the limits of the software licenses assigned to each tool (e.g.: a closed source solution using an AGPL3 licensed components).

Dyne are also undertaking work into solution development. There is currently no clear indication of a vertical solution, outside the current pilots, where any of the software developers of DECODE could be involved in, for future dissemination of the project's software output. In case the current development state stays unchanged, the expected timeframe for this technology to go from mature to obsolete, is 12 to 36 months, so an acceptable time window to select a vertical is within the first 6 to 12 months from the end of the project.

A partnership is being set up between Dyne.org and several DECODE and not [RO1] individuals and organizations, active or interested in the DECIDIM platform. The revenue stream would derive from offering paid support for the tools.

ThoughtWorks have used DECODE as a platform for business development, and have pursued a major blockchain project in the oil industry as a direct consequence of the expertise and credence provided by DECODE. The project continues to be referenced in many of their proposals, particularly in relation to coconut, zenroom and chainspace. A writeup of DECODE as a case study will be published on Thoughtworks.com soon.

Linkages to other EU Projects

- **Next Generation Internet-** DECODE is one of the flagship projects of the NGI initiative regrading decentralisation, data sovereignty and blockchain implementation. DECODE has been fully part of the NGI activities and participated in all the main events organised by the network, including the NGI Forum 2019 and the NGI Awards Ceremony in 2018.
- **Ledger.eu** - DECODE's tech stack is one of the recommended repositories for projects participating in the Next Generation Internet Project ledger.eu. This is one of the main follow-up projects that is using DECODE technology to foster a decentralised, privacy-enhancing tech ecosystem.
- **Blockchain for Social Good Challenge Prize** - Nesta worked with fellow CAPS project DSISCALE, and Nesta Italia, to produce a learning academy in support of the B4SG challenge prize. DECODE was an event sponsor and some of the technical support sessions were run by DECODE project members from Dyne.org. This helped to position DECODE's tech repository as a key source for future blockchain projects and situated the project as a thought-leader in the European blockchain community.
- **EU Blockchain Observatory and Forum-** DECODE is part of the Forum and it is mapped in the European Observatory. DECODE has been promoted as one of the first initiatives that the European Commission has been funded to experiment blockchains and DLTs, and it is an important example regarding blockchains implementations in the public sector.
- **Science, Technology & the Arts (STARTS)** – DECODE has been dynamically interacting with the STARTS program, and participated in the STARTS Residency. The London based media artist Lariza Blasic developed the Data Union Fork- tools for data strike in collaboration with the DECODE Consortium, facilitated by Waag Society as part of the STARTS EU residency program. The outcome of this arts and tech collaboration was showcased during the final DECODE Symposium in Turin, where there was an entire panel dedicated to the role of STARTS for a Human-Centric Digital Future, with the participation of

the renowned musicians Brian Eno, Holly Herndon, data scientist Mar Santamaria Varas (STARTS Prize 2019 winner), film director Christopher Roth and media artist Lariza Blasic.

- **CitieshealthEU** - Some members of the DECODE community pilots (e.g. the Internet of Things pilot) were also part of the European project [CitieshealthEU](#) where are designing and running experiments to explore how the pollution in their living environment is affecting their health. This project shows how other ways to collect environmental data from the city while maintaining users-privacy are being explored, as DECODE and IoT pilot demonstrate. They are also other members who are involved in [salus](#) cooperative. Thus, synergies were created with them, which is a collective of people wishing to explore the possibility of sharing health data from patients in a privacy enhancing way. There is growing interest in this aspect and using DECODE technologies would constitute a breakthrough for the composition of a large data common with an explicit common good objective in mind and enormous impact.

Future Plans

Overall the DECODE Project has achieved a strong policy and technical impact., Broadly, as demonstrated also with the collaboration between the DECODE Project and the Foundation for Huminites and Social Change during the final DECODE Symposium, there is a lots of interest of activities like DECODE to continue developing data and digital sovereignty policy frameworks, technical infrastructures and concrete pilots that preserve citizens' data rights and privacy.

Several core partners are now collaborating on a variety of future research and innovation proposals within the framework of Horizon Europe and more broadly.

Regarding outreach and communication plans, we mention here some activities that partners are planning for the future:

During 2020 **Arduino** will investigate how the open source single bed computer board can be integrated in the product development plan, turning this invention from a project to a product. **Arduino** are considering accepting the invitation to participate in a large consortium for the call "Blockchain for the Next Generation Internet" (ICT-54-2020) where the main idea is to develop an open source blockchain and open source blockchain interface hardware that in a standardization line will get data from different sources and store data with blockchain. Arduino is currently evaluating how the hardware developed in DECODE could be integrated in this project.

ThoughtWorks intend to strengthen the decentralised tech ecosystem in the UK and globally and continue to organise ongoing community events in TW London based around the themes from decode, with demonstrations and talks from other decode partners.

Dyne.org is planning an active marketing campaign, to generate awareness of the project technological outcome (including but not limited to Dyne.org's own components) focusing on:

- Presence at open source events (e.g. FOSDEM)
- Presence at open source and software trade shows (e.g. Paris Open Source Summit)
- Presence at ad-hoc seminars organized by partners (e.g. Zenroom seminar, scheduled by Caelum Labs to be held in Barcelona in first half of 2020)
- Presence at Linux and blockchain events, where Dyne.org's co-founder Jaromil is scheduled to deliver keynotes within 2020.

- Social media campaigns
- Partnerships with media outlets and news sites to publish press releases (e.g.: press release scheduled for the launch of Zenroom 1.0 in Q4/2019).
- Promotion and lobbying with national (e.g. CNIL in France) and EU and EC institutions (e.g. Euratom) to test and adopt project's software tools.

For information on standardisation and technical sustainability see D6.3

Events and Community Engagement

Headline KPIs

Events	DECODE Main Events	10
	non-DECODE events spoken at	150
	DECODE and non-DECODE academic events	48
	Other DECODE events	51
	Total attendance at DECODE main events (estimate)	1160
	Total attendance at other DECODE events (estimate)	3165
	Total attendance at DECODE and non-DECODE academic events (estimate)	3115
	Total attendance at non-DECODE events spoken at (estimate)	11710
	Total audience reached through events (estimate)	19150

All event attendance figures are estimates - for breakdown of calculations see Appendix 3

Academic Events	Academic Conferences	12
	Academic Symposiums	1
	Academic Workshops	9
	Academic Seminars	26

In total, DECODE organised 61 events and spoke at a further 198. In total, we estimate that this enabled us to reach an audience of c.19150 people over the three years of the project. These events included: workshops, conferences, seminars, meetups, hackathons, symposiums, open public events, summer schools and roundtables. Consortium partners presented DECODE on three different continents: Europe, Africa and North America.

Main Events

Over the course of the project, there were 10 major events held by DECODE consortium partners. Some of these were restricted to DECODE partners while others were public events. Detailed reports have been produced about a number of these and will be submitted to the Commission as part of the review process (the General Assembly, and the two Symposiums). This report briefly summarises some of the key activity, themes and impact of these events.

General Assembly

The General Assembly was held after 1 year of the project, hosted by the City of Amsterdam. It was the first convening of the project’s partners and full advisory group. It was an opportunity for the advisory group to provide full feedback to the consortium, which was captured and summarised by Advisory Group coordinators Brett Scott and Jaya Breke (submitted as a separate document).

Symposium 1 - Beyond Surveillance Capitalism - Barcelona, 2018

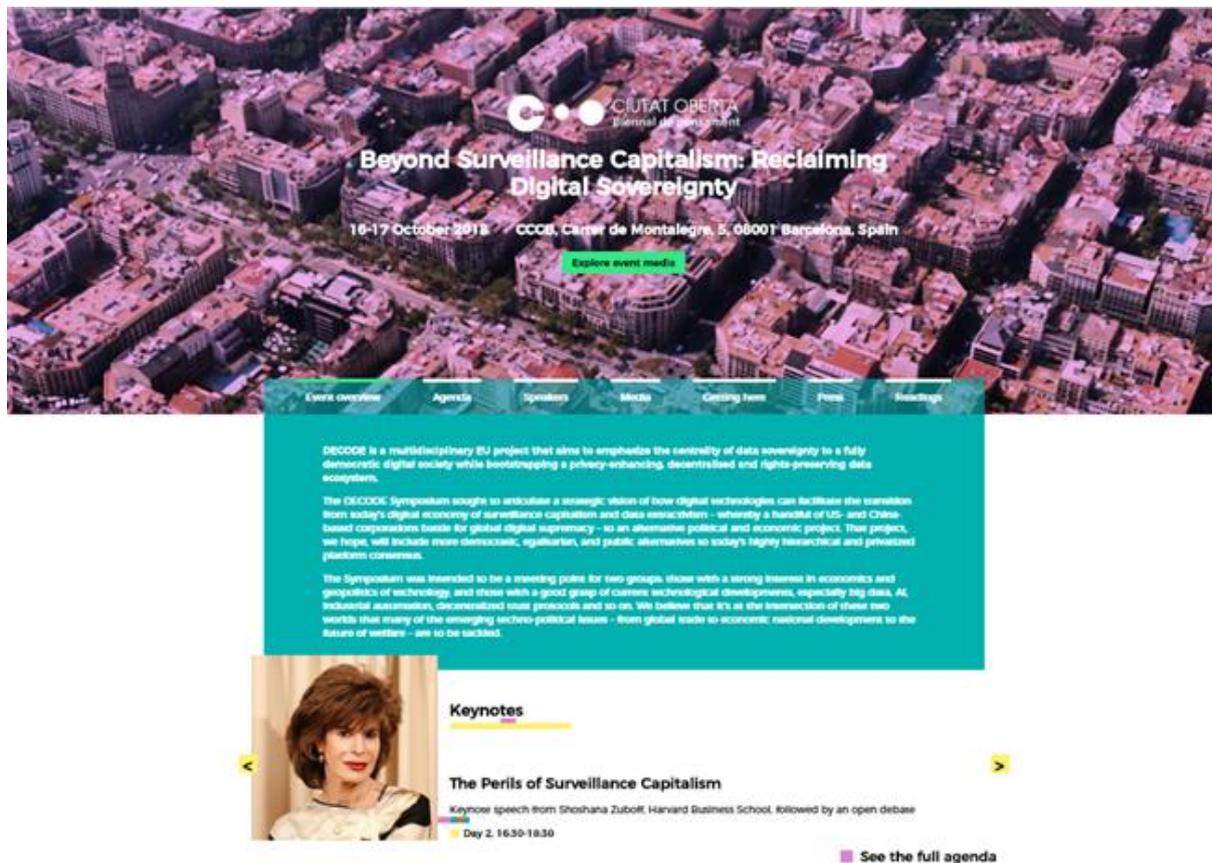


Figure 14 - DECODE Symposium 1 mini-site

Headline: 364 attendees (59 speakers, 6 press professionals, 20 team members, 279 attendees)

The DECODE Symposium sought to articulate a strategic vision of how digital technologies can facilitate the transition from today’s digital economy of surveillance capitalism and data extractivism – whereby a handful of US- and China-based corporations battle for global digital supremacy – to an alternative political and economic project.

The Symposium was intended to be a meeting point for two groups: those with a strong interest in economics and geopolitics of technology; and those with a good grasp of current technological developments, especially big data, AI, industrial automation, decentralized trust protocols and so on. We believe that it’s at the intersection of these two worlds that many of the emerging techno-political issues – from global trade to economic national development to the future of welfare – are to be tackled.



Figure 15 - Images from DECODE Symposium in Barcelona

The Symposium brought a range of high-profile speakers to Barcelona, including Shoshana Zuboff and Paul Mason. A range of important themes were addressed by the speakers and discussion: geo-political control of flows of data and money, AI and automation, rewiring the story of the Chinese catch-up, whether Europe needs a tech giant, regulating the dynamics of data and taxing the trouble, and future approaches to regulation in particular at the municipal level. Local partners Cuitat de Barcelona, SOKO Tech were sought to spread reach and community.

A mini-website was built on the main DECODE site to promote the Symposium and to host resources, readings, videos and photographs afterwards.

Symposium 2 - Our Data, Our Future - Turin, 2019

Headline: 357 attendees (78 speakers, 3 press, 21 team members, 11 partners, 287 attendees)

DECODE's final symposium discussed the policy agenda that is needed to realize the radical democratic potential of decentralized digital technologies. Day one focused on a review of the most promising of such technologies. The Day Two programme discussed how such projects fit into the broader context of Europe's efforts to restore the economic and technological sovereignty of its citizens.

The symposium focused on uniting the DECODE ecosystem, bringing together its technology, policy and pilot communities. The event was held in a large space which enabled a plenary session in the main stage area, two break-out sessions and a small, informal expo space for DECODE and other similar tech projects. These included: Prosume, AVSIN,, Miracl, Merits and the promotion of Zenroom which has strong development links in DECODE. The break-out rooms and expo space enabled DECODE to combine the symposium with the developers conference (see section below on campaign 3 for more details of the tech strand of the symposium).



Figure 16 - Images from DECODE symposium in Turin

Over the two days attendees heard from high-profile thought leaders, DECODE members involved in the pilot, and technology experts. High-profile speakers included: Brian Eno, Anne Pettifor, Holly Herndon, Paul Mason and Izabella Kaminska.

Thematically the event focused on the practical implications of DECODE, as well as a more wide-ranging discussion about the future of digital economy. Themes under discussion included big tech and competition policy in an age of digital sovereignty, the geopolitics of fintech, democratising the internet and big platforms, and the potential connections between a future internet and a Green New Deal.

As with the first symposium, a new mini-site was built on the DECODE website. This hosted the agenda, speakers, reading lists and the live feed.



Speakers

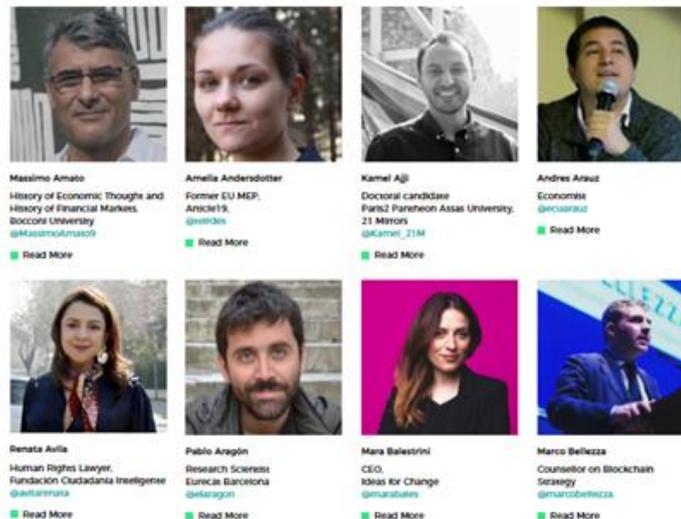


Figure 17 - DECODE Symposium 2 mini-site

Local partners were sought to spread reach and help us to reach a new audience in Turin. To do this, partnerships for the event were agreed with Nesta Italia, Lavazza, Humanities and Social Change Institute, City of Torino, Festival della Tecnologia and Top-IX. In addition, three media partners (Wired Italy, Codice, MicroMega) collaborated and helped to promote the event and disseminate it after.

Other events organised by DECODE partners

In addition to the main events, a further 52 smaller events were held by consortium partners. Some of these events were connected with the pilots and campaigns 1 and 2 (e.g. the meetups in Barcelona and Amsterdam), some were connected to campaign 3 (e.g. hackathons, the public stack summit, the Devuan Conference). Another strand of events focused on campaign 4 (the policy community) and finally some events were targeted at campaign 5 (reaching beyond the unusual suspects).

Campaigns 1 and 2 - Barcelona and Amsterdam community development

A number of meetups and workshops were held in Barcelona and Amsterdam as part of the pilot process, contributing to building an active community of users in the city. Some of these were focused on the UX of the DECODE app and contributed to the project placing citizen-needs at the heart of the technology. Another set of events brought people together to discuss attitudes towards data sharing and data governance, helping to co-create frameworks which could apply to data commons. These events are all summarised in D5.7 and D5.9, and a list can be seen in Appendix 2.

Campaign 3 - the technical and research community

Over the course of the project, a range of events were held to achieve the objectives of campaign 3, targeted at DECODE's technical community. These are the developers, programmers, coders, ethical hackers and data activists who comprise the technology ecosystem and are essential for the project to have long-lasting impact. The technical events included technical symposiums, Summer schools, Hackathons and a final technical outreach event. These events are summarised in more detail in D5.8, with mention also in D5.7, D5.9 and D5.10. There are also write ups of the tech symposiums which will be submitted to the European Commission as additional documentation.

The final technical outreach event was merged with the final general symposium to maximise its audience and create a more interdisciplinary ecosystem. In the main hall of the event, other developers who are mission-aligned to DECODE were invited to exhibit in our expo. The Expo Area functioned as a small version of a traditional trade show, where the key companies and projects presenting in the Tech Talks were offered a table and space to place marketing material (banner stands, brochures, etc) and interact with the event's audience. A total of 8 tables were assigned and filled by the guest partners for the duration of the event. For instance, to enhance the collaboration with the European Next Generation Internet ecosystem of developers building decentralised and privacy-enhancing tools for data sovereignty based on the DECODE technology or with similar goals in mind.² It also allowed open source developers whose mission aligns with DECODE to interact with city government officials who may be potential adopters of their technology.

In addition to the expo area, two parallel workshop sessions were curated by Dyne.org: DECODE Tech Sessions and the Tech Talks. The DECODE Tech Sessions were focused on DECODE technologies aimed at existing and potential adopters of the technologies developed within the project. The Tech Talks invited a range of experts in fields highly aligned to DECODE's mission, such as privacy, Distributed Ledger Technology, data sovereignty and commons. They gave presentations and held Q&As with the audience.

The Consortium also focused to strengthen links with the academic community working on privacy-enhancing technology. In particular, IMI organised in Barcelona during the annual Privacy-Enhancing Technologies Symposium (PETS) the Open Day for Privacy, Transparency, and Decentralisation (OPERANDI) in July 2018. This high level academic event was organised in partnership with PANORAMIX and NEXTLEAP, two relevant European Commission funded projects in the areas of privacy, ethics and security.

² DECODE Deliverable D5.8 DECODE Developers Conference Opening up the DECODE App and tools to third-party developers and entrepreneurs

Campaign 4 - the policy community

A number of events were held with the aim of engaging a policy community who are important for the continued adoption of DECODE within governments at national and local level. Early in the project, Dyne.org held a session in Brussels with policy makers (for more information see D6.5). Nesta held two research workshops in London as part of their policy research development at which important policy stakeholders in London were present. They also hosted sessions at Nesta's Annual City Data Analytics conference (May 2018) at which a number of local authority officers and civil servants were in attendance. Finally, a DECODE stand was accepted at ICT Vienna (2018) at which a number of senior EC policy figures were present and visited the booth. The DECODE stand was busy for three days and featured the DECODE video, practical demonstrations and experts from Nesta, Arduino and Chainspace.

Campaign 5 - reaching beyond the usual suspects

It was important for the project to reach beyond 'the usual suspects' in order for its campaigning message to be heard by as many people as possible.

Open Public Events

DECODE partners in Amsterdam and Barcelona used major events with large generalist audiences to hold engaging events which could attract the public. For instance in Barcelona these were aligned with Makerfaire, while in Amsterdam the We Make The City event enabled the project to engage with a large audience. There were also two large-scale, free public events organised by Waag in Amsterdam - Data Commons and the City (31/01/2019) and Democratising Technology (11/11/2019) both held at Pakhuis de Zwijger.

Art and Immersive Experience

One part of our approach to reaching beyond the usual suspects was to use arts and immersive experience as a means of communicating our messages in alternative forms and to different audiences.

Artist in Residence - Larisa Blazic

Through the European Commission [STARTS project](#) - a science, technology and arts programme - Larisa Blazic became an 'artist-in-residence' for DECODE, based at the Waag in Amsterdam. Her work centred around three workshops and the production of a manifesto - the [Data Union Fork Strike](#). The Waag interviewed Larisa on three occasions and wrote the result up in a [blog](#). Larisa's main objective was to accomplish more collective action regarding data. Defending and managing your own data is a priority Larisa shares with DECODE and we need a democratic response to the social, economic, and cultural implications of mass scale data harvesting. The value of that data is in the interests of democracy, equality and justice. The end result was the manifesto and a [progress video](#) [was posted to YouTube](#). In November 2019, Larisa also took part in the STARTS panel at the DECODE

Symposium in Turin alongside Holly Herndon, talking about how the arts can be used as a tool of communication and activism in response to data monopolisation by large tech companies.



Figure 18 - Still from ‘Data Union Fork : tool for data strike - Residency progress video’

Larisa’s work also linked to an arts programme - [a blockchain AI residency](#) - which partners ThoughtWorks ran. This funded three US-based artists Max Razdow, Ollie Razdow, and Jamie Zigelbaum, to use art to talk about how AI and other tech can be democratised through blockchain. This was then linked by to the DECODE project in Europe via Julien Deswaef from Thoughtworks.

Black Box Bellagio

Waag and Nesta both sponsored the Black Box Bellagio, installation created by Dutch artist [Roos Groothuizen](#), in collaboration with [Ymer Marinus](#). This was a casino in which the primary currency is personal data, conceptualised and built by Roos and staged in bars in Amsterdam (12th April and 18th May 2018) and at Nesta’s FutureFest event (6-7th July 2018). The experience shed light on the complexity of our relationship with our data, and how we might encourage people to share their data for the common good in future.

The Black Box Bellagio uses the dynamics of a casino to communicate the asymmetry of our relationship with tech companies and our personal data. At this casino, like on the internet, personal data determines the advantages a person receives, the luck and misfortune they experience, and how much it really costs them to play. Black Box Bellagio is designed to let people explore the vulnerabilities created by having deeply personal data entrusted to the complex and opaque terms and conditions of tech platforms.

Through the Black Box Bellagio, it is estimated that DECODE reach between 800-1000 people from a range of backgrounds. They all had a truly immersive experience, exchanging their personal data for casino chips, and then gambling with data from their Facebook, Twitter, photo albums or private messages as part of the games.

External Events Attended

In addition to the events organised by DECODE partners, members of the consortium attended 150 external events, reaching an estimated audience of c.11200. A further 48 academic events were either organised or attended. The audiences ranged from industry, civil society, policy makers, academic and the general public. In order to maximise attendance at the most important and high-profile events, a scan of all forthcoming events was carried out, capturing a long-list of possible opportunities which was then prioritised. The top priority events were then targeted for speaking opportunities.

Industry

DECODE had a strong presence at leading technology and smart city events. Partners in Barcelona were able to capitalise on the proximity to the annual Smart City Expo, one of the biggest smart city events in the world, and Mobile World Congress, one of the biggest technology events in the world. DECODE partners IMI, Dribia, ThoughtWorks, Eurecat and UoC spoke at multiple sessions in all three years of the project (2017, 2018, 2019). Partners also spoke at other leading smart city and big data events, including Smart City Expo Casablanca (April 2018), the Moscow Urban Forum (July 2018), the Nordic Smart Cities (2017), and the Big Data Congress in Barcelona (October 2018).

There were also multiple industry tech events which DECODE Coordinator spoke at, such as Munich DLD Conference in January 2019 in a panel with Ann Mettler, the Head of the European Political Strategy Center (EPSC), at the WIRED Annual Event (London November 2018), and at the Web Summit Lisbon (2017). DECODE took part in other various blockchain events connected to Chainspace, and events targeted at open source communities such as Techfestival Copenhagen, ARS Electronica (both 2017 and 2018), ThoughtWorks XConf (Barcelona, June 2018), Moodle Congress (Barcelona June 2018), and the Barcelona Maker Faire (June 2018). A number of events addressed personal data and privacy, such as MyData (Helsinki 2017 and 2018).

Civil Society events

DECODE was also promoted and disseminated through presentations at events which have their origins in movements such as Tech4Good, Digital Social Innovation, ethical tech and civil society more generally. There was a strong stream of events centred around making smart cities more citizen centric, such as Sharing Cities Summit (Barcelona, 2017 and 2018), Democratic Cities (Madrid, 2017), CityLab Paris (October, 2017) and Fab City Summit (July, 2018). A further set of events were concentrated on communication to ethical tech communities, such as doteveryone Responsible Tech (London, January 2019)

DECODE made several engagements with other European Commission programmes targeted at the intersection of technology and civil society. For instance, DECODE connected to the Next Generation Internet initiative, including a launch event for NGI ENGINEER ROOM (London, 2018), the NGI Move Salon and the NGI Award Ceremony at 4YFN (Barcelona, November 2018 and 2019) and at the NGI Forum (September 2019). DECODE was also presented at the DSI Fair (Rome, June 2018) and the final event of DSI4EU/DSISCALE (Warsaw, 2019). DECODE presented at the launch of the EC's Blockchain for Social Good event (Turin, December 2017) and co-organised the Blockchain for Social Good Learning Academy with Nesta Italia and DSI4EU/DSISCALE (January 2019).

Policy Community events

DECODE engaged the policy community at local, national, European Commission and international level. At a local level, multiple presentations were made to primarily city-oriented audiences, including presenting alongside other big city CTOs such as at Nesta's Government Innovation Summit

(September 2019). At a national level, presentations included our Project Coordinator participation in the Parliamentary Advisory Council of the German Bundestag (Berlin June 2019), in a Talk at Re:publica Conference with German Vice Chancellor, and at the World Transformed UK Labour Party conference (Liverpool, September 2018). The Consortium has been running a workshop with the team working on digital ethics and public engagement in the Scottish government (Edinburgh, December 2019) and speaking at a roundtable event in London organised by the Institute for Government (January 2018).

At European Commission level, DECODE was presented at the DSI4EU Policy Summit in Brussels (April, 2019) attended by a range of senior figures in the European Commission including Olivier Bringer. Dyne.org ran a session on co-creation of technology with European Commission representatives in 2017. DECODE also joined the European ICT Conference in Vienna and presented the outcomes of the project in the Exhibition Area (December 2019). Francesca Bria spoke at the high level Southern Mediterranean Conference organised by DG Connect (Brussels, April 2019), in the New narratives for sustainable EU workshop with DG Connect (May 19) and in other high-level policy events such as AI for Good Global Summit hosted by the United Nations (Vienna, May 2018) and the Internet Governance Forum (IGF 2019, Berlin November 2019) . Marleen Stikker from Waag also presented DECODE at the Digital Forum in Sofia (June 2018) which concluded the Bulgarian presidency of the Commission. At international level,

Academic

Along with hosting a range of academic events, DECODE was presented a number of academic workshops, seminars and conferences. Nesta collaborated with DECODE's technical partners to produce a poster which was submitted and accepted at the European Telecommunications Standardisation Institute (ETSI) Internet Security conference in June 2018. Nesta presented the Me, My Data and I report at the Data Justice conference in Cardiff 2018.

DECODE members from UoC presented at a number of important academic events, including Texidora (2018), OpenSym (2018), Nexa Conference on Internet and Society (2018) and SASE (2017). Eurecat presented at The Impacts of Civic Technology Conference (2018). UCL and P&I Lab also presented conferences such as Networks And Distributed Systems Symposium 2018, ACM ICN (2019), ICBC (2019). Carlo Vercellone, Guilia Rocchi and Francesco Brancaccio (CNRS) also ran a series of 25 seminars in Paris which addressed DECODE and many of its interconnected themes.

Impact and Recommendations

Pilot impact and local community and Pilot events - Barcelona, Amsterdam (pilot deployment reports)

These sections provide a summarised overview of the impacts of the pilot projects. Full information on activities and impact is detailed in DECODE deliverables: D5.7 “Final report on pilots Amsterdam”, D5.9 “Final report on the Barcelona pilots, evaluations of BarcelonaNow and sustainability plans” and D1.12 “Policy impact of architecture and pilot implementation”.

Amsterdam pilots’ impact:

In Amsterdam, DECODE has raised awareness of digital identity issues at multiple levels of the Dutch government. A Digital Identity team was created in Amsterdam and similar efforts have started in other cities. The Dutch digital government agenda ‘DigiBeter’ is supporting a project with the Dutch VNG (union of municipalities) and Ministry of Interior in which municipalities will develop further applications of ABC within their digital systems. This project includes the cities of Almere, Amsterdam, Groningen, Haarlem, Leiden, Nijmegen, and Utrecht. Separately, the Amsterdam CTO office and Digital Identity group are also developing another project, Dig.ID.Proef, which will allow for IRMA to be filled with with personal data from the Dutch central government. Several organisations that DECODE worked with in Amsterdam are continuing to work on this agenda.³

The general public are demonstrating increased concern and understanding regarding the relationship between data, technology, control, and privacy. Interest in public events has been high, both in terms of small workshops as well as in larger events like WeMakeThe.City and the DECODE Symposia. A video series made as part of the Digital Identity Lab highlights the engagement of Amsterdam citizens in these subjects.⁴

Participants:

For the Passport Box pilot, participation in the sessions trying it out was open to local citizens, developers and public administrations,⁵ as well as “State of the Internet” conference attendees, where it was possible for people to try out the passport box.

For GebiedOnline, the project worked with Gebied online community members, but engaged with a wider audience, including policymakers, for general awareness raising.

Events:

In addition to a series of ten meetings and workshops on implementing ABC features in GO, the following events were held (as well as the partners speaking at a number of events - see Appendix 2 for full list):

³ From DECODE report D5.7 “Final report on pilots Amsterdam”

⁴ From DECODE report D5.7 “Final report on pilots Amsterdam”

⁵ From DECODE report D2.6 “Impact and economic sustainability of DECODE Ecosystem and future developments”

- June 19, 2019: ‘Cities for Digital Rights’ in the Zuiderkerk8, 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 ‘iBestuur Congres’, 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?
- September 25-27, 2019: Waag attended the MyDataConference in Helsinki9.
- September 25, 2019: Waag presented DECODE at the ProBus Business Club in Maartensdijk, Netherlands

Barcelona pilots’ impact:

Digital Democracy and Data Commons (DDDC)

There were 6 stages to the DDDC pilot, consisting of a mixture of face-to-face and linked online activities. The first stage looked at presentation and diagnosis, and the second phase took the issues mapped in the first stage and worked with participants to gather proposals to address them within the DECODE pilot. The BarcelonaNow dashboard, linking with other municipal data sets, was used to analyse socio-demographic data on participants. The proposals were discussed in the third phase, and elaborated in the fourth, which resulted in a collaborative “Data Commons Manifesto”. This was then presented and discussed publicly and proposed as an integration to the city ethical digital standards releases by the city of Barcelona as part of their citizen centric digitalization strategy. The final stage for participants involved the collection of support for the proposals included in the manifesto for data commons, using the DECODE technology to sign in a secure and transparent manner on Decidim.⁶

The DDDC pilot tested out what a city-wide data commons system could look like, supported by a municipal policy framework. From the final report on the Barcelona pilot projects⁷, we know that the DDDC pilot tangibly resulted in the constitution of a local network that addresses these issues from civil society, the Barcelona Data Commons Network⁸. Also, the pilot served to design a tool for awareness rising, the Data Control Wars toolkit. Finally, it contributed to the Data Commons Manifesto that projects an alternative narrative.”

Citizen Science Data Governance - IoT (IoT):

This pilot saw over 125 people attend 6 workshops and several meet-ups (average 30 participants between these), with over 1000 people impacted by the project. This included community champions and UX sessions, as well as public presentations, reaching over 150 people. This pilot was designed under the principle of co-creation, combining practices from Participatory Action Research,

⁶ From D1.12 “Policy impact of architecture and pilot implementation”

⁷ DECODE report D5.9 “Final report on the Barcelona pilots, evaluations of BarcelonaNow and sustainability plans”

⁸ From D5.9: A civil society network, that emerged during the process of the pilot development, with the aim to engage the organizations of Barcelona, with principles close to those of DECODE. Their web (under construction) can be accessed at <https://datacommons.barcelona/>.

User Centred Design and Participatory Design, working with the DECODE app, BarcelonaNow platform and Zenroom smart contract engine.⁹

The workshops showed participants that are very worried about their privacy. For direct risks, those easily identifiable were those related to security (disclosing when they are at home) as well as the fear that knowing the levels of noise they are exposed to might lead to a decrease in property value. After discussions, other risks emerged such as targeting risks by private companies (insurance businesses charging higher fees to occupants for instance).¹⁰

BarcelonaNow

These two pilots were brought together through the BarcelonaNow platform, a tool that enables exploration of data and sharing for use of the community through an open source online dashboard that integrates into the wide city data infrastructure, which in Barcelona was supported by the data sovereignty policies released by Barcelona CTO.¹¹

It developed extensions which enabled both the DDDC and the IoT pilots to share the data generated on the shared platform. It has been developed as an open source product, and so is available for any interested cities to pick up and use in their context.¹² In a wider sense, it contributes to the field of collective intelligence in technology, and provides a link between data and democratic processes.¹³

Participants:

DDDC participation summary (as of October 2019)¹⁴

Participants	223
Proposals	77
Governance	32
Legal	9
Economic	26
Transversal	10
Votes	118
Comments	86
Meetings	8

⁹ From DECODE report D1.12 “Policy impact of architecture and pilot implementation”

¹⁰ From DECODE report D5.9 “Final report on the Barcelona pilots, evaluations of BarcelonaNow and sustainability plans”

¹¹ DECODE report D1.12 “Policy impact of architecture and pilot implementation”

¹² DECODE report D5.9 “Final report on the Barcelona pilots, evaluations of BarcelonaNow and sustainability plans”

¹³ DECODE report D1.12 “Policy impact of architecture and pilot implementation”

¹⁴ From DECODE report D5.9 “Final report on the Barcelona pilots, evaluations of BarcelonaNow and sustainability plans”

Petitions	2
Manifesto signatures	36

IoT pilot participation summary (as of October 2019)¹⁵

Meetings	7
Numbers of deployed sensors	24
Numbers of policies designed and deployed	2
Numbers of readings	>1,7M
Number of attendance to sessions	>330
Number of impacted people	>500
Number of datapoints generated	>3,2M
Number of days with data gathered	93
Percentage of time with the infrastructure available	89,5

Events:

In addition to the workshops and meeting specifically run for participants in the pilots, the following events were run alongside the Barcelona pilot projects (as well as the partners speaking at a number of events - see Appendix 2 for full list).

- Blockchain in Barcelona (UoC 27 May 2017), University of Catalonia, 27/05/2017
- The state of the collaborative economy in Barcelona. Case analysis. BizBarcelona, University of Catalonia, 01/06/2017
- Procommus (Dimmons 27-28 June 2017), University of Catalonia, 27/06/2017
- Platform cooperativism, commons goods and technologies to strengthen Social and Solidarity Economy, OuiShare Fest BCN, University of Catalonia, 19/10/2017
- A Framework for Assessing Democratic Qualities in Collaborative Economy Platforms: Analysis of 10 Cases in Barcelona. Sharing Cities Shaping Cities symposium (Milano), University of Catalonia, 05/03/2018
- DDDC pilot - Sharing Cities Summit (II): debate, workshop and signing of the manifesto, University of Catalonia, 19/11/2019

¹⁵ From DECODE report D5.9 “Final report on the Barcelona pilots, evaluations of BarcelonaNow and sustainability plans”

Policy impact and recommendations

DECODE's pilot projects have shown how novel technologies and methods for community governance can help support different types of data commons involving personal data. This was a core part of achieving the objectives of campaign 4 (policy makers) as well as the pilot campaigns (1 and 2).

As a result, the DECODE project has created three 'ready-to-implement' use-cases for DECODE tools to be used in other cities:¹⁶

1. DECODE Attribute Based Credentials (ABCs) provide an open standard for more robust identity systems that give users control and minimize data leakage.
2. The DECODE-Decidim tool provides a ready-to-use app for more privacy preserving digital democracy applications.
3. Smart Citizen Kits, the DECODE onboarding site, and BarcelonaNow dashboard provide tools for community data commons for citizen science.

A number of key factors or components which are both important and unique to creating a commons-based approach for governing data have also been identified:¹⁷

1. Open, trustworthy digital infrastructure.
2. Sensitivity to power imbalances between beneficiaries, contributors, data subjects, and those participating in governance.
3. Governance needs to be open and actively work to upskill those members of the community who cannot participate.
4. Commons-based approaches need to align incentives to allow the commons to grow and be self-sustaining.

The policy impact of the DECODE project has been felt most immediately and concretely in the pilot cities of Barcelona and Amsterdam, but has wider implications at national and EU levels. DECODE has helped to accelerate the implementation of a new type of municipal data policies to enable the use of new technologies and governance methods to tackle societal issues related to data privacy and sharing for public benefit, illustrated by the Barcelona City Council's Digital City Plan¹⁸ and ethical data strategy¹⁹, which enabled the data shared by citizens in the pilot project to be integrated into the City Hall's digital infrastructure (CityOS data lake²⁰, Sentilo IoT sensor network, open data portal²¹ and Decidim digital democracy platform²²). The principles behind Barcelona's policy framework (Ethical Digital Standards for Cities²³, including Ethical and privacy-enhancing data governance) are shared with more than 60 other cities through the Cities Coalition for Digital Rights²⁴, backed by the UN-Habitat.

In Amsterdam the awareness raised through DECODE has led to the creation of a digital identity team, as well as work with the national government of the Netherlands. In Amsterdam and in a number of local governments across the country, there is work being undertaken to explore options

¹⁶ From DECODE report D1.12 "Policy impact of architecture and pilot implementation"

¹⁷ From DECODE report D1.12 "Policy impact of architecture and pilot implementation"

¹⁸ <https://ajuntament.barcelona.cat/digital/en/blog/publication-of-the-balance-for-the-barcelona-digital-city-plan-2015-2019>

¹⁹ <https://www.barcelona.cat/digitalstandards/en/data-management/>

²⁰ <https://decodeproject.eu/publications/city-os-connection>

²¹ <https://decodeproject.eu/publications/barcelona-open-data-sentilo-and-iris-api-available>

²² <https://decodeproject.eu/publications/deployments-pilots-barcelona>

²³ <https://www.barcelona.cat/digitalstandards/>

²⁴ <https://citiesfordigitalrights.org>

for potential applications of ABCs in public use-cases, to increase the use of privacy-enhancing technologies and give citizens greater control over how and for which purposes their data is shared. For example, this could include integration of ABCs into Amsterdam’s CityPass (which is used to support people on the edge of poverty) or with the housing department for an Airbnb register.

Policy recommendations summary

The following recommendations come from D1.12 “Policy impact of architecture and pilot implementation” which brought together insights from the analysis of the DECODE pilot projects to make a series of practical recommendations for governments at multiple levels. The premise is that these initiatives would create space for experimentation, support and implementation of a commons-based approach for data governance.

At city level:

- Pilot data commons technologies in partnership with local communities linked to identified priority areas for citizens.
- Set a clear Data Governance policy that mandates ethics, privacy and security by design. Consider encryption a right for citizens and invest in local trainings.
- Apply new “data sovereignty” clauses in public procurement contracts in order to regain democratic control of data produced collectively
- Make data available in open formats for citizens, companies, startups following specific access control rules.
- Provide opportunities for citizens to boost their knowledge and skills around data commons technologies, and support to create community-level data commons.
- Experiment with local use-cases for decentralized identity like ABCs that strengthen data protection and improve citizen control.
- Start small when piloting new technology tools, following the example of ethical digital standards and the Cities Coalition for Digital Rights.
- Act as a standards setter for open source technology innovation.

At national level:

- Embed education on benefits and risks of different approaches to data management and use into school curricula.
- Interoperability and data portability are key at national level to foster fair competition. .
- Apply new “data sovereignty” clauses in public procurement contracts in order to regain democratic control of data produced collectively.
- Introduce data sharing mandates of public interest data for digital platforms
- Invest in research and innovation in Privacy Enhancing Technologies (PETs) applied to real-world problems identified by citizens.
- Build a national consortium of actors who can provide trusted credentials for new, decentralised identity applications.
- Ensure that a commons-approach is robustly tested in national experiments in data governance.

At EU level:

- Commit to a programme of research and practical work to explore how regulation can support new data commons by working with innovators.
- Mandate “data sovereignty” clauses in public procurement contracts, so that data used in public services belongs to citizens.

- Strengthen R&I investments to develop privacy enhancing and decentralised technology for data governance.
- Link data, privacy and competition to revitalise antitrust and competition laws for digital platforms.
- Fund experiments which support new markets or mechanism design that enable commons to grow, connected to real world issues.
- Fund projects that build cross-sector, international partnerships for new commons, working with other major international players such as the UN, IADB or World Bank.
- Fund competitions and challenge prizes to encourage innovation in commons-based business models.

These policy recommendations have been produced as part of D1.12 which concluded in the penultimate month of the project by UK based partner Nesta. Due to the UK's general election, and in quick succession, the Christmas break, the promotion of this report will be done in January 2020 to maximise coverage and impact. Along with a press release and positioning of op-eds with key journalists, there will also be a briefing note written for and sent to CTOs in major European cities outlining the immediate opportunities for them from DECODE.

Agenda shifting and Engagement in influential fora

Barcelona and Amsterdam have led the world in launching the [Cities Coalition for Digital Right](#). This is a joint initiative launched initially by Amsterdam, Barcelona and New York City that has the support of UN-Habitat, EUROCITIES, CGLU and other participating cities to protect, promote and monitor residents' and visitors' digital rights. City governments have already been taking actions. This is a globally important policy platform and source of influence which was made possible by the work done in connection to DECODE in each city. For instance, the complementary activity in Barcelona to commit to procuring only open-source software, or the collective TADA manifesto in Amsterdam.

A sign of DECODE's influence in the policy world came when Angela Merkel gave a speech in November 2019 advocating for the EU to take control of data from US tech firms. The speech had clear echoes of the DECODE project narrative, including the use of the term "digital sovereignty" which has been an important rallying cry for the project.

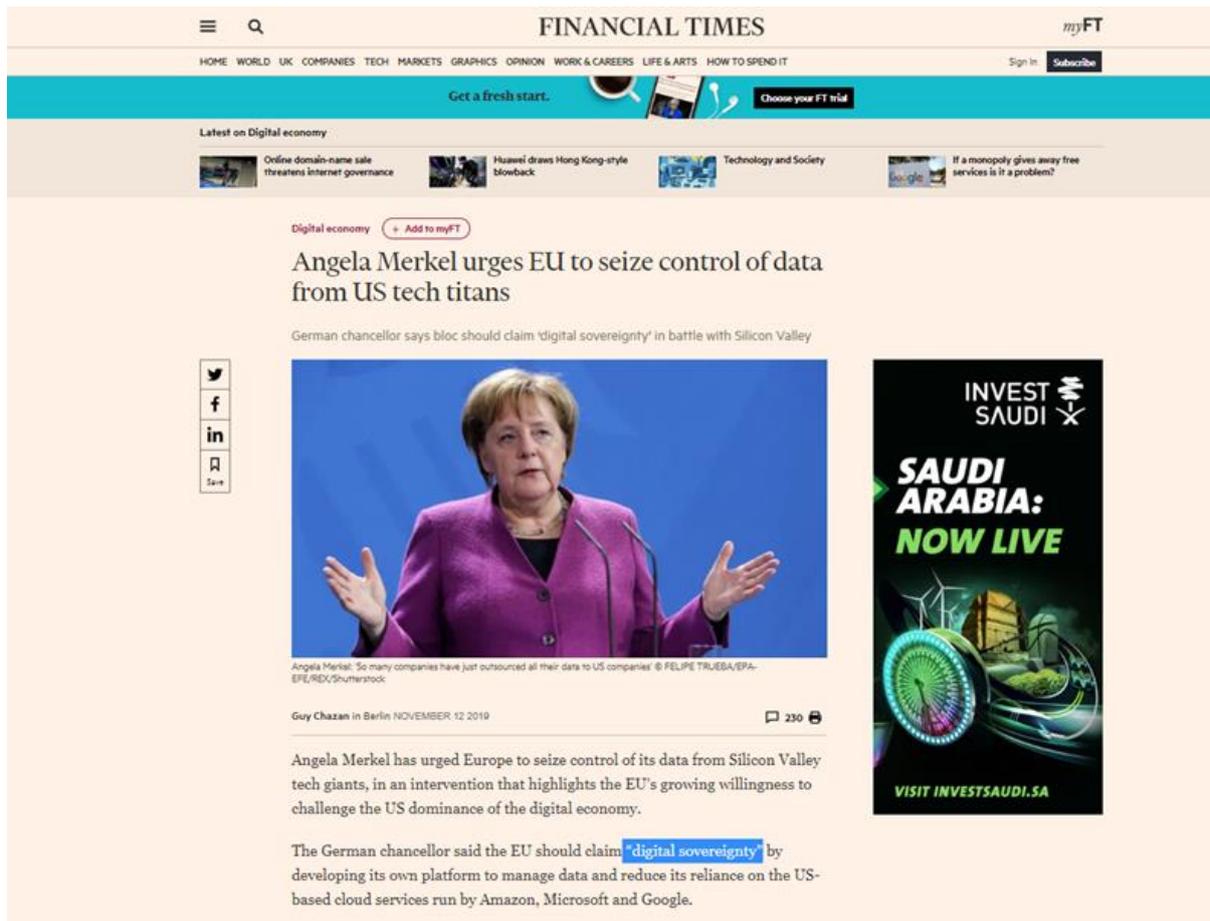


Figure 19 - Financial Times article “Angela Merkel urges EU to seize control of data from US tech titans”

DECODE has also been involved internationally, advocating for data sharing for the common good within the UN. Project Coordinator Francesca is a member of the UN Steering group on Global Data Commons and has also spoken at the UN event AI for Good Global Summit (Vienna. May 2019).